Geist™ API Specification

API Specifications

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Table 1.1 API Version

Version	Product	Notes
0.8	v3.2.x	• Initial Release.
1.0.0	v5.0.x v3.3.x	• Added /transfer/firmware firmware update path. Deprecated /firmware. • Added /transfer/log.json and /transfer/log.csv log paths. Deprecated /log.json and /log.csv. • Added "path" to /transfer/log.json labels header. • Removed /api/datalog/ID. • Replaced /api/datalog/ID/enabled and /api/datalog/ID/path with api/dev/ID/GROUP/ID/measurement/ID/datalogEnabled. • Added /api/datalog/interval system-wide log interval to replace per measurement intervals. • Added /api/conf/display/gmsd/mode to allow selecting "power" or "current" display modes. • Added /api/conf/display/gmsd/vlc/enabled to allow enabling/disabling VLC display mode. • Added /api/sys/apiVersion. • Added /api/dev/ID/snmpInstance. • Added /api/dev/ID "reset" command for the built-in device. • Increased /api/conf/email/target/ID limit to 10. • Added /api/conf/snmp/target/ID/port to allow configurable trap destination ports. • Changed /api/conf/snmp/target/ID to no longer be fixed at 2. It now uses the "add" and "delete" command functionality used elsewhere in the API. • Changed /api/auth/guest to no longer allow "admin" or "control" permissions to be set to true.
1.0.1	v5.2.x	• Moved /api/datalog to /api/conf/datalog. • Added "path" to /api/alarm/target/ID. • Increased /api/conf/snmp/target/ID limit to 10. • Changed /api/sys "reset" command behavior. • Removed "ru" language option from /api/auth/ID/language and /api/conf/locale/defaultLang. Any fields with "ru" previously selected will be migrated to "en".

Table 1.1 API Version (continued)

Version	Product	Notes
		• Changed /api/auth to only display active LDAP users and added "source" field to auth "login" return object. • Added network information and configuration necessary for dealing with STP, bridging, and Wi-Fi. In addition, there are now multiple interfaces, routes, and link statistics. • Added USB information under /api/conf/usb. • Added lifetime energy accumulator for PDU devices. • Added support to add users' SSH public key to authorized keys. • Added factory support package and event log to transfer. • Added serial port information under /api/conf/serial.

1 API

1.1 API Usage

The Geist Web API is designed to provide developers and integrators an easy to use method to communicate with the device. All of the device's actions can be accessed through this API over HTTP or HTTPS using JSON data structures.

1.1.1 Paths

All client requests are performed on a path starting with /api/ (an example usage would be http://<ip_address>/api/conf/network) each node in the path represents a key in the JSON hierarchy. Thus, /api/ is the top of the tree, and a request on that level will affect the entire API tree. /api/ contains the keys "dev", "alarm", "datalog", "conf", "sys", and "auth", so to call commands on "conf" directly, the HTTP request will be directed at the path /api/conf/. /api/conf/ has keys like "network", "system", "contact", etc., so to access "network", use the path /api/conf/network/, and so on. Paths can be narrowed down all the way to the leaves of the tree, for example: /api/conf/network/ethernet/dns/0/address.

1.1.2 Requests

Client requests are generally in the form of HTTP POSTs to an API path, with a JSON object in the body, as follows (note that all of the fields are sometimes optional):

```
1 {
2 "token":  "a4b3c2d1",
3 "cmd":  "get",
4 "data": {},
5 "filter":  {}
6 }
7
```

Line Number	Description
2	A session ID issued by the server on Authentication If the token is not supplied, then the blank token ("") is used and the command will be attempted as the guest user.
3	Possible commands are: "get", "set", "merge", "add", "control", "delete", "ack", "login", "logout", "reset", "sendTest", and "reboot". If no command is supplied in either the JSON object or the query string, one will be determined based on the HTTP method used: POST defaults to "set", GET defaults to "get", PUT defaults to "add", and DELETE defaults to "delete".
4	Parameters for the command. These are only needed for "set", "merge", "add", "control", "login", and "reset". This will generally be a JSON object, but when setting on a leaf it will be any other datatype.
5	Filter to be applied to the command. Only applicable to the "get" command. Will be a JSON object.

Alternatively, a username and password can be submitted on each command en lieu of logging in and keeping track of the session token:

```
{
"username":  "admin", "password": "password", "cmd":  "get",
"data": {},
"filter": {}
}

```

If a token is supplied alongside a username and password in a request, the "Invalid credential combination" error is returned.

In addition to sending these parameters as JSON fields, the "username", "password", "token", and "cmd" fields can instead be sent in as the query string, so the above can be conveyed as an HTTP GET (or other method) to a path like /api/conf?username=admin&password=password&cmd=set, making the HTTP body optional in any command that doesn't require a "data" field. If the same field is supplied in both the query string and the JSON object, the JSON object contents will take precedence.

1.1.3 Responses

Responses to client requests come back with an JSON-format HTTP body as follows:

```
{
"retCode": 0,
"retMsg": "Success",
"data": {}
}
```

Line Number	Description
2	Non-zero return codes represent failures. See Error Code section below for more on retCodes and their corresponding retMsg strings.
3	Non-zero return codes represent failures. See Error Code section below for more on retCodes and their corresponding retMsg strings.
4	Returned data. This will generally be a JSON object, but when getting a leaf it will be any other datatype. The object will come back as empty for any command other than "get" and "login".

1.1.4 Gets and Sets

Most operations will affect only the node at the path specified, but two — "get" and "set" — are also recursively applied to every child under the specified node. Thus, a get on /api/conf/email/ will return a JSON object starting at the depth indicated by the path, and traversing down to the leaf objects, like so:

Request on /api/conf/email/

```
{
"token": "",
"cmd":  "get",
"data": {}
}

```

Response


```
{
"retCode": 0, "retMsg": "Success", "data": {
"server": "smtp.server.com", "port": 25,
"sender": "sender@server.com", "username": "user", "password": null, "passwordSet":
true,
"target": {
"0": {
"name": "user1@email.com"
}
},
"status": {}
}
}
```


Walking further down the tree, the responses get smaller and smaller:

Request on /api/conf/email/target


```
{
"token": "",
"cmd": "get",
"data": {}
}
```


Response


```
{
"retCode": 0, "retMsg": "Success", "data": {
"0": {
"name": "user1@email.com"
}
}
}
```


Request on /api/conf/email/target/0


```
{
"token": "",
"cmd": "get",
"data": {}
}
```

Response

```
{
"retCode": 0, "retMsg": "Success", "data": {
"name": "user1@email.com"
}
}

```

And finally at a leaf:

Request on /api/conf/email/target/0/name

```
{
"token": "",
"cmd": "get",
"data": {}
}

```

Response

```
{
"retCode": 0, "retMsg": "Success",
"data": "user1@email.com"
}
```

Sets, similarly, can be sent to any level in the tree, with affected leaves at any level under path specified, and unincluded fields are left untouched:

Request on /api

```
{
"username": "admin", "password": "password", "cmd": "set",
"data": {
"conf": {
"ldap": {
"enabled": true
},
"email": {
"target": {
"0": {
"name": "mr.user1@email.com"
}
}
}
}
"auth": {
"admin": {
"language": "zh"
}
}
```

```
21 }
22 }
```

Response

```
1 {
2 "retCode": 0, "retMsg": "Success",
3 "data": {}
4 }
```

Or just:

Request on /api/conf/email/target/0/name

```
1 {
2 "username": "admin", "password": "password", "cmd": "set",
3 "data": "mr.user1@email.com"
4 }
```

Response

```
1 {
2 "retCode": 0, "retMsg": "Success",
3 "data": {}
4 }
```

Merge

A MERGE operation is identical to a SET operation, with the following exceptions:

- MERGE operations will attempt add on set behavior. If the MERGE command encounters a key which doesn't exist, it will attempt to ADD it. If this key does not support ADD operations, it will skip that key and suppress the "key not found" error.
- The MERGE operation will skip any read-only fields it encounters, suppressing the generated "read only" error.

If no part of the MERGE command is successful, the command will return an error. The MERGE command will not suppress errors having to do with field content restrictions or access restrictions, only those relating to field presence.

Add on Set

When a MERGE operation is called on a part of the tree that does not yet exist, an ADD operation will be attempted. This may be used, for example, to create several objects at once instead of calling individual ADD operations. This behavior only affects nodes for which both ADD and SET are allowed operations.

For example, if the following command were executed by a user with admin permissions, admin privileges, if present, would be removed from "extantUser" and that user's language would be changed to English. When "newUser" is not found in the API, instead of refusing to complete the command, "newUser" will be added as a new control-level user with the specified settings.

API: api/auth: merge (Admin)

api/auth: merge (Admin)

```
{
"extantUser": { "language":  "en", "admin": false
},
"newUser": {
"password": "passwordString", "language":  "en",
"enabled": true, "control": true, "admin": false
}
}
```

CLI: merge auth

admin> merge auth = ARGS

```
merge  auth  =  {"extantUser":  {"language":  "en",  "admin":  false},  "newUser":  {
"password":  "passwordString",  "language":  "en",  "enabled":  true,  "control":  true,
"admin": false}}
```

1.1.5 Filtering

Filters are JSON objects defined under the "filter" key at the top level of the API request object. Each key in the filter tree represents a desired key to be returned, with 2 special cases:

%/regex JSON keys beginning with "%/" will be interpreted as POSIX-extended regular expressions. Any keys at this level in the API which do not match this expression will be filtered out of the response.

{} or null JSON values that are empty objects or null return every descendent of their key, unfiltered.

Request on /api

```
{
"cmd":"get",
"filter": {
"dev": {
"%/C3$": {
"entity": {
"%/^phase[[:digit:]]+$": {
"measurement": {
"%/^[02468]*$": {
"%/Enabled": {}
},
"%/^[13579]*$": {
"type": {}
},
"%/^..$": {
"value": {}
}
}
}
},
"outlet": {
```

```
22  "%/^[0-2]$": {
23  "%/Delay": null,
24  "%/poa": null
25  }
26  }
27  }
28  }
29  }
30  }
```

Line Number	Description
4	The device branch.
5	Devices with ID's ending in "C3".
6	The entity branch.
7	All phases. In this case, "phase0", "phase1", and "phase2".
8	The measurement branch.
9	Phase measurements containing only even numbers.
10	All keys containing "Enabled", and any branches descended from them. In this case, "datalogEnabled" and "displayEnabled".
12	Phase measurements containing only odd numbers.
13	The "type" key, and any branches descended from it.
15	Phase measurements with only 2 digits. Note that this expression is ambiguous when combined with the other two. (E.g. "22", "11", "37", "00")
16	The "value" key, and any branches descended from it.
21	The outlet branch. Note that this branch is at a higher level than the last section.
22	The outlets with ID "0", "1", or "2".
23	All keys containing "Delay", and any branches descended from them. In this case, "onDelay", "rebootDelay", "rebootHoldDelay", "offDelay", and "poaDelay". This is ambiguous due to the presence of the "poaDelay" field.
24	All keys containing "poa", and any branches descended from them. In this case, "poaAction" and "poaDelay". This is ambiguous due to the presence of the "poaDelay" field.

CAUTION: When using regular expressions with JSON objects, it is possible to create two expressions that would return the same key. Because JSON objects are unordered by definition, this results in undefined behavior. Avoid ambiguous expressions when possible, either by further specification or by breaking up the command into multiple commands.

Example Response (selected portions)


```
{
"data": {
"dev": { "E140AD00851900C3": {
"outlet": {}, "entity": {
"phase0": { "measurement": {
"11": {
"type": "energy"
}, "10": {
"value": "56"
}, "12": {
"value": "33"
}, "9": {
"type": "apparentPower"
}, "8": {
"displayEnabled": false, "datalogEnabled": true
}, "14": {
"value": "3.84"
}
}
},
"phase2": { "measurement": {
"11": {
"type": "energy"
}, "10": {
"value": "56"
}, "12": {
"value": "34"
}, "9": {
"type": "apparentPower"
}, "8": {
"displayEnabled": false, "datalogEnabled": true
}, "14": {
"value": "3.86"
}
}
},
"phase1": { "measurement": {
"11": {
"type": "energy"
}, "10": {
"value": "56"
}, "12": {
"value": "33"
}, "9": {
"type": "apparentPower"
}, "4": {
"displayEnabled": false, "datalogEnabled": true
}, "14": {
"value": "3.85"
}
}
}
}
}
}
},
"retCode":  0, "retMsg": "Success"
}
```

1.1.6 Error Codes

Table 2.1 Success

Code	Name	Notes
0	Succcess	Operation has succeeded

Table 2.2 Authentication Errors (1000-1999)

Code	Name	Notes
1000	No Admin user configured	At least one Admin user must be configured on the system
1001	Not Authorized	The current user is not authorized
1002	Not Authorized: Session expired	The token used is no longer valid
1003	Not Authorized: Not enough permissions	The current user does not have enough permissions to perform the operation
1006	Invalid credential combination	Both username/password and token were provided or only one of username or password was provided
1008	Must have at least one admin user	At least one Admin user must be configured on the system

Table 2.3 JSON Format Errors (2000-2999)

Code	Name	Notes
2000	Malformed JSON	Received JSON is not valid or corrupt
2001	Missing field	An expected field was not found in the JSON structure
2002	Duplicate fields	The same field was set multiple times, e.g. in the HTTP body and query string

Table 2.4 Path Errors (3000-3999)

Code	Name	Notes
3000	Invalid path	Supplied path does not fulfill system requirements
3001	Path not found	Supplied path was not found
3002	Identifier not found	One of the fields in the received JSON structure does not exist
3003	Field not applicable	A field in the JSON structure exists but should not have been sent

Table 2.5 Data Validation Errors (4000-4999)

Code	Name	Notes
4000	Invalid input	An input field is invalid but does not fit in other data validation categories
4001	Input too long	An input field exceeds the maximum allowed length
4002	Invalid characters	An input field contains invalid characters for the field
4003	Invalid serial	An input field is an invalid serial number
4004	Invalid boolean	An input field is an invalid boolean value
4005	Out of range	An input field falls outside the valid range for the field
4006	Invalid integer	An input field is not an integer when one is expected
4007	Invalid number	An input field is not a number when one is expected

Table 2.5 Data Validation Errors (4000-4999) (continued)

Code	Name	Notes
4008	Invalid URL	An input field is not a valid URL when one is expected
4009	Invalid IP	An input field is not a valid IP address when one is expected
4010	Paths not allowed	An input field contains a path when one is not expected
4011	Invalid username	An input field is an unsupported user name
4012	Invalid email address	An input field is not a valid email address when one is expected
4013	Invalid option	An input field contains an invalid option selection
4014	Invalid datetime	An input field is not a valid date or time when one is expected
4015	Out of bounds	An input field is out of the allowed bounds for the field
4016	Invalid week	An input field represents an invalid days of the week selection
4017	Duplicate entry	An input field would create a duplicate when one is not allowed
4018	Invalid Route	A network route was misconfigured

Table 2.6 Other Errors (5000-5999)

Code	Name	Notes
5000	Unknown error	A system error occurred for which no other error code applies
5001	Command not allowed	The received command is not allowed at the specified path
5002	System busy	The action attempted cannot be currently executed and should be retried

Table 2.7 Data Consistency Errors (6000-6999)

Code	Name	Notes
6000	Inconsistent state	The command will leave the system in an inconsistent state so it is rejected
6001	Syslog enabled requires target	Enabling remote syslog requires a target host be specified
6002	NTP mode requires servers	Enabling NTP requires servers to query
6003	Start time must come before end time	Time was received for which the end came before the start
6004	Invalid SNMPv3 auth/priv combination	SNMPv3 privacy cannot be used without authentication
6005	Port not available	There was an attempt to set a port number to one already in use
6006	OneView missing credentials	Enabling OneView requires that a OneView username and password be set
6007	Time not settable	Setting datetime requires manual time mode

Table 2.8 Upload Errors (7000-7999)

Code	Name	Notes
7000	Invalid firmware package	The package is formatted incorrectly or corrupt
7001	Invalid file key	The package specifies a wrong OEM key and cannot be used with this unit
7002	Invalid version	The version is too old or otherwise unsupported
7003	Invalid product	The package is meant for a different hardware architecture
7004	Invalid certificate file	The SSL certificate provided could not be parsed
7005	Invalid certificate password	The password did not work with the SSL certificate provided

1.1.7 Error Precedence

API command errors are processed and returned in a specific order. Once an error is encountered, the command is terminated and the error code returned immediately. If multiple errors exist, only the one with the highest precedence is returned. Within a given precedence category, the order in which errors are returned is command and implementation dependent. Errors are checked in three stages:

1. Request integrity - Verifies that the JSON object, path, and command are valid. These conditions are checked in the following order:

Precedence	Description	Error Codes
1	JSON is valid, path is valid and can be resolved	2000, 3000, 3001
2	Top-level fields outside of "data" are valid	1006, 2002
3	Command exists for the given path	5001

2. Authentication and token - Verifies that the token provided is valid and that the user has enough permissions to execute the command. The existence of an admin user is also verified at this stage. These conditions are checked in the following order:

Precedence	Description	Error Codes
1	An admin user exists OR the request is on a permanently available path OR the request is the addition of an admin user when one does not exist	1001
2	Token is valid, recognized, and unexpired	1002
3	User is authorized to execute command	1003, 1000

3. Command execution - Verifies data received in relation to the command. These conditions are not checked in any particular order and the error returned depends on the command and data present.

Description	Error Codes
User operations	1008
JSON object key validity, presence or absence	3002, 3003
Data validation	4000, 4001, 4002, 4003, 4004, 4005, 4006, 4007, 4008, 4009, 4010, 4011, 4012, 4013, 4014, 4015, 4016, 4017, 4018
Data consistency	2001, 6000, 6001, 6002, 6003, 6004, 6005
Firmware upload	7000, 7001, 7002, 7003
Any other error	5000, 5002

1.1.8 CLI

As an alternative to the API described above, a command-line interface is also available over SSH or a serial port when available, using the same tree structure, but a modified syntax. The CLI does not currently support filtering.

Logging in to the CLI will work as follows:

SSH: Connect over secure shell using the desired username and password combination

Serial Port: Pressing the "enter" key will display a username prompt. Enter the user name followed by the "enter" key and a password prompt will appear.

Any API commands will be authenticated as the user that logged in. To log in as guest, use the username "guest" and the password "guest". The CLI has an idle timeout of 10 minutes, after which the active user will be logged out.

Every message sent to the CLI will have the following syntax:

```
COMMAND PATH [= ARGUMENT]
```

COMMAND is the only required part. It is a single word from the following list: get, set, logout, add, delete, control, ack, sendTest, reset, and reboot.

PATH is the location in the tree that you want to apply the COMMAND. Starting at the root, each child key is separated by spaces. So the path "/api/conf/network" in the API would be represented as "conf network" in the CLI. Available trees in the CLI are api, provisioner, and oneview. The api tree is considered the default tree for the CLI, and must be accessed by omitting the tree name, as in "conf network".

ARGUMENT, if present, is always preceded by an equal sign and is in JSON or YAML format. It is only used with the COMMANDs set, merge, add, control, and reset. Strings in ARGUMENT should be enclosed in quotes if they contain special characters like space, tilde, colon, or comma or certain keywords, like null. A null value in ARGUMENT may be represented with either the word "null", without quotes, or with a tilde (~). As such, the strings "null" and "~" must be enclosed in quotes, or they will be interpreted as null.

To see what the tree looks like, simply type in the following command:

```
get
```

You'll get back something like:

Response (abbreviated)

```
auth:
guest:
passwordSet: false password: language: en enabled: true admin: false control: false
source: local
conf:
contact: description: '' location: '' contactEmail: '' contactName: '' contactPhone: ''
telnet: enabled: true port: 23

...
```

The entire data tree is returned in YAML format. You'll see some top-level keys like dev, alarm, sys, conf, etc. To see just the system configuration, you could type:

```
get conf
```

And, paying attention to the keys returned, go any number of levels deeper:

```
get conf  network  ethernet  dhcpOn
```

To turn DHCP off you'll use an argument:

```
set conf network ethernet dhcpOn = false
```

"set" commands are special like "get" commands in that they can be applied at any level:

```
set conf  network  ethernet  =  {dhcpOn:  true,  ip4GW:  192.168.123.1}
```

1.1.9 SSH Commands

Commands can be also passed from the command line of an external machine using SSH. Commands executed this way will set the exit code to 1 if there is an error and print the error message to STDERR. The syntax for SSH commands is the same as that of CLI commands.

Authentication should be passed in as if using regular API. The guest user can be used for this, if it is enabled, in which case the username/password combination is "guest"/"guest". SSH will request a password unless a valid token file is passed in, as with the -i flag.

```
1 ssh  user@host  get  conf  network  ethernet
2 ssh  user@host  set  conf  contact  location  =  "Building  04"
```

Line Number	Description
1	"user" should be replaced with the appropriate username. "host" should be replaced with the IP address of the host unit.

1.1.10 Data Formats

Api Path	An absolute path into the API JSON hierarchy
Array	A sequence of objects, all of the same type. Array capacity is specified for each one. When doing a set on an array, the provided contents will replace the existing values
Boolean	Binary condition. Can only be true or false
Date/Time	RFC 2822 date format with whitespace separator and 4 digit timezone with sign. "YYYY-MM-DD HH:MM:SS +/-0000"
Days	A 7 character representation of the days of the week starting with Monday in the form "MTWTFSS". Used to select which days are to be used. Selected days are shown with the first letter of their name present. Unselected days are shown with a '-'. An example showing only Monday through Friday selected would be "MTWTF--"
Dev Path	A path into the API JSON hierarchy relative to /api/dev
Email Address	String from 1 to 254 characters in length
Float	Number with fractional components. Unless otherwise noted, Float Min is
-10000000.0 and Float Max is 10000000.0	
Host	String from 1 to 255 characters in length. Can contain an IP Address.
Hostname	1 to 63 characters complying with the rules for label in RFC 1035 and extended in RFC 1123. As per the RFC: "They must start with a letter or digit, end with a letter or digit, and have as interior characters only letters, digits, and hyphen."
ID	An identifier for an object of a particular type. When setting, must be a valid reference to an existing object
Integer	Number without fractional components. Unless otherwise noted, Integer Min is -10000000 and Integer Max is 10000000
IP Address	An IP address fitting either the IPv4 Address or IPv6 Address formats
IPv4 Address	Dotted decimal notation of an IPv4 address. Represented as 4 decimal numbers separated by periods. For example 192.168.123.123
IPv6 Address	RFC 5952 recommended IPv6 address text representation
JSON Object	Object enclosed in {} brackets, which maps string-value pairs. For example, {"name":"ExampleName","credentials":{"username":"exampleuser", "password":"examplepassword", "ID": 1234567890}} is a valid JSON object.
Language Code	Two letter language code. Available codes are: "de", "en", "es", "fr", "ja", "ko", "pt", "zh".
Password	A String of at least 1 character in length
String	Sequence of characters. Unless otherwise noted, String Max is 300. All ASCII and Unicode characters with the exception of control characters (ASCII 0x00-0x1F and 0x7F) are allowed
Time	4 integer representation of a time of day. Uses 2 integers for hours followed by a ':' followed by two integers for minutes. Hours range from 00 to 24 and minutes from 00 to 59. 24:00 is equal to 00:00
UNIX Timestamp	Number of seconds elapsed since January 1, 1970 00:00:00 in UTC
URL	String from 1 to 255 characters in length. Can contain an IP Address.
Username	A special type of String. Must be 1 to 32 characters in length. The first character must be 'a'-'z' or 'A'-'Z'. Subsequent characters must be 'a'-'z', 'A'- 'Z', '0'-'9', '-' or '_'

1.2 Authentication: /api/auth

Object		Data			Notes
	Field	Format	Range	Default	set, add, delete on these objects require admin privilege
ID			1 to 17 objects	"guest"	Commands: add, delete, login, logout
	enabled	Boolean	true, false	true	
	control	Boolean	true, false	false	
	admin	Boolean	true, false	false	
	language	Language Code	"de", "en", "es", "fr", "ja", "ko", "pt", "zh"	"en"	Can also be set by user
	password	Password	1 to String Max		Can also be set by user, get returns null
	passwordSet	Boolean	true, false		Read-only
	scope	String		null	
	source	String	"local" or "ldap"		Read-only
publicKey/ID			1 to 5 objects		User can also add, delete
	label	String	0 to String Max	"key"	Can also be set by user
	key	String	0 to 800 chars		Can also be set by user

The /api/auth object lists all local system users, remote users with active sessions, and provides a means to authenticate local or remote users.

1.2.1 Security and Special Rules

For security related reasons, special rules apply to /api/auth.

An authenticated user can set their own "language", "publicKey" and "password", but "enabled", "scope", "control", and "admin" can only be set by admin privileged users. Restrictions on password security may be configured in /api/conf/auth. A password cannot be set to null; if a set would set a password to null, that portion of the command will be ignored.

Whereas most parts of the system allow unrestricted get access to all users, only admin privileged users can see /api/auth in its entirety. Non-admin users making a get request will only see their own configuration plus that of the "guest" user.

Error precedence differs from what is described in the Error Codes section. A get, set, delete, or logout operation on a nonexistent /api/auth/ID path by an unauthorized (non-admin) user will return a "1003 - Not Authorized: Not enough permissions" error as if the requested path exists and the user simply does not have enough permissions. A login operation on a nonexistent /api/auth/ID path will return a "1001 - Not Authorized" error identical to a login operation on a valid /api/auth/ID path with an incorrect "password".

1.2.2 Privileges

Each user has three privilege levels: enabled, control, and admin. The user needs at least enabled level access to login. With enabled access, the user has the basic ability to view all parts of the system (with the exception of other users, as explained in the Security and Special Rules section above). Control gives the user access to basic maintenance functionality, such as the non-get commands specified in /api/alarms, /api/dev, and /api/datalog. This is in addition to enabled level privileges. Admin gives enabled and control privileges, along with access to system level functionality, such as the non-get commands in /api/conf, /api/dev, /api/sys, and /api/auth.

The system requires at least one local, non-guest user with admin privilege to be created before it can be used. When the system is in such a state (that is, after a factory reset), the allowed commands to the system are

- get on /api/sys
- add an admin user on /api/auth
- set on /api, where an admin user is added as part of the set operation

All commands other than these will return a "1000 - No admin user configured" error error. Attempts to delete or remove admin privileges from the last non-guest admin will return a "1008 - Must have at least one admin user" error.

1.2.3 Guest User

The user "guest" is a special user that defines the behavior for users that aren't logged into the system. It is persistent: it can neither be added nor deleted, and it is the only user that exists after a reset to factory defaults. As it only defines logged-out user settings, it can never be logged into or logged out of, and thus it never has a password set. The persistent session token "" (blank string) is the only token that can be used for guest. The "source" field is always "local". The "language" field is the same as /api/conf/locale/defaultLanguage: if either field changes, they both change. If guest is disabled, unauthenticated get commands on all API branches except /api/sys will return a "1003 - Not Authorized: Not enough permissions" error. Before any admin users exist, the guest has the one-time ability to add an admin user.

1.2.4 Remote Authentication

Users can also be authenticated via LDAP, TACACS+, or RADIUS. Only authenticated remote users with currently active sessions will be shown in the /api/auth/ID list; remote users will be removed from /api/auth/ when they are logged out. Privileges of remote users are controlled via groups and/or attributes as discussed in the /api/conf/remoteAuth/ldap, /api/conf/remoteAuth/tacacs, and

/api/conf/remoteAuth/radius configuration sections. Remotely authenticated users always use the system language /api/conf/locale/defaultLanguage.

API: api/auth: get

api/auth: get

```
{
"guest": {
"enabled": true,
"control": false,
"admin": false,
"language": "en",
"password": null,
"passwordSet": false,
"source": "local",
"publicKey": {},
"scope": "1"
}
}
```

Line Number	Description
2	The username provided when adding a user is used as the object ID.
3	If false, attempts to log in as this user will return a "1001 - Not Authorized" error. If true, the user has basic "get" permissions.
4	Basic maintenence permissions.
5	System administration permissions.
6	Overrides /api/conf/locale/defaultLanguage for this user.
7	"set" operations use "Password" strings, "get" operations return only null.
8	Indicates whether the password field has been set.
9	Will return "local" for local users or "ldap" for remotely authenticated users.
10	api/auth/user/publicKey.
11	If null, user has full API access, up to their permissions level. If equal to a key in api/conf/auth/scope, restricts user access according to that scope.

CLI: get auth

user> get auth

```
1  guest:
2  enabled: true
3  control: false
4  admin: false
5  language: en
6  password: ~
7  passwordSet: false
8  source: local
9  publicKey:
10 ...
11 scope: 1
```

Line Number	Description
1	The username provided when adding a user is used as the object ID.
2	If false, attempts to log in as this user will return a "1001 - Not Authorized" error. If true, the user has basic "get" permissions.
3	Basic maintenence permissions.
4	System administration permissions.
5	Overrides /api/conf/locale/defaultLanguage for this user.
6	"set" operations use "Password" strings, "get" operations return only null.
7	Indicates whether the password field has been set.
8	Will return "local" for local users or "ldap" for remotely authenticated users.
9	api/auth/user/publicKey.
10	If null, user has full API access, up to their permissions level. If equal to a key in api/conf/auth/scope, restricts user access according to that scope.

Command: add

API: api/auth: add (Admin)

api/auth: add (Admin)

```
{
"username": "admin",
"password": "abc123",
"language": "en",
"enabled": true,
"control": true,
"admin": true,
"scope": null
}
```

Line Number	Description
2	Required field. Must comply with "Username" rules.
3	Required field. Must comply with "Password" rules.
6	The default value for control (false) is changed to true if "admin" is set to true.
8	Optional field. If not specified, defaults to null.

CLI: auth add

admin> auth add = ARGS

```
auth add =
{"username": "admin", "password": "abc123", "language": "en", "enabled ": true,
"control": true, "admin": true, "scope": null}
```

Line Number	Description
1	Required fields: username, password. Username must comply with "Username" rules. Password must comply with "Password" rules. If "admin" is set to true, "control" will also be set to true. "scope" is optional, and will default to null if not specified.

Command: delete

API: api/auth/localuser: delete (Admin)

api/auth/localuser: delete (Admin)

```
{}
```

CLI: delete auth localuser

```
admin> delete auth localuser

  ~
```

Command: login

Log in as the user specified in the path. Each login command will return a unique token. The system will keep track of up to 10 unique tokens per user. Each token will expire after 6 hours of inactivity or until the user logs out.

Repeated authentication failures on a given user will trigger a lockout for that user. After 2 authentication failures, any subsequent failure will trigger a 60 minute lockout period. During this period, any attempts to log in will result in the same authentication error returned when the supplied password is incorrect. A successful login attempt will clear the count of authentication failures for the user. Attempting to log in as a locked-out user will restart the lockout period.

api/auth/ldapadminuser: login (guest)

```
{
"password": "abc123"
}
```

login return data

```
1 {
2 "token": "f3e2d1c0",
3 "control": true,
4 "admin": true,
5 "language": "en"
6 "source" : "ldap"
7 }
```

Line Number	Description
2	A randomly generated string to keep track of open sessions. The token expires after 6 hours of inactivity or when the user explicitly logs out.
6	Specifies the origin of the user. "local" users have an /api/auth/ID path (to enable setting password and language), "ldap" users do not.

Command: logout

Log out of user specified in the path. Logging out will invalidate all tokens for that user.

api/auth/admin: logout (Same user, in this case "admin")

```
{}
```

1.2.5 SSH Public Key Authentication

Except for guest users, any user can add a public key to the device in order to bypass password authentication when connecting via the SSH Protocol. Each user may add at most 5 public keys. Users with admin privilege can execute add, set, delete, get operations on all existing users. Any enabled user can execute add, set, delete, get operations only on their own public key set. A validation error will occur if the public key exceeds 4096-bit length, if the "key" field exceeds 800 characters, or if the public key fails to comply with the format "<Key algorithm> <key blob> <Optional comment>" defined in section 6.6 of RFC 4253.

Additionally, provided keys must meet the following standards: * RSA keys must meet or exceed 3072-bit length. * EC keys must be NIST P-384.

Command: get

API: api/auth/user/publicKey: get (User)

api/auth/user/publicKey: get (User)

```
1 {
2 "0": {
3 "key":  ""
4 "label":  "key",
5 }
6 }
```

Line Number	Description
3	The string representing the user's SSH public key.
4	The label to identify the user's SSH public key.

CLI: get auth user publicKey

user> get auth user publicKey

```
1 0:
2 key:
3 label: key
```

Line Number	Description
2	The string representing the user's SSH public key.
3	The label to identify the user's SSH public key.

Command: add

API: api/auth/user/publicKey: add (User)

api/auth/user/publicKey: add (User)

```
1 {
2 "key": "",
3 "label": "key"
4 }
```

Line Number	Description
2	Required field.

CLI: add auth user publicKey

```
user> add auth user publicKey = ARGS
```

```
1 | add  auth  user  publicKey  =  {key:  KEY,  label:  key}
```

Line Number	Description
1	Required fields: key.

Command: delete

api/auth/user/publicKey/ID: delete (User)

```
{}
```

1.3 Alarm: /api/alarm

Object		Data			Notes
	Field	Format	Range	Default	set, add, delete on these objects require control privilege
trigger/ID			0 to 256 items		Commands: add, delete
	state	String	"clear", "acked", "latched", "tripped", "inactive"		Read-only
	severity	String	"alarm", "warning"	"alarm"	
	latching	Boolean	true, false	false	
	type	String	"high", "low", "status"		
	path	Dev Path	Device path or measurement path		
	threshold	Float	Float Min to Float Max	0	
	clearDelay	Integer	0 to 14400 Seconds	0	
	tripDelay	Integer	0 to 14400 Seconds	0	
	validTime	ID	Valid Time ID	empty ID	
	invertValidTime	Boolean	true, false	false	
	selectedActions	Array (ID)	0 to 32 items (Alarm Action ID)	empty Array	
action/ID			0 to 32 items		Commands: add, delete
	target	ID	Alarm Target ID		
	delay	Integer	0 to 14400 Seconds	0	
	repeat	Integer	0 to 14400 Seconds	0	

Object		Data			Notes
target/ID			0 to 20 items		Read-only
	name	String	0 to String Max		Read-only
	group	String	0 to String Max		Read-only
	type	String	0 to String Max		Read-only
	enabled	Boolean	true, false		Read-only
	path	Api Path	Absolute path for target resource in API		Read-only
validTime/ID			0 to 8 items		Commands: add, delete
	start	Time	00:00 to 24:00	00:00	
	stop	Time	00:00 to 24:00	24:00	
	days	Days	"------ " to "MTWTFSS"	"MTWTFS S"	

1.3.1 Trigger

Alarm triggers represent conditions that the system must monitor as well as actions to perform when something is out of bounds.

Trigger conditions are based on their "type" and "path" and are as follows:

"Status" : Requires a path to a top level device (e.g. "A70004A3BB7F45C3/") and will trip if the state field for the chosen device becomes anything other than "normal"

"High": Requires a path to a specific measurement (e.g. "A70004A3BB7F45C3/entity/11/measurement/1") and will trip if the latest value of that measurement is equal or greater than the "threshold". Trigger will clear if current value is less than the "threshold". If the measurement state field is anything other than normal, the trigger is not evaluated and it will remain in its present state as if the value has not changed from the last evaluation.

"Low": Requires a path to a specific measurement (e.g. "A70004A3BB7F45C3/entity/11/measurement/1") and will trip if the latest value of that measurement is equal or less than the "threshold". Trigger will clear if current value is greater than the "threshold". If the measurement state field is anything other than normal, the trigger is not evaluated and it will remain in its present state as if the value has not changed from the last evaluation

The "validTime" field references a Valid Time ID and is used in conjunction with "invertValidTime" to indicate the times of day when a trigger is active and inactive. When a trigger transitions from active to inactive it immediately goes to an "inactive" state, resets all timers, and cancels any pending or active actions. Once the trigger becomes active again, it immediately goes to the "clear" state and begins processing inputs with no memory of its state prior to being inactive. Leaving this field blank is equivalent to having a valid time that is always active. The "invertValidTime" makes the inactive time ranges into active ones and vice-versa. If the system clock is not set, triggers are always considered active.

The "state" field for any given trigger will have one of the following values:

"Clear": Default state, condition being monitored is normal. Will transition to "tripped" once the trigger condition is met and the "tripDelay" expires. Transitioning into this state cancels all active or pending selected actions.

"Tripped": Condition being monitored is outside of expected values. Upon entering this state from "clear", selected actions will be started. Will transition to "acked" if an ack command is received. Once the trigger condition returns to normal and the "clearDelay" expires, will transition to "latched" if the "latching" field is true or to "clear" otherwise. Transitioning to "clear" causes selected actions to send any applicable clear notifications.

"Acked": Condition being monitored is outside of expected values but the user has acknowledged this. Upon entering this state, active and pending selected actions will be canceled. Will transition to "clear" once the trigger condition returns to normal and the "clearDelay" expires. Transitions to clear regardless of "latching" field.

"Latched" Condition being monitored is normal but was previously outside of expected values and the user must acknowledge this. Will transition with no delay to "tripped" if the trigger condition is met. Will transition to "clear" if an ack command is received. Selected actions continue to take place while in this state.

"Inactive" Current time is outside of trigger operating window. All states will transition to "inactive" once the current time falls outside the operating window and will transition to "clear" once the opposite is true. When transitioning into this state all active and pending selected actions are canceled.

Thresholds for triggers are configured relative to the units and/or scaling presently being used on a measurement. If the scale of a measurement changes, the associated threshold will reflect a proportional value on the new scale. For instance, if a threshold exists on a temperature measurement and units on the system are currently specified as imperial, the value will be interpreted to mean degrees Fahrenheit. If the units on the system are changed to metric, the threshold will automatically be converted and it will show the equivalent value in degrees Celsius. The same is true for analog objects as their scale is changed.

Modifying any field in a trigger will cause it to reset. This means that the "state" is set to "clear", all selected pending and active actions are canceled, and all timers are reset. Deleting a trigger will cause all selected pending and active actions to be canceled and all timers to reset.

API: api/alarm/trigger: get

api/alarm/trigger: get

```
1  {
2  "0": {
3  "state": "clear",
4  "severity": "alarm",
5  "latching": false,
6  "type": "low",
7  "path":   "A70004A3BB7F45C3/entity/11/measurement/1",
8  "threshold":  0,
9  "tripDelay":  0,
10 "clearDelay":  0,
11 "validTime":  "0",
12 "invertValidTime": false,
13 "selectedActions":  ["0","1"]
14 }
15 }
```

Line Number	Description
3	Current trigger state. See above
4	Controls the type of email and SNMP trap notifications to send as well as the alarm state of objects. Can be "alarm" or "warning"
5	When true, trigger will continue executing its selected actions until the ack command is received even if it clears
6	Trigger type. See above
7	Path of object being monitored. Relative to api/dev. Requirements vary based on trigger type. See above
8	Value at which trigger will trip. Used in "high" and "low" trigger types
9	How many seconds the trigger condition must hold before it is considered tripped. If the trigger condition returns to normal before this time elapses, no actions are initiated and this timer is reset. Once it expires, the trigger can be considered tripped and any selected

Line Number	Description
	actions are initiated
10	How many seconds a tripped trigger condition must be false before it is considered cleared. If the trigger condition trips again before this time elapses, the trigger returns to the tripped state and this timer is reset. Once it expires, the trigger can be considered clear and any clear actions are initiated
11	References existing Valid Time ID. Empty field means alarm is always active
12	Inverts "validTime" selection
13	Array referencing existing Alarm Action IDs

CLI: get alarm trigger

user> get alarm trigger

```
0:
state:  clear
severity:  alarm
latching:  false
type:  low
path:  A70004A3BB7F45C3/entity/11/measurement/1
threshold:  0
tripDelay:  0
clearDelay:  0
validTime:  0
invertValidTime:  false
selectedActions:  [0,  1]
```

Line Number	Description
2	Current trigger state. See above
3	Controls the type of email and SNMP trap notifications to send as well as the alarm state of objects. Can be "alarm" or "warning"
4	When true, trigger will continue executing its selected actions until the ack command is received even if it clears
5	Trigger type. See above
6	Path of object being monitored. Relative to api/dev. Requirements vary based on trigger type. See above
7	Value at which trigger will trip. Used in "high" and "low" trigger types
8	How many seconds the trigger condition must hold before it is considered tripped. If the trigger condition returns to normal before this time elapses, no actions are initiated and this timer is reset. Once it expires, the trigger can be considered tripped and any selected actions are initiated
9	How many seconds a tripped trigger condition must be false before it is considered cleared. If the trigger condition trips again before this time elapses, the trigger returns to the tripped state and this timer is reset. Once it expires, the trigger can be considered clear and any clear actions are initiated
10	References existing Valid Time ID. Empty field means alarm is always active
11	Inverts "validTime" selection
12	Array referencing existing Alarm Action IDs

Command: add

API: api/alarm/trigger: add

api/alarm/trigger: add (Control)

```
{
"severity": "alarm",
"latching": false,
"type": "low",
"path": "A70004A3BB7F45C3/entity/11/measurement/1",
"threshold": 0,
"clearDelay": 0,
"tripDelay": 0,
"validTime": "0",
"invertValidTime": false,
"selectedActions": ["0","1"]
}
```

Line Number	Description
4	Required field
5	Required field

CLI: add alarm trigger ARGS

control> add alarm trigger ARGS

```
add alarm trigger =
{severity: alarm, latching: false, type: low, path: A70004A3B
B7F45C3/entity/11/measurement/1, threshold: 0, clearDelay: 0, tripDelay: 0, valid
Time: 0, invertValidTime: false, selectedActions: [0, 1]}
```

Line Number	Description
2	Required fields: type, path.

Sending the delete command to a trigger will also cause all selected pending or active actions to be canceled.

Command: delete

API: api/alarm/trigger/0: delete

api/alarm/trigger/0: delete (Control)

```
{}
```

CLI: delete alarm trigger 0

control> delete alarm trigger 0

```
~
```

The ack command is used to stop pending or active actions for a given trigger. If the trigger is in the "tripped" state, it will move to the "acked" state where it will remain until it clears. If the trigger is in the "latched" state, it will immediately move to the "clear" state. In both of these cases all pending or currently active selected actions are canceled and this trigger is considered "clear" for all purposes of alarm indications.

Command: ack

API: api/alarm/trigger/0: ack (Control)

api/alarm/trigger/0: ack (Control)

```
{}
```

CLI: ack alarm trigger 0

control> ack alarm trigger 0

```
~
```

1.3.2 Action

List of user configured actions to be used with alarm triggers.

Table 2.9 Special Notes

Notification targets	Applies to targets that send messages (SNMP traps, emails, etc). Once an alarm trigger determines that a clear message is to be sent, this message is only sent if the initial delay expired and at least one trip message was sent. Canceling or reseting an action for any reason will not trigger a clear message. Multiple actions referencing the same target, or an action referenced by multiple triggers, employ independent timers and the behavior of one does not influence any others.
Hardware targets	Applies to targets that actuate hardware features (buzzers, outlets, relays, etc). The "repeat" field is ignored and there are no clear messages. If multiple actions reference the same target, or an action is referenced by multiple triggers, the target will execute its alarm condition if any of these actions is activated. The target will return to its normal state only when every single trigger referencing an action with that target returns to an inactive state.

If an action is removed from the system, all references to it in alarm triggers are also removed and any delays or repeats for it are canceled.

API: api/alarm/action: get

api/alarm/action: get


```
{
"0": {
"target":  "0",
"delay":  0,
"repeat":   0
}
}
```

Line Number	Description
3	References existing Alarm Target ID
4	Seconds to wait before performing an action for the first time once an alarm trigger initiates it. Timer is independent for each trigger using the action. Modifying this has no effect on already scheduled delayed actions
5	Seconds to wait before performing an action again. Used after the initial delay expires. Continues to perform the action until the alarm trigger stops it. A repeat of 0 means that actions will only occur the first time. Timer is independent for each trigger using the action. Modifying this has no effect on already scheduled repetitions but updated values apply for any subsequent ones

CLI: get alarm action

```
user> get alarm action

1  0:
2  target:  0
3  delay:  0
4  repeat:  0
```

Line Number	Description
2	References existing Alarm Target ID
3	Seconds to wait before performing an action for the first time once an alarm trigger initiates it. Timer is independent for each trigger using the action. Modifying this has no effect on already scheduled delayed actions
4	Seconds to wait before performing an action again. Used after the initial delay expires. Continues to perform the action until the alarm trigger stops it. A repeat of 0 means that actions will only occur the first time. Timer is independent for each trigger using the action. Modifying this has no effect on already scheduled repetitions but updated values apply for any subsequent ones

Command: add

API: api/alarm/action: add (Control)

```
1  {
2  "target": "email0",
3  "delay": 0,
4  "repeat": 0
5  }
```

Line Number	Description
2	Required field

CLI: add alarm action

```
1  ~
```

Line Number	Description
1	Required fields: target.

Command: delete

API: api/alarm/action/0: delete (Control)

```
{}
```

CLI: delete alarm action 0

```
control> delete alarm action 0

~
```

Action email format

Any alarm action with an email target will send messages using the following format:

Subject

The subject for an alarm action will vary depending on trigger type and the whether the trigger is entering a tripped or clearing state. Repeat emails will have the same format as those sent by a trigger that has just tripped. Non user-settable strings will be sent in the current system default language.

High or low trigger tripped

```
<TRIGGER SEVERITY>: <DEVICE LABEL>, <ENTITY LABEL> -
  <MEASUREMENT NAME>, <MEASUREMENT VALUE> <MEASUREMENT UNITS>
```

High or low trigger clear

```
Clear: <DEVICE LABEL>, <ENTITY LABEL> -
  <MEASUREMENT NAME>, <MEASUREMENT VALUE> <MEAS UREMENT UNITS>
```

Status trigger tripped

```
<TRIGGER SEVERITY>: <DEVICE LABEL>, Unavailable
```

Status trigger clear

```
Clear: <DEVICE LABEL>, Reconnected
```

TRIGGER SEVERITY	The severity of the trigger generating the email. Can be "Alarm" or "Warning".
DEVICE LABEL	Label for device referenced by trigger path.
ENTITY LABEL	Label for entity containing object referenced by trigger path. If labels do not apply to a particular entity then this field and its trailing hyphen are omitted.

MEASUREMENT NAME	Name for measurement referenced by trigger path. If the path references an analog object, the analog label is shown instead.
MEASUREMENT VALUE	Current value for measurement being evaluated by the trigger. If trigger applies to an analog object in binary mode then the high/low label is shown as applicable.
MEASUREMENT UNITS	Units for measurement being evaluated by trigger.

Examples

```
Alarm: RCU-OD, Circuit 1 - Voltage, 124.3 Vrms
```

```
Clear: RCU-OD, Circuit 1 - Voltage, 120.3 Vrms
```

```
Warning: Temp Sensor, Unavailable
```

```
Clear: Temp Sensor, Reconnected
```

Body

The body for an alarm action will vary depending on trigger type and the whether the trigger is entering a tripped or clearing state. Repeat emails will have the same format as those sent by a trigger that has just tripped. Non user-settable strings will be sent in the current system default language.

High or low trigger tripped

```
<SYSTEM LABEL> @ <PRIMARY ADDRESS>
<CURRENT TIME>
<TRIGGER SEVERITY>: <DEVICE LABEL>(<DEVICE ID>) - <ENTITY LABEL> -
  <MEASUREMENT NAME>:
<TRIGGER TYPE>. Threshold Value: <TRIGGER THRESHOLD>, Value: <MEASUREMENT VALUE>
```

High or low trigger clear

```
<SYSTEM LABEL> @ <PRIMARY ADDRESS>
<CURRENT TIME>
Clear: <DEVICE LABEL>(<DEVICE ID>) - <ENTITY LABEL> -
  <MEASUREMENT NAME>: <TRIGGER TY
PE>. Threshold Value: <TRIGGER THRESHOLD>, Value: <MEASUREMENT VALUE>
```

Status trigger tripped

```
<SYSTEM LABEL> @ <PRIMARY ADDRESS>
<CURRENT TIME>
<TRIGGER SEVERITY>: <DEVICE LABEL>(<DEVICE ID>): Unavailable
```

Status trigger clear

```
<SYSTEM LABEL> @ <PRIMARY ADDRESS>
<CURRENT TIME>
Clear: <DEVICE LABEL>(<DEVICE ID>): Reconnected
```

SYSTEM LABEL	Label configured for the system in conf/system.
PRIMARY ADDRESS	Primary network address for the unit.
CURRENT TIME	Current time of the unit sending this report in the same format as sys/state/localTime.
TRIGGER SEVERITY	The severity of the trigger generating the email. Can be "Alarm" or "Warning".
DEVICE LABEL	Label for device referenced by trigger path.
DEVICE ID	Label for device referenced by trigger path.
ENTITY LABEL	Label for entity containing object referenced by trigger path. If labels do not apply to a particular entity then this field and its trailing hyphen are omitted.
MEASUREMENT NAME	Name for measurement referenced by trigger path. If the path references an analog object, the analog label is shown instead.
TRIGGER TYPE	The trigger type. Mainly used to differentiate between a low and high trigger.
TRIGGER THRESHOLD	The threshold for the trigger.
MEASUREMENT VALUE	Current value for measurement being evaluated by the trigger. If trigger applies to an analog object in binary mode then the high/low label is shown as applicable.

Examples

```
R-Series PDU @ 192.168.123.123 2017-01-02 15:30:00
Alarm: RCU-OD(36C8D5E4851900C3) - Circuit 1 -
  Voltage: High. Threshold Value: 50.00, Value: 124.3
```

```
R-Series PDU @ 192.168.123.123 2017-01-02 15:30:00
Clear: RCU-OD(36C8D5E4851900C3) - Circuit 1 -
  Voltage: High. Threshold Value: 50.00, Value: 40.2
```

```
R-Series PDU @ 192.168.123.123 2017-01-02 15:30:00
Alarm: Temp Sensor(D4000003371FD128): Unavailable
```

```
R-Series PDU @ 192.168.123.123 2017-01-02 15:30:00
Clear: Temp Sensor(D4000003371FD128): Reconnected
```

1.3.3 Target

List of available action targets in the system. They are referenced by alarm actions which are used by alarm triggers to perform notifications or activate hardware features. This list is automatically updated as resources are added or removed. If a target is removed from the system, all alarm actions that reference it are also removed.

Targets can have the following types:

"email"	Destination email addresses added in email targets to be used as notifications. Name will be the email address itself
"trap"	Destination SNMP trap addresses added in SNMP targets to be used as notifications. Name will be the trap destination
"buzzer"	Available on devices that have a hardware buzzer. Name will contain the string "buzzer". Target is disabled if the device becomes unavailable
"outlet"	Available on devices that have hardware power outlets which can be used with the alarm system. Name will contain the label of for the outlet itself. Target is disabled if the device becomes unavailable or if the outlet is set to manual control mode
"relay"	Available on devices that have a hardware relay. Name will contain the label for the relay itself. Target is disabled if the device becomes unavailable or if the relay is set to manual control mode

API: api/alarm/target: get

```
1  {
2  "email0": {
3  "name":  "user@domain.com",
4  "group":  "email",
5  "type":  "email",
6  "enabled":  true,
7  "path":     "api/conf/email/target/0"
8  }
9  }
```

Line Number	Description
3	Resource name. Based on type field. See above
4	String to logically sort targets. Can be "email", "trap", or the ID of the physical device the target belongs to
5	Target type. See above
6	Target is currently available to be controlled by the alarm system. If false, target can still be selected for alarm actions but they will not be performed until this becomes true
7	Path within the API hierarchy to the resource being represented by this target

CLI: get alarm target

```
1  email0:
2  name:  user@domain.com
3  group:  email
4  type:  email
5  enabled:  true
6  path:  api/conf/email/target/0
```

Line Number	Description
2	Resource name. Based on type field. See above
3	String to logically sort targets. Can be "email", "trap", or the ID of the physical device the target belongs to
4	Target type. See above
5	Target is currently available to be controlled by the alarm system. If false, target can still be selected for alarm actions but they will not be performed until this becomes true
6	Path within the API hierarchy to the resource being represented by this target

1.3.4 Valid Time

List of time ranges for use with alarm triggers. If an entry is removed, any triggers that reference it are set to be always active. If the system clock is not set, triggers are always considered active and valid times are ignored.

API: api/alarm/validTime: get

```
1 {
2 "0": {
3 "start": "09:00",
4 "stop":  "17:00",
5 "days": "MTWTF--"
6 }
7 }
```

Line Number	Description
3	00-23 hour plus minutes or 24:00. 00:00 to 24:00 means all day
4	00-23 hour plus minutes or 24:00. 00:00 to 24:00 means all day. Stop must be later than start
5	First letter of selected days in order Monday - Sunday. A '-' is used to represent unselected days

CLI: get alarm validTime

```
1 0:
2 start:  09:00
3 stop: 17:00
4 days:  MTWTF--
```

Line Number	Description
2	00-23 hour plus minutes or 24:00. 00:00 to 24:00 means all day
3	00-23 hour plus minutes or 24:00. 00:00 to 24:00 means all day. Stop must be later than start
4	First letter of selected days in order Monday - Sunday. A '-' is used to represent unselected days

Command: add

API: api/alarm/validTime: add (Control)

api/alarm/validTime: add (Control)

```
{
"start": "09:00",
"stop": "17:00",
"days": "MTWTF--"
}
```

CLI: add alarm validTime

control> add alarm validTime = ARGS

```
add alarm validTime = {"start": "09:00", "stop": "17:00", "days": "MTWTF--"}
```

Command: delete

api/alarm/validTime/0: delete (Control)

```
{}
```

1.4 Configuration: /api/conf

Object			Data		Notes
	Field	Format	Range	Default	set, add, delete, sendTest on these objects require admin privilege
auth/passwordRu les					
	allowRepeatCha racters	Boolean	true, false	true	
	allowUsernameI nclusion	Boolean	true, false	true	
	minDigits	Integer	0 to String Max	0	
	minLength	Integer	6 to String Max	8	
	minSymbols	Integer	0 to String Max	0	
	minUppercase	Integer	0 to String Max	0	
auth/scope/ID			0 to 10 objects		Commands: add, delete
	name	String	0 to String Max		Read-only
	filter	JSON Object		{}	
	label	String	0 to String Max	auth/scope /ID/name	
	remoteAttribute	String	0 to String Max		
contact					
	description	String	0 to String Max	"Geist GU PDU"	
	location	String	0 to String Max	""	
	contactEmail	Email Address	0 to 254	""	
	contactName	String	0 to String Max	""	
	contactPhone	String	0 to String Max	""	
datalog					

Object			Data		Notes
	interval	Integer	1 to 600 minutes	15	
display/ID					
	mode	String	"current", "totalPower", "currentAndTotalPow er"	"current"	Deprecated, use display/ID/dataSource
	inverted	Boolean	true, false	false	
display/ID/dataSo urce					
	totalPower	Boolean	true, false	false	
	voltage	Boolean	true, false	false	
	current	Boolean	true, false	true	
display/ID/vlc					
	enabled	Boolean	true, false	false	
email					Commands: add, delete, sendTest
	server	Host	0 to 255 chars		
	port	Integer	1 to 65535	25	
	sender	Email Address	0 to 254 chars		
	username	String	0 to String Max		
	password	String	0 to String Max		
	passwordSet	Boolean	true, false		Read-only
email/status/ID			0 to 10 objects		
	msg	String	0 to String Max		Read-only
email/target/ID			0 to 10 objects		Commands: add, delete, sendTest
	name	Email Address	0 to 254 chars		
http					Commands: reset
	httpEnabled	Boolean	true, false	true	
	httpPort	Integer	1 to 65535	80	
	httpsPort	Integer	1 to 65535	443	
ldap					Deprecated
	enabled	Boolean	true, false	false	Deprecated
	host	URL	0 to 255 chars		Deprecated
	port	Integer	1 to 65535	389	Deprecated
	bindDn	String	0 to 256 chars	""	Deprecated
	password	String	0 to String Max		Deprecated
	passwordSet	Boolean	true, false		Deprecated

Object		Data			Notes
	baseDn	String	0 to String Max	""	Deprecated
	userFilter	String	0 to String Max	"(objectClass=posixAccount)"	Deprecated
	userId	String	0 to String Max	"uid"	Deprecated
	userIdNum	String	0 to String Max	"uidNumber"	Deprecated
	groupFilter	String	0 to String Max	"(objectClass=posixGroup)"	Deprecated
	groupId	String	0 to String Max	"gidNumber"	Deprecated
	groupMemberUid	String	0 to String Max	"memberUid"	Deprecated
	enabledGroup	String	0 to String Max	"enabled"	Deprecated
	controlGroup	String	0 to String Max	"control"	Deprecated
	adminGroup	String	0 to String Max	"admin"	Deprecated
	mode	String	"openLdap", "activeDirectory"	"activeDirectory"	Deprecated
	securityType	String	"none", "ssl", "startTls"	"none"	Deprecated
locale					
	defaultLang	Language Code	"de", "en", "es", "fr", "ja", "ko", "pt", "zh"	"en"	
	units	String	"metric", "imperial"	"imperial"	
modbus					
	access	String	"readOnly"	"readOnly "	Read-only
modbus/tcp					
	port	Integer		502	
	enabled	Boolean	true, false	false	
network/ID					
	type	String	"lan", "wlan", "bridge", "port"		Read-only
	name	String	0 to String Max		Read-only
	label	String	0 to String Max	network/ID/name	
	order	Integer			Read-only
	removable	Boolean	true, false		Read-only
	enabled	Boolean	true, false	true	
	macAddr	String	18 chars		Read-only
	dhcpOn	Boolean	true, false	true	
	ip4GW	IPv4	0 to 15 chars		Deprecated

Object		Data			Notes
		Address			
	ip6GW	IPv6 Address	0 to 39 chars		Deprecated
	ports	Array (String)			Read-only
	bridge	String			Read-only
	ssid	String	0 to 32 chars		
	securityType	String	"wpaPersonal", "wep", "none"		
	password	String	0 to 64 chars		
	passwordSet	Boolean	true, false		Read-only
network/ID/addre ss/ID			0 to 8 user added items. 0 to 255 system added items		Commands: add, delete
	address	IP Address	0 to 39 chars		
	prefix	Integer	0 to 128		
	mutable	Boolean	true, false		Read-only
network/ID/avail ableSsids					
	ssid	String	0 to 32 chars		
	securityType	String	"wpaPersonal", "wep", "none"		
	signalStrength	String	"-100.00" to "-10.00" or "unknown"		Read-only
network/ID/link					
	state	String	"up", "down", "missing"		Read-only
	uptime	Integer			Read-only
	speed	String	"10Mb/s", "100Mb/s", "1Gb/s", "unknown"		Read-only
	duplex	String	"half", "full", "unknown"		Read-only
	supportedModes	Array (String)	"10baseT/Half", "10baseT/Full", "100baseT/Half", "100baseT/Full", "1000baseT/Half", "1000baseT/Full", "unknown"		Read-only
	signalStrength	String	"-100.00" to "-10.00" or "unknown"		Read-only
network/ID/link/s tat					
	rxCount	Integer			Read-only
	rxDropped	Integer			Read-only
	txCount	Integer			Read-only
	txDropped	Integer			Read-only
network/ID/stp					
	enabled	Boolean	true, false	false	

Object		Data			Notes
	maxAge	Integer	6 to 40	20	
	maxHops	Integer	6 to 40	40	
	mode	String	"stp", "rstp"	"rstp"	
	forwardDelay	Integer	4 to 30	15	
	helloTime	Integer	1 to 10	2	
	bridgePriority	Integer	0 to 61440. Must be a multiple of 4096	24576	
	cost	Integer	0 to 5000000	0	
	role	String	"root", "designated", "alternate", "backup", "unknown"		Read-only
	state	String	"blocking", "listening", "learning", "forwarding", "disabled", "unknown"		Read-only
network/ethernet/dns/ID			0 to 2 objects		Commands: add, delete
	address	IP Address	0 to 39 chars	8.8.8.8, 8.8.4.4	
	mutable	Boolean	true, false		Read-only
network/ethernet /route/ID			0 to 8 objects		Commands: add, delete
	destination	IP Address	0 to 39 chars		
	prefix	Integer	0 to 128		
	gateway	IP Address	0 to 39 chars		
	interface	String			
	mutable	Boolean	true, false		Read-only
remoteAuth					
	mode	String	"ldap", "tacacs", "radius", "none"	"none"	
remoteAuth/ldap					
	host	URL	0 to 255 chars		
	port	Integer	1 to 65535	389	
	bindDn	String	0 to 256 chars	""	
	password	String	0 to String Max		
	passwordSet	Boolean	true, false		Read-only
	baseDn	String	0 to String Max	""	
	userFilter	String	0 to String Max	"(objectClass=posixAccount)"	
	userId	String	0 to String Max	"uid"	
	userIdNum	String	0 to String Max	"uidNumber"	

Object		Data			Notes
	groupFilter	String	0 to String Max	"(objectCla ss=posixGr oup)"	
	groupId	String	0 to String Max	"gidNumb er"	
	groupMemberUi d	String	0 to String Max	"memberU id"	
	enabledGroup	String	0 to String Max	"enabled"	
	controlGroup	String	0 to String Max	"control"	
	adminGroup	String	0 to String Max	"admin"	
	mode	String	"openLdap", "activeDirectory"	"activeDir ectory"	
	securityType	String	"none", "ssl", "startTls"	"none"	
remoteAuth/radi us					
	authenticationSe rver1	Host	0 to 255 chars		
	authenticationSe rver2	Host	0 to 255 chars		
	sharedSecret	String	0 to String Max		
	sharedSecretSet	Boolean	true, false		Read-only
	groupAttribute	String	"filter-id", "management- privilege-level"	"filter-id"	
	adminGroup	String	0 to String Max		
	controlGroup	String	0 to String Max		
	enabledGroup	String	0 to String Max		
remoteAuth/taca cs					
	authenticationSe rver1	Host	0 to 255 chars		
	authenticationSe rver2	Host	0 to 255 chars		
	accountingServe r1	Host	0 to 255 chars		
	accountingServe r2	Host	0 to 255 chars		
	sharedSecret	String	0 to String Max		
	sharedSecretSet	Boolean	true, false		Read-only
	service	String	"ppp", "raccess"	"ppp"	
	adminAttribute	String	0 to String Max		
	controlAttribute	String	0 to String Max		
	enabledAttribut e	String	0 to String Max		
report/ID			0 to 5 objects		Commands: add, delete
	start	Time	"00:00" to "24:00"	"00:00"	
	interval	Integer	1 to 24 hours	24	

Object		Data			Notes
	days	Days	"------ " to "MTWTFSS"	"MTWTFS S"	
	targets	Array (ID)	0 to 10 items (Email Target ID)	Empty Array	
serial					
	baudRate	Integer	1200, 2400, 4800, 9600, 19200, 38400, 57600 or 115200	115200 or 9600	
	dataBits	Integer	8		Read-only
	enabled	Boolean	true, false	true	
	parity	String	"none"		Read-only
	stopBits	Integer	1		Read-only
snmp					
	v1v2cEnabled	Boolean	true, false	true	
	v3Enabled	Boolean	true, false	true	
	port	Integer	1 to 65535	161	
	engineId	String	1 to String Max		Read-only
	readCommunity	String	0 to 64 chars	"public"	
	writeCommunit y	String	0 to 64 chars	"private"	
	trapCommunity	String	0 to 64 chars	"private"	
snmp/target/ID			0 to 10 objects		Commands: add, delete, sendTest
	name	Host	0 to 255 chars		
	port	Integer	1 to 65535	162	
	trapVersion	String	"1", "2c", "3"	"1"	
snmp/user/ID			3 objects		
	username	String	0 to 64 chars		
	type	String	"read", "write", "trap"		
	authType	String	"none", "md5", "sha1"	"none"	
	authPasswordSe t	Boolean	true, false		Read-only
	authPassword	String	8 to 64 chars	""	
	privType	String	"none", "des", "aes"	"none"	
	privPasswordSet	Boolean	true, false		Read-only
	privPassword	String	8 to 64 chars	""	
ssh					Commands: reset
	enabled	Boolean	true, false	true	
	port	Integer	1 to 65535	22	
syslog					

Object			Data		Notes
	enabled	Boolean	true, false	false	
	target	Host	0 to 255 chars		
	port	Integer	1 to 65535	512	
system					
	label	String	0 to String Max	api/sys/na me	
	hostname	Hostname	1 to 63 chars	"R" + MAC address	
	factoryAccessEnabled	Boolean	true, false	false	
time					
	mode	String	"ntp", "manual"	"ntp"	
	datetime	Date/Time	2010-01-01 00:00:00 to 2038-01-19 03:14:07 in UTC zone		
	zone	String	32 chars	"UTC"	
	ntpServer1	Host	0 to 255 chars	"pool.0.ntp .org"	
	ntpServer2	Host	0 to 255 chars	"pool.1.ntp .org"	
usb					
	enabled	Boolean	true, false	true	
usb/dev/ID					
	vendorId	String	0 to String Max		Read-only
	productId	String	0 to String Max		Read-only
	bcdDevice	String	0 to String Max		Read-only
	manufacturer	String	0 to String Max		Read-only
	product	String	0 to String Max		Read-only
	serial	String	0 to String Max		Read-only
usb/dev/ID/conf					
	maxPower	String	0 to String Max		Read-only
	selfPowered	Boolean	true, false		Read-only
	remoteWakeup	Boolean	true, false		Read-only

1.4.1 Auth

Contains authentication configuration information.

Password

Strong password restrictions configuration. Includes settings to place restriction on user passwords.

API: api/conf/auth/passwordRules: get

api/conf/auth/passwordRules: get

```
{
"passwordRules":{ "allowRepeatCharacters":  true,
"allowUsernameInclusion": false,
"minDigits":  3,
"minLength":  8,
"minSymbols":  1,
"minUppercase":   1
}
```

Line Number	Description
2	If false, passwords may not include more than 2 of the same letter in a contiguous group.
3	If false, passwords may not include associated username.
4	Sets minimum number of digits required.
5	Sets minimum length required. Minimum 6.
6	Sets minimum symbols required. Symbols are defined here as printable ASCII characters not including a-z, A-Z, and 0-9.
7	Sets minimum uppercase letters required.

CLI: get conf auth passwordRules

user> get conf auth passwordRules

```
allowRepeatCharacters: true
allowUsernameInclusion: false
minDigits: 3
minLength: 8
minSymbols: 1
minUppercase: 1
```

Line Number	Description
1	If false, passwords may not include more than 2 of the same letter in a contiguous group.
2	If false, passwords may not include associated username.
3	Sets minimum number of digits required.
4	Sets minimum length required. Minimum 6.
5	Sets minimum symbols required. Symbols are defined here as printable ASCII characters not including a-z, A-Z, and 0-9.
7	Sets minimum uppercase letters required

Scope

Access level information associated with the device. Allows the admin to create scopes to limit user access.

The filter specifies the parts of the API to which the user has access. An empty object or a value of null will match the entire tree below the current key. The root of the filter is expected to be /api. Currently scope filters only support outlet filtering. The example filter allows access to outlets 1-3 of the device with ID ABC1234567890DEF and to all outlets on the device with ID G0987654321HIJKL.

Scopes can be applied to remote authentication. "remoteAttribute" must contain the user groups the scope applies to. LDAP and TACACS users should use groups for this purpose. Radius users should use Management-Policy-Id. The list of user groups returned from the authentication server is searched for values contained within "remoteAttribute". The first scope whose "remoteAttribute" matches the user groups is the one that is used.

A user's scope defines what that user can access and modify within the user's permission level. A scoped user will only have access to api/auth/user, api/sys, and the outlets specified. The guest user may not be scoped. Users with admin permissions may not be scoped.

API: api/conf/auth/scope: get

api/conf/auth/scope: get


```
{
"0": {
"filter": {
"dev":{ "ABC1234567890DEF":{
"outlet":{
"1":null,
"2":null,
"3":null
}, "G0987654321HIJKL":null
}
},
"name":  "Scope  0",
"label":  "Scope  0", "remoteAttribute": ""
}
}
```


CLI: get conf auth scope

user> get conf auth scope

```
0:
filter: dev:
ABC1234567890DEF:
outlet: 1: ~
2: ~
3: ~ G0987654321HIJKL:  ~
name:  Scope  0
label:  Scope  0
remoteAttribute:
```

Command: add

Creates a new scope.

API: api/conf/auth: add (Admin)

api/conf/auth: add (Admin)

```
1  {
2  "filter": {
3  "dev":{
4  "ABC1234567890DEF":{
5  "outlet":{
6  "1":null,
7  "2":null,
8  "3":null
9  }
10 },
11 "G0987654321HIJKL":null
12 }
13 },
14 "label": "Scope 0",
15 "remoteAttribute": ""
16 }
17 }
```

Line Number	Description
2	Filter to be applied. Must be a valid JSON object. An empty object or null value will match all descendants.
14	Label for the scope. Defaults to the same value as "name", but is settable.
15	Specifies the policy to which the scope applies when used in conjunction with remote authentication.

CLI: add conf auth (Admin)

```
1  add  conf  auth  =  {filter:  {dev:  {ABC1234567890DEF:  {outlet:
   {1:~,  2:~,  3:~}},  G 0987654321HIJKL:  ~},  label:  Scope0,  remoteAttribute:  ""}
```

Line Number	Description
1	"filter" is the filter to be applied to the scope. It must be a valid JSON object. An empty object or null value will match all descendants. "label" is the label for the scope. Defaults to the same value as "name". "remoteAttribute" specifies the policy to which the scope applies when used in conjunction with remote authentication.

1.4.2 Contact

Contains contact information for the system administrator.

API: api/conf/contact: get

api/conf/contact: get

```
1  {
2  "description": "Geist GU PDU",
3  "location": "Main Server Room",
4  "contactEmail": "admin@email.com",
5  "contactName": "Admin Smith",
6  "contactPhone": "(555) 123-4567"
7  }
```

Line Number	Description
2	Defaults to the value in /sys/name. Used as sysDescr in SNMP
3	User set location of the unit. Used as sysLocation in SNMP
4	User set email of the person responsible for the device. Used as sysContact in SNMP
5	User set name of the person responsible for the device
6	User set phone number of the person responsible for the device

CLI: get conf contact

user> get conf contact

```
1 description: Geist GU PDU
2 location: Main Server Room
3 contactEmail: admin@email.com
4 contactName: Admin Smith
5 contactPhone: (555) 123-4567
```

Line Number	Description
1	Defaults to the value in /sys/name. Used as sysDescr in SNMP
2	User set location of the unit. Used as sysLocation in SNMP
3	User set email of the person responsible for the device. Used as sysContact in SNMP
4	User set name of the person responsible for the device
5	User set phone number of the person responsible for the device

1.4.3 Data Log

The data log system controls the storage of historic measurement and Analog data on the system. Analog objects are treated like measurement objects for the purpose of this system. The "interval" field controls how often measurement data are stored. At each logging period, three quantities are stored: the average of all values seen during the interval, the highest value seen during the interval, and the lowest value seen during the interval. If a measurement is unavailable for any portion of an interval, logging will be performed with the available data. No logging is performed if there is no measurement data for the entire interval. Changing the logging interval will cause the stored historical data to be deleted and then new data will be stored at the new interval. The amount of data stored is constant with older data being replaced by new entries. The total logging capacity is dependent on the number of measurement objects currently enabled for logging. Values for measurements with scaling or affected by unit selection in locale are always retrieved as specified by the current configuration regardless of what the configuration was at the time of their storage. No logging will be performed if the system clock is not set.

Each measurement or analog system path that is available for logging has a "datalogEnabled" field. This field is set to true by default as devices are added and initialized. If a device is deleted from the system, all data stored for its corresponding logged measurements is deleted. Setting a particular "datalogEnabled" field to false prevents new data from being stored but does not remove existing data unless it is aged off. Existing data for measurements for which logging has been disabled is not retrievable. Enabling logging on a measurement causes it to start storing data on the next logging cycle.

The process to retrieve the data log is explained in the transfer/log section.

API: api/conf/datalog: get

api/conf/datalog: get

```
1 {
2 "interval": 15,
3 }
```

Line Number	Description
1	Period in minutes used to log measurement data

CLI: get conf datalog

user> get conf datalog

```
1 interval:  15
```

Line Number	Description
1	Period in minutes used to log measurement data

API: api/conf/datalog: reset (Admin)

api/conf/datalog: reset (Admin)

```
1 {
2 "target": "logs"
3 }
```

Line Number	Description
1	Required field. Valid target is limited to "logs". Clears all stored historical data. Logging resumes once current data is deleted

CLI: reset conf datalog (Admin)

admin> reset conf datalog = ARGS

```
1 reset  conf  datalog  =  {target:  logs}
```

Line Number	Description
1	"target" is a required field. "logs" is the only valid target. The "logs" target clears all stored historical data. Logging resumes once current data is deleted.

1.4.4 Display

Contains configuration for any external displays supported by the system. The options presented will vary based on the capabilities for each display.

API: api/conf/display: get

api/conf/display: get

```
1 {
2 "gmsd": {
3 "mode": "current",
4 "vlc": {},
5 "inverted": false,
6 "dataSource": {},
7 }
8 }
```

Line Number	Description
3	Selects a set of data to present on the display. Deprecated, see display/ID/dataSource.
4	display/ID/vlc
5	Describes the current orientation of the display.
6	display/ID/dataSource

CLI: get conf display

user> get conf display

```
1 {
2 "gmsd": {
3 "mode": "current",
4 "vlc": {},
5 "inverted": false,
6 "dataSource": {},
7 }
8 }
```

Line Number	Description
3	Selects a set of data to present on the display. Deprecated, see display/ID/dataSource.
4	display/ID/vlc
5	Describes the current orientation of the display.
6	display/ID/dataSource

Data Source

Controls which types of data will be displayed on the unit. When multiple data types are enabled, unit will scroll through the selected types. When no data types are enabled, unit will display " " instead of scrolling.

API: api/conf/display/ID/dataSource: get

api/conf/display/ID/dataSource: get

```
1 {
2 "current": true,
```

```
3 "totalPower": false,
4 "voltage": false
5 }
```

Line Number	Description
2	Enables current data to be displayed on the unit.
3	Enables total power data to be displayed on the unit.
4	Enables voltage data to be displayed on the unit.

CLI: get conf display ID dataSource

user> get conf display ID dataSource

```
1 current:  true
2 totalPower:  false
3 voltage:  false
```

Line Number	Description
1	Enables current data to be displayed on the unit.
2	Enables total power data to be displayed on the unit.
3	Enables voltage data to be displayed on the unit.

VLC

Contains configuration for the VLC feature

API: api/conf/display/ID/vlc: get

api/conf/display/ID/vlc: get

```
1 {
2 "enabled": true
3 }
```

Line Number	Description
2	Enters or exits the VLC mode on the attached display

CLI: get conf display ID vlc

user> get conf display ID vlc

```
1 enabled: true
```

Line Number	Description
1	Enters or exits the VLC mode on the attached display

Supported Displays

GU Simple Display (gmsd)

GU simple display with 4 seven-segment LEDs. The supported modes for this display are:

"Current"	Default state, cycles through the names and values for current measurements on each phase and breaker.
"TotalPower"	Will only show the value for the real power measurement on the total entity. Power is shown in kilowatts instead of watts.
"CurrentAndTotalPower"	A combination of "current" and "totalPower" modes. Will first scroll the name and value for total power and then the same for each current measurement.

API: api/conf/display/gmsm: get

api/conf/display/gmsm: get

```
{
"gmsd": {
"mode": "current",
"vlc": {
"enabled": true
},
"inverted": false,
"dataSource": {}
}
}
```

Line Number	Description
3	Display mode describing which data is shown. Changing this field will change the corresponding fields in display/ID/dataSource. This field is deprecated, use display/ID/dataSource instead.

CLI: get conf display gmsm

user> get conf display gmsm

```
gmsd:
mode: current
vlc:
enabled: true
inverted: false
dataSource:
...
```

Line Number	Description
2	Display mode describing which data is shown. Changing this field will change the corresponding fields in display/ID/dataSource. This field is deprecated, use display/ID/dataSource instead.

1.4.5 Email

SMTP and related configuration to enable /api/conf/report and /api/conf/alarm/targets to send emails. The SMTP server and port must be set, along with credentials for a user on that server. The "From" email address is set in the "sender" field and the recipients are specified in the "target" object. If no user name or password credentials are configured then no authentication is used.

API: api/conf/email: get

api/conf/email: get

```
1  {
2  "server":    "smtp.server.com",
3  "port":  25,
4  "sender":   "sender@server.com",
5  "username":  "user",
6  "password": null,
7  "passwordSet":  true,
8  "target":  {},
9  "status": {}
10 }
```

Line Number	Description
2	SMTP server
3	Port to contact the SMTP server
4	Email address for the sender of the message
5	SMTP user name. If blank, no authentication is used
6	Set operations use strings, get operations return only nulls. A blank string clears this field
7	Indicates whether the password field has been set
8	email/target
9	email/status

CLI: get conf email

server: smtp.server.com

```
1  server:  smtp.server.com
2  port: 25
3  sender:  sender@server.com
4  username:  user
5  password:  ~
6  passwordSet:  true
7  target:
8  ...
9  status:
10 ...
```

Line Number	Description
1	SMTP server
2	Port to contact the SMTP server
3	Email address for the sender of the message
4	SMTP user name. If blank, no authentication is used
5	Set operations use strings, get operations return only nulls. A blank string clears this field
6	Indicates whether the password field has been set
7	email/target
9	email/status

Email/Target

A list of potential email recipients. These targets also appear as alarm targets to be used when configuring alarm actions.

API: api/conf/email/target: get

api/conf/email/target: get

```
{
"0": {
"name":  "recipient@server.com"
}
}
```

Line Number	Description
3	Email address for the recipient

CLI: get conf email target

user> get conf email target

```
0:
name:  recipient@server.com
```

Line Number	Description
2	Email address for the recipient

API: api/conf/email/target: add (Admin)

api/conf/email/target: add (Admin)

```
{
"name": "recipient@sender.com"
}
```

Line Number	Description
2	Required field

CLI: add conf email target (Admin)

```
admin> add conf email target = ARGS

1 | add  conf  email  target  =  {"name":  "recipient@sender.com"}
```

Line Number	Description
2	"name" is a required field.

Deleting an email target will clear any other fields that reference it. For reports, the reference is removed from the target array. Any alarm actions that reference the target will also be deleted.

API: api/conf/email/target/0: delete (Admin)

```
api/conf/email/target/0: delete (Admin)

1 | {}
```

CLI: delete conf email target 0 (Admin)

```
admin> delete conf email target 0

~
```

The sendTest command allows an administrator to ensure that the email settings have been properly configured. It returns an "id" key to be used as a reference to the /api/conf/email/status object below, and sends an email to the target. The returned ID will match the ID of the target being tested.

API: api/conf/email/target/0: sendTest (Admin)

```
api/conf/email/target/0: sendTest (Admin)

1 | {}
```

CLI: sendTest conf email target 0 (Admin)

```
admin> sendTest conf email target 0

1 | ~
```

sendTest return data

```
{
"id": "0"
}
```

Line Number	Description
2	ID into /api/conf/email/status to check for test results.

Example 1. Received email

```
Subject: Test email
GU PDU [1] @ 192.168.123.123 [2]
```

Email/Status

A list of email test result status messages. These help the administrator troubleshoot configuration problems in case the test email was not received. IDs in this match those used in

<api_conf_email_target,email targets>. An "ok" message indicates that the last email sent to the target has succeeded. If an error has occurred, additional information is presented.

API: api/conf/email/status: get

api/conf/email/status: get

```
{
"0": {
"msg":  "ok"
}
}
```

Line Number	Description
3	Status of last message sent to the <api_conf_email_target,email target> with the same ID

CLI: get conf email status

user> get conf email status

```
0:
msg:  ok
```

Line Number	Description
3	Status of last message sent to the <api_conf_email_target,email target> with the same ID

1.4.6 HTTP

Specify ports for HTTP and HTTPS, and disable (unsecured) HTTP if desired. Secure HTTPS communication cannot be disabled. HTTPS communication supports TLS 1.2 and 1.3 with a self signed certificate. Secure communication complies with latest standards and avoids known vulnerabilities. Changing parameters on this object will cause portions of the system to reinitialize. The set operation will return success and then be followed by a short period where web server access will be unavailable.

API: api/conf/http: get

api/conf/http: get

```
1 {
2 "httpEnabled": true,
3 "httpPort": 80,
4 "httpsPort": 443
5 }
```

Line Number	Description
2	Allow unencrypted HTTP traffic
3	Port for HTTP communication
4	Port for HTTPS communication

CLI: get conf http

user> get conf http

```
1 httpEnabled:  true
2 httpPort:  80
3 httpsPort:  443
```

Line Number	Description
1	Allow unencrypted HTTP traffic
2	Port for HTTP communication
3	Port for HTTPS communication

Command: reset

Performs a reset on the target feature. Possible targets are:

Certificate- Generates a new default self-signed TLS certificate. Replaces any existing TLS certificate with the newly generated certificate. This operation will return success and then be followed by a short period where web server access will be unavailable.

API: api/conf/http: reset (Control)

api/conf/http: reset (Control)

```
1 {
2 "target": "certificate",
3 }
```

Line Number	Description
2	Required field. Valid options described above.

CLI: reset conf http (Control)

control> reset conf http

```
1 target:  certificate
```

Line Number	Description
1	Required field. Valid options described above.

1.4.7 LDAP (Deprecated)

This tree is deprecated and should not longer be used. Please use api/conf/remoteAuth/ldap instead.

Lightweight Directory Access Protocol configuration for remote authentication (single sign-on). User and group fields describe how to authenticate users in LDAP using filters (defined in RFC 2254) and ID mappings to NIS schema (defined in RFC 2307).

API: api/conf/ldap: get

api/conf/ldap: get

```
1  {
2  "enabled": false,
3  "host": "192.168.123.1",
4  "port": 389,
5  "bindDn": "",
6  "password": null,
7  "passwordSet": false,
8  "baseDn": "dc=example,dc=net",
9  "userFilter": "(objectClass=posixAccount)",
10 "userId": "uid",
11 "userIdNum": "uidNumber",
12 "groupFilter": "(objectClass=posixGroup)",
13 "groupId": "gidNumber",
14 "groupMemberUid": "memberUid",
15 "enabledGroup": "enabled",
16 "controlGroup": "control",
17 "adminGroup": "admin",
18 "mode": "activeDirectory",
19 "securityType": "none"
20 }
```

Line Number	Description
2	If true, then remoteAuth/mode is set to "ldap".
3	Required if LDAP is enabled. Must be LDAP URL (RFC4516 > RFC2255)
4	Port for protocol communication
5	Distinguished Name (RFC4514 > RFC2253) used to bind to the directory server. Blank string implies anonymous bind
6	Password used to bind to the directory server. Set operations use strings, get operations return only nulls. A blank string clears this field
7	Indicates whether the password field has been set.
8	Distinguished Name (RFC4514 > RFC2253) to use for the search base.
9	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixAccount (RFC2307)
10	Equivalent to attribute "uid" (RFC2307)
11	Equivalent to attribute "uidNumber" (RFC2307)
12	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixGroup (RFC2307)
13	Equivalent to attribute "gidNumber" (RFC2307)
14	Equivalent to attribute "memberUid" (RFC2307)
15	A user in this group will have the "enabled" privilege as described in /api/auth
16	A user in this group will have the "control" privilege as described in /api/auth
17	A user in this group will have the "admin" privilege as described in /api/auth. LDAP users do not count towards the minimum number of required admin users.
18	Determines default compatibility among the different LDAP types
19	Encryption to be used in connecting to LDAP server

CLI: get conf ldap

user> get conf ldap

```
enabled:  false
host: 192.168.123.1
port: 389
bindDn:
password:  ~
passwordSet:  false
baseDn:  dc=example,dc=net
userFilter:  (objectClass=posixAccount)
userId:  uid
userIdNum:  uidNumber
groupFilter:  (objectClass=posixGroup)
groupId:  gidNumber
groupMemberUid:  memberUid
enabledGroup:  enabled
controlGroup:  control
adminGroup:  admin
mode:  activeDirectory
securityType:  none
```

Line Number	Description
1	If true, then remoteAuth/mode is set to "ldap".
2	Required if LDAP is enabled. Must be LDAP URL (RFC4516 > RFC2255)
3	Port for protocol communication
4	Distinguished Name (RFC4514 > RFC2253) used to bind to the directory server. Blank string implies anonymous bind
5	Password used to bind to the directory server. Set operations use strings, get operations return only nulls. A blank string clears this field
6	Indicates whether the password field has been set.
7	Distinguished Name (RFC4514 > RFC2253) to use for the search base.
8	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixAccount (RFC2307)
9	Equivalent to attribute "uid" (RFC2307)
10	Equivalent to attribute "uidNumber" (RFC2307)
11	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixGroup (RFC2307)
12	Equivalent to attribute "gidNumber" (RFC2307)
13	Equivalent to attribute "memberUid" (RFC2307)
14	A user in this group will have the "enabled" privilege as described in /api/auth
15	A user in this group will have the "control" privilege as described in /api/auth
16	A user in this group will have the "admin" privilege as described in /api/auth. LDAP users do not count towards the minimum number of required admin users.
17	Determines default compatibility among the different LDAP types
18	Encryption to be used in connecting to LDAP server

1.4.8 Locale

Set the default language and temperature units. Default language is the language displayed on the web interface and in emails sent to users. For the web interface, this only applies to the guest user and users authenticating through LDAP; once the user logs in to an account defined in /api/auth, the language will be switched to whichever was configured for that user. This value also serves as the default for any users that are later added to /api/auth.

Units will change any temperature values reported through the web API, emails, SNMP, and datalogs.

API: api/conf/locale: get

api/conf/locale: get

```
1 {
2 "defaultLang":  "en",
3 "units":  "metric"
4 }
```

Line Number	Description
2	Valid options are "de", "en", "es", "fr", "ja", "ko", "pt", "zh".
3	Valid options are "metric" and "imperial".

CLI: get conf locale

user> get conf locale

```
1 defaultLang:  en
2 units:  metric
```

Line Number	Description
1	Valid options are "de", "en", "es", "fr", "ja", "ko", "pt", "zh".
2	Valid options are "metric" and "imperial".

1.4.9 Modbus

Modbus-related configuration information.

API: api/conf/modbus: get

api/conf/modbus: get

```
1 {
2 "access": "readOnly",
3 "tcp":
4 {
5 "port": 502
6 "enabled": false
7 }
8 }
```

Line Number	Description
2	Read-only as of current version.
5	Specifies modbus access port.
6	Enables or disables modbus access.

CLI: get conf modbus

user> get conf modbus

```
1 access: readOnly
2 tcp:
3 port: 502
4 enabled: false
```

Line Number	Description
1	Read-only as of current version.
3	Specifies modbus access port.
4	Enables or disables modbus access.

1.4.10 Network

All network-related configuration information. Changing parameters on this object will cause portions of the system to reinitialize. The set operation will return success and then be followed by a short period where network access will be unavailable. The network object always contains an object called "ethernet", which has an "order" field set to zero and is the primary built-in interface. The ip4GW, ip6GW, DNS, and route settings are system-wide network settings even though they appear in the "ethernet" interface object. Any other api/conf/network/ID objects will not contain ip4GW, ip6GW, dns, or route fields. ip4GW and ip6GW are deprecated aliases to the routes. DHCP routes and system default routes will not appear in these fields.

The different interface "type" values are:

"bridge"	Interface to an embedded network switch.
"aggregator"	Interface to a program-side aggregator such as OneView. Aggregators are controlled from within the system, and can only be enabled and disabled by the user. Ports controlled by an aggregator are likewise controlled from the system and cannot be reassigned while the aggregator is enabled.
"port"	Hardware ports, usually belonging to another network interface. A port can be made to act independently of its usual interface by setting its "bridge" value to null. This can be used to connect a unit to multiple wired networks simultaneously.
"lan"	Wired network interface.
"wlan'	Wireless network interface.

API: api/conf/network: get

api/conf/network: get


```
{
"id": {
"type": "bridge",
"name":  "Bridge  0",
"label":  "Bridge  0",
"order":  0,
"removable": false,
"enabled": true,
"macAddr": "00:00:00:00:00:00",
"dhcpOn": true,
"ip4GW":  "192.168.123.1",
"ip6GW":  "fe80::",
"ports": ["port0"],
"bridge": "ethernet",
"ssid":  "Guest  Network",
"securityType": "wpaPersonal",
"password": null,
"passwordSet": true,
"address": {},
"dns": {},
"route": {},
"link": {},
"stp": {},
"availableSsids": []
}
}
```

Line Number	Description
3	Network interface type. Can be "lan", "wlan", "bridge", or "port".
4	System name for the interface.
5	User configured name for the interface. Defaults to the contents of "name"
6	Display order for the GUI.
7	Indicates whether the interface will respond to delete.
8	Interface is enabled.
9	Factory set MAC address.
10	DHCP is enabled for IPv4 and IPv6.
11	Default route (gateway) used for IPv4 communications. Applies to all interfaces. Deprecated, please use routes instead.
12	Default route (gateway) used for IPv6 communications. If the address provided is link local, this gateway will only apply to "ethernet". Otherwise, applies to all interfaces. Deprecated, please use routes instead.
13	Keys of the port interfaces used by this interface.
14	Port interfaces only; the key of the bridge interface that uses this port.
15	The name of the joined Wi-Fi network. Not required to match an SSID in the "availableSsids" list below.
16	Wi-Fi security protocol. Can be "wpaPersonal", "wep", or "none".
17	Set operations use strings, get operations return only nulls. A blank string clears this field.
18	Indicates whether the "password" field has been set.
19	network/ID/address.
20	network/ethernet/dns. Only present in the "ethernet" object, but applies to all interfaces.
21	network/ethernet/route. Only present in the "ethernet" object, but applies to all interfaces.
22	network/ID/link network/ID/stp. network/ID/availableSsids.

CLI: get conf network

user> get conf network

```
 1 id:
 2 type:  bridge
 3 name:  Bridge  0
 4 label:  Bridge  0
 5 order: 0
 6 removable:  false
 7 enabled:  true
 8 macAddr:  00:00:00:00:00:00
 9 dhcpOn:  true
10 ip4GW:  192.168.123.1
11 ip6GW:  fe80::
12 ports: [port0]
13 bridge:  ethernet
14 ssid:  Guest  Network
15 securityType:  wpaPersonal
```

```
16  password:  ~
17  passwordSet:  true
18  address:
19  ...
20  dns:
21  ...
22  route:
23  ...
24  link:
25  ...
26  stp:
27  ...
28  availableSsids:  []
```

Line Number	Description
2	Network interface type. Can be "lan", "wlan", "bridge", or "port".
3	System name for the interface.
4	User configured name for the interface. Defaults to the contents of "name"
5	Display order for the GUI.
6	Indicates whether the interface will respond to delete.
7	Interface is enabled.
8	Factory set MAC address.
9	DHCP is enabled for IPv4 and IPv6.
10	Default route (gateway) used for IPv4 communications. Applies to all interfaces. Deprecated, please use routes instead.
11	Default route (gateway) used for IPv6 communications. If the address provided is link local, this gateway will only apply to "ethernet". Otherwise, applies to all interfaces. Deprecated, please use routes instead.
12	Keys of the port interfaces used by this interface.
13	Port interfaces only; the key of the bridge interface that uses this port.
14	The name of the joined Wi-Fi network. Not required to match an SSID in the "availableSsids" list below.
15	Wi-Fi security protocol. Can be "wpaPersonal", "wep", or "none".
16	Set operations use strings, get operations return only nulls. A blank string clears this field.
17	Indicates whether the "password" field has been set.
18	network/ID/address.
20	network/ethernet/dns. Only present in the "ethernet" object, but applies to all interfaces.
22	network/ethernet/route. Only present in the "ethernet" object, but applies to all interfaces.
24	network/ID/link network/ID/stp. network/ID/availableSsids.

Network/Address

A variable-length list of all IPv4 and IPv6 addresses for the interface. The length can change by user configuration (adding and deleting static addresses), but also automatically by the operating system (i.e. DHCP-acquired addresses). The DHCP and NDP acquired addresses will have the "mutable" field set to false, as the user cannot configure them directly, and do not count towards the maximum number of addresses that can be added. A reset to defaults or a pinhole button reset will delete all IDs and add a single address set to 192.168.123.123 with a prefix of 24. Disabling DHCP will cause addresses acquired by it to be immediately removed.

API: api/conf/network/ID/address: get

api/conf/network/ID/address: get

```
1 {
2 "0": {
3 "address":    "192.168.123.123",
4 "prefix":  24,
5 "mutable":   true
6 }
7 }
```

Line Number	Description
3	IP address. Can be either IPv4 or IPv6
4	Prefix for the address. 0-32 for IPv4 and 0-128 for IPv6
5	A mutable address can be set or deleted. Modifying or deleting an address where this is false will result in an error

CLI: get conf network ID address

user> get conf network ID address

```
1 0:
2 address: 192.168.123.123
3 prefix: 24
4 mutable: true
```

Line Number	Description
2	IP address. Can be either IPv4 or IPv6
3	Prefix for the address. 0-32 for IPv4 and 0-128 for IPv6
4	A mutable address can be set or deleted. Modifying or deleting an address where this is false will result in an error

API: api/conf/network/ID/address: add (Admin)

api/conf/network/ID/address: add (Admin)

```
1 {
2 "address": "192.168.123.123",
3 "prefix": 24
4 }
```

Line Number	Description
2	Required field
3	Required field

CLI: add conf network ID address (Admin)

```
admin> add conf network ID address = ARGS

1 | add conf network ID address = {address: 192.168.123.123, prefix: 24}
```

Line Number	Description
1	Required fields: address, prefix.

Deleting any address for which "mutable" is false will result in an error

API: api/conf/network/ID/address/0: delete (Admin)

```
api/conf/network/ID/address/0: delete (Admin)

{}
```

CLI: delete conf network ID address 0 (Admin)

```
admin> delete conf network ID address 0

~
```

Network/Ethernet/DNS

Supports adds and deletes for up to two DNS addresses. Address field can be IPv4 or IPv6. The DHCP acquired DNS addresses will have the "mutable" field set to false, as the user cannot configure them directly, and do not count towards the maximum number of addresses that can be added. DHCP acquired DNS addresses will have precedence over statically configured DNS addresses. A reset to defaults or a pinhole button reset will delete all IDs and add two dns addresses set to 8.8.8.8 and 8.8.4.4. Note that the DNS setting is a system-wide network setting even though it appears in the "ethernet" interface object, other api/conf/network/ID objects will not contain a DNS object within them. Any DHCP acquired DNS addresses from other network interfaces will also be included in the api/conf/network/ethernet/dns object.

API: api/conf/network/ethernet/dns: get

```
api/conf/network/ethernet/dns: get

1 {
2 "0": {
3 "address": "8.8.8.8",
4 "mutable": true
5 }
6 }
```

Line Number	Description
3	IPv4 or IPv6 DNS address
4	Indicates whether this is a user-added (true) or system-defined (false) server, and determines if it will respond to set and delete.

CLI: get conf network ethernet dns

user> get conf network ethernet dns

```
0:
address: 8.8.8.8
mutable: true
```

Line Number	Description
2	IPv4 or IPv6 DNS address
3	Indicates whether this is a user-added (true) or system-defined (false) server, and determines if it will respond to set and delete.

API: api/conf/network/ethernet/dns: add (Admin)

api/conf/network/ethernet/dns: add (Admin)

```
{
"address": "8.8.8.8"
}
```

Line Number	Description
2	Required field

CLI: add conf network ethernet dns (Admin)

admin> add conf network ethernet dns = ARGS

```
add conf network ethernet dns = {address:8.8.8.8}
```

Line Number	Description
1	"address" is a required field.

API: api/conf/network/ethernet/dns/0: delete (Admin)

api/conf/network/ethernet/dns/0: delete (Admin)

```
{}
```

CLI: delete conf network ethernet dns 0 (Admin)

admin> delete conf network ethernet dns 0

~

Network/Ethernet/Route

Network routes for all interfaces. "destination" and "gateway" must be both IPv4 or both IPv6.

Default routes are distinguished by a "destination" of "0.0.0.0" or "::", and will have a "prefix" of 0 and the interface "all". Only one default route can exist for IPv4 and one for IPv6.

API: api/conf/network/ethernet/route: get

api/conf/network/ethernet/route: get

```
1 {
2 "0": {
3 "destination": "0.0.0.0",
4 "prefix": 0,
5 "gateway": "192.168.0.0",
6 "interface": "all",
7 "mutable": false
8 }
9 }
```

Line Number	Description
6	Must correspond to a key in /api/conf/network or "all" if the route should apply to every available interface.
7	If this is a system-defined route (false), this will not respond to set or delete.

CLI: get conf network ethernet route

user> get conf network ethernet route

```
1 0:
2 destination: 0.0.0.0
3 prefix: 0
4 gateway: 192.168.0.0 interface: all
5 mutable: false
```

Line Number	Description
4	Must correspond to a key in /api/conf/network or "all" if the route should apply to every available interface.
5	If this is a system-defined route (false), this will not respond to set or delete.

API: api/conf/network/ethernet/route: add (Admin)

api/conf/network/ethernet/route: add (Admin)

```
1 {
2 "0": {
3 "destination": "192.168.0.0",
4 "prefix": 0,
5 "gateway": "192.168.0.1",
6 "interface": "all"
7 }
8 }
```

Line Number	Description
3	Required field
4	Required field
5	Required field
6	Required field

CLI: add conf network ethernet route (Admin)

admin> add conf network ethernet route = ARGS

```
1 add conf network ethernet route = {"destination": "192.168.0.0", "prefix": 0,
"gateway": "192.168.0.1", "interface": "all"}
```

Line Number	Description
1	Required fields: destination, prefix, gateway, interface.

API: api/conf/network/ethernet/route/0: delete (Admin)

api/conf/network/ethernet/route/0: delete (Admin)

```
{}
```

CLI: delete conf network ethernet route 0 (Admin)

admin> delete conf network ethernet route 0

```
~
```

Network/Link

Link information and statistics for the specified interface.

API: api/conf/network/ID/link: get

api/conf/network/ID/link: get

```
1  {
2  "state": "up",
3  "uptime": 1000,
4  "stat": {
5  "rxCount": 100,
6  "rxDropped": 0,
7  "txCount": 100,
8  "txDropped": 0
9  },
10 "speed": "100Mb/s",
11 "duplex": "full",
12 "supportedModes": [
13 "10baseT/Half",
14 "10baseT/Full",
15 "100baseT/Half",
16 "100baseT/Full"
17 ],
18 "signalStrength": "-55.00"
19 }
```

Line Number	Description
2	Current link state of the interface. Can be "up", "down", or "missing".
3	Number of seconds that the interface has been in the current link state.
4	Running count of packets which have and haven't been dropped while sending and receiving.
10	Current link speed. One of "10Mb/s", "100Mb/s", "1Gb/s", or "unknown".
11	Current duplex state. Either "half", "full", or "unknown".
12	All link modes supported by this interface, including any of the following: "10baseT/Half", "10baseT/Full", "100baseT/Half", "100baseT/Full", "1000baseT/Half", "1000baseT/Full", and "unknown".
18	String representation of the Wi-Fi signal strength in dBm (decibel-milliwatts), from -100 (weakest) to -10 (strongest), or "unknown" if the strength could not be determined.

CLI: get conf network ID link

user> get conf network ID link

```
1  state: up
2  uptime: 1000
3  stat:
4  rxCount: 100
5  rxDropped: 0
6  txCount: 100
7  txDropped: 0
8  speed: 100Mb/s
9  duplex: full
10 supportedModes: [10baseT/Half, 10baseT/Full, 100baseT/Half, 100baseT/Full]
11 signalStrength: -55.00
```

Line Number	Description
1	Current link state of the interface. Can be "up", "down", or "missing".
2	Number of seconds that the interface has been in the current link state.
3	Running count of packets which have and haven't been dropped while sending and receiving.
8	Current link speed. One of "10Mb/s", "100Mb/s", "1Gb/s", or "unknown".
9	Current duplex state. Either "half", "full", or "unknown".
10	All link modes supported by this interface, including any of the following: "10baseT/Half", "10baseT/Full", "100baseT/Half", "100baseT/Full", "1000baseT/Half", "1000baseT/Full", and "unknown".
11	String representation of the Wi-Fi signal strength in dBm (decibel-milliwatts), from -100 (weakest) to -10 (strongest), or "unknown" if the strength could not be determined.

Network/STP

Spanning tree protocol configuration and state.

API: api/conf/network/ID/stp: get

api/conf/network/ID/stp: get

```
{
"enabled": true,
"maxAge":  20,
"maxHops":  40,
"mode":  "rstp",
"forwardDelay":  15,
"helloTime":  2,
"bridgePriority":  24576,
"cost":  0,
"role": "root",
"state": "listening"
}
```

Line Number	Description
2	STP enabled or disabled. When disabled, the STP state of any enabled ports is set back to forwarding.
3	The maximum age, in seconds, of the information transmitted by this interface, when it serves as the root bridge. Used when "mode" is set to "stp". Should be at least 2 * (helloTime + 1 second).
4	The maximum number of bridge traversals of the information transmitted by this interface, when it serves as the root bridge. Used when "mode" is set to "rstp".
5	STP mode can be either "stp" or "rstp". RSTP mode supports falling back to STP when necessary.
6	The delay, in seconds, used by bridges to transition the root bridge and designated ports into forwarding mode. Should be at least (maxAge / 2) + 1 second.
7	The interval, in seconds, between periodic transmissions of configuration messages by designated ports.
8	This interface's priority.
9	This interface's contribution to the root path cost, when it serves as the root port.
10	STP role can be "root", "designated", "alternate", "backup", or "unknown".
11	State can be "blocking", "listening", "learning", "forwarding", "disabled", or "unknown".

CLI: get conf network ID stp

user> get conf network ID stp

```
enabled: true
maxAge: 20
maxHops: 40
mode: rstp
forwardDelay: 15
helloTime: 2
bridgePriority: 24576
cost: 0
role: root
state: listening
```

Line Number	Description
1	STP enabled or disabled. When disabled, the STP state of any enabled ports is set back to forwarding.
2	The maximum age, in seconds, of the information transmitted by this interface, when it serves as the root bridge. Used when "mode" is set to "stp". Should be at least 2 * (helloTime + 1 second).
3	The maximum number of bridge traversals of the information transmitted by this interface, when it serves as the root bridge. Used when "mode" is set to "rstp".
4	STP mode can be either "stp" or "rstp". RSTP mode supports falling back to STP when necessary.
5	The delay, in seconds, used by bridges to transition the root bridge and designated ports into forwarding mode. Should be at least (maxAge / 2) + 1 second.
6	The interval, in seconds, between periodic transmissions of configuration messages by designated ports.
7	This interface's priority.
8	This interface's contribution to the root path cost, when it serves as the root port.
9	STP role can be "root", "designated", "alternate", "backup", or "unknown".
10	State can be "blocking", "listening", "learning", "forwarding", "disabled", or "unknown".

Network/AvailableSSIDs

A list of detected Wi-Fi networks in range, and relevant information pertaining to each. Hidden networks will not appear in the list, but can still be set in the "ssid" field in the parent object.

API: api/conf/network/ID/availableSsids: get

api/conf/network/ID/availableSsids: get

```
[
{
"ssid": "Guest Network",
"securityType": "wpaPersonal",
"signalStrength": "-55.00"
}
]
```

Line Number	Description
3	Service set identifier for the network in question. This string can be used in a set to the "ssid" field in the parent object to select this network.
4	The security protocol used by the network in question. Corresponds to the "securityType" field in the parent object. Can be "wpaPersonal", "wep", or "none".
5	String representation of the Wi-Fi signal strength in dBm (decibel-milliwatts), from -100.00 (weakest) to -10.00 (strongest), or "unknown" if the strength could not be determined. If this network is selected, this will correspond to the "signalStrength" field in the parent object.

CLI: get conf network ID availableSsids

user> get conf network ID availableSsids

```
ssid:  Guest  Network
securityType:  wpaPersonal
signalStrength:  -55.00
```

Line Number	Description
1	Service set identifier for the network in question. This string can be used in a set to the "ssid" field in the parent object to select this network.
2	The security protocol used by the network in question. Corresponds to the "securityType" field in the parent object. Can be "wpaPersonal", "wep", or "none".
3	String representation of the Wi-Fi signal strength in dBm (decibel-milliwatts), from -100.00 (weakest) to -10.00 (strongest), or "unknown" if the strength could not be determined. If this network is selected, this will correspond to the "signalStrength" field in the parent object.

Network Interface Types

Main Interface ("ethernet")

Every system will have a single interface called "ethernet" that acts as the main one. This interface can be of type "bridge" or "lan". In addition to the fields normally encountered for that interface type, this main interface also contains:

API: api/conf/network: get

api/conf/network: get


```
{
"ethernet": {
"type": "bridge",
"order": 0,
"ip4GW": "192.168.123.1",
"ip6GW": "fe80::",
"dns": {
"0": {
"address": "8.8.8.8",
"mutable": true
}
},
"route": {
"0": {
"destination": "0.0.0.0",
"prefix": 0,
```

```
17  "gateway": "192.168.0.0",
18  "interface": "all",
19  "mutable": false
20  }
21  }
22  }
23  }
```

Line Number	Description
3	The main interface can have a type of "bridge" or "lan".
4	The main interface is always displayed first.

CLI: get conf network

user> get conf network

```
1   ethernet:
2   type: bridge
3   order: 0
4   ip4GW: 192.168.123.1
5   ip6GW: fe80::
6   dns:
7   0:
8   address: 8.8.8.8
9   mutable: true
10  route:
11  0:
12  destination: 0.0.0.0
13  prefix: 0
14  gateway: 192.168.0.0
15  interface: all
16  mutable: false
```

Line Number	Description
2	The main interface can have a type of "bridge" or "lan".
3	The main interface is always displayed first.

Bridge

API: api/conf/network: get

api/conf/network: get

```
{
"bridge0": { "type": "bridge",
"name":  "Bridge  0",
"label":  "Bridge  0",
"order":  1, "removable": false, "enabled": true,
"macAddr": "00:00:00:00:00:00",
"dhcpOn": true,
```

```
"ports": ["port0", "port1"], "address": {
"0": {
"address": "192.168.123.123",
"prefix":  24, "mutable": true
}
},
"link":  { "state":  "up", "uptime":  1000, "stat": {
"rxCount":  100,
"rxDropped":  0,
"txCount":  100,
"txDropped": 0
}
},
"stp":  { "enabled": true, "maxAge":  20,
"maxHops":  40, "mode":  "rstp", "forwardDelay":  15,
"bridgePriority":  24576,
"helloTime":  2,
}
}
}
```


CLI: get conf network

user> get conf network


```
bridge0:
type: bridge
name: Bridge 0
label: Bridge 0
order: 1
removable: false
enabled: true
macAddr: 00:00:00:00:00:00
dhcpOn: true
ports: [port0, port1]
address:
0:
address: 192.168.123.123
prefix: 24
mutable: true
link:
state: up
uptime: 1000
stat:
rxCount: 100
rxDropped: 0
txCount: 100
txDropped: 0
stp:
enabled: true
maxAge: 20
maxHops: 40
mode: rstp
forwardDelay: 15
bridgePriority: 24576
helloTime: 2
```

Aggregator

API: api/conf/network: get

api/conf/network: get

```
{
"aggregator0": {
"type": "aggregator",
"enabled": true,
"macAddr": "00:19:85:f0:07:e8",
"link": {
"stat": {...},
"uptime": 504017,
"state": "up"
},
"address": {},
"dhcpOn": false,
"ports": ["port1"],
"name": "aggregator0",
"label": "Aggregator",
"order": 0,
"removable": false
}
}
```

Line Number	Description
7	Deprecated, do not use.
12	This field cannot be enabled on an aggregator interface.

CLI: get conf network

user> get conf network

```
aggregator0:
type: aggregator
enabled: true
macAddr: 00:19:85:f0:07:e8
link:
stat:
...
uptime: 504017
state: up
address:
...
dhcpOn: false
ports: [port1]
name: aggregator0
label: Aggregator
order: 0
removable: false
```

Line Number	Description
6	Deprecated, do not use.
12	This field cannot be enabled on an aggregator interface.

Port

API: api/conf/network: get

api/conf/network: get


```
{
"port0": { "type": "port",
"name":  "Port  0",
"label":  "Port  0",
"order":  1, "removable": false, "enabled": true, "bridge": "bridge0", "link": {
"state":  "up", "uptime":  1000, "stat": {
"rxCount":  100,
"rxDropped":  0,
"txCount":  100,
"txDropped": 0
},
"speed":  "100Mb/s",
"duplex": "full", "supportedModes":  [
"10baseT/Half", "10baseT/Full", "100baseT/Half", "100baseT/Full"
]
},
"stp": {
"cost":  0, "role": "root",
"state": "listening"
}
}
}
```


CLI: get conf network

user> get conf network


```
port0:
type: port
name:  Port  0
label:  Port  0
order: 1
removable:  false
enabled:  true
bridge:  bridge0
link:
state: up
uptime:  1000
stat:
rxCount: 100
rxDropped:  0
txCount: 100
txDropped:  0
speed:  100Mb/s
```

```
duplex:  full
supportedModes:  [10baseT/Half,  10baseT/Full,  100baseT/Half,  100baseT/Full]
stp:
cost: 0
role:  root
state:  listening
```

LAN

API: api/conf/network: get

api/conf/network: get


```
{
"ethernet0": {
"type": "lan",
"name": "LAN 0",
"label": "LAN 0",
"order": 1,
"removable": true,
"enabled": true,
"macAddr": "00:00:00:00:00:00",
"dhcpOn": true,
"address": {
"0": {
"address": "192.168.123.123",
"prefix": 24,
"mutable": true
}
},
"link": {
"state": "up",
"uptime": 1000,
"stat": {
"rxCount": 100,
"rxDropped": 0,
"txCount": 100,
"txDropped": 0
},
"speed": "100Mb/s",
"duplex": "full",
"supportedModes": [
"10baseT/Half",
"10baseT/Full",
"100baseT/Half",
"100baseT/Full"
]
}
}
}
```


CLI: get api conf network

user> get api conf network

```
ethernet0:
type: lan
name: LAN 0
label: LAN 0
order: 1
removable: true
enabled: true
macAddr: 00:00:00:00:00:00
dhcpOn: true
address:
0:
address: 192.168.123.123
prefix: 24
mutable: true
link:
state: up
uptime: 1000
stat:
rxCount: 100
rxDropped: 0
txCount: 100
txDropped: 0
speed: 100Mb/s
duplex: full
supportedModes: [10baseT/Half, 10baseT/Full, 100baseT/Half, 100baseT/Full]
```

WLAN

API: api/conf/network: get

api/conf/network: get


```
{
"wifi0": {
"type": "wlan",
"name": "Wi-Fi 0",
"label": "Wi-Fi 0",
"order": 1,
"removable": true,
"enabled": true,
"macAddr": "00:00:00:00:00:00",
"dhcpOn": true,
"ssid": "Guest Network",
"securityType": "wpaPersonal",
"password": null,
"passwordSet": true,
"address": {
"0": {
"address": "192.168.123.123",
"prefix": 24,
"mutable": true
}
},
"link": {
"state": "up",
```

```
"uptime": 1000,
"stat": {
"rxCount": 100,
"rxDropped": 0,
"txCount": 100,
"txDropped": 0
},
"signalStrength": "-55.00"
},
"availableSsids": [
{
"ssid": "Guest Network",
"securityType": "wpaPersonal",
"signalStrength": "-55.00"
}
]
}
}
```


CLI: get conf network

```
user> get conf network

wifi0:
type: wlan
name: Wi-Fi 0
label: Wi-Fi 0
order: 1
removable: true
enabled: true
macAddr: 00:00:00:00:00:00
dhcpOn: true
ssid: Guest Network
securityType: wpaPersonal
password: null
passwordSet: true
address:
0:
address: 192.168.123.123
prefix: 24
mutable: true
link:
state: up
uptime: 1000
stat:
rxCount: 100
rxDropped: 0
txCount: 100
txDropped: 0
signalStrength: -55.00
availableSsids:
ssid: Guest Network
securityType: wpaPersonal
signalStrength: -55.00
```

1.4.11 Remote Authentication

By default, the system uses a local database to authenticate users. Remote authentication allows the system to authenticate a user with a remote server. If remote authentication fails, then it tries local authentication. To enable, set "mode" to "ldap", "tacacs", or "radius". Setting mode to "none" disables remote authentication.

API: api/conf/remoteAuth: get

api/conf/remoteAuth: get

```
1 {
2 "mode": "tacacs",
3 "ldap": {},
4 "tacacs": {},
5 "radius": {}
6 }
```

Line Number	Description
2	Valid options are "ldap", "tacacs", "radius", and "none".
3	api/conf/remoteAuth/ldap
4	api/conf/remoteAuth/tacacs
5	api/conf/remoteAuth/radius

CLI: get conf remoteAuth

user> get conf remoteAuth

```
1 mode: tacacs
2 ldap: ~
3 tacacs: ~
4 radius: ~
```

Line Number	Description
1	Valid options are "ldap", "tacacs", "radius", and "none".
2	api/conf/remoteAuth/ldap
3	api/conf/remoteAuth/tacacs
4	api/conf/remoteAuth/radius

LDAP

Lightweight Directory Access Protocol configuration for remote authentication (single sign-on). User and group fields describe how to authenticate users in LDAP using filters (defined in RFC 2254) and ID mappings to NIS schema (defined in RFC 2307). The "enabledGroup", "controlGroup", and "adminGroup" fields tell how to map groups to user permissions. A user must belong to one of these groups to access the device. If a user belongs to more than one group then the group with the highest permission is used.

API: api/conf/remoteAuth/ldap: get

api/conf/remoteAuth/ldap: get

```
{
"host": "192.168.123.1",
"port": 389,
"bindDn": "",
"password": null,
"passwordSet": false,
"baseDn": "dc=example,dc=net",
"userFilter": "(objectClass=posixAccount)",
"userId": "uid",
"userIdNum": "uidNumber",
"groupFilter": "(objectClass=posixGroup)",
"groupId": "gidNumber",
"groupMemberUid": "memberUid",
"enabledGroup": "enabled",
"controlGroup": "control",
"adminGroup": "admin",
"mode": "activeDirectory",
"securityType": "none"
}
```

Line Number	Description
2	Required if LDAP is enabled. Must be LDAP URL (RFC4516 > RFC2255)
3	Port for protocol communication
4	Distinguished Name (RFC4514 > RFC2253) used to bind to the directory server. Blank string implies anonymous bind
5	Password used to bind to the directory server. Set operations use strings, get operations return only nulls. A blank string clears this field
6	Indicates whether the password field has been set.
7	Distinguished Name (RFC4514 > RFC2253) to use for the search base.
8	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixAccount (RFC2307)
9	Equivalent to attribute "uid" (RFC2307)
10	Equivalent to attribute "uidNumber" (RFC2307)
11	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixGroup (RFC2307)
12	Equivalent to attribute "gidNumber" (RFC2307)
13	Equivalent to attribute "memberUid" (RFC2307)
14	A user in this group will have the "enabled" privilege as described in /api/auth
15	A user in this group will have the "control" privilege as described in /api/auth
16	A user in this group will have the "admin" privilege as described in /api/auth. LDAP users do not count towards the minimum number of required admin users.
17	Determines default compatibility among the different LDAP types
18	Encryption to be used in connecting to LDAP server

CLI: get conf remoteAuth ldap

user> get conf remoteAuth ldap

```
host: 192.168.123.1
port: 389
bindDn:
password: null
passwordSet: false
baseDn: dc=example,dc=net
userFiler: (objectClass=posixAccount)
userId: uid
userIdNum: uidNumber
groupFilter: (objectClass=posixGroup)
groupId: gidNumber
groupMemberUid: memberUid
enabledGroup: enabled
controlGroup: control
adminGroup: admin
mode: activeDirectory
securityType: none
```

Line Number	Description
1	Required if LDAP is enabled. Must be LDAP URL (RFC4516 > RFC2255)
2	Port for protocol communication
3	Distinguished Name (RFC4514 > RFC2253) used to bind to the directory server. Blank string implies anonymous bind
4	Password used to bind to the directory server. Set operations use strings, get operations return only nulls. A blank string clears this field
5	Indicates whether the password field has been set.
6	Distinguished Name (RFC4514 > RFC2253) to use for the search base.
7	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixAccount (RFC2307)
8	Equivalent to attribute "uid" (RFC2307)
9	Equivalent to attribute "uidNumber" (RFC2307)
10	LDAP Search Filter (RFC4515 > RFC2254), objectClass equivalent to posixGroup (RFC2307)
11	Equivalent to attribute "gidNumber" (RFC2307)
12	Equivalent to attribute "memberUid" (RFC2307)
13	A user in this group will have the "enabled" privilege as described in /api/auth
14	A user in this group will have the "control" privilege as described in /api/auth
15	A user in this group will have the "admin" privilege as described in /api/auth. LDAP users do not count towards the minimum number of required admin users.
16	Determines default compatibility among the different LDAP types
17	Encryption to be used in connecting to LDAP server

TACACS+

Configuration for remote auth using the TACACS+ protocol. The authentication servers are used for both authentication and authorization. At least one authentication server is required. The accounting server fields are optional. If configured, an accounting server is notified when a user is authorized. Both "sharedSecret" and "service" must be specified.

User permissions are determined by Attribute-Value Pair (AVPs) returned during authorization. If the "adminAttribute" AVP is found then the user has admin access. The "controlAttribute" AVP is for control access. For view-only access, the "enabledAttribute" should be returned. If none of these AVPs are found, then the user won't have access to the unit. When multiple AVPs are provided, then the highest permission AVP is used. A blank "attribute" field will not match any AVPs.

API: api/conf/remoteAuth/tacacs: get

api/conf/remoteAuth/tacacs: get

```
1  {
2  "authenticationServer1":  "string",
3  "authenticationServer2":  "string",
4  "accountingServer1": "string",
5  "accountingServer2": "string",
6  "sharedSecret": null,
7  "sharedSecretSet": true,
8  "service":  "ppp",
9  "adminAttribute":  "admin=1",
10 "controlAttribute":  "control=1",
11 "enabledAttribute": "enabled=1"
12 }
```

Line Number	Description
2	Primary authentication/authorization server
3	Alternate authentication/authorization server
4	Primary accounting server
5	Alternate accounting server
6	Secret shared by client and server. A get returns only null.
7	Tells if the shared secret is set.
8	Value to use for the service field in TACACS requests. Valid options are "ppp" and "raccess".
9	A user with this Attribute-Value Pair will have "admin" privilege as described in /api/auth. TACACS users do not count towards the minimum number of required admin users.
10	A user with this Attribute-Value Pair will have "control" privilege as described in /api/auth
11	A user with this Attribute-Value Pair will have "enabled" privilege as described in /api/auth

CLI: get conf remoteAuth tacacs

user> get conf remoteAuth tacacs

```
1  authenticationServer1:  string
2  authenticationServer2:  string
3  accountingServer1:  string
4  accountingServer2:  string
5  sharedSecret: ~
6  sharedSecretSet: true
7  service:  ppp
8  adminAttribute:  admin=1
9  controlAttribute:  control=1
10 enabledAttribute:  enabled=1
```

Line Number	Description
2	Primary authentication/authorization server
3	Alternate authentication/authorization server
4	Primary accounting server
5	Alternate accounting server
6	Secret shared by client and server. A get returns only null.
7	Tells if the shared secret is set.
8	Value to use for the service field in TACACS requests. Valid options are "ppp" and "raccess".
9	A user with this Attribute-Value Pair will have "admin" privilege as described in /api/auth. TACACS users do not count towards the minimum number of required admin users.
10	A user with this Attribute-Value Pair will have "control" privilege as described in /api/auth
11	A user with this Attribute-Value Pair will have "enabled" privilege as described in /api/auth

RADIUS

Configuration for remote auth using RADIUS. The authentication servers are used for authentication, authorization, and accounting. At least one server is required. The "sharedSecret" and "groupAttribute" are required.

The Attribute-Value Pairs (AVPs) returned by the server during authentication/authorization determine the user permissions. The "groupAttribute" field tells the system which AVP contains the user's access group. If the AVP value matches the "adminGroup" field then the user has admin (full) access. The user has control access if the AVP value matches the "controlGroup" field. Matching the "enabledGroup" value gives view-only access. If no matches are found, the user will not have access to the unit. A blank "group" field will not match any AVPs.

API: api/conf/remoteAuth/radius: get

api/conf/remoteAuth/radius: get

```
{
"authenticationServer1":  "string",
"authenticationServer2":  "string",
"sharedSecret": null,
"sharedSecretSet": true,
"groupAttribute": "filter-id",
"adminGroup":  "admin",
"controlGroup": "control",
"enabledGroup": "enabled"
}
```

Line Number	Description
2	Primary authentication/authorization/accounting server
3	Alternate authentication/authorization/accounting server
4	Secret shared by client and server. A get returns only null.
5	Tells if the shared secret is set.
6	Identifies the AVP that tells which access group the user belongs to. Valid values are "filter- id" and ""management-privilege-level".

Line Number	Description
7	A user that belongs to this group has "admin" privilege as described in /api/auth. RADIUS users do not count towards the minimum number of required admin users.
8	A user that belongs to this group has "control" privilege as described in /api/auth
9	A user that belongs to this group has "enabled" privilege as described in /api/auth

CLI: get conf remoteAuth radius

user> get conf remoteAuth radius

```
1  authenticationServer1:  string
2  authenticationServer2:  string
3  sharedSecret: ~
4  sharedSecretSet: true
5  groupAttribute:  filter-id
6  adminGroup:  admin
7  controlGroup:  control
8  enabledGroup:  enabled
```

Line Number	Description
1	Primary authentication/authorization/accounting server
2	Alternate authentication/authorization/accounting server
3	Secret shared by client and server. A get returns only null.
4	Tells if the shared secret is set.
5	Identifies the AVP that tells which access group the user belongs to. Valid values are "filter- id" and ""management-privilege-level".
6	A user that belongs to this group has "admin" privilege as described in /api/auth. RADIUS users do not count towards the minimum number of required admin users.
7	A user that belongs to this group has "control" privilege as described in /api/auth
8	A user that belongs to this group has "enabled" privilege as described in /api/auth

1.4.12 Report

Contains a list of periodic system status reports. Reports can be configured to send emails only on certain days and no earlier than a specified start time. They will repeat at the configured time interval until the end of the day. If the system clock is not set, no reports will be sent.

API: api/conf/report: get

api/conf/report: get

```
1  {
2  "0": {
3  "start": "12:00",
4  "days": "MTWTF--",
5  "targets": ["0", "1"],
6  "interval": 24
7  }
8  }
```

Line Number	Description
3	Time of day from which interval is applied. Format is (00-23):(00-59) or 24:00 which is the same as 00:00. Configurable in 15 minute increments
4	First letter of selected days in order Monday - Sunday. A '-' is used to represent unselected days
5	List of keys referencing /api/conf/email/email/target
6	Number of hours between reports. Can be 1, 2, 3, 4, 6, 8, 12, and 24

CLI: get conf report

user> get conf report

```
0:
start: 12:00
days: MTWTF--
targets: [0,1]
interval: 24
```

Line Number	Description
2	Time of day from which interval is applied. Format is (00-23):(00-59) or 24:00 which is the same as 00:00. Configurable in 15 minute increments
3	First letter of selected days in order Monday - Sunday. A '-' is used to represent unselected days
4	List of keys referencing /api/conf/email/email/target
5	Number of hours between reports. Can be 1, 2, 3, 4, 6, 8, 12, and 24

API: api/conf/report: add

api/conf/report: add

```
{
"start": "12:00",
"days":  "MTWTF--",
"targets":  ["0",  "1"],
"interval":  24
}
```

CLI: add conf report

user> add conf report = ARGS

```
add conf report = {"start":"12:00", "days":"MTWTF--", "targets":["0","1"],
"interval":24}
```

API: api/conf/report: delete

api/conf/report: delete

```
{}
```

CLI: delete conf report

user> delete conf report

```
~
```

Report email format

The report email will contain a snapshot of the current state of the unit. This snapshot includes all measurements for each device along with their current alarm states. The format is as follows:

Subject

```
<SYSTEM LABEL> @ <PRIMARY ADDRESS>
```

Body

```
<SYSTEM LABEL> @ <PRIMARY ADDRESS>
<CURRENT TIME>
Alarms: <ALARM COUNT>, Warnings: <WARNING COUNT>
<DEVICE LABEL> [Status: <DEVICE STATUS>, Alarm:<ALARM STATE>]
<ENTITY LABEL>
<MEASUREMENT NAME>: <MEASUREMENT VALUE> <MEASUREMENT UNITS> [Alarm: <ALARM ST
ATE>]
Time of next status report: <NEXT REPORT TIME>
Unit Location: <SYSTEM LOCATION>
Unit Description: <SYSTEM DESCRIPTION>
Contact Name: <CONTACT NAME>
Contact Phone: <CONTACT PHONE>
Contact E-mail: <CONTACT EMAIL>
```

SYSTEM LABEL	Label configured for the system in conf/system.
PRIMARY ADDRESS	Primary network address for the unit.
CURRENT TIME	Current time of the unit sending this report in the same format as sys/state/localTime.
ALARM COUNT	Number of alarm triggers tripped that have not been acknowledged.
WARNING COUNT	Number of warning triggers tripped that have not been acknowledged.
DEVICE LABEL	User set label for each device.
DEVICE STATUS	Representation of current state value for each device.
ALARM STATE	Current alarm/state and alarm/severity for each device or measurement. Nothing is shown if the current alarm state is "none".
ENTITY LABEL	Label for each entity in the device. If a label is not available then the entity name is used.
MEASUREMENT NAME	Name for each measurement in the entity. In the case of analog objects, the analog label is used instead.

MEASUREMENT VALUE	Current value for each measurement in the entity.
MEASUREMENT UNITS	Units for each measurement in the entity.
NEXT REPORT TIME	Date and time at which the next report is scheduled to be sent.
SYSTEM LOCATION	Location configured in conf/contact.
SYSTEM DESCRIPTION	Description configured in conf/contact.
CONTACT NAME	Contact name configured in conf/contact.
CONTACT PHONE	Contact phone configured in conf/contact.
CONTACT EMAIL	Contact email configured in conf/contact.

Example Subject

```
R-Series  PDU  @  192.168.123.123
```

Example Body

```
R-Series PDU @ 192.168.123.123
2017-01-02 15:30:00
RCU-OD [Status: normal]
Total
Energy: 0.000 kWh
Power Factor: 45 %
Apparent Power: 11 VA
Real Power: 5 W [Alarm: acked, warning]
Phase A
Real Power: 5 W
Energy: 0.000 kWh
Current Min: 0.09 A [Alarm: tripped, alarm]
Current Max: 0.09 A
Power Factor: 47 %
Apparent Power: 11 VA [Alarm: latched, warning]
Current: 0.09 A
Voltage Min: 121.6 Vrms
Voltage Max: 121.9 Vrms [Alarm: clear]
Voltage: 121.6 Vrms
Circuit 1
Voltage: 121.6 Vrms
Voltage Min: 121.3 Vrms
Energy: 0.735 kWh
Peak Voltage: 177.9 V
Voltage Max: 122.1 Vrms
Current Min: 0.00 A
Current: 0.00 A
Apparent Power: 0 VA
Current Max: 0.00 A
Power Factor: 0 %
Real Power: 0 W
Outlet One
Voltage: 121.6 Vrms
Voltage Min: 121.3 Vrms
Energy: 0.592 kWh
Peak Voltage: 177.9 V
Voltage Max: 122.1 Vrms
```

```
Current Min: 0.00 A
Current: 0.00 A
Apparent Power: 0 VA
Current Max: 0.00 A
Power Factor: 0 %
Real Power: 0 W
Outlet Two
Voltage: 121.6 Vrms
Voltage Min: 121.3 Vrms
Energy: 0.000 kWh
Peak Voltage: 177.9 V
Voltage Max: 122.1 Vrms
Current Min: 0.00 A
Current: 0.00 A
Apparent Power: 0 VA
Current Max: 0.00 A
Power Factor: 0 %
Real Power: 0 W
Outlet Three
Voltage: 121.6 Vrms
Voltage Min: 121.3 Vrms
Energy: 0.097 kWh
Peak Voltage: 177.9 V
Voltage Max: 122.1 Vrms
Current Min: 0.00 A
Current: 0.00 A
Apparent Power: 0 VA
Current Max: 0.00 A
Power Factor: 0 %
Real Power: 0 W
Outlet Four
Voltage: 121.6 Vrms
Voltage Min: 121.3 Vrms
Energy: 0.046 kWh
Peak Voltage: 177.9 V
Voltage Max: 122.1 Vrms
Current Min: 0.00 A
Current: 0.00 A
Apparent Power: 0 VA
Current Max: 0.00 A
Power Factor: 0 %
Real Power: 0 W
T3HD Sensor [Status: partially unavailable, Alarm: tripped, warning]
Internal
Temperature: 75.34 F
Humidity: 33 %
Dewpoint: 44.26 F
External A
Temperature: Unavailable
External B
Temperature: 73.96 F
Time of next status report: 2017-01-02 16:30:00
Location: Row 27
Description: Rack mount PDU
Administrator Name: John Smith
Administrator Telephone: 555-123-4567
Administrator Email: jsmith@smith.com
```

1.4.13 Serial

Configures the serial port hardware. This port can be used to access the CLI. The serial port configuration will only be present on units with a physical serial port.

API: api/conf/serial: get

```
1 {
2 "baudRate":  115200,
3 "dataBits":  8,
4 "enabled": true,
5 "parity":  "none",
6 "stopBits":  1
7 }
```

Line Number	Deescription
2	Valid options are 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200. The default value is platform dependent with "gmmb" using 115200 and "rq" using 9600.
3	Number of bits of data in one frame.
4	Enables or disabled the serial CLI on a device.
5	Parity bit type used in the frame.
6	Number of stop bits used to terminate each frame.

CLI: get conf serial

user> get conf serial

```
1 baudRate: 115200
2 dataBits: 8
3 enabled: true
4 parity: none
5 stopBits: 1
```

Line Number	Deescription
1	Valid options are 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200. The default value is platform dependent with "gmmb" using 115200 and "rq" using 9600.
2	Number of bits of data in one frame.
3	Enables or disabled the serial CLI on a device.
4	Parity bit type used in the frame.
5	Number of stop bits used to terminate each frame.

1.4.14 SNMP

Configure the device to work as a server for Simple Network Management Protocol. Setting both "v1v2cEnabled" and "v3Enabled" to false will turn off SNMP support. Changing parameters on this object will cause portions of the system to reinitialize. The set operation will return success and then be followed by a short period where SNMP access will be unavailable.

Access via SNMPv1 and SNMPv2c is controlled by the community strings in this section. The "readCommunity" field is for read-only access, while "writeCommunity" handles read-write access. The "readCommunity" and "writeCommunity" must be different. The "trapCommunity" field is the community string sent in SNMPv1 and SNMPv2c traps. A blank community string means that access is not allowed at that level.

API: api/conf/snmp: get

api/conf/snmp: get

```
1  {
2  "v1v2cEnabled": true,
3  "v3Enabled": true,
4  "port": 161,
5  "engineId": "0x1234567890",
6  "readCommunity": "public",
7  "writeCommunity": "private",
8  "trapCommunity": "private",
9  "target": {},
10 "user": {}
11 }
```

Line Number	Description
2	Enable or disable SNMP version 1 and 2c
3	Enable or disable SNMP version 3
4	Port user for SNMP communication
5	SNMPv3 engine ID
6	See above. Must be different than "writeCommunity"
7	See above. Must be different than "readCommunity"
8	See above
9	snmp/target
10	snmp/user

CLI: get conf snmp

user> get conf snmp

```
v1v2cEnabled: true
v3Enabled: true
port: 161
engineId: 0x1234567890
readCommunity: public
writeCommunity: private
trapCommunity: private
target:
...
user:
...
```

Line Number	Description
1	Enable or disable SNMP version 1 and 2c
2	Enable or disable SNMP version 3
3	Port user for SNMP communication
4	SNMPv3 engine ID
5	See above. Must be different than "writeCommunity"
6	See above. Must be different than "readCommunity"
7	See above
8	snmp/target
9	snmp/user

SNMP/Target

A list of recipient IPs or host names for SNMP traps. These targets are used as alarm targets when configuring alarm actions.

API: api/conf/snmp/target: get

api/conf/snmp/target: get

```
{
"0": {
"name":  "192.168.123.1",
"port":  162,
"trapVersion":   "1"
}
}
```

Line Number	Description
3	Destination for the SNMP trap
4	Port used when sending the trap
5	Valid options are "1", "2c", and "3".

CLI: get conf snmp target

user> get conf snmp target

```
0:
name: 192.168.123.1
port: 162
trapVersion: 1
```

Line Number	Description
1	Destination for the SNMP trap
2	Port used when sending the trap
3	Valid options are "1", "2c", and "3".

API: api/conf/snmp/target: add (Admin)

api/conf/snmp/target: add (Admin)

```
1 {
2 "name": "192.168.123.1",
3 "port": 163,
4 "trapVersion": "2c"
5 }
```

Line Number	Description
2	Required field

CLI: add conf snmp target (Admin)

admin> add conf snmp target = ARGS

```
1 add conf snmp target = {"name":"192.168.123.1", "port":163, "trapVersion": "2c"}
```

Line Number	Description
1	Required field

Deleting an email target will clear any other fields that reference it. Any alarm actions that reference the target will also be deleted.

API: api/conf/snmp/target/0: delete (Admin)

api/conf/snmp/target/0: delete (Admin)

```
{}
```

CLI: delete conf snmp target 0 (Admin)

admin> delete conf snmp target 0

```
~
```

The sendTest command allows an administrator to ensure that SNMP has been properly configured by sending an arbitrary trap to the specified recipient.

API: api/conf/snmp/target/0: sendTest (Admin)

api/conf/snmp/target/0: sendTest (Admin)

```
{}
```

CLI: sendTest conf snmp target 0 (Admin)

```
admin> sendTest conf snmp target 0

  ~
```

SNMP/User

List of credentials for SNMPv3 users that have access to the device. The list has three fixed entries, one for each user type: read-only, read-write, and trap.

Authentication (authType)	Encryption (privType)
"none"	"none"
"md5", "sha1"	"none"
"md5", "sha1"	"des", "aes"

Each user has security settings for authentication and encryption. If authentication is enabled, then "authType" will be "md5" or "sha1" and "authPassword" will be set. For encryption, "privType" will be "des" or "aes" and "privPassword" will be set. Authentication is required for encryption. The acceptable combinations for authentication and privacy are listed in the table above.

The following table has the defaults for each user type.

type	username	authType	authPassword	privType	privPassword
"read"	"initial"	"none"		"none"	
"write"	"manager"	"md5"	"12345678"	"des"	"12345678"
"trap"	"Trap"	"md5"	"12345678"	"des"	"12345678"

Modifying the "username" field by itself will cause authentication and privacy types and passwords to be reset to "none" and blank respectively. Changing any of the two types by themselves will also cause the associated password to be set to blank.

API: api/conf/snmp/user: get

api/conf/snmp/user: get


```
{
"0": {
"username": "initial",
"type": "read",
"authType": "none",
"authPasswordSet": false,
"authPassword": null,
"privType": "none",
"privPasswordSet": false,
"privPassword": null
},
"1": {
"username": "manager",
"type": "write",
"authType": "md5",
```

```
16  "authPasswordSet": true,
17  "authPassword": null,
18  "privType": "des",
19  "privPasswordSet": true,
20  "privPassword": null
21  },
22  "2": {
23  "username": "trap",
24  "type": "trap",
25  "authType": "md5",
26  "authPasswordSet": true,
27  "authPassword": null,
28  "privType": "des",
29  "privPasswordSet": true,
30  "privPassword": null
31  }
32  }
```

Line Number	Description
3	SNMPv3 user name
4	Permission type. See above
5	Authentication type. See above
6	Indicates whether the password field has been set
7	Set operations use strings, get operations return only nulls. A blank string clears this field
8	Privacy or encryption type. See above
9	Indicates whether the password field has been set
10	Set operations use strings, get operations return only nulls. A blank string clears this field
13	SNMPv3 user name
14	Permission type. See above
15	Authentication type. See above
16	Indicates whether the password field has been set
17	Set operations use strings, get operations return only nulls. A blank string clears this field
18	Privacy or encryption type. See above
19	Indicates whether the password field has been set
20	Set operations use strings, get operations return only nulls. A blank string clears this field
23	SNMPv3 user name
24	Permission type. See above
25	Authentication type. See above
26	Indicates whether the password field has been set
27	Set operations use strings, get operations return only nulls. A blank string clears this field
28	Privacy or encryption type. See above
29	Indicates whether the password field has been set
30	Set operations use strings, get operations return only nulls. A blank string clears this field

CLI: get conf snmp user

user> get conf snmp user

```
0:
username: initial
type: read
authType: none
authPasswordSet: false
authPassword: ~
privType: none
privPasswordSet: false
privPassword: ~
1:
username: manager
type: write
authType: md5
authPasswordSet: true
authPassword: ~
privType: des
privPasswordSet: true
privPassword: ~
2:
username: trap
type: trap
authType: md5
authPasswordSet: true
authPassword: ~
privType: des
privPasswordSet: true
privPassword: ~
```

Line Number	Description
2	SNMPv3 user name
3	Permission type. See above
4	Authentication type. See above
5	Indicates whether the password field has been set
6	Set operations use strings, get operations return only nulls. A blank string clears this field
7	Privacy or encryption type. See above
8	Indicates whether the password field has been set
9	Set operations use strings, get operations return only nulls. A blank string clears this field
11	SNMPv3 user name
12	Permission type. See above
13	Authentication type. See above
14	Indicates whether the password field has been set
15	Set operations use strings, get operations return only nulls. A blank string clears this field
16	Privacy or encryption type. See above
17	Indicates whether the password field has been set

Line Number	Description
18	Set operations use strings, get operations return only nulls. A blank string clears this field
20	SNMPv3 user name
21	Permission type. See above
22	Authentication type. See above
23	Indicates whether the password field has been set
24	Set operations use strings, get operations return only nulls. A blank string clears this field
25	Privacy or encryption type. See above
26	Indicates whether the password field has been set
27	Set operations use strings, get operations return only nulls. A blank string clears this field

1.4.15 SSH

Specify port for SSH and disabled it if desired. SSH will invoke a shell that mirrors the API as specified in the usage section. Changing parameters on this object will cause portions of the system to reinitialize. The set operation will return success and then be followed by a short period where SSH access will be unavailable.

API: api/conf/ssh: get

api/conf/ssh: get

```
1 {
2 "enabled": true,
3 "port": 22
4 }
```

Line Number	Description
2	Disable SSH connections
3	Port for SSH communication

CLI: get conf ssh

user> get conf ssh

```
1 enabled:  true
2 port: 22
```

Line Number	Description
1	Disable SSH connections
2	Port for SSH communication

Command: reset

Performs a reset on the target feature. Possible targets are:

key: Generates new SSH host keys. This operation will return success and then be followed by a short period where SSH access will be unavailable.

API: api/conf/ssh: reset (Control)

api/conf/ssh: reset (Control)

```
1 {
2 "target": "key",
3 }
```

Line Number	Description
2	Required field. Valid options described above.

CLI: reset conf ssh (Control)

control> reset conf ssh = ARGS

```
1 reset conf ssh = {target:key}
```

Line Number	Description
2	"target" is a required field. Valid options are described above.

1.4.16 Syslog

Set up the device as a syslog client for troubleshooting purposes. A valid destination for syslog messages must be configured for this feature to be enabled

API: api/conf/syslog: get

api/conf/syslog: get

```
1 {
2 "enabled": true,
3 "target": "192.168.123.1",
4 "port": 512
5 }
```

Line Number	Description
2	Enable the transmission of syslog messages to a remote destination
3	Remote destination for syslog messages. Must be set for feature to be enabled
4	Destination port for messages

CLI: get conf syslog

user> get conf syslog

```
enabled:  true
target:  192.168.123.1
port:  512
```

Line Number	Description
1	Enable the transmission of syslog messages to a remote destination
2	Remote destination for syslog messages. Must be set for feature to be enabled
3	Destination port for messages

1.4.17 System

Contains administrator information applicable to the whole system. The set operation will return success and then be followed by a short period where SSH access will be unavailable.

Changing factoryAccessEnabled on this object will cause portions of the system to reinitialize. Enabling factoryAccessEnabled will allow authorized service personell to access additional debug features of the system. This mode has the same timeout as user tokens; 6 hours after the last activity requiring factoryAccessEnabled, this value will be set false and debug access will have to be reauthorized. This value will also be reset upon system reboot.

API: api/conf/system: get

api/conf/system: get

```
1  {
2  "label": "Geist GU PDU"
3  "hostname": "R112233445566"
4  "factoryAccessEnabled": true,
5  }
```

Line Number	Description
2	Defaults to the value of api/sys/name and is used to identify the unit in the GUI, emails, etc. Used as sysName in SNMP
3	Name to identify the unit in a network. Defaults to the letter 'R' followed by the Ethernet MAC address of the device
4	Allow factory access to unit over SSH (for debugging purposes)

CLI: get conf system

user> get conf system

```
1  label: Geist GU PDU
2  hostname: R112233445566
3  factoryAccessEnabled: true
```

Line Number	Description
1	Defaults to the value of api/sys/name and is used to identify the unit in the GUI, emails, etc. Used as sysName in SNMP
2	Name to identify the unit in a network. Defaults to the letter 'R' followed by the Ethernet MAC address of the device
3	Allow factory access to unit over SSH (for debugging purposes)

1.4.18 Time

Manually set the system clock time, set time zone, and NTP settings. Setting the time mode to "NTP" requires a valid entry in at least one of the NTP servers. Setting the time manually while in NTP mode will result in an error. For a full list of valid entries to the "zone" field, please consult https://www.iana.org/time-zones. If the time advances past the maximum supported date, the clock will revert to an unset state.

api/conf/time: get

```
1 {
2 "mode": "ntp",
3 "datetime": "2012-11-15 16:25:45",
4 "zone": "africa/casablanca",
5 "ntpServer1": "pool.0.ntp.org",
6 "ntpServer2": "pool.1.ntp.org"
7 }
```

Line Number	Description
2	Valid options are "ntp" and "manual"
3	Format is "YYYY-MM-DD HH:MM:SS" with hours ranging from 0-23. This field is displayed in local time. Shows "(clock not set)" when time has not been configured
4	This must be a valid name from the tz database
5	Primary NTP server
6	Backup NTP server

CLI: get conf time

user> get conf time

```
1 mode: ntp
2 datetime: 2012-11-15 16:25:45
3 zone: africa/casablanca
4 ntpServer1: pool.0.ntp.org
5 ntpServer2: pool.1.ntp.org
```

Line Number	Description
1	Valid options are "ntp" and "manual"
2	Format is "YYYY-MM-DD HH:MM:SS" with hours ranging from 0-23. This field is displayed in local time. Shows "(clock not set)" when time has not been configured
3	This must be a valid name from the tz database

Line Number	Description
4	Primary NTP server
5	Backup NTP server

1.4.19 USB

Presents a read-only list of any USB devices and hubs detected on the system. If USB functionality is not available on a system, this section of the API will be omitted.

API: api/conf/usb: get

```
1 {
2 "enabled": true,
3 "dev": {},
4 }
```

Line Number	Description
2	Enables and disables USB functionality on the device. If disabled, no devices or hubs will be enumerated.
3	usb/dev.

CLI: get conf usb

user> get conf usb

```
1 enabled:  true
2 dev:
3 ...
4
```

Line Number	Description
1	Enables and disables USB functionality on the device. If disabled, no devices or hubs will be enumerated.
2	usb/dev.

USB/Dev

API: api/conf/usb/dev: get

api/conf/usb/dev: get

```
1 {
2 "0": {
3 "vendorId": "0x0781",
4 "productId": "0x5583",
5 "bcdDevice": "1.00",
6 "manufacturer": "SanDisk",
7 "product": "Ultra Fit",
8 "serial": "4C530001010923118313",
```

```
 9 "conf": {}
10 }
11 }
```

Line Number	Description
3	idVendor from USB device descriptor. The ID of device vendor.
4	idProduct from USB device descriptor. The manufacturer assigned product ID.
5	bcdDevice from USB device descriptor. The device release number.
6	iManufacturer from USB device descriptor. Device manufacturer.
7	iProduct from USB device descriptor. Device product description.
8	iSerial from USB device descriptor. Device serial number.
9	usb/dev/conf

CLI: get conf usb dev

user> get conf usb dev

```
1 0:
2 vendorId: 0x0781
3 productId: 0x5583
4 bcdDevice: 1.00
5 manufacturer: SanDisk
6 product: Ultra Fit
7 serial: 4C530001010923118313
8 conf:
9 ...
```

Line Number	Description
2	idVendor from USB device descriptor. The ID of device vendor.
3	idProduct from USB device descriptor. The manufacturer assigned product ID.
4	bcdDevice from USB device descriptor. The device release number.
5	iManufacturer from USB device descriptor. Device manufacturer.
6	iProduct from USB device descriptor. Device product description.
7	iSerial from USB device descriptor. Device serial number.
8	usb/dev/conf

USB/Dev/ID/Conf

api/conf/usb/dev/ID/conf: get

```
1 {
2 "maxPower": "100",
3 "selfPowered": false,
```

```
4 | "remoteWakeup": false
5 | }
```

Line Number	Description
2	MaxPower from USB configuration descriptor. Maximum power draw device can draw from host. In milliamps.
3	Field from bmAttributes in USB configuration descriptor. Indicates if devices is self-powered (true) or bus-powered (false).
4	Field from bmAttributes in USB configuration descriptor. Indicates if devices supports the remote wake-up feature.

1.5 Device: /api/dev

Object			Data		Notes
	Field	Format	Range	Default	set, control, delete, reset on these objects require control privilege
ID			0 to 17 objects		Commands: delete, reset
	type	String	1 to String Max		Read-only
	state	String	"normal", "unavailable", "degraded"		Read-only
	name	String	1 to 25 chars		Read-only
	label	String	0 to 25 chars	dev/ID/na me	
	order	Integer	0 to max api/dev object count -1		Read-only
	temperatureOffset	Float	-10 to 10 degree F	0	
	snmpInstance	Integer	1 to max api/dev object count		Read-only
	lifetimeEnergy	Integer	0 to Integer Max		Read-only
ID/alarm					
	state	String	"none", "clear", "acked", "latched", "tripped"		Read-only
	severity	String	"", "warning", "alarm"		Read-only
ID/analog/ID					
	type	String	"5V","10V","binary"		Read-only
	state	String	"normal", "unavailable"		Read-only
	value	String	0 to String Max		Read-only
	displayValue	String	0 to String Max		Read-only
	name	String	1 to 25 chars		Read-only
	label	String	0 to 25 chars	dev/ID/ana log/ID/na me	
	units	String	0 to 7 chars	"V"	
	min	Float	Float Min to Float Max	0	
	max	Float	Float Min to Float Max	10	

Object			Data		Notes
	mode	String	"door", "powerFailure", "flood", "wscLeak", "wscFault", "smoke", "ivsNegGnd", "ivsPosGnd", "customVoltage", "customCurrent", "customBinary"	"customVoltage"	
	highLabel	String	0 to 25 chars	"on"	
	LowLabel	String	0 to 25 chars	"off"	
	datalogEnabled	Boolean	true, false	true	
	displayEnabled	Boolean	true, false	false	
ID/analog/ID/alarm					
	state	String	"none", "clear", "acked", "latched", "tripped"		Read-only
	severity	String	"", "warning", "alarm"		Read-only
ID/entity/ID					
	name	String	1 to 25 chars		Read-only
	label	String	0 to 25 chars	dev/ID/entity/ID/name	
ID/entity/ID/alarm					
	state	String	"none", "clear", "acked", "latched", "tripped"		Read-only
	severity	String	"", "warning", "alarm"		Read-only
ID/entity/ID/measurement/ID					
	type	String	1 to String Max		Read-only
	state	String	"normal", "unavailable"		Read-only
	value	String	0 to String Max		Read-only
	units	String	0 to 7 chars		Read-only
	datalogEnabled	Boolean	true, false	true	
	displayEnabled	Boolean	true, false	false	
ID/entity/ID/measurement/ID/alarm					
test	test	test			
	state	String	"none", "clear", "acked", "latched", "tripped"		Read-only
	severity	String	"", "warning", "alarm"		Read-only
ID/entity/ID/point/ID					
	value	String, Boolean or Float	Value can be either a String, Boolean or Float based on ID		Read-only
ID/entity/ID/conf					

Object			Data		Notes
	ID	String, Boolean or Float	Value can be either a String, Boolean or Float based on ID. Valid values are ID dependent	ID dependent	
ID/outlet/ID					Commands: control
	name	String	1 to 25 chars		Read-only
	label	String	0 to 25 chars	dev/ID/outlet/ID/name	
	state	String	"on", "off", "on2off", "off2on", "rebootOn", "rebootOff", "unavailable"		Read-only
	timeToAction	Integer	0 to 600 Seconds		Read-only
	relayFailure	Boolean	true, false		Read-only
	onDelay	Integer	0 to 600 seconds	5	
	offDelay	Integer	0 to 600 seconds	5	
	rebootDelay	Integer	0 to 600 seconds	5	
	rebootHoldDelay	Integer	0 to 600 seconds	10	
	poaAction	String	"on", "off", "last"	"last"	
	poaDelay	Float	0 to 600 seconds	10	
	bezelColor	String	0 to 6 characters		Read-only
	parent	ID	Entity ID of breaker that owns this outlet		Deprecated
	parentBreaker	ID	Entity ID of breaker that owns this outlet		Read-only
	parentPhases	Array (ID)	Array of Entity IDs of phases that own this outlet		Read-only
ID/outlet/ID/alarm					
	state	String	"none", "clear", "acked", "latched", "tripped"		Read-only
	severity	String	"", "warning", "alarm"		Read-only
ID/outlet/ID/measurement/ID					
	type	String	1 to String Max		Read-only
	state	String	"normal", "unavailable"		Read-only
	value	String	0 to String Max		Read-only
	units	String	0 to 7 chars		Read-only
	datalogEnabled	Boolean	true, false	true	
	displayEnabled	Boolean	true, false	false	
ID/outlet/ID/measurement/ID/alarm					
	state	String	"none", "clear", "acked", "latched", "tripped"		Read-only
	severity	String	"", "warning", "alarm"		Read-only
ID/outlet/ID/point/ID					

Object			Data		Notes
	value	String, Boolean or Float	Value can be either a String, Boolean or Float based on ID		Read-only
ID/outlet/ID/conf					
	ID	String, Boolean or Float	Value can be either a String, Boolean or Float based on ID. Valid values are ID dependent	ID dependent	
ID/relay/ID					Commands: control
	name	String	1 to 25 chars		Read-only
	label	String	0 to 25 chars	dev/ID/relay/ID/name	
	onLabel	String	0 to 25 chars	"Energized "	
	offLabel	String	0 to 25 chars	"Deenergized"	
	state	String	"on", "off"		Read-only
	mode	String	"alarm", "manual"	"alarm"	
ID/layout					
	ID	Array (Dev Path)	1 to N items (Device Path)		Read-only
ID/point/ID					
	value	String, Boolean or Float	Value can be either a String, Boolean or Float based on ID		Read-only
ID/conf					
	ID	String, Boolean or Float	Value can be either a String, Boolean or Float based on ID. Valid values are ID dependent	ID dependent	

1.5.1 Device ID

List of devices known to the system. The ID for each device is a unique 16 character string. This ID is used throughout the system as part of device paths to uniquely identify specific fields. Each host may contain one device representing the built in capabilities of the hardware. An additional 16 removable devices are supported. Devices added past the maximum supported quantity are ignored by the system. Each device has a different combination of objects and commands which are detailed in the supported devices section. The different device "type" values are:

"afht3"	Airflow, temperature, humidity, and dewpoint sensor
"t3hd"	Triple temperature, humidity, and dewpoint sensor
"thd"	Temperature, humidity, and dewpoint sensor
"remotetemp"	Temperature sensor
"a2d"	Analog to Digital converter
"snt"	SN series temperature sensor
"snh"	SN series Humidity sensor

"snd"	SN series Door position sensor
"i03"	GUv5 PDU
"rs"	RSv5 PDU
"vrc"	VRC cooling unit

This "state" field will have one of the following options:

"normal": The device is communicating as expected.

"unavailable": The system has been unable to communicate with the device for at least 10 seconds.

"degraded" : This state applies to devices that have multiple components. The device is communicating as expected but some component is failing to report.

API: api/dev: get

api/dev: get

```
1  {
2  "A70004A3BB7F45C3": { "name":  "IMD  PDU",
3  "label":  "Rack  3",
4  "type": "i03",
5  "state": "normal",
6  "order":  0,
7  "temperatureOffset": -2.5,
8  "snmpInstance":  1,
9  "lifetimeEnergy":145200,
10 "alarm": {},
11 "analog": {},
12 "entity": {},
13 "outlet": {},
14 "relay": {},
15 "layout": {},
16 "point": {},
17 "conf": {}
18 }
19 }
```

Line Number	Description
2	Name of the product
3	User configured name. Defaults to the contents of "name"
4	See above
5	Valid options are "normal", "unavailable", and "degraded". See above
6	Display order for the GUI
7	Value added or subtracted from temperature measurements in this device
8	Instance number in device table for SNMP. Assigned sequentially based on device type. Gaps left by removed devices are filled as new devices of the same type are discovered
9	Total accumulated energy count for the unit in watt-hours. Does not clear when resetting energy.
10	Alarm status

Line Number	Description
11	Analog object
12	Entity object
13	Outlet object
14	Relay object
15	Layout object
16	Point object
17	Conf object

CLI: get dev

user> get dev

```
A70004A3BB7F45C3:
name:  IMD  PDU
label:  Rack  3
type:  i03
state:  normal
order: 0
temperatureOffset:  -2.5
snmpInstance:  1
lifetimeEnergy:  145200 alarm:  ...
analog:  ...
entity:  ...
outlet:  ...
relay:  ...
layout:  ...
point:  ...
conf: ...
```

Line Number	Description
1	Name of the product
2	User configured name. Defaults to the contents of "name"
3	See above
4	Valid options are "normal", "unavailable", and "degraded". See above
5	Display order for the GUI
6	Value added or subtracted from temperature measurements in this device
7	Instance number in device table for SNMP. Assigned sequentially based on device type. Gaps left by removed devices are filled as new devices of the same type are discovered
8	Total accumulated energy count for the unit in watt-hours. Does not clear when resetting energy.
9	Alarm status
10	Analog object
11	Entity object
12	Outlet object
13	Relay object

Line Number	Description
14	Layout object
15	Point object
16	Conf object

Command: delete

Deleting a device will cause all associated triggers, log data, and locally stored configuration to be discarded. If a device is still attached, all consequences of deleting a device will occur and the device will be reinitialized as if it was just discovered.

API: api/dev/A70004A3BB7F45C3: delete (Control)

api/dev/A70004A3BB7F45C3: delete (Control)

```
{}
```

CLI: delete dev ID

control> delete dev ID

```
~
```

Command: reset

API: api/dev/A70004A3BB7F45C3: reset (Control)

api/dev/A70004A3BB7F45C3: reset (Control)

```
1 {
2 "target": "defaults"
3 }
```

Line Number	Description
2	Required field. The "defaults" target will cause all locally and remotely stored data on the device to be reset to default values. Additional targets may exist depending on the device type

CLI: reset dev ID

control> reset dev ID = ARGS

```
reset dev ID = {target: defaults}
```

Line Number	Description
1	Required field. The "defaults" target will cause all locally and remotely stored data on the device to be reset to default values. Additional targets may exist depending on the device type

1.5.2 ID/Alarm

Representing the alarm state for various objects in the system. It will aggregate all triggers configured on the particular object into a single state and severity. If no triggers are configured for the object, the state is set to "none" and the severity is a blank string. If there are triggers configured for the object but they are all inactive, the state is set to "inactive" and the severity is a blank string. If all triggers are in the clear state, the state is set to "clear" and the severity is also a blank string. Otherwise, the highest priority combination is shown based on the following table (highest priority at the top):

State	Severity
Tripped	Alarm
Latched	Alarm
Tripped	Warning
Latched	Warning
Acked	Alarm
Acked	Warning
Clear	
Inactive	
None	

API: api/dev/A70004A3BB7F45C3/alarm: get

api/dev/A70004A3BB7F45C3/alarm: get

```
1 {
2 "state":  "tripped",
3 "severity":  "alarm"
4 }
```

Line Number	Description
2	Values are "none", "clear", "acked", "latched" or "tripped"
3	Values are "", "warning" or "alarm"

CLI: get dev ID alarm

user> get dev ID alarm

```
1 state:  tripped
2 severity:  alarm
```

Line Number	Description
1	Values are "none", "clear", "acked", "latched" or "tripped"
2	Values are "", "warning" or "alarm"

1.5.3 ID/Analog

List of objects representing analog inputs in the device. An analog input is a hardware feature that senses a voltage or current depending on their type or configuration. The hardware types are:

"5V": 0V to 5V reading range with permanently enabled pull up resistor

"10V": 0V to 10V reading range with selectable enabled pull up resistor and optional current sensing mode. Current mode has a 4mA to 20mA reading range

"binary": Closed contact input with permanently enabled pull up resistor

Measurements will fall under one of the following categories:

Binary : Voltage reading is converted to an on/off value represented as 0 or 1. The threshold to distinguish between these two values is 50% of the voltage scale. The pull up resistor is engaged where available

Voltage: Voltage reading is linearly scaled to the selected min and max values. A reading of 0V will correspond the "min" field while the "max" field will correspond to the top of the voltage range. The pull up resistor is disabled where available. Values are displayed with a precision of two decimal places (X.YY)

Current: Reading is linearly scaled to the selected min and max values. A reading of 4mA will correspond the "min" field while the "max" field will correspond to the top of the current range. Values that fall under the 4mA minimum are represented as '<' followed by the min if the min value is less than the max one, or '>' followed by max otherwise. The pull up resistor is disabled where available. Values are displayed with a precision of two decimal places (X.YY)

A "mode" field is used to select either a preset configuration or to specify that custom parameters are to be used. The following table shows the implied settings of the preset types along with the default values for custom types and the characteristics for each mode:

Mode	Description	Required Type	Measurement	Min	Max	Units	High Label	Low Label
"door"	Door	5V, 10V, binary	Binary	N/A	N/A	N/A	"Open"	"Closed"
"powerFailure"	Power Failure	5V, 10V	Binary	N/A	N/A	N/A	"OK"	"Failure"
"flood"	Flood	5V, 10V	Binary	N/A	N/A	N/A	"Dry"	"Wet"
"wscLeak"	Leak Detector (Sense)	5V, 10V	Binary	N/A	N/A	N/A	"Wet"	"Dry"
"wscFault"	Leak Detector (Fault)	5V, 10V	Binary	N/A	N/A	N/A	"Fault"	"OK"
"smoke"	Smoke Alarm	5V, 10V	Binary	N/A	N/A	N/A	"Clear"	"Alarm"
"ivsNegGnd"	Isolated Voltage (- Gnd)	5V, 10V	Voltage	0	72	"VDC"	N/A	N/A
"ivsPosGnd"	Isolated Voltage (+ Gnd)	5V, 10V	Voltage	0	-72	"VDC"	N/A	N/A
"customVoltage"	Custom (Voltage Mode)	5V, 10V	Voltage	0	10	"V"	N/A	N/A
"customCurrent"	Custom (Current Mode)	10V	Current	4	20	"mA"	N/A	N/A
"customBinary"	Custom (Binary Mode)	5V, 10V	Binary	N/A	N/A	N/A	"High"	"Low"

Values for fields that are not applicable for a given mode as well as values configured by the user before selecting a preset mode are preserved to whatever they held last. Preset mode configuration for fields will always override user settings. These fields can still be set but the preset configuration will always be returned. Once a manual mode is selected, any parameters configured by the user will be returned instead of the previous preset values. N/A fields for a given preset mode are returned as blank or 0.

API: api/dev/A70004A3BB7F45C3/analog: get

api/dev/A70004A3BB7F45C3/analog: get

```
1  {
2      "0": {
3      "name":  "Analog  Input",
4      "label": "Analog Input",
5      "type":  "10V",
6      "state": "normal",
7      "value": "5.43",
8      "units": "volts",
9      "min":  0,
10     "max":  10,
11     "mode":  "customVoltage",
12     "highLabel":  "on",
13     "lowLabel": "off",
14     "datalogEnabled": true,
15     "displayEnabled": false
16     "displayValue": "5.43"
17     }
18 }
19
```

Line Number	Description
3	Name of the analog input
4	User configured name. Defaults to the contents of "name"
5	Hardware type of input. Can be "10V", "5V" or "binary". Determines which modes are allowed
6	Current analog measurement value status. Can be "normal" if there are no issues or "unavailable" if the value cannot be obtained.
7	String representation of current value. Shown as 0 or 1 for binary modes or scaled from min to max for voltage and current modes. If "state" is "unavailable", will show last known value or "" if no known values exist
8	User configurable unit string. Used for voltage and current modes
9	Lower end of scale for voltage and current modes. Represents the value when reading 0V
10	Upper end of scale for voltage and current modes. Represents the value when reading max input voltage
11	Determines how to interpret the measured analog values. See above
12	Label to be used when displaying a 1 in binary modes
13	Label to be used when displaying a 0 in binary modes
14	Determines if this measurement is to be logged in the datalog or not
15	Determines if this measurement is to be displayed on any external displays. Field is only available on units with a display
16	For binary modes, if the current value is 0, then the low label is given. Otherwise the high label is used. For all other modes, it will be the same string as "value"

CLI: get dev ID analog

user> get dev ID analog

```
1  0:
2  name:  Analog  Input label:  Analog  Input
3  ②
4  type: 10V
5  state:  normal
6  value:  5.43
7  units:  volts
8  min:  0
9  max:  10
10 mode:  customVoltage
11 highLabel:  on
12 lowLabel:  off
13 datalogEnabled:  true
14 displayEnabled:  false
15 displayValue:  5.43
```

Line Number	Description
2	Name of the analog input
3	User configured name. Defaults to the contents of "name"
4	Hardware type of input. Can be "10V", "5V" or "binary". Determines which modes are allowed
5	Current analog measurement value status. Can be "normal" if there are no issues or "unavailable" if the value cannot be obtained.
6	String representation of current value. Shown as 0 or 1 for binary modes or scaled from min to max for voltage and current modes. If "state" is "unavailable", will show last known value or "" if no known values exist
7	User configurable unit string. Used for voltage and current modes
8	Lower end of scale for voltage and current modes. Represents the value when reading 0V
9	Upper end of scale for voltage and current modes. Represents the value when reading max input voltage
10	Determines how to interpret the measured analog values. See above
11	Label to be used when displaying a 1 in binary modes
12	Label to be used when displaying a 0 in binary modes
13	Determines if this measurement is to be logged in the datalog or not
14	Determines if this measurement is to be displayed on any external displays. Field is only available on units with a display
15	For binary modes, if the current value is 0, then the low label is given. Otherwise the high label is used. For all other modes, it will be the same string as "value"

1.5.4 ID/Entity

List of objects representing measurement groups in the device. An entity will represent different logical groupings based on the device type.

API: api/dev/A70004A3BB7F45C3/entity: get

api/dev/A70004A3BB7F45C3/entity: get

```
1  {
```

```
2  "0": {
3  "name": "Phase X",
4  "label": "Phase X",
5  "alarm": {},
6  "measurement": {},
7  "point": {},
8  "conf": {}
9  }
10 }
```

Line Number	Description
3	Name of the entity
4	User configured name. Defaults to the contents of "name". This field is optional and not present in all entities. If present, it will be settable
5	Alarm status
6	Measurement object
7	Point object
8	Conf object

CLI: get dev ID entity

user> get dev ID entity

```
1  0:
2  name: Phase X
3  label: Phase X
4  alarm:
5  ...
6  measurement:
7  ...
8  point:
9  ...
10 conf:
11 ...
```

Line Number	Description
2	Name of the entity
3	User configured name. Defaults to the contents of "name". This field is optional and not present in all entities. If present, it will be settable
4	Alarm status
5	Measurement object
6	Point object
7	Conf object

ID/Entity/Measurement

List of objects representing measurements of the device. The "type" field will determine what kind of measurement to expect and will have one of the following values:

Type	Name	Min	Max	Units	Precision	Notes
"current"	"Current"	0	99	amps RMS (Arms)	X.YY	
"currentPeak"	"Peak Current"	0	150	amps (A)	X.YY	Highest instantaneous current seen since power up or last reset
"currentMax"	"Current Max"	0	99	amps RMS (Arms)	X.YY	Highest RMS current seen since power up or last reset
"currentMin"	"Current Min"	0	99	amps RMS (Arms)	X.YY	Lowest RMS current seen since power up or last reset
"voltage"	"Voltage"	0	310	volts RMS (Vrms)	X.Y	
"voltagePeak"	"Peak Voltage"	0	440	volts (V)	X.Y	Highest instantaneous voltage seen since power up or last reset
"voltageMax"	"Voltage Max"	0	310	volts RMS (Vrms)	X.Y	Highest RMS voltage seen since power up or last reset
"voltageMin"	"Voltage Min"	0	310	volts RMS (Vrms)	X.Y	Lowest RMS voltage seen since power up or last reset
"energy"	"Energy"	0	9999	kilowatt hour (kWh)	X.YYY	Accumulated energy since last reset
"realPower"	"Real Power"	0	9999	watts (w)	X	
"apparentPower"	"Apparent Power"	0	9999	volt-amperes (VA)	X	
"powerFactor"	"Power Factor"	0	100	percent (%)	X	
"temperature"	"Temperature"	-40	254	degree Celsius	X.YY	The "units" field specifies if value is in degrees Celsius or Fahrenheit
"airflow"	"Airflow"	0	100		X	Values less than 20 represent still air. 100 represents rushing air. Will show "calibrating" while initializing
"humidity"	"Humidity"	0	100	percent (%)	X	
"dewpoint"	"Dewpoint"	-40	254	degree Celsius	X.YY	The "unit" field specifies if value is in degrees Celsius or Fahrenheit
"balance"	"Balance"	0	100	percent (%)	X	Percent of total current load being used on a given circuit
"residualCurrentAggregate"	"Residual Current Aggregate"	0	1000	milliamps (mA)	X	PDU residual current aggregate value in milliamps
"residualCurrentDc"	"Residual Current DC"	0	1000	milliamps (mA)	X	PDU residual current DC value in milliamps

API: api/dev/A70004A3BB7F45C3/entity/0/measurement: get

api/dev/A70004A3BB7F45C3/entity/0/measurement: get

```
{
"0": {
"type":   "temperature",
"value":  "5.43",
"units":  "C",
"state":  "normal",
"alarm": {}
"datalogEnabled":   true,
"displayEnabled":   false
}
}
```

Line Number	Description
3	Measurement type. See above
4	String representation of the current value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist
5	Optional field that overrides measurement units given by type
6	Current measurement status. Can be "normal" if there are no issues or "unavailable" if the measurement cannot be obtained.
7	Alarm status
8	Determines if this measurement is to be logged in the datalog or not
9	Determines if this measurement is to be displayed on any external displays. Field is only available on units with a display

CLI: get dev ID entity 0 measurement

user> get dev ID entity 0 measurement

```
0:
type: temperature
value: 5.43
units: C
state: normal
alarm:
...
datalogEnabled: true
displayEnabled: false
```

Line Number	Description
2	Measurement type. See above
3	String representation of the current value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist
4	Optional field that overrides measurement units given by type
5	Current measurement status. Can be "normal" if there are no issues or "unavailable" if the measurement cannot be obtained.
6	Alarm status
8	Determines if this measurement is to be logged in the datalog or not
9	Determines if this measurement is to be displayed on any external displays. Field is only available on units with a display

1.5.5 ID/Outlet

List of objects representing individual outlets on the device. The ID for each outlet is a unique string representing its position on the device.

The "state" field can have one of the following values:

"on": Outlet is powered on

"off": Outlet if powered off

"on2off": Outlet is currently on but will transition to off once "timeToAction" timer expires

"off2on": Outlet is currently off but will transition to on once "timeToAction" timer expires

"rebootOn": Outlet is currently on but will start a reboot cycle by powering off once "timeToAction" timer expires

"rebootOff": Outlet is currently executing a reboot cycle and is off but will turn on once "timeToAction" timer expires

"unavailable": Outlet cannot be read

API: api/dev/A70004A3BB7F45C3/outlet: get

api/dev/A70004A3BB7F45C3/outlet: get


```
1  {
2  "0": {
3  "name": "Outlet 1",
4  "label": "Outlet 1",
5  "state": "on",
6  "relayFailure": false,
7  "timeToAction": 0,
8  "onDelay": 5,
9  "offDelay": 5,
10 "rebootDelay": 5,
11 "rebootHoldDelay": 5,
12 "poaAction": "off",
13 "poaDelay": 10,
14 "bezelColor":"FFFFFF",
15 "parent":"breaker0",
16 "parentBreaker":"breaker0",
17 "parentPhases":["phase0"],
18 "alarm": {},
19 "measurement": {},
20 "point": {},
21 "conf": {}
22 }
23 }
```


Line Number	Description
3	Name of the outlet.
4	User configured outlet name. Defaults to the contents of "name".
5	Current state of the outlet. See above. Not present on devices that do not support outlet control.
6	If true, the system has detected that the relay for this outlet is stuck and will not change state. Not present on devices that do not support outlet control.

Line Number	Description
7	Indicates the time until the next state transition. Not present on devices that do not support outlet control.
8	How long to wait when executing an "on" action with delay. Modifying this has no effect on already pending actions. Not present on devices that do not support outlet control.
9	How long to wait when executing an "off" action with delay. Modifying this has no effect on already pending actions. Not present on devices that do not support outlet control.
10	How long to wait before turning the outlet off when executing a "reboot" action with delay. Modifying this has no effect on already pending actions. Not present on devices that do not support outlet control.
11	How long to hold the outlet in the off state before turning it on during a reboot cycle. Modifying this before a rebooting outlet has turned off will change the delay used to turn it back on. Modifying this after a rebooting outlet has turned off will have no effect on the pending action to turn it on. Not present on devices that do not support outlet control.
12	Power On Action state. When powering the PDU on, the state to which this outlet will go to. Options are "on", "off", or "last" which is the last known state of the outlet before losing power. If power is lost while executing a reboot, the outlet is considered as on when determining its last known state. Not present on devices that do not support outlet control.
13	Power On Action delay. When powering the PDU on, how long to wait before going to the "poaAction" state. When setting, supplied float value is rounded to the nearest supported delay value. Not present on devices that do not support outlet control. If an RTS board is present, the minimum for this value is 10.
14	Color of the bezel surrounding the outlet represented as 6 hexadecimal characters. Each character pair represents red, green or blue respectively. Returns an empty string if color is not available
15	Entity ID of the breaker to which this outlet belongs.
16	Entity ID of the breaker to which this outlet belongs.
17	Array of entity IDs of the phases to which this outlet belongs.
18	Alarm status object
19	Measurement object. Empty if the system does not support outlet metering
20	Point object.
21	Conf object.

CLI: get dev ID outlet

user> get dev ID outlet

```
0:
name:  Outlet  1
label:  Outlet  1
state: on
relayFailure:  false
timeToAction:  0
onDelay:  5
offDelay:  5
rebootDelay:  5
rebootHoldDelay:  5
poaAction:  off
poaDelay:  10
bezelColor:  FFFFFF
parent: breaker0
parentBreaker:  breaker0
parentPhases: [phase0]
alarm:
```

```
...
measurement:
...
point:
...
conf:
...
```

Line Number	Description
2	Name of the outlet.
3	User configured outlet name. Defaults to the contents of "name".
4	Current state of the outlet. See above. Not present on devices that do not support outlet control.
5	If true, the system has detected that the relay for this outlet is stuck and will not change state. Not present on devices that do not support outlet control.
6	Indicates the time until the next state transition. Not present on devices that do not support outlet control.
7	How long to wait when executing an "on" action with delay. Modifying this has no effect on already pending actions. Not present on devices that do not support outlet control.
8	How long to wait when executing an "off" action with delay. Modifying this has no effect on already pending actions. Not present on devices that do not support outlet control.
9	How long to wait before turning the outlet off when executing a "reboot" action with delay. Modifying this has no effect on already pending actions. Not present on devices that do not support outlet control.
10	How long to hold the outlet in the off state before turning it on during a reboot cycle. Modifying this before a rebooting outlet has turned off will change the delay used to turn it back on. Modifying this after a rebooting outlet has turned off will have no effect on the pending action to turn it on. Not present on devices that do not support outlet control.
11	Power On Action state. When powering the PDU on, the state to which this outlet will go to. Options are "on", "off", or "last" which is the last known state of the outlet before losing power. If power is lost while executing a reboot, the outlet is considered as on when determining its last known state. Not present on devices that do not support outlet control.
12	Power On Action delay. When powering the PDU on, how long to wait before going to the "poaAction" state. When setting, supplied float value is rounded to the nearest supported delay value. Not present on devices that do not support outlet control. If an RTS board is present, the minimum for this value is 10.
13	Color of the bezel surrounding the outlet represented as 6 hexadecimal characters. Each character pair represents red, green or blue respectively. Returns an empty string if color is not available
14	Entity ID of the breaker to which this outlet belongs.
15	Entity ID of the breaker to which this outlet belongs.
16	Array of entity IDs of the phases to which this outlet belongs.
17	Alarm status object
19	Measurement object. Empty if the system does not support outlet metering
21	Point object.
23	Conf object.

Command: control

Sending a control command to an outlet with any pending actions will cancel that action and the outlet will perform the new one.

API: api/dev/A70004A3BB7F45C3/outlet/0: control (Control)

api/dev/A70004A3BB7F45C3/outlet/0: control (Control)

```
1 {
2 "action": "on",
3 "delay": false
4 }
```

Line Number	Description
2	Required field. Action to be performed. Can be "on", "off", "reboot" or "cancel" which will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with
3	Required field. Boolean indicating if a delayed action should be performed

CLI: control dev ID outlet 0

control> control dev ID outlet 0 = ARGS

```
1 control dev ID outlet 0 = {action:on, delay:false}
```

Line Number	Description
1	Required field. Action to be performed. Can be "on", "off", "reboot" or "cancel" which will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with "action" describes the action to be performed. Can be "on", "off", "reboot", or "cancel". Cancel will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with. "delay" is a boolean indicating if a delayed action should be performed.

Command: reset

API: api/dev/A70004A3BB7F45C3/outlet/0: reset (Control)

```
1 {
2 "target": "energy"
3 }
```

Line Number	Description
2	Required field. If the outlet has an energy measurement, a target of "energy" will reset it to 0. If the outlet has any peak, min or max measurements for voltage or current, a target of "minmax" will reset them all to present voltage or current values

CLI: reset dev ID outlet 0

control> reset dev ID outlet 0 = ARGS

```
1 reset dev ID outlet 0 = {target: energy}
```

Line Number	Description
1	Required field. If the outlet has an energy measurement, a target of "energy" will reset it to 0. If the outlet has any peak, min or max measurements for voltage or current, a target of "minmax" will reset them all to present voltage or current values

ID/Outlet/Measurement

Same as Entity measurements.

1.5.6 ID/Relay

List of objects representing individual relays on the device. The ID for each relay is a unique string representing its position on the device. The "mode" field can have the following values:

"alarm": In this mode, the relay is automatically controlled by the alarm system. If a trigger has selected an action that specifies the use of this relay, the relay will be turned on if the trigger executes its actions. If all triggers employing the relay as an action are clear, the relay will turn off. Attempts to manually control the state of the relay will fail while in this mode

"manual" :The relay can be turned on or off using a control command. In this mode, any alarm actions are disregarded and the relay maintains its state until changed by the user

Relays automatically appear in the alarm targets list regardless of their mode configuration. When changing the state from alarm to manual, the relay will remain in whatever state it was when the configuration took place. Relays in manual mode will have their alarm target "enabled" flag set to false but can still be selected. When changing the state from manual to alarm, the relay will immediately turn to the state selected by the alarm system.

API: api/dev/A70004A3BB7F45C3/relay: get

api/dev/A70004A3BB7F45C3/relay: get

```
1  {
2  "0": {
3  "name": "Relay 1",
4  "label": "Relay 1",
5  "onLabel": "Energized",
6  "offLabel": "Deenergized",
7  "state": "on",
8  "mode": "alarm",
9  }
10 }
```

Line Number	Description
3	Name of the relay
4	User configured relay name. Defaults to the contents of "name"
5	Label used to indicate that the relay is on
6	Label used to indicate that the relay is off
7	Current state of the relay. Can be "on" or "off"
8	Can be "alarm" or "manual". See above

CLI: get dev ID relay

user> get dev ID relay

```
1  0:
2  name:  Relay  1
3  label:  Relay  1
```

```
4 | onLabel:  Energized
5 | offLabel:  Deenergized
6 | state:  on
7 | mode:  alarm
```

Line Number	Description
2	Name of the relay
3	User configured relay name. Defaults to the contents of "name"
4	Label used to indicate that the relay is on
5	Label used to indicate that the relay is off
6	Current state of the relay. Can be "on" or "off"
7	Can be "alarm" or "manual". See above

Sending a control command to a relay in alarm mode will fail.

Command: control

API: api/dev/A70004A3BB7F45C3/relay/0: control (Control)

api/dev/A70004A3BB7F45C3/relay/0: control (Control)

```
1 | {
2 | "action": "on"
3 | }
```

Line Number	Description
2	Required field. Action to be performed. Can be "on" or "off"

CLI: control dev ID relay 0

control> control dev ID relay 0 = ARGS

```
1 | control  dev  ID  relay  0  =  {action:on}
```

Line Number	Description
1	"action" is a required field. It describes the action to be performed. Valid actions are "on" or "off".

1.5.7 ID/Layout

List of objects that control the display of entities and outlets or set hierarchical relationships within the device. The ID for each layout entry can be either a numeric string (for top level groups) or a device path (for groups belonging to another object). Each layout entry is composed of exactly one array containing a number of device paths. The contents of the array can be seen as components of the ID object. Every device must have at least one layout entry with the ID "0" to represent the top level group. Device paths can only be identified as a components once. Any device path IDs must appear as a component to some other ID but numeric string IDs are not required to be components. Any other entries are optional. Not all entity, analog, or outlet objects must be represented in the layout. All device paths must belong to the parent device.

API: api/dev/A70004A3BB7F45C3/layout: get

api/dev/A70004A3BB7F45C3/layout: get

```
1 {
2 "0": ["entity/0", "entity/1", "entity/2"],
3 "entity/0" : ["entity/3", "entity/4", "entity/5"],
4 "entity/1" : ["outlet/0", "outlet/1"],
5 "1": ["entity/6", "entity/7", "entity/8"]
6 }
```

Line Number	Description
2	Top level entry identified by "0". Entities 0, 1, and 2 make up the top level object
3	Entity 0 is composed of entities 3, 4, and 5
4	Outlets 0 and 1 are associated with entity 1
5	A second top level group composed of entities 6, 7, and 8 also exists

CLI: get dev ID layout

user> get dev ID layout

```
1 0: [entity/0, entity/1, entity/2]
2 entity/0: [entity/3, entity/4, entity/5]
3 entity/1: [outlet/0, outlet/1]
4 1: [entity/6, entity/7, entity/8]
```

Line Number	Description
1	Top level entry identified by "0". Entities 0, 1, and 2 make up the top level object
2	Entity 0 is composed of entities 3, 4, and 5
3	Outlets 0 and 1 are associated with entity 1
4	A second top level group composed of entities 6, 7, and 8 also exists

1.5.8 ID/Point

List of objects that represent value readings for a device as a whole or one of its entities. These values are always read only. The data type of the value will depend on the point ID and can be either a Boolean, a String or a Float. Available points are device dependent and a given device will always return a fixed set of points. The table below shows all possible point IDs, their data types, and possible values.

Point ID	Type	Values	Description
alarmNumbers	Float	-32768 to 32767	Alarm numbers
commonAlarmOutput	Boolean	true, false	Common alarm output
compressorDriverCommuni cationFailAlarm	Boolean	true, false	Compressor driver Communication Fail alarm
compressorDriverFaultU00	Boolean	true, false	Compressor driver fault U00
compressorDriverFaultU01	Boolean	true, false	Compressor driver fault U01
compressorDriverFaultU02	Boolean	true, false	Compressor driver fault U02
compressorDriverFaultU03	Boolean	true, false	Compressor driver fault U03
compressorDriverFaultU04	Boolean	true, false	Compressor driver fault U04
compressorDriverFaultU05	Boolean	true, false	Compressor driver fault U05
compressorDriverFaultU06	Boolean	true, false	Compressor driver fault U06
compressorDriverFaultU07	Boolean	true, false	Compressor driver fault U07
compressorDriverFaultU08	Boolean	true, false	Compressor driver fault U08
compressorDriverFaultU09	Boolean	true, false	Compressor driver fault U09
compressorDriverFaultU10	Boolean	true, false	Compressor driver fault U10
compressorDriverFaultU11	Boolean	true, false	Compressor driver fault U11
compressorDriverFaultU12	Boolean	true, false	Compressor driver fault U12
compressorDriverFaultU13	Boolean	true, false	Compressor driver fault U13
compressorDriverFaultU14	Boolean	true, false	Compressor driver fault U14
compressorDriverFaultU15	Boolean	true, false	Compressor driver fault U15
compressorFaultLockAlarm	Boolean	true, false	Compressor Fault Lock alarm
compressorRunTimeHours	Float	-32768 to 32767	Compressor Run Time hours
compressorStartStopCount	Float	-32768 to 32767	Compressor start stop count
compressorStartStopCount	Float	-32768 to 32767	Compressor start stop count
compressorStartStopCount	Float	-32768 to 32767	Compressor start stop count
controllerBoardPn	Float	-32768 to 32767	Controller board PN
controllerBoardSn	Float	-32768 to 32767	Controller board SN
coolingFlag	Boolean	true, false	Cooling Flag
dischargeHighTemperature Alarm	Boolean	true, false	Discharge high temperature alarm
dischargeHighTemperatureF requentlyAlarm	Boolean	true, false	Discharge High Temperature Frequently alarm
dischargeTemperatureSenso rFailAlarm	Boolean	true, false	Discharge temperature sensor Fail alarm

Point ID	Type	Values	Description
eevCommunicationFailAlar m	Boolean	true, false	EEV Communication Fail alarm
eevOpened	Float	0 to 100	EEV opened
filterMaintenanceRemind	Boolean	true, false	Filter maintenance remind
firmwareVersionHighBytes	Float	-32768 to 32767	Firmware version High bytes
firmwareVersionLowBytes	Float	-32768 to 32767	Firmware version Low bytes
firstOnFlag	Float	0 to 1	First On Flag
highPressAlarm	Boolean	true, false	High Press Alarm
highPressureSensorFailAlar m	Boolean	true, false	High pressure sensor Fail alarm
highReturnTemperatureAlar m	Boolean	true, false	High Return temperature alarm
highSupplyTemperatureAlar m	Boolean	true, false	High Supply temperature alarm
highVoltagePowerAlarm	Boolean	true, false	High voltage Power alarm
highWaterLevelAlarm	Boolean	true, false	High water level alarm
highWaterLevelInput	Boolean	true, false	High water level input
historyAlarmNumbers	Float	-32768 to 32767	History alarm numbers
hmiShutDownFlag	Boolean	true, false	HMI shut down flag
hpAbnormalRecordCount	Float	-32768 to 32767	HP abnormal record count
hpFrequentlyAlarm	Boolean	true, false	HP Frequently alarm
infanRunTimeHours	Float	-32768 to 32767	INFAN Run Time hours
infanStartStopCount	Float	-32768 to 32767	INFAN start stop count
lossOfLoadDetected	Boolean	true, false	Loss of load alarm
lossOfPhasePowerAlarm	Boolean	true, false	Loss of phase Power alarm
lossOfPowerAlarm	Boolean	true, false	Loss of Power alarm
lowPressAlarm	Boolean	true, false	Low Press Alarm
lowPressureSensorFailAlar m	Boolean	true, false	Low pressure sensor Fail alarm
lowSupplyTemperatureAlar m	Boolean	true, false	Low Supply temperature alarm
lowVoltagePowerAlarm	Boolean	true, false	Low voltage Power alarm
lpFrequentlyAlarm	Boolean	true, false	LP Frequently alarm
lp	Boolean	true, false	LP
meterType	String	"wye", "delta", "inlineDelta"	Wiring type for a PDU device
monitorAddress	Float	1 to 247	Monitor Address
monitorBaudrate	String	"error", "1200", "2400", "4800", "9600", "19200"	Monitor Baudrate
powerFrequencyErrorAlarm	Boolean	true, false	Power Frequency Error alarm
remoteShutDownAlarm	Boolean	true, false	Remote shut down alarm

Point ID	Type	Values	Description
remoteShutDownFlag	Boolean	true, false	Remote shut down flag
remoteShutdown	Boolean	true, false	Remote shutdown
residualCurrentDetected	Boolean	true, false	Residual current detected alarm
returnTemperatureSensorFa ilAlarm	Boolean	true, false	Return temperature sensor Fail alarm
runState	String	"off", "on", "standby", "lock"	Run state
softwareShutDownStatus	Boolean	true, false	Software shut down status
suctionSuperHeatTemperatu re	Float	-40 to 100	Suction super heat temperature
sunctionTemperatureSensor FailAlarm	Boolean	true, false	Sunction temperature sensor Fail alarm
supplyTemperatureSensorF ailAlarm	Boolean	true, false	Supply temperature sensor Fail alarm
waterUnderFloorAlarm	Boolean	true, false	Water under floor alarm

API: api/dev/A70004A3BB7F45C3/point: get

api/dev/A70004A3BB7F45C3/point: get

```
1  {
2  "remoteShutdown": {
3  "value": false
4  },
5  "meterType": {
6  "value": "delta"
7  },
8  "infanStartStopCount": {
9  "value": 6
10 }
11 }
```

Line Number	Description
3	Example of a Boolean type point
6	Example of a String type point
9	Example of a Float type point

CLI: get dev ID point

user> get dev ID point

```
1  remoteShutdown:
2  value: false
3  meterType:
4  value: delta
5  infanStartStopCount:
6  value: 6
```

Line Number	Description
2	Example of a Boolean type point
4	Example of a String type point
6	Example of a Float type point

1.5.9 ID/Conf

List of objects that represent configuration points for a device as a whole or one of its entities. These values are always settable. The data type of the value will depend on the point ID and can be either a Boolean, a String or a Float. Available configuration points are device dependent and a given device will always return a fixed set of configuration points. The table below shows all possible conf IDs, their data types, and possible values.

Conf ID	Type	Values	Description
commonAlarmOutput	Boolean	true, false	Common Alarm output
compressorCapacityOutputV alue	Float	0 to 100	Compressor Capacity output value
compressorDriverCommuni cationFailAlarmSetting	String	"suspend", "open"	Compressor driver communication fail alarm setting
compressorDriverFaultAlar mSetting	String	"suspend", "open"	Compressor Driver Fault alarm setting
compressorFaultLockAlarm Setting	String	"suspend", "open"	Compressor Fault lock alarm setting
compressorJumpBand1	Float	0 to 10	Compressor Jump Band 1
compressorJumpBand2	Float	0 to 10	Compressor Jump Band 2
compressorJumpBand3	Float	0 to 10	Compressor Jump Band 3
compressorJumpBand4	Float	0 to 10	Compressor Jump Band 4
compressorJumpBand5	Float	0 to 10	Compressor Jump Band 5
compressorJumpFrequency1	Float	0 to 100	Compressor Jump Frequency 1
compressorJumpFrequency2	Float	0 to 100	Compressor Jump Frequency 2
compressorJumpFrequency3	Float	0 to 100	Compressor Jump Frequency 3
compressorJumpFrequency4	Float	0 to 100	Compressor Jump Frequency 4
compressorJumpFrequency5	Float	0 to 100	Compressor Jump Frequency 5
compressorMinCapacity	Float	15 to 50	Compressor Min Capacity
compressorMinRunTime	Float	0 to 30	Compressor Min Run Time
compressorMinStopTime	Float	0 to 10	Compressor Min Stop Time
compressorOutputDeadBan d	Float	0 to 5	Compressor output dead band
compressorOutputStatus	Boolean	true, false	Compressor output status
compressorStandardCapacit y	Float	80 to 100	Compressor Standard Capacity
compressorStartCapacity	Float	40 to 100	Compressor Start Capacity
compressorStartCfc	Float	1 to 100	Compressor start CFC
compressorStopCfc	Float	-200 to -50	Compressor stop CFC
compressorTemperatureD	Float	0 to 900	Compressor Temperature D

Conf ID	Type	Values	Description
compressorTemperatureI	Float	0 to 900	Compressor Temperature I
compressorTemperatureP	Float	1 to 15 in Celsius, 1.8 to 27 in Fahrenheit	Compressor Temperature P
controlMode	Float	"supply", "return"	Control Mode
deadBand	String	0 to 2 in Celsius, 0 to 3.6 in Fahrenheit	Dead Band
dischargeHighTemperature AlarmSetting	String	"suspend", "open"	Discharge high temperature alarm setting
dischargeHighTemperatureF requentlyAlarmSetting	String	"suspend", "open"	Discharge high temperature Frequently alarm setting
dischargePressureCalibratio nValue	Float	-10 to 10	Discharge pressure calibration value
dischargeTemperatureCalibr ationValue	Float	-10 to 10 in Celsius, -18 to 18 in Fahrenheit	Discharge temperature calibration value
dischargeTemperatureSenso rFailAlarmSetting	String	"suspend", "open"	Discharge temperature sensor fail alarm setting
eevCommunicationFailAlar mSetting	String	"suspend", "open"	EEV Communication Fail alarm setting
eevMopPressureSetting	Float	0 to 20	EEV MOP Pressure setting
eevShtSettingMax	Float	5 to 20 in Celsius, 9 to 36 in Fahrenheit	EEV SHT setting max
eevShtSettingMin	Float	5 to 20 in Celsius, 9 to 36 in Fahrenheit	EEV SHT setting min
eevValveCloseShtSetting	Float	0 to 10 in Celsius, 0 to 18 in Fahrenheit	EEV Valve close SHT setting
fanSpeed	Float	0 to 100	Fan speed
filterMaintenanceRemindSet ting	String	"close", "suspend", "open"	Filter maintenance remind setting
filterMaintenanceRemindTi me	Float	30 to 360	Filter maintenance remind time
filterMaintenanceSetting	Boolean	true, false	Filter maintenance setting
firstOnPassword	Float	-32768 to 32767	First On password
highPowerVoltageAlarmSett ing	String	"close", "suspend", "open"	High Power voltage alarm setting
highWaterLevelAlarmSettin g	String	"close", "suspend", "open"	High water level alarm setting
hpAbnormalAlarmSettingVa lue	Float	30 to 36	HP abnormal alarm setting value
hpAlarmSetting	String	"suspend", "open"	HP alarm setting
hpFrequentlyAlarmSetting	String	"suspend", "open"	HP Frequently alarm setting
hpSensorFailAlarmSetting	String	"suspend", "open"	HP sensor fail alarm setting
infanHighSpeedStep	Float	0.1 to 5	INFAN high speed step
infanJumpBand1	Float	0 to 10	INFAN Jump Band 1
infanJumpBand2	Float	0 to 10	INFAN Jump Band 2
infanJumpBand3	Float	0 to 10	INFAN Jump Band 3
infanJumpBand4	Float	0 to 10	INFAN Jump Band 4

Conf ID	Type	Values	Description
infanJumpBand5	Float	0 to 10	INFAN Jump Band 5
infanJumpFrequency1	Float	0 to 100	INFAN Jump Frequency 1
infanJumpFrequency2	Float	0 to 100	INFAN Jump Frequency 2
infanJumpFrequency3	Float	0 to 100	INFAN Jump Frequency 3
infanJumpFrequency4	Float	0 to 100	INFAN Jump Frequency 4
infanJumpFrequency5	Float	0 to 100	INFAN Jump Frequency 5
infanLowSpeedStep	Float	0.1 to 2	INFAN low speed step
infanMinCfc	Float	0 to 30	INFAN min CFC
infanMinSpeed	Float	30 to 80	INFAN min speed
infanOutputStatus	Boolean	true, false	INFAN output status
infanReduceSpeedDelayTim e	Float	0 to 300	INFAN reduce speed delay time
infanStandardCfc	Float	85 to 100	INFAN standard CFC
infanStandardSpeed	Float	80 to 100	INFAN standard speed
infanStartDelayTime	Float	10 to 600	INFAN start delay Time
infanStopDelayTime	Float	10 to 300	INFAN stop delay Time
infanTemperatureD	Float	0 to 900	INFAN Temperature D
infanTemperatureI	Float	0 to 900	INFAN Temperature I
infanTemperatureP	Float	1 to 15	INFAN Temperature P
lossOfPowerAlarmSetting	String	"close", "suspend", "open"	Loss of Power alarm setting
lowPowerVoltageAlarmSetti ng	String	"close", "suspend", "open"	Low Power voltage alarm setting
lpAlarmSetting	String	"suspend", "open"	LP alarm setting
lpFrequentlyAlarmSetting	String	"suspend", "open"	LP Frequently alarm setting
lpSensorFailAlarmSetting	String	"suspend", "open"	LP sensor fail alarm setting
lpdt	Float	30 to 600	LPDT
manualRunEnable	Boolean	true, false	Manual Run Enable
modelSelect	String	"TM-LOC", "VRC102", "VRC101", "VRC100", "SC-LOC", "0U-LOC", "VRC202", "VRC201", "VRC200"	Model select
monitorShutDownFlag	Boolean	true, false	Monitor shut down flag
onOffSwitch	Boolean	true, false	ON OFF switch
outFanMaxPowerVoltage	Float	60 to 100	Out Fan Max power voltage
outFanMinPowerVoltage	Float	30 to 50	Out Fan Min power voltage
outFanPressureSetting	Float	5 to 8	Out Fan Pressure setting

Conf ID	Type	Values	Description
outFanStartPressure	Float	19 to 25	Out Fan Start Pressure
powerFrequencyErrorAlarm Setting	String	"close", "suspend", "open"	Power Frequency error alarm setting
powerHighVoltageSettingVal ue	Float	100 to 300	Power high voltage setting value
powerLowVoltageSettingVal ue	Float	100 to 230	Power low voltage setting value
remoteShutdownAlarmSetti ng	String	"suspend", "open"	Remote shutdown alarm setting
remoteShutdownInput	Boolean	true, false	Remote shutdown input
returnHighTemperatureAlar mSettingValue	Float	30 to 45 in Celsius, 86 to 113 in Fahrenheit	Return high temperature alarm setting value
returnHighTemperatureAlar mSetting	String	"close", "suspend", "open"	Return high temperature alarm setting
returnOilCycle	Float	0.5 to 5	Return oil cycle
returnOilRunCapacity	Float	50 to 100	Return oil run capacity
returnOilRunTime	Float	0 to 10	Return oil run time
returnTemperatureCalibrati onValue	Float	-10 to 10 in Celsius, -18 to 18 in Fahrenheit	Return temperature calibration value
returnTemperatureSensorFa ilAlarmSetting	String	"close", "suspend", "open"	Return temperature sensor fail alarm setting
returnTemperatureSetting	Float	25 to 35 in Celsius, 77 to 95 in Fahrenheit	Return Temperature setting
suctionPressureCalibrationV alue	Float	-10 to 10	Suction pressure calibration value
suctionTemperatureSensorF ailAlarmSetting	String	"suspend", "open"	Suction temperature sensor fail alarm setting
supplyHighTemperatureAla rmSettingValue	Float	20 to 35 in Celsius, 68 to 95 in Fahrenheit	Supply high temperature alarm setting value
supplyHighTemperatureAla rmSetting	String	"close", "suspend", "open"	Supply high temperature alarm setting
supplyLowTemperatureAlar mSettingValue	Float	5 to 20 in Celsius, 41 to 68 in Fahrenheit	Supply low temperature alarm setting value
supplyLowTemperatureAlar mSetting	String	"close", "suspend", "open"	Supply low temperature alarm setting
supplyTemperatureCalibrati onValue	Float	-10 to 10 in Celsius, -18 to 18 in Fahrenheit	Supply temperature calibration value
supplyTemperatureSensorF ailAlarmSetting	String	"close", "suspend", "open"	Supply temperature sensor fail alarm setting
supplyTemperatureSetting	Float	13 to 28 in Celsius, 55.4 to 82.4 in Fahrenheit	Supply temperature setting
systemTimeD	Float	1 to 31	System time d
systemTimeH	Float	0 to 23	System time h
systemTimeM	Float	0 to 59	System time m
systemTimeM	Float	1 to 12	System time m

Conf ID	Type	Values	Description
systemTimeS	Float	0 to 59	System time s
systemTimeY	Float	2000 to 2099	System time y
vacuumState	Boolean	true, false	Vacuum state

API: api/dev/A70004A3BB7F45C3/conf: get

api/dev/A70004A3BB7F45C3/conf: get

```
{
"monitorShutDownFlag": false,
"modelSelect": "R035AK",
"deadBand": 1.61
}
```

Line Number	Description
2	Example of a Boolean type conf
3	Example of a String type conf
4	Example of a Float type conf

CLI: get dev ID conf

user> get dev ID conf

```
monitorShutDownFlag: false
modelSelect: R035AK
deadBand: 1.61
```

Line Number	Description
1	Example of a Boolean type conf
2	Example of a String type conf
3	Example of a Float type conf

1.5.10 Supported Devices

Airflow, temperature, humidity, and dewpoint sensor

This device measures airflow, temperature, humidity, and dewpoint. When powered on, the airflow sensing element must go through an initialization period and will report "calibrating" until done.

API: api/dev: get

api/dev: get


```
{
"A70004A3BB7F45C3": {
"name": "AF/H/T 3 Sensor",
"label": "AF/H/T 3 Sensor",
"type": "afht3",
"entity": {
"0": {
"name": "",
"measurement": {
"0": {
"type": "temperature",
"units": "F"
},
"1": {
"type": "humidity",
},
"2": {
"type": "dewpoint",
"units": "F"
},
"3": {
"type": "airflow"
}
}
}
},
"layout": {
"0": ["entity/0"]
}
}
}
```


Line Number	Description
8	Entity label is not available for this device

CLI: get dev

user> get dev

```
A70004A3BB7F45C3:
name: AF/H/T 3 Sensor
label: AF/H/T 3 Sensor
type: afht3
entity:
0:
name:
measurement:
0:
type: temperature
units: F
1:
type: humidity
2:
```

```
type: dewpoint
units: F
3:
type: airflow
layout:
0: [entity/0]
```

Line Number	Description
7	Entity label is not available for this device

Triple temperature, humidity, and dewpoint sensor

This device measures built in temperature, humidity, and dewpoint as well as an additional pair of removable temperature probes. If any of the removable temperature probes is detected as missing, the device state will set to "degraded".

API: api/dev: get

api/dev: get


```
{
"A70004A3BB7F45C3": {
"name": "T3HD Sensor",
"label": "T3HD Sensor",
"type": "t3hd",
"entity": {
"0": {
"name": "Internal",
"label": "Internal",
"measurement": {
"0": {
"type": "temperature",
"units": "F"
},
"1": {
"type": "humidity"
},
"2": {
"type": "dewpoint",
"units": "F"
}
}
},
"1": {
"name": "Temp A",
"label": "Temp A",
"measurement": {
"0": {
"type": "temperature",
"units": "F"
}
}
},
"2": {
"name": "Temp B",
"label": "Temp B",
```

```
"measurement": {
"0": {
"type": "temperature",
"units": "F"
}
}
}
},
"layout": {
"0": ["entity/0", "entity/1", "entity/2"]
}
}
}
```


CLI: get dev

```
user> get dev

A70004A3BB7F45C3:
name: T3HD Sensor
label: T3HD Sensor
type: t3hd
entity:
0:
name: Internal
label: Internal
measurement:
0:
type: temperature
units: F
1:
type: humidity
2:
type: dewpoint
units: F
3:
type: airflow
1:
name: Temp A
label: Temp A
measurement:
0:
type: temperature
units: F
2:
name: Temp B
label: Temp B
measurement:
0:
type: temperature
units: F
layout:
0: [entity/0, entity/1, entity/2]
```

Temperature, humidity, and dewpoint sensor

This device measures temperature, humidity, and dewpoint.

API: api/dev: get

api/dev: get

```
{
"A70004A3BB7F45C3": {
"name": "THD Sensor",
"label": "THD Sensor",
"type": "thd",
"entity": {
"0": {
"name": "THD Sensor",
"measurement": {
"0": {
"type": "temperature",
"units": "F"
},
"1": {
"type": "humidity"
},
"2": {
"type": "dewpoint",
"units": "F"
}
}
}
},
"layout": {
"0": ["entity/0"]
}
}
}
```

Line Number	Description
8	Entity label is not available for this device

CLI: get dev

user> get dev

```
A70004A3BB7F45C3:
name: THD Sensor
label: THD Sensor
type: thd
entity:
0:
name: THD Sensor
measurement:
0:
type: temperature
units: F
1:
type: humidity
2:
type: dewpoint
```

```
units: F
layout:
0: [entity/0]
```

Line Number	Description
7	Entity label is not available for this device

Temperature sensor

This device measures temperature.

API: api/dev: get

api/dev: get

```
{
"A70004A3BB7F45C3": {
"name": "Temp Sensor",
"label": "Temp Sensor",
"type": "remotetemp",
"entity": {
"0": {
"name": "Temp Sensor",
"measurement": {
"0": {
"type": "temperature",
"units": "F"
}
}
}
},
"layout": {
"0": ["entity/0"]
}
}
}
```

Line Number	Description
8	Entity label is not available for this device

user> get dev

```
A70004A3BB7F45C3:
name: Temp Sensor
label: Temp Sensor
type: remotetemp
entity:
0:
name: Temp Sensor
measurement:
```

```
 9  0:
10  type: temperature
11  units: F
12  layout:
13  0: [entity/0]
```

Line Number	Description
7	Entity label is not available for this device

Analog to Digital converter

This device measures a single analog input port.

API: api/dev: get

api/dev: get


```
{
"A70004A3BB7F45C3": {
"name": "A2D Sensor",
"label": "A2D Sensor",
"type": "a2d",
"analog": {
"0": {
"name": "Analog Input",
"label": "Analog Input",
"type": "10V"
}
},
"layout": {
"0": ["analog/0"]
}
}
}
```


CLI: get dev

user> get dev

```
A70004A3BB7F45C3:
name: A2D Sensor
label: A2D Sensor
type: a2d
analog:
0:
name: Analog Input
label: Analog Input
type: 10V
layout:
0: [analog/0]
```

SN series temperature sensor

This device measures temperature.

API: api/dev: get

api/dev: get

```
{
"5600000054499942": {
"name": "SN Temperature",
"label": "SN Temperature",
"type": "snt",
"entity": {
"0": {
"name": "SN Temperature",
"measurement": {
"0": {
"type": "temperature",
"units": "F"
}
}
}
},
"layout": {
"0": ["entity/0"]
}
}
}
```

Line Number	Description
8	Entity label is not available for this device

CLI: get dev

user> get dev

```
5600000054499942:
name: SN Temperature
label: SN Temperature
type:: snt
entity:
0:
name: SN Temperature
measurement:
0:
type: temperature
units: F
layout:
0: [entity/0]
```

Line Number	Description
7	Entity label is not available for this device

SN series humidity sensor

This device measures relative humidity.

API: api/dev: get

api/dev: get

```
{
"AF00000247758626": {
"name": "SN Relative Humidity",
"label": "SN Relative Humidity",
"type": "snh",
"entity": {
"1": {
"name": "SN Relative Humidity",
"measurement": {
"0": {
"type": "humidity"
}
}
}
},
"layout": {
"0": ["entity/0"]
}
}
}
```

Line Number	Description
8	Entity label is not available for this device

CLI: get dev

user> get dev

```
AF00000247758626:
name: SN Relative Humidity
label: SN Relative Humidity
type:: snh
entity:
0:
name: SN Relative Humidity
measurement:
0:
type: humidity
layout:
0: [entity/0]
```

Line Number	Description
7	Entity label is not available for this device

SN Series Door Position Sensor

This device measures 2 closed contact inputs used in detecting door position. The analog "mode" fields for this device are always "door" and these fields are not changeable.

API: api/dev: get

api/dev: get


```
{
"6900000029993029": {
"name": "SN Door",
"label": "SN Door",
"type": "snd",
"analog": {
"0": {
"name": "Door 1",
"label": "Door 1",
"type": "binary",
"mode": "door"
},
"1": {
"name": "Door 2",
"label": "Door 2",
"type": "binary",
"mode": "door"
}
},
"layout": {
"0": ["analog/0"],
"1": ["analog/1"]
}
}
}
```


CLI: get dev

user> get dev


```
6900000029993029:
name: SN Door
label: SN Door
type: snd
analog:
0:
name: Door 1
label: Door 1
type: binary
mode: door
1:
name: Door 2
label: Door 2
type: binary
mode: door
layout:
0: [analog/0]
1: [analog/1]
```

GU PDU

This device measures a wide variety of power characteristics. Based on wiring and hardware availability, the number of monitored objects can vary from device to device. Entities for the GU PDU are further detailed here.

API: api/dev: get

api/dev: get


```
{
"A70004A3BB7F45C3": {
"name": "GU PDU",
"label": "GU PDU",
"type": "i03",
"lifetimeEnergy": 123,
"entity": {},
"outlet": {
"0": {
"poaDelay": 10.750,
"measurement": {
"0": {
"type": "voltage"
},
"4": {
"type": "current"
},
"8": {
"type": "realPower"
},
"9": {
"type": "apparentPower"
},
"10": {
"type": "powerFactor"
},
"11": {
"type": "energy"
}
}
}
},
"layout": {
"0": ["entity/total0", "entity/phase0", "entity/phase1", "entity/phase2"],
"1": ["entity/line0", "entity/line1", "entity/line2"],
"2": ["entity/breaker0", "entity/breaker1", "entity/breaker2"],
"entity/breaker0": ["outlet/0", "outlet/1", "outlet/2"],
"entity/breaker1": ["outlet/3", "outlet/4", "outlet/5"],
"entity/breaker2": ["outlet/6", "outlet/7", "outlet/8"]
},
"point": {
"meterType": {
"value": "wye"
}
}
}
}
```

Line Number	Description
7	Entities for the GU PDU
9	Outlets can exist in any quantity including zero. One is shown as an exa
10	Power on action delays are supported in increments of 0.250 seconds and input values will be rounded accordingly.
33	Entities and outlets referenced in this layout are given only as an example. A real object would have each entity and outlet defined in the appropriate object

CLI: get dev

user> get dev

```
A70004A3BB7F45C3:
name: GU PDU
label: GU PDU
type: i03
lifetimeEnergy: 123
entity:
outlet:
0:
poaDelay: 10.750
measurement:
0:
type: voltage
4:
type: current
8:
type: realPower
9:
type: apparentPower
10:
type: powerFactor
11:
type: energy
layout:
0: [entity/total0 entity/phase0 entity/phase1 entity/phase2]
1: [entity/line0 entity/line1 entity/line2]
2: [entity/breaker0 entity/breaker1 entity/breaker2]
entity/breaker0: [outlet/0 outlet/1 outlet/2]
entity/breaker1: [outlet/3 outlet/4 outlet/5]
entity/breaker2: [outlet/6 outlet/7 outlet/8]
point:
meterType:
value: wye
```

Line Number	Description
6	Entities for the GU PDU
8	Outlets can exist in any quantity including zero. One is shown as an exa
9	Power on action delays are supported in increments of 0.250 seconds and input values will be rounded accordingly.
23	Entities and outlets referenced in this layout are given only as an example. A real object would have each entity and outlet defined in the appropriate object

Command: reset

In addition to the top level reset command targets, this devices also allows "energy" and "lossOfLoadDetected" targets. The "energy" target resets all energy measurements in the device to 0.

The "lossOfLoadDetected" target resets lossOfLoadDetected flag to false. Valid targets:

energy: Resets accumulated energy to 0 on this device.

lossOfLoadDetected: Resets lossOfLoadDetected flag to false on this device.

API: api/dev/A70004A3BB7F45C3: reset (Control)

api/dev/A70004A3BB7F45C3: reset (Control)

```
1 {
2 "target": "energy"
3 }
```

Line Number	Description
2	Required field. Target can only be "energy", "lossOfLoadDetected", or those defined in the top level device command

CLI: reset dev ID

control> reset dev ID = ARGS

```
1 reset dev ID = {target:energy}
```

Line Number	Description
1	Required field. Target can only be "energy", "lossOfLoadDetected", or those defined in the top level device command

The control command executed at the top level performs the specified action on all outlets in the device. This command will return an error if there are no outlets in the device.

Command: control

API: api/dev/A70004A3BB7F45C3: control (Control)

api/dev/A70004A3BB7F45C3: control (Control)

```
1 {
2 "action": "on",
3 "delay": false
4 }
```

Line Number	Description
2	Required field. Action to be performed. Can be "on", "off", "reboot" or "cancel" which will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with
3	Required field. Boolean indicating if a delayed action should be performed

CLI: control dev ID

control> control dev ID = ARGS

```
1 control dev ID = {action:on, delay:false}
```

Line Number	Description
1	Required fields: action, delay. "action" describes the action to be performed. Can be "on", "off", "reboot", or "cancel". Cancel will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with. "delay" is a boolean indicating if a delayed aciton should be performed.

GU PDU Entities: Total

Represents the aggregate power information for all the phases of the PDU. It is always present as an entity but it is omitted from the layout on single phase systems.

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"total0": { "name": "Total",
"label": "Total", "measurement": {
"0": {
"type": "realPower"
}, "1": {
"type": "apparentPower"
}, "2": {
"type": "powerFactor"
}, "3": {
"type": "energy"
}
}
}
}
}
```


CLI: get dev ID


```
entity:
total0:
name: Total
label: Total
measurement:
0:
type: realPower
1:
type: apparentPower
2:
type: powerFactor
3:
type: energy
```

Command: reset (Total)

API: api/dev/A70004A3BB7F45C3/entity/total0: reset (Control)

api/dev/A70004A3BB7F45C3/entity/total0: reset (Control)

```
1 {
2 "target": "energy"
3 }
```

Line Number	Description
2	Required field. Target can only be "energy". Resets accumulated energy to 0 for total and all phase entities

CLI: reset dev ID entity total0

control> reset dev ID entity total0 = ARGS

```
1 reset dev ID entity total0 = {target:energy}
```

Line Number	Description
2	Required field. Target can only be "energy". Resets accumulated energy to 0 for total and all phase entities

GU PDU Entities: Phases

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"phase0": {
"name": "Phase AB",
"label": "Phase AB",
"measurement": {
"0": {
"type": "voltage"
},
"4": {
"type": "current"
},
"8": {
"type": "realPower"
},
"9": {
"type": "apparentPower"
},
"10": {
"type": "powerFactor"
},
"11": {
"type": "energy"
```

```
},
"12": {
"type": "balance"
}
}
}
}
}
```

CLI: get dev ID

```
user> get dev ID

entity:
phase0:
name: Phase AB
label: Phase AB
measurement:
0:
type: voltage
4:
type: current
8:
type: realPower
9:
type: apparentPower
10:
type: powerFactor
11:
type: energy
12:
type: balance
```

Command: reset (Phase)

API: api/dev/A70004A3BB7F45C3/entity/phase0: reset (Control)

```
api/dev/A70004A3BB7F45C3/entity/phase0: reset (Control)

1 {
2 "target": "energy"
3 }
```

Line Number	Description
2	Required field. Target can only be "energy" and it resets accumulated energy to 0.

CLI: reset dev ID entity phase0

```
control> reset dev ID entity phase0 = ARGS

1 reset dev ID entity phase0 = {target: energy}
```

Line Number	Description
1	"target" is a required field. The only valid target is "energy" and it resets accumulated energy to 0.

GU PDU Entities: Lines

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"line0": {
"name": "Line A",
"label": "Line A",
"measurement": {
"4": {
"type": "current"
}
}
}
}
}
```


CLI: get dev ID

user> get dev ID

```
entity:
line0:
name: Line A
label: Line A
measurement:
4:
type: current
```

GU PDU Entities: Breakers

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"breaker0": {
"name": "Breaker 1",
"label": "Breaker 1",
"measurement": {
"0": {
"type": "current"
}
}
}
```

```
}
}
```

CLI: get dev ID

```
user> get dev ID

entity:
breaker0:
name: Breaker 1
label: Breaker 1
measurement:
0:
type: current
```

Command: reset (Breaker)

Valid targets:

energy: Resets accumulated energy to 0. Resets will also be performed on all outlets belonging to this breaker.

lossOfLoadDetected: Resets lossOfLoadDetected flag to false.

API: api/dev/A70004A3BB7F45C3/entity/breaker0: reset (Control)

```
api/dev/A70004A3BB7F45C3/entity/breaker0: reset (Control)

{
"target": "energy"
}
```

Line Number	Description
1	Required field

CLI: reset dev ID entity breaker0

```
control> reset dev ID entity breaker0 = ARGS

reset dev ID entity breaker0 = {target:energy}
```

Line Number	Description
1	"target" is a required field.

GU PDU Entities: RCM

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"rcm0": {
"name": "Residual Current",
"label": "Residual Current",
"measurement": {
"0": {
"type": "residualCurrentAggregate"
},
"1": {
"type": "residualCurrentDc"
}
}
}
}
}
```


CLI: get dev ID

user> get dev ID

```
entity:
rcm0:
name: Residual Current
label: Residual Current
measurement:
0:
type: residualCurrentAggregate
1:
type: residualCurrentDc
```

R-Series PDU version 5

This device measures a wide variety of power characteristics. Based on wiring and hardware availability, the number of monitored objects can vary from device to device. Entities for the RS PDU are further detailed here. Device name and system model vary with hardware configuration.

Breaker and Outlet measurement object will be empty on PDUs that do not support outlet metering.

API: api/dev: get

api/dev: get


```
{
"A70004A3BB7F45C3": {
"name": "RCU-OD",
"label": "RCU-OD",
"type": "rs",
"entity": {},
"outlet": {
"0": {
"poaDelay": 12.0,
```

```
"measurement": {
"0": {
"type": "voltage"
},
"4": {
"type": "current"
},
"8": {
"type": "realPower"
},
"9": {
"type": "apparentPower"
},
"10": {
"type": "powerFactor"
},
"11": {
"type": "energy"
}
}
}
},
"layout": {
"0": ["entity/total0", "entity/phase0", "entity/phase1", "entity/phase2"],
"1": ["entity/line0", "entity/line1", "entity/line2"],
"2": ["entity/breaker0", "entity/breaker1", "entity/breaker2"],
"entity/breaker0": ["outlet/0", "outlet/1", "outlet/2"],
"entity/breaker1": ["outlet/3", "outlet/4", "outlet/5"],
"entity/breaker2": ["outlet/6", "outlet/7", "outlet/8"]
},
"point": {
"meterType": {
"value": "wye"
}
}
}
}
```

Line Number	Description
3	Device name is dependent of hardware configuration and OEM. See above
6	Entities for the RS PDU
8	Outlets can exist in any quantity including zero. One is shown as an example
9	Power on action delays are supported in increments of 1 second and input values will be rounded accordingly.
32	Entities and outlets referenced in this layout are given only as an example. A real object would have each entity and outlet defined in the appropriate object

CLI: get dev

user> get dev

```
A70004A3BB7F45C3:
name: RCU-OD
label: RCU-OD
```

```
type: rs
entity:
outlet:
0:
poaDelay: 12.0
measurement:
0:
type: voltage
4:
type: current
8:
type: realPower
9:
type: apparentPower
10:
type: powerFactor
11:
type: energy
layout:
0: [entity/total0 entity/phase0 entity/phase1 entity/phase2]
1: [entity/line0 entity/line1 entity/line2]
2: [entity/breaker0 entity/breaker1 entity/breaker2]
entity/breaker0: [outlet/0 outlet/1 outlet/2]
entity/breaker1: [outlet/3 outlet/4 outlet/5]
entity/breaker2: [outlet/6 outlet/7 outlet/8]
point:
meterType:
value: wye
```

user> get dev

```
A70004A3BB7F45C3:
name: RCU-OD
label: RCU-OD
type: rs
entity:
outlet:
0:
poaDelay: 12.0
measurement:
0:
type: voltage
4:
type: current
8:
type: realPower
9:
type: apparentPower
10:
type: powerFactor
11:
type: energy
layout:
0: [entity/total0 entity/phase0 entity/phase1 entity/phase2]
1: [entity/line0 entity/line1 entity/line2]
2: [entity/breaker0 entity/breaker1 entity/breaker2]
entity/breaker0: [outlet/0 outlet/1 outlet/2]
entity/breaker1: [outlet/3 outlet/4 outlet/5]
```

```
entity/breaker2: [outlet/6 outlet/7 outlet/8]
point:
meterType:
value: wye
```

Line Number	Description
2	Device name is dependent of hardware configuration and OEM. See above
5	Entities for the RS PDU
7	Outlets can exist in any quantity including zero. One is shown as an example
8	Power on action delays are supported in increments of 1 second and input values will be rounded accordingly.
22	Entities and outlets referenced in this layout are given only as an example. A real object would have each entity and outlet defined in the appropriate object

Command: reset

In addition to the top level reset command targets, this devices also allows an "energy" target. The "energy" target resets all energy measurements in the device to 0.

API: api/dev/A70004A3BB7F45C3: reset (Control)

api/dev/A70004A3BB7F45C3: reset (Control)

```
{
"target": "energy"
}
```

Line Number	Description
2	Required field. Target can only be "energy" or those defined in the top level device command

CLI: reset dev ID

control> reset dev ID = ARGS

```
reset dev ID = {target: energy}
```

Line Number	Description
1	"target" is a required field. Target can only be "energy" or those defined in the top level device command.

Command: control

The control command executed at the top level performs the specified action on all outlets in the device. This command will return an error if there are no outlets in the device.

API: api/dev/A70004A3BB7F45C3: control (Control)

api/dev/A70004A3BB7F45C3: control (Control)

```
1 {
2 "action": "on",
3 "delay": false
4 }
```

Line Number	Description
2	Required field. Action to be performed. Can be "on", "off", "reboot" or "cancel" which will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with
3	Required field. Boolean indicating if a delayed action should be performed

Example 2. CLI: control dev ID

control> control dev ID = ARGS

```
1 control dev ID = {action: on, delay: false}
```

Line Number	Description
1	Required fields: action, delay. "action" describes the action to be performed. Can be "on", "off", "reboot", or "cancel". Cancel will stop any delayed actions that haven't taken place. Rebooting an outlet that is off will cause it to turn on in the same amount of time as if it had been on to start with. "delay" is a boolean indicating if a delayed aciton should be performed.

R-Series PDU Entities: Total

Represents the aggregate power information for all the phases of the PDU. It is always present as an entity but it is omitted from the layout on single phase systems.

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get

```
1  {
2  "entity": {
3  "total0": {
4  "name": "Total",
5  "label": "Total",
6  "lifetimeEnergy": 123,
7  "measurement": {
8  "0": {
9  "type": "realPower"
10 },
11 "1": {
12 "type": "apparentPower"
13 },
14 "2": {
15 "type": "powerFactor"
16 },
17 "3": {
```

```
18  "type": "energy"
19  }
20  }
21  }
22  }
23  }
```

Line Number	Description
6	When upgrading from a version that did not support total accumulated energy, this value is initalized to the current energy count

CLI: get dev ID

user> get dev ID

```
1  entity:
2  total0:
3  name: Total
4  label: Total
5  lifetimeEnergy: 123
6  measurement:
7  0:
8  type: realPower
9  1:
10 type: apparentPower
11 2:
12 type: powerFactor
13 3:
14 type: energy
```

Line Number	Description
5	When upgrading from a version that did not support total accumulated energy, this value is initalized to the current energy count

Command: reset (Total)

API: api/dev/A70004A3BB7F45C3/entity/total0: reset (Control)

api/dev/A70004A3BB7F45C3/entity/total0: reset (Control)

```
1  {
2  "target": "energy"
3  }
```

Line Number	Description
2	Required field. Target can only be "energy". Resets accumulated energy to 0 for total and all phase entities

CLI: reset dev ID entity total0

control> reset dev ID entity total0 = ARGS

```
1 | reset  dev  ID  entity  total0  =  {"target":"energy"}
```

Line Number	Description
1	"target" is a required field. Target can only be "energy". Resets accumulated energy to 0 for total and all phase entities.

R-Series PDU Entities: Phases

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"phase0": {
"name": "Phase AB",
"label": "Phase AB",
"measurement": {
"0": {
"type": "voltage"
},
"4": {
"type": "current"
},
"8": {
"type": "realPower"
},
"9": {
"type": "apparentPower"
},
"10": {
"type": "powerFactor"
},
"11": {
"type": "energy"
},
"12": {
"type": "balance"
}
}
}
}
}
```


CLI: get dev ID

user> get dev ID

```
entity:
phase0:
name: Phase AB
label: Phase AB
measurement:
```

```
0:
type: voltage
4:
type: current
8:
type: realPower
9:
type: apparentPower
10:
type: powerFactor
11:
type: energy
12:
type: balance
```

Command: reset (Phase)

API: api/dev/A70004A3BB7F45C3/entity/phase0: reset (Control)

api/dev/A70004A3BB7F45C3/entity/phase0: reset (Control)

```
1 {
2 "target": "energy"
3 }
```

Line Number	Description
2	Required field. Target can only be "energy" and it resets accumulated energy to 0.

CLI: reset dev ID entity phase0

control> reset dev ID entity phase0 = ARGS

```
1 reset dev ID entity phase0 = {target:energy}
```

Line Number	Description
1	"target" is a required field. Target can only be "energy" and it resets accumulated energy to 0.

R-Series PDU Entities: Lines

Lines are only available on units configured to meter in Delta mode.

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get

```
{
"entity": {
"line0": {
"name": "Line A",
```

```
"label": "Line A",
"measurement": {
"0": {
"type": "current"
}
}
}
}
}
```


CLI: get dev ID

user> get dev ID


```
entity:
line0:
name: Line A
label: Line A
measurement:
0:
type: current
```


R-Series PDU Entities: Breakers

Breaker measurement object will be empty on PDUs that do not support outlet metering.

API: api/dev/A70004A3BB7F45C3: get

api/dev/A70004A3BB7F45C3: get


```
{
"entity": {
"breaker0": {
"name": "Breaker 1",
"label": "Breaker 1",
"measurement": {
"0": {
"type": "voltage"
},
"4": {
"type": "current"
},
"8": {
"type": "realPower"
},
"9": {
"type": "apparentPower"
},
"10": {
"type": "powerFactor"
},
"11": {
"type": "energy"
}
}
```

```
}
}
}
```

CLI: get dev ID

user> get dev ID

```
entity:
breaker0:
name: Breaker 1
label: Breaker 1
measurement:
0:
type: voltage
4:
type: current
8:
type: realPower
9:
type: apparentPower
10:
type: powerFactor
11:
type: energy
```

Command: reset (Breaker)

API: api/dev/A70004A3BB7F45C3/entity/breaker0: reset (Control)

api/dev/A70004A3BB7F45C3/entity/breaker0: reset (Control)

```
1 {
2 "target": "energy"
3 }
```

Line Number	Description
2	Required field. Target can only be "energy" and it resets accumulated energy to 0. Resets will also be performed on all outlets belonging to this breaker

CLI: reset dev ID entity breaker0

control> reset dev ID entity breaker0 = ARGS

```
1 reset dev ID entity breaker0 = {target: "energy"}
```

Line Number	Description
1	"target" is a required field. Target can only be "energy" and it resets accumulated energy to 0. Resets will also be performed on all outlets belonging to this breaker.

VRC cooling unit

This device represents a cooling unit and measures a wide variety of its runtime parameters.

api/dev: get


```
{
"M0001": {
"name": "VRC",
"label": "VRC1",
"type": "vrc",
"point": {
"alarmNumbers": {
"value": 1
},
"eevOpened": {
"value": 10
},
"historyAlarmNumbers": {
"value": 54
},
"hmiShutDownFlag": {
"value": false
},
"remoteShutDownAlarm": {
"value": false
},
"lowPressAlarm": {
"value": false
},
"monitorAddress": {
"value": 1
},
"lpFrequentlyAlarm": {
"value": false
},
"lp": {
"value": false
},
"remoteShutdown": {
"value": true
},
"coolingFlag": {
"value": false
},
"runState": {
"value": "off"
},
"remoteShutDownFlag": {
"value": false
},
"highWaterLevelAlarm": {
"value": false
},
"filterMaintenanceRemind": {
"value": false
},
"softwareShutDownStatus": {
"value": false
},
```

```
"waterUnderFloorAlarm": {
"value": false
},
"monitorBaudrate": {
"value": "9600"
},
"highWaterLevelInput": {
"value": true
},
"commonAlarmOutputState": {
"value": false
},
"hpAbnormalRecordCount": {
"value": 0
},
"firstOnFlag": {
"value": true
},
"highPressureSensorFailAlarm": {
"value": false
},
"eevCommunicationFailAlarm": {
"value": false
},
"newAlarmFlag": {
"value": false
},
"highPressAlarm": {
"value": false
},
"hpFrequentlyAlarm": {
"value": false
},
"lowPressureSensorFailAlarm": {
"value": false
}
},
"conf": {
"hpSensorFailAlarmSetting": "open",
"eevShtSettingMax": 67.81,
"modelSelect": "R035AK",
"systemTimeSec": 7,
"commonAlarmOutputDirection": true,
"remoteShutdownAlarmSetting": "open",
"deadBand": 1.61,
"highWaterLevelAlarmSetting": "open",
"hpFrequentlyAlarmSetting": "open",
"eevCommunicationFailAlarmSetting": "open",
"filterMaintenanceSetting": false,
"vacuumState": false,
"controlMode": "return",
"monitorShutDownFlag": true,
"hpAlarmSetting": "open",
"lpAlarmSetting": "open",
"firstOnPassword": 0,
"filterMaintenanceRemindTime": 90,
"manualRunEnable": false,
"onOffSwitch": false,
"eevMopPressureSetting": 26.81,
"lpSensorFailAlarmSetting": "open",
```

```
"eevValveCloseShtSetting": 9.71,
"hpAbnormalAlarmSettingValue": 36,
"systemTimeYear": 2019,
"systemTimeMin": 46,
"filterMaintenanceRemindSetting": "close",
"eevShtSettingMin": 80.59,
"remoteShutdownInput": true,
"systemTimeMonth": 10,
"lpdt": 240,
"systemTimeHour": 15,
"lpFrequentlyAlarmSetting": "open",
"systemTimeDay": 30
},
"layout": {
"0": [
"entity/supply0",
"entity/return0",
"entity/outdoor0",
"entity/discharge0",
"entity/suction0",
"entity/power0",
"entity/compressor0",
"entity/infan0",
"entity/outfan0"
]
},
"entity": {
"outfan0": {
"name": "OUTFAN",
"point": {},
"conf": {
"outFanPressureSetting": 8,
"outFanMaxPowerVoltage": 100,
"outFanStartPressure": 21,
"fanSpeed": 0,
"outFanMinPowerVoltage": 30
},
"measurement": {
"0": {
"type": "fanSpeed"
}
}
},
"infan0": {
"name": "INFAN",
"point": {
"infanStartStopCount": {
"value": 48
},
"infanRunTimeHours": {
"value": 118
}
},
"conf": {
"infanJumpBand3": 0,
"infanJumpBand5": 0,
"infanLowSpeedStep": 0.1,
"infanOutputStatus": false,
"infanStartDelayTime": 10,
"infanTemperatureD": 0,
```

```
"infanJumpFrequency4": 0,
"infanJumpBand2": 0,
"infanStopDelayTime": 30,
"infanJumpBand1": 0,
"infanTemperatureP": 5,
"infanMinCfc": 0,
"infanJumpFrequency2": 0,
"infanJumpBand4": 0,
"infanHighSpeedStep": 1,
"infanJumpFrequency5": 0,
"infanStandardSpeed": 95,
"infanTemperatureI": 300,
"infanJumpFrequency3": 0,
"infanJumpFrequency1": 0,
"infanMinSpeed": 40,
"infanStandardCfc": 100,
"infanReduceSpeedDelayTime": 30
},
"measurement": {}
},
"compressor0": {
"name": "Compressor",
"point": {
"compressorDriverFaultU03": {
"value": false
},
"compressorDriverFaultU04": {
"value": false
},
"compressorRunTimeHours": {
"value": 0
},
"compressorDriverFaultU11": {
"value": false
},
"compressorDriverFaultU12": {
"value": false
},
"compressorDriverFaultU02": {
"value": false
},
"compressorDriverFaultU00": {
"value": false
},
"compressorDriverFaultU07": {
"value": false
},
"compressorStartStopCount": {
"value": 3
},
"compressorFaultLockAlarm": {
"value": false
},
"compressorDriverFaultU15": {
"value": false
},
"compressorDriverFaultU05": {
"value": false
},
"compressorDriverFaultU01": {
```

```
"value": false
},
"compressorDriverFaultU13": {
"value": false
},
"compressorDriverFaultU08": {
"value": false
},
"compressorDriverFaultU10": {
"value": false
},
"compressorDriverFaultU09": {
"value": false
},
"compressorDriverCommunicationFailAlarm": {
"value": false
},
"compressorDriverFaultU14": {
"value": false
},
"compressorDriverFaultU06": {
"value": false
}
},
"conf": {
"compressorJumpBand3": 0,
"compressorMinRunTime": 3,
"compressorJumpBand1": 0,
"compressorJumpFrequency4": 0,
"compressorFaultLockAlarmSetting": "open",
"compressorJumpFrequency2": 0,
"compressorStopCfc": -75,
"compressorJumpFrequency3": 0,
"compressorDriverCommunicationFailAlarmSetting": "open",
"compressorJumpFrequency5": 0,
"compressorTemperatureI": 300,
"compressorStartCfc": 50,
"compressorTemperatureP": 9,
"compressorOutputStatus": false,
"compressorOutputDeadBand": 2.5,
"compressorMinStopTime": 10,
"compressorJumpBand2": 0,
"compressorStandardCapacity": 100,
"compressorMinCapacity": 15,
"compressorDriverFaultAlarmSetting": "open",
"compressorStartCapacity": 40,
"compressorJumpBand5": 0,
"compressorJumpBand4": 0,
"compressorJumpFrequency1": 0,
"compressorCapacityOutputValue": 0,
"compressorTemperatureD": 0
},
"measurement": {
"0": {
"type": "capacity"
}
}
},
"return0": {
"name": "Return",
```

```
"point": {
"highReturnTemperatureAlarm": {
"value": false
},
"returnTemperatureSensorFailAlarm": {
"value": false
}
},
"conf": {
"returnOilRunCapacity": 60,
"returnOilCycle": 4,
"returnTemperatureCalibrationValue": 0,
"returnOilRunTime": 3,
"returnHighTemperatureAlarmSetting": "open",
"returnHighTemperatureAlarmSettingValue": 219.19,
"returnTemperatureSensorFailAlarmSetting": "open",
"returnTemperatureSetting": 170.59
},
"measurement": {
"0": {
"type": "temperature"
}
}
},
"supply0": {
"name": "Supply",
"point": {
"highSupplyTemperatureAlarm": {
"value": false
},
"supplyTemperatureSensorFailAlarm": {
"value": false
},
"lowSupplyTemperatureAlarm": {
"value": false
}
},
"conf": {
"supplyLowTemperatureAlarmSetting": "open",
"supplyTemperatureSensorFailAlarmSetting": "open",
"supplyHighTemperatureAlarmSettingValue": 177.07,
"supplyLowTemperatureAlarmSettingValue": 115.51,
"supplyTemperatureCalibrationValue": 0,
"supplyTemperatureSetting": 141.43,
"supplyHighTemperatureAlarmSetting": "open"
},
"measurement": {
"0": {
"type": "temperature"
}
}
},
"power0": {
"name": "Power",
"point": {
"highVoltagePowerAlarm": {
"value": false
},
"lossOfPowerAlarm": {
"value": false
```

```
},
"lowVoltagePowerAlarm": {
"value": true
},
"lossOfPhasePowerAlarm": {
"value": false
},
"powerFrequencyErrorAlarm": {
"value": false
}
},
"conf": {
"lowPowerVoltageAlarmSetting": "suspend",
"lossOfPowerAlarmSetting": "open",
"powerLowVoltageSettingValue": 187,
"highPowerVoltageAlarmSetting": "open",
"powerHighVoltageSettingValue": 253,
"powerFrequencyErrorAlarmSetting": "open"
},
"measurement": {
"0": {
"type": "voltage"
},
"1": {
"type": "voltageFrequency"
}
}
},
"outdoor0": {
"name": "Outdoor",
"point": {},
"conf": {},
"measurement": {
"0": {
"type": "temperature"
}
}
},
"discharge0": {
"name": "Discharge",
"point": {
"dischargeTemperatureSensorFailAlarm": {
"value": false
},
"dischargeHighTemperatureAlarm": {
"value": false
},
"dischargeHighTemperatureFrequentlyAlarm": {
"value": false
}
},
"conf": {
"dischargeTemperatureSensorFailAlarmSetting": "suspend",
"dischargeHighTemperatureAlarmSetting": "open",
"dischargeTemperatureCalibrationValue": 0,
"dischargeHighTemperatureFrequentlyAlarmSetting": "open",
"dischargePressureCalibrationValue": 0
},
"measurement": {
"0": {
```

```
"type": "temperature"
},
"1": {
"type": "airPressure"
}
}
},
"suction0": {
"name": "Suction",
"point": {
"suctionTemperatureSensorFailAlarm": {
"value": false
},
"suctionSuperHeatTemperature": {
"value": 37.39
}
},
"conf": {
"suctionTemperatureSensorFailAlarmSetting": "suspend",
"suctionPressureCalibrationValue": 3
},
"measurement": {
"0": {
"type": "temperature"
},
"1": {
"type": "airPressure"
}
}
}
}
}
}
```


Line Number	Description
389	Measurement is optional and may not be present on all systems

1.6 Legacy Firmware Streaming: /fwtcp

1.6.1 Usage

Provides support for the legacy streaming method of updating firmware. This mechanism allows the user to open a TCP connection to the unit and then stream the raw firmware image bytes 217 directly. The process is started by using the "prep" command which will open a TCP port and return the port number to be used. Once the image is streamed in, the connection will close and the unit will perform the firmware update process. No data is returned in case of success or failure.

Command: prep

fwtcp: prep (Admin)


```
{}
```


Response

```
1 {
2 "retCode": 0,
3 "retMsg": "Success",
4 "data": 53383
5 }
```

Line Number	Description
4	Returns a port number to which a firmware image can be streamed.

1.7 System: /api/sys

Object		Data			Notes
	Field	Format	Range	Default	reset, reboot, switchFirmware, invalidateOldFirmware on these objects require admin privilege
sys					Commands: reset, reboot, switchFirmware, invalidateOldFirmware
	name	String	0 to String Max	"Geist GU PDU"	
	label	String	0 to String Max	"Geist GU PDU"	
	oem	String	3 chars		
	platform	String	0 to 8 chars		
	version	String	0 to String Max		
	build	String	0 to 8 chars		
	apiVersion	String	0 to String Max		
	model	String	0 to String Max		Deprecated
	modelNumber	String	0 to String Max		
	partNumber	String	0 to String Max		
	serialNumber	String	0 to String Max		
sys/state					
	warnCount	Integer	0 to max api/alarm/trigger count		
	alarmCount	Integer	0 to max api/alarm/trigger count		
	localTime	Date/Time	25 chars		
	systemTime	UNIX Timestam p			
	uptime	Integer			
	dirty	Integer			

Object		Data			Notes
	component	String	See below.		
	guestEnabled	Boolean	true, false		
	adminExists	Boolean	true, false		
sys/state/alarm					
	state	String	"none", "clear", "acked", "latched", "tripped"		
	severity	String	"", "warning", "alarm"		
sys/locale					
	defaultLang	Language Code	"de", "en", "es", "fr", "ja", "ko", "pt", "zh"	"en"	
	units	String	"metric", "imperial"	"imperial"	
sys/contact					
	description	String	0 to String Max	"Geist GU PDU"	
	location	String	0 to String Max		
	contactEmail	String	0 to String Max		
	contactName	String	0 to String Max		
	contactPhone	String	0 to String Max		
sys/component/ID					
	type	String	"gmsd", "gmi32a", "gmi32b", "gmo66", "gmmb", "ecc", "q", "qpm", "qph", "qpsm", "qpsu", "qpso", "qpsh"		
	version	String	0 to 16 chars		
	sn	String	0 to 32 chars		
	state	String	"active", "inactive"		

A non-settable collection of generic system information. Some fields are duplicates of either fields elsewhere in the API tree. The system branch is always accessible regardless of access permissions.

API: api/sys: get

api/sys: get

```
{
"name":  "Geist  GU  PDU",
"label":  "Geist  GU  PDU",
"oem":  "GEI",
"platform":  "gmmb",
"build":  "3030",
"version": "5.0.0",
"apiVersion": "1.0.0",
```

```
 9  "model": "I-03",
10  "modelNumber":  "",
11  "partNumber": "",
12  "serialNumber": "",
13  "state": {},
14  "contact": {},
15  "locale": {},
16  "component": {}
17  }
```

Line Number	Description
2	A default system name. Will be set to "Geist GU PDU" for all GU PDUs and "Geist R-Series PDU" for R-Series PDUs.
3	Defaults to "name" field above. Settable in /conf/system/label
4	A three-character identifier to distinguish between OEMs, i.e. "GEI" for Geist.
5	"gmmb" refers to GMMB on GU PDUs. R-Series PDUs will show "rq".
6	Internal build number
7	Software version
8	Version of this API
9	GMMB has the model name "I-03". Deprecated, please use "platform" field or /sys/component/ID/type field instead.
10	Factory set model number
11	Factory set part number
12	Factory set serial number
13	state
14	contact
15	locale
16	component

CLI: get sys

```
 1  name:  Geist  GU  PDU
 2  label:  Geist  GU  PDU
 3  oem:  GEI
 4  platform:  gmmb
 5  build:  3030
 6  version:  5.0.0
 7  apiVersion:  1.0.0
 8  model:  I-03
 9  modelNumber:
10  partNumber:
11  serialNumber:
12  state:
13  ...
14  contact:
15  ...
16  locale:
17  ...
```

```
18 component:
19 ...
```

Line Number	Description
1	A default system name. Will be set to "Geist GU PDU" for all GU PDUs and "Geist R-Series PDU" for R-Series PDUs.
2	Defaults to "name" field above. Settable in /conf/system/label
3	A three-character identifier to distinguish between OEMs, i.e. "GEI" for Geist.
4	"gmmb" refers to GMMB on GU PDUs. R-Series PDUs will show "rq".
5	Internal build number
6	Software version
7	Version of this API
8	GMMB has the model name "I-03". Deprecated, please use "platform" field or /sys/component/ID/type field instead.
9	Factory set model number
10	Factory set part number
11	Factory set serial number
12	state
14	contact
16	locale
18	component

1.7.1 Command: reboot

Has the following effects depending on target used:

System- Reboots the operating system. If no target is specified, this action will be taken.

Nodes- Reboots any attached node boards.

API: api/sys: reboot (Admin)

api/sys: reboot (Admin)

```
1 {
2 "target": "system"
3 }
```

Line Number	Description
2	Optional field. If not specified, then "system" target is assumed.

CLI: reboot sys

admin> reboot sys = ARGS

```
1 | reboot  sys  =  {target:  system}
```

Line Number	Description
2	If "target" is not specified, "system" target is assumed.

1.7.2 Command: reset

Has the following effects depending on target used:

defaults	Resets all configuration on /conf, /alarm, and /dev to factory defaults. Will also clear the event log, data log, and execute the delete command on any devices with a state of "unavailable". This will cause portions of the system to reinitialize. It will return success and then be followed by a short period where access to the system will be unavailable.
partialDefaults	As the "defaults" option above but does not reset /conf/network, /conf/http, /conf/datalog, /auth, or /conf/ldap and does not clear the event log or data log. This will cause portions of the system to reinitialize. It will return success and then be followed by a short period where access to the system will be unavailable.
eventLog	Clears the system event log.

API: api/sys: reset (Admin)

api/sys: reset (Admin)

```
1 | {
2 | "target":  "partialDefaults"
3 | }
```

Line Number	Description
2	Required field. Valid options are described above.

CLI: reset sys

admin> reset sys = ARGS

```
1 | reset  sys  =  {target:partialDefaults}
```

Line Number	Description
2	"target" field is required. Valid options are described above.

1.7.3 Command: switchFirmware

Switch to a previous root file system. This command will switch to the previously running firmware version and use the system configuration present at the time of the last firmware update.

api/sys: switchFirmware (Admin)

```
{}
```

1.7.4 Command: invalidateOldFirmware

Invalidates the previous root file system. This command will cause the "switchFirmware" command to fail until a new firmware update is performed.

api/sys: invalidateOldFirmware (Admin)

```
{}
```

1.7.5 State

A summary of the current system state. The "component" field will appear as "ok", except during component upgrades. During upgrades the string will have a format like "updating 1/2: gmmb 01%". In this example, "1/2" means the first of two components to be updated is currently in the process. That is followed by the component type (see /sys/component/type for options), here "gmmb". Finally shown is the upgrade percentage complete for that component, here "01%".

API: api/sys/state: get

api/sys/state: get

```
1  {
2  "dirty": 73,
3  "systemTime": 1446000854,
4  "localTime": "2015-10-27 21:54:14 -0600",
5  "uptime": 5977421,
6  "warnCount": 0,
7  "alarmCount": 0,
8  "guestEnabled": true,
9  "adminExists": true,
10 "component": "ok",
11 "alarm": {}
12 }
```

Line Number	Description
2	This number starts at 0 at boot time, and increments by one every time a set, add, delete, reset, control, or ack command is received. Also increments for internal system changes.
3	Number of seconds elapsed since January 1, 1970 00:00:00 in UTC.
4	Format is "YYYY-MM-DD HH:MM:SS -/+oooo" with hours ranging from 0-23 in local time. This is RFC 2822 date format with whitespace separator and 4 digit timezone with sign. Shows "(clock not set)" when time has not been configured.
5	Number of seconds elapsed since boot.
6	Number of warning triggers tripped that have not been acknowledged.
7	Number of alarm triggers tripped that have not been acknowledged.
8	Same as /auth/guest/enabled. If this is false, the user will need to log in before accessing parts of the API tree outside of /api/sys.

Line Number	Description
9	Returns true if /auth has any users for which "admin" is true. If this is false, guest will have the temporary ability to create an admin user, but cannot perform any other actions other than access /api/sys. When false, GDP replies will also indicate that isConfigurable is true.
10	Component update status. See above
11	state/alarm

CLI: get sys state

user> get sys state

```
1  dirty:  73
2  systemTime:  1446000854
3  localTime:  2015-10-27  21:54:14  -0600
4  uptime:  5977421
5  warnCount:  0
6  alarmCount:  0
7  guestEnabled:  true
8  adminExists:  true
9  component:  ok
10 alarm:
11 ...
```

Line Number	Description
1	This number starts at 0 at boot time, and increments by one every time a set, add, delete, reset, control, or ack command is received. Also increments for internal system changes.
2	Number of seconds elapsed since January 1, 1970 00:00:00 in UTC.
3	Format is "YYYY-MM-DD HH:MM:SS -/+oooo" with hours ranging from 0-23 in local time. This is RFC 2822 date format with whitespace separator and 4 digit timezone with sign. Shows "(clock not set)" when time has not been configured.
4	Number of seconds elapsed since boot.
5	Number of warning triggers tripped that have not been acknowledged.
6	Number of alarm triggers tripped that have not been acknowledged.
7	Same as /auth/guest/enabled. If this is false, the user will need to log in before accessing parts of the API tree outside of /api/sys.
8	Returns true if /auth has any users for which "admin" is true. If this is false, guest will have the temporary ability to create an admin user, but cannot perform any other actions other than access /api/sys. When false, GDP replies will also indicate that is Configurable is true.
9	Component update status. See above
10	state/alarm

State/Alarm

From the entire pool of alarms and warnings, returns the state and severity of one with the highest precedence. If no alarms or warnings are present, then the "state" will be "none" and the "severity" will be blank. See /dev/alarm for possible alarm states and severities.

API: api/sys/state/alarm: get

api/sys/state/alarm: get

```
1 {
2 "state": "tripped",
3 "severity": "alarm"
4 }
```

Line Number	Description
2	Values are "none", "clear", "acked", "latched" or "tripped"
3	Values are "", "warning" or "alarm"

CLI: get sys state alarm

user> get sys state alarm

```
1 state: tripped
2 severity: alarm
```

Line Number	Description
1	Values are "none", "clear", "acked", "latched" or "tripped"
2	Values are "", "warning" or "alarm"

1.7.6 Contact

A read-only duplicate of /conf/contact.

API: api/sys/contact: get

API: api/sys/contact: get

```
{
"description": "Geist GU PDU",
"location": "",
"contactEmail": "",
"contactName": "",
"contactPhone": ""
}
```

CLI: get sys contact

user> get sys contact

```
1 description: Geist GU PDU
2 location:
3 contactEmail:
4 contactName:
5 contactPhone:
```

1.7.7 Locale

A read-only duplicate of /conf/locale.

API: api/sys/locale: get

api/sys/locale: get

```
{
"defaultLang":  "en",
"units": "metric"
}
```

CLI: get sys locale

user> get sys locale

```
defaultLang:  en
units:  metric
```

1.7.8 Component

Sets of information pertaining to versions and serial numbers of the intelligent components of the system.

api/sys/component: get

```
1 {
2 "0": {
3 "type":  "gmmb",
4 "version":   "1.0.0",
5 "sn": "0123456789ABCDE"
6 "state":  "active"
7 }
8 }
```

Line Number	Description
3	Possible types are "gmsd", "gmi32a", "gmi32b", "gmo66", "gmmb", "ecc", "q", "qpm", "qph", "qpsm", "qpsu", "qpso", "qpsh".
4	Version of the component.
5	Serial number of component.
6	State of the component. Can be "active" if it is has been initialized and is currently being used by the system or "inactive" otherwise.

1.8 Special file transfers: /transfer

1.8.1 Transfer via SCP

All paths available on /transfer are also available via SCP. Authentication rules are the same as that of the corresponding /api/transfer path. Due to limitations of SCP, all output except for transfer progress indicator is sent to STDERR. The syntax is as follows:

SCP Transfer Commands

```
1  scp  file.firmware  user@host:firmware
2  scp  ssl.crt  user@host:sslcert
3  scp  user@host:backup  .
4  scp  backupFile  user@host:backup
5  scp  user@host:log.csv  .
6  scp  user@host:log.json  .
7  scp  user@host:logs.enc  .
8  scp  user@host:event_log.csv  .
9  scp  user@host:provisioner/config/config.json  .
10 scp  user@host:provisioner/firmware/firmware.out  .
11 scp  newConfig  user@host:provisioner/config
12 scp  newFirmware  user@host:provisioner/firmware
13 scp  license.txt  user@host:license
```

Line Number	Description
1	Identical to /transfer/firmware.
2	Nearly identical to /transfer/sslcert. Does not support certificate passwords.
3	Identical to /transfer/backup backup.
4	Identical to /transfer/backup restore.
5	Identical to /transfer/log.csv.
6	Nearly identical to /transfer/log.json. Does not support datalog filters.
7	Identical to /transfer/logs.enc.
8	Identical to /transfer/event_log.csv.
9	Identical to /transfer/provisioner/config/config.json.
10	Identical to /transfer/provisioner/firmware/firmware.out.
11	Identical to /transfer/provisioner/config.
12	Identical to /transfer/provisioner/firmware.
13	Identical to /transfer/license.

1.8.2 Configuration Backup and Restore: /transfer/backup

Backup

Downloads a configuration backup file. This is not processed as a regular API request. This file contains all user configured settings in the API tree in an encrypted form and is unique to the device that produced it. The file can be downloaded by performing an HTTP GET on the /transfer/backup path. Downloads do not require user authentication. The name of the downloaded file is "backup_XXX.bin" where XXX represents a string representation of the MAC address for the "ethernet" interface of the unit without the ':' characters.

Restore

Uploads a configuration backup file. This is not processed as a regular API request. The file is uploaded by performing an HTTP POST command on the /transfer/backup path. All POSTs to this path are assumed to be an upload command and require user authentication to be passed in as part of the query string and the user must have administrator privileges. Input must be encoded as multipart/form-data with a single component called "file". The actual file name being used is ignored. Output is a regular API JSON response with an error code 0 if the upload was successful or another error code otherwise. The uploaded file must have been downloaded from the same unit. Uploading a file belonging to a different unit will return an error. Once a file has been successfully uploaded, all user configuration parameters will be replaced with those found in the backup file.

HTTP header example

```
POST /transfer/backup?token=12345678 HTTP/1.1
Content-Type: multipart/form-data; boundary= ABCDEFGHIJKLMNOPQRSTUVWXYZ

----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition: form-data; name="file"; filename="backup_001122334455.bin"
Content-Type: application/octet-stream

....
```

1.8.3 Datalog Download: /transfer/log

Retrieval of historic data is not processed like a regular JSON API request but rather through an HTTP GET on the /transfer/log path based on the desired format. Downloads require user authentication to be passed in as part of the query string and the user must be enabled. If user "guest" is enabled, no credentials need to be passed in. Historic data can be retrieved in the following formats:

CSV Accessed through a GET on the "/transfer/log.csv" path. Returns a comma separated version of the entire log. The data for each measurement is structured as a column with the first column being the time stamp for the entire row. The first and second rows serve as headers to identify the data in the column. They consist of the device and measurement labels on the first row and the algorithm used (average, min, max) on the second. Available data is returned in cases where the system clock is not set.

/transfer/log.csv:

```
,"Watchdog 100:Temperature","Watchdog 100:Temperature","Watchdog 100:Temperature",
"Watchdog 100:Humidity","Watchdog 100:Humidity","Watchdog 100:Humidity"
,"Average","Min","Max","Average","Min","Max"
"2015-06-27 18:00:00 -0600",74.12,72.02,75.45,40,30,50
"2015-06-27 18:15:00 -0600",74.12,72.02,75.45,40,30,50
...
```

JSON - Accessed through a GET on the "/transfer/log.json" path. Returns a JSON formatted version of the entire log. The following query string arguments can be used to limit the data requested:

- **"start-time"**: Time from which data should start. Represented as a negative number of seconds from now. E.g. start-time=-900
- **"end-time"**: Time at which data should end. Represented as a negative number of seconds from now. E.g. end-time=-900
- **"data-points":** Number of rows of data to return. Rows are evenly spaced across stored data. If less rows exist than the number requested, all are returned. E.g. data-points=-900
- **"pad":** If true, will add rows of null data for any timestamps for which no data was logged, otherwise these rows are suppressed. E.g. pad=true

/transfer/log.json:


```
{
"status":  "ok",
"dataStart":-9600,
"devices":  [
{
"id":  "110004A3C28203C3",
"name":  "Watchdog  100"
}
],
"labels": [
{
"id": null,
"measurement":  "Timestamp", "path": null
},
{
"id":  "110004A3C28203C3",
"measurement": "Temperature",
"path":  "110004A3C28203C3/entity/0/measurement/0"
},
{
"id":  "110004A3C28203C3",
"measurement": "Humidity",
"path":  "110004A3C28203C3/entity/0/measurement/1"
}
],
"data":  [
[
"2015-06-27 18:00:00  -0600",
[74.12, 72.02, 75.45],
[40,  30,  50]
], [
"2015-06-27 18:15:00  -0600",
[74.12, 72.02, 75.45],
[40,  30,  50]
]
]
}
```

Line Number	Description
2	Will return "ok" if the time period requested by start-time and end-time falls within the available data or if no time period was requested. It will return "insufficient data" if the time period requested is outside of the available data and this will also prevent any data from being returned. It will return "(clock not set)" any time the clock is not set which prevents logging from occurring. In cases where the clock is not set, data is still returned as normal if possible
3	Will return the number of seconds available in the log from the current time. This number will always be negative under normal condition or 0 if the time range cannot be determined (empty log, etc). If the clock is not set, this field will still show the amount of time it has available as though the last recorded time stamp was the current time
4	Contains a mapping between device ID and its label
10	Specifies the column labels and references measurements to device IDs
26	Contains data in the form of one array per row of data. Each of these rows contains a time stamp and series of arrays with all the values (average, min, max) for a measurement. The order of the measurement arrays matches the order of measurement labels

Timestamps for all data retrieval formats form a complete time line from the oldest available data up to the latest. If the host was powered off or a particular device or measurement was unavailable or not yet initialized, timestamps will continue to be shown but data fields will be blank where appropriate. If a device or measurement is unavailable only for parts of a logging period, data will be logged with the available information. If the system clock is moved forward in time, blank data entries will be shown for the missing time period. If the clock is set backwards, new data will not be logged until after the current time is later than the last logged entry. Timestamps are shown in RFC 2822 date format ("YYYY-MM-DD HH:MM:SS -/+oooo") and are always in local time. Entries are stored in GMT and converted to local time when being retrieved.

1.8.4 Event log Download: /transfer/event_log.csv

Downloads a log of recent events in CSV format. This is not processed as a regular API request. The file can be downloaded by performing an HTTP GET on the /transfer/event_log.csv path. Download requires user authentication to be passed in as part of the query string and the user must have administrator privileges. Clearing the event log can be done by sending a "reset" command with a target of "eventLog" on the /api/sys path.

Each line in the event log will be in the form of "time,service,origin,user,command,path,data,status". A description of each field can be found below.

Time	Date and time of the event in GMT timezone.
service	System service through which the event was generated. Can be one of the following: • **web** Web server. • **cli** Command line interface, either through a serial port or SSH. • **snmp12** SNMP version 1 or 2C. • **snmp3** SNMP version 3. • **gdp** Discovery protocol request. • **alarm** Internal alarm system. • **system** System initiated event.
origin	Point of origin of the event. Can be one of the following: • IPv4 or IPv6 address if the event originated on the network. • "serial" if the event originated through the hardware serial port. • "hmi" if the event originated due to a physical user interaction, like pressing buttons on the front of the unit. • "usb" if the event originated due to the addition or removal of USB devices. • Blank in the case of system or alarm events.
user	User that generated the event. If the event is an API request, will show the username that made the request or "guest" if it was an unauthenticated user. If the event is an SNMP request, will show the community string or username depending on protocol version. Otherwise a blank is returned.

command	The operation performed for this event.
path	A reference to which resource was targeted for the even. If the event is an API or SNMP request, it will show the API path being affected by the request. System events show the facility being acted upon. Alarm events will show which destination ID was employed.
data	Any data used when generating the event.
status	Information regarding the outcome of the event. In the case of API requests, this would be a 0 for success or an error code for failures.

Sample event log lines:

```
2019 Sep 25 21:53:22,snmp3,192.168.123.124,writer,set,/api/dev/A28B9F1F851900C3/label
,"My Label",0
2019
 Sep
25 21:53:22,system,,,up,port0,Interface port0 link state changed from missing
to up,
2019 Sep 25 21:53:22,web,10.20.30.153,admin,delete,/api/alarm/trigger/0,"
{""token"":" "F8IHPwJ_gOm_0XyXecrdViEbEDMP70bA"","cmd"":""delete""}",0
2019 Sep 25 21:53:22,alarm,,,trap,0,"tripped,M0001,degraded",
2019 Sep 25 21:53:22,system,,,start,Application,Starting Application,
```

1.8.5 Factory Support Package: /transfer/logs.enc

Downloads an encrypted diagnostic package that can be sent to technical support personnel. This is not processed as a regular API request. The package can be downloaded by performing an HTTP GET on the /transfer/logs.enc path. Downloads require user authentication to be passed in as part of the query string and the user must have administrator privileges.

1.8.6 Firmware Update: /transfer/firmware

Uploads a file that updates the system. This file is signed using an appropriate level of security, and verified before deploying the update. If this verification fails, the system will return an error.

This path does not receive a regular API JSON object. All POSTs to this path are assumed to be an upload command and require user authentication to be passed in as part of the query string and the user must have administrator privileges. Input must be encoded as multipart/form-data with a single component called "file". The actual file name being used is ignored. Output is a regular API JSON response with an error code 0 if the upload was successful or another error code otherwise. Once a file has been successfully uploaded, the unit will reboot with the new version.

Firmware upload files must match the platform and OEM currently running. Downgrading past certain versions is also not supported. Systems running 5.9.0 or later may not be downgraded. Uploading a file that violates these restrictions will return an error.

HTTP header example

```
POST /transfer/firmware?token=12345678 HTTP/1.1
Content-Type: multipart/form-data; boundary=     ABCDEFGHIJKLMNOPQRSTUVWXYZ

----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition: form-data; name="file"; filename="upload.bin" Content-
Type: application/octet-stream

....
```

1.8.7 Provisioner File Upload/Download

Provides paths to upload configuration or firmware files for use with the provisioner tool, at

/transfer/provisioner/file/FILETYPE. Once uploaded, the files may also be downloaded at

/transfer/provisioner/file/FILETYPE/FILENAME. All upload or download operations on this tree require admin authentication. Authentication must either be passed in as part of the query string ("token" or "username"/"password") or as described under provisioner.

Configuration File Upload: /transfer/provisioner/file/config

Uploads a file to use with the provisioner tool. All subsequent provisioner configuration updates should use the file provided. The content of this file should be valid JSON.

The HTTP body is in the form of the multipart form post, with two parts:

- "file", which is a text file of any type. This file must contain valid JSON. Provisioner expects any JSON payload to begin with /api as the root path.
- "filename", which is used to internally identify the file. Can be an empty string. If not provided, filename will default to "config.json".

Abbreviate HTTP POST example

```
POST  /transfer/provisioner/file/config?token=12345678  HTTP/1.1
Content-Type:  multipart/form-data;  boundary=     ABCDEFGHIJKLMNOPQRSTUVWXYZ

----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition:  form-data;  name="filename" myconfig.bin
----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition:  form-data;  name="file";  filename="config.json" Content-
Type:  application/octet-stream

....
```

Configuration File Download: /transfer/provisioner/file/config/FILENAME

Downloads a copy of the currently saved provisioner configuration file. The filename at the end of the path must match the ID in provisioner/file/config. Downloading this file does not remove it from the system.

Firmware File Upload: /transfer/provisioner/file/firmware

Uploads a file to use with the provisioner tool. All subsequent provisioner firmware updates should use the file provided.

The HTTP body is in the form of the multipart form post, with two parts:

- "file", which is the firmware file to be uploaded.
- "filename", which is used to internally identify the file. Can be an empty string. If not provided, filename will default to "firmware.out".

Abbreviate HTTP POST example

```
POST  /transfer/provisioner/file/firmware?token=12345678  HTTP/1.1
```

```
Content-Type:  multipart/form-data;  boundary=     ABCDEFGHIJKLMNOPQRSTUVWXYZ

----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition:  form-data;  name="filename" newfirmware.firmware
----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition:  form-data;  name="file";  filename="firmware.bin" Content-
Type:  application/octet-stream

....
```

Firmware File Download: /transfer/provisioner/file/firmware/FILENAME

Downloads a copy of the currently saved provisioner firmware file. The filename at the end of the path must match the ID in provisioner/file/firmware. Downloading this file does not remove it from the system.

1.8.8 SSL Certificate Upload: /transfer/sslcert

Uploads a custom SSL certificate to replace the default. All subsequent HTTPS requests will use the new certificate, unless a full or partial reset to defaults restores it to the default certificate (see /api/sys).

It requires authentication to be sent in through the query string ("token" or "username"/"password"). The HTTP body is in the form of the multipart form post, with two parts:

- "file", which is an SSL certificate file of either pfx, cer, crt, or pem type. This file must contain the certificate and private key to be used.
- "password", which is needed when the file is password secured. Can be an empty string.

The response will be a standard JSON response with retCode 0 upon success, or 7004 or 7005 on failure. Possible failure conditions include malformed file or insufficient security on the uploaded file.

Abbreviate HTTP POST example

```
POST  /transfer/sslcert?token=12345678  HTTP/1.1
Content-Type:  multipart/form-data;  boundary=     ABCDEFGHIJKLMNOPQRSTUVWXYZ

----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition:  form-data;  name="password" mypassword
----ABCDEFGHIJKLMNOPQRSTUVWXYZ
Content-Disposition:  form-data;  name="file";  filename="cert.pfx" Content-
Type:  application/octet-stream

....
```

1.8.9 License Upload: /transfer/license

Uploads a file that updates the system license. Does not receive a regular API JSON object. All POSTs to this path are assumed to be an upload command and require user authentication to be passed in as part of the query string and the user must have administrator privileges. License packages are encrypted, and not regular JSON files. When a license package is uploaded, it will first be verified. If the package is invalid, unable to enable the correct features, or the file is not matched to the PDU, an error will be returned. Otherwise, a success will be returned, followed by a system restart.

1. /api/sys/label
2. The first IP address (i.e. lowest index value) listed in /api/conf/network/address

2 SNMP

2.1 v5 MIB

The v5 MIB is based on the GEIST-IMD-MIB (GUv3). Nearly all of the OIDs are the same. A few fields (mostly "peak" values) aren't supported, because the hardware doesn't provide them. The v5 MIB has some new fields to support outlet metering and switching.

The v5 MIB is the replacement for the legacy v4 MIB.

2.1.1 Object Identifiers

Section		Details			
Field		OID[Instance]	R/W	Type	Units
deviceInfo					
	productTitle	1.3.6.1.4.1.21239.5.2.1.1[.0]	R	SnmpAdminString	
	productVersion	1.3.6.1.4.1.21239.5.2.1.2[.0]	R	SnmpAdminString	
	productFriendlyName	1.3.6.1.4.1.21239.5.2.1.3[.0]	R	SnmpAdminString	
	productMacAddress	1.3.6.1.4.1.21239.5.2.1.4[.0]	R	MacAddress	
	deviceCount	1.3.6.1.4.1.21239.5.2.1.6[.0]	R	Integer32	
	temperatureUnits	1.3.6.1.4.1.21239.5.2.1.7[.0]	RW	INTEGER	
	productModelNumber	1.3.6.1.4.1.21239.5.2.1.8[.0]	R	SnmpAdminString	
	productPartNumber	1.3.6.1.4.1.21239.5.2.1.9[.0]	R	SnmpAdminString	
	productSerialNumber	1.3.6.1.4.1.21239.5.2.1.10[.0]	R	SnmpAdminString	
	productPlatform	1.3.6.1.4.1.21239.5.2.1.11[.0]	R	SnmpAdminString	
pduMainTable					
	pduMainSerial	1.3.6.1.4.1.21239.5.2.3.1.1.2[.1-.100]	R	DisplayString	
	pduMainName	1.3.6.1.4.1.21239.5.2.3.1.1.3[.1-.100]	R	SnmpAdminString	
	pduMainLabel	1.3.6.1.4.1.21239.5.2.3.1.1.4[.1-.100]	RW	SnmpAdminString	
	pduMainAvail	1.3.6.1.4.1.21239.5.2.3.1.1.5[.1-.100]	R	Gauge32	
	pduMeterType	1.3.6.1.4.1.21239.5.2.3.1.1.6[.1-.100]	R	INTEGER	
	pduTotalName	1.3.6.1.4.1.21239.5.2.3.1.1.7[.1-.100]	R	SnmpAdminString	
	pduTotalLabel	1.3.6.1.4.1.21239.5.2.3.1.1.8[.1-.100]	RW	SnmpAdminString	
	pduTotalRealPower	1.3.6.1.4.1.21239.5.2.3.1.1.9[.1-.100]	R	Gauge32	watts
	pduTotalApparentPower	1.3.6.1.4.1.21239.5.2.3.1.1.10[.1-.100]	R	Gauge32	volt-amps
	pduTotalPowerFactor	1.3.6.1.4.1.21239.5.2.3.1.1.11[.1-.100]	R	Gauge32	%
	pduTotalEnergy	1.3.6.1.4.1.21239.5.2.3.1.1.12[.1-.100]	R	Gauge32	watt-hours
pduPhaseTable					
	pduPhaseName	1.3.6.1.4.1.21239.5.2.3.2.1.2[.1-.100]	R	SnmpAdminString	

Section	Details				
Field		OID[Instance]	R/W	Type	Units
	pduPhaseLabel	1.3.6.1.4.1.21239.5.2.3.2.1.3[.1-.100]	RW	SnmpAdminString	
	pduPhaseVoltage	1.3.6.1.4.1.21239.5.2.3.2.1.4[.1-.100]	R	Gauge32	decivolts (rms)
	pduPhaseVoltageMax	1.3.6.1.4.1.21239.5.2.3.2.1.5[.1-.100]	R	Gauge32	decivolts (rms)
	pduPhaseVoltageMin	1.3.6.1.4.1.21239.5.2.3.2.1.6[.1-.100]	R	Gauge32	decivolts (rms)
	pduPhaseVoltagePeak	1.3.6.1.4.1.21239.5.2.3.2.1.7[.1-.100]	R	Gauge32	decivolts
	pduPhaseCurrent	1.3.6.1.4.1.21239.5.2.3.2.1.8[.1-.100]	R	Gauge32	centiamps (rms)
	pduPhaseCurrentMax	1.3.6.1.4.1.21239.5.2.3.2.1.9[.1-.100]	R	Gauge32	centiamps (rms)
	pduPhaseCurrentMin	1.3.6.1.4.1.21239.5.2.3.2.1.10[.1-.100]	R	Gauge32	centiamps (rms)
	pduPhaseCurrentPeak	1.3.6.1.4.1.21239.5.2.3.2.1.11[.1-.100]	R	Gauge32	centiamps
	pduPhaseRealPower	1.3.6.1.4.1.21239.5.2.3.2.1.12[.1-.100]	R	Gauge32	watts
	pduPhaseApparentPower	1.3.6.1.4.1.21239.5.2.3.2.1.13[.1-.100]	R	Gauge32	volt-amps
	pduPhasePowerFactor	1.3.6.1.4.1.21239.5.2.3.2.1.14[.1-.100]	R	Gauge32	%
	pduPhaseEnergy	1.3.6.1.4.1.21239.5.2.3.2.1.15[.1-.100]	R	Gauge32	watt-hours
pduBreakerTable					
	pduBreakerName	1.3.6.1.4.1.21239.5.2.3.3.1.2[.1-.100]	R	SnmpAdminString	
	pduBreakerLabel	1.3.6.1.4.1.21239.5.2.3.3.1.3[.1-.100]	RW	SnmpAdminString	
	pduBreakerCurrent	1.3.6.1.4.1.21239.5.2.3.3.1.4[.1-.100]	R	Gauge32	centiamps (rms)
	pduBreakerCurrentMax	1.3.6.1.4.1.21239.5.2.3.3.1.5[.1-.100]	R	Gauge32	centiamps (rms)
	pduBreakerCurrentMin	1.3.6.1.4.1.21239.5.2.3.3.1.6[.1-.100]	R	Gauge32	centiamps (rms)
	pduBreakerCurrentPeak	1.3.6.1.4.1.21239.5.2.3.3.1.7[.1-.100]	R	Gauge32	centiamps
	pduBreakerVoltage	1.3.6.1.4.1.21239.5.2.3.3.1.8[.1-.100]	R	Gauge32	decivolts (rms)
	pduBreakerVoltageMax	1.3.6.1.4.1.21239.5.2.3.3.1.9[.1-.100]	R	Gauge32	decivolts (rms)
	pduBreakerVoltageMin	1.3.6.1.4.1.21239.5.2.3.3.1.10[.1-.100]	R	Gauge32	decivolts (rms)
	pduBreakerVoltagePeak	1.3.6.1.4.1.21239.5.2.3.3.1.11[.1-.100]	R	Gauge32	decivolts
	pduBreakerRealPower	1.3.6.1.4.1.21239.5.2.3.3.1.12[.1-.100]	R	Gauge32	watts
	pduBreakerApparentPower	1.3.6.1.4.1.21239.5.2.3.3.1.13[.1-.100]	R	Gauge32	volt-amps
	pduBreakerPowerFactor	1.3.6.1.4.1.21239.5.2.3.3.1.14[.1-.100]	R	Gauge32	%
	pduBreakerEnergy	1.3.6.1.4.1.21239.5.2.3.3.1.15[.1-.100]	R	Gauge32	watt-hours
pduLineTable					
	pduLineName	1.3.6.1.4.1.21239.5.2.3.4.1.2[.1-.100]	R	SnmpAdminString	
	pduLineLabel	1.3.6.1.4.1.21239.5.2.3.4.1.3[.1-.100]	RW	SnmpAdminString	
	pduLineCurrent	1.3.6.1.4.1.21239.5.2.3.4.1.4[.1-.100]	R	Gauge32	centiamps (rms)
	pduLineCurrentMax	1.3.6.1.4.1.21239.5.2.3.4.1.5[.1-.100]	R	Gauge32	centiamps (rms)
	pduLineCurrentMin	1.3.6.1.4.1.21239.5.2.3.4.1.6[.1-.100]	R	Gauge32	centiamps (rms)

Section	Details				
Field		OID[Instance]	R/W	Type	Units
	pduLineCurrentPeak	1.3.6.1.4.1.21239.5.2.3.4.1.7[.1-.100]	R	Gauge32	centiamps
pduOutletSwitchTable					
	pduOutletSwitchName	1.3.6.1.4.1.21239.5.2.3.5.1.2[.1-.100]	R	SnmpAdminString	
	pduOutletSwitchLabel	1.3.6.1.4.1.21239.5.2.3.5.1.3[.1-.100]	RW	SnmpAdminString	
	pduOutletSwitchState	1.3.6.1.4.1.21239.5.2.3.5.1.4[.1-.100]	R	INTEGER	
	pduOutletSwitchRelayFailure	1.3.6.1.4.1.21239.5.2.3.5.1.5[.1-.100]	R	TruthValue	
	pduOutletSwitchControl	1.3.6.1.4.1.21239.5.2.3.5.1.6[.1-.100]	RW	INTEGER	
	pduOutletSwitchTimeToAction	1.3.6.1.4.1.21239.5.2.3.5.1.7[.1-.100]	R	Integer32	
	pduOutletSwitchOnDelay	1.3.6.1.4.1.21239.5.2.3.5.1.8[.1-.100]	RW	Integer32	
	pduOutletSwitchOffDelay	1.3.6.1.4.1.21239.5.2.3.5.1.9[.1-.100]	RW	Integer32	
	pduOutletSwitchRebootDelay	1.3.6.1.4.1.21239.5.2.3.5.1.10[.1-.100]	RW	Integer32	
	pduOutletSwitchRebootHoldDelay	1.3.6.1.4.1.21239.5.2.3.5.1.11[.1-.100]	RW	Integer32	
	pduOutletSwitchPoaAction	1.3.6.1.4.1.21239.5.2.3.5.1.12[.1-.100]	RW	INTEGER	
	pduOutletSwitchPoaDelay	1.3.6.1.4.1.21239.5.2.3.5.1.13[.1-.100]	RW	Integer32	
pduOutletMeterTable					
	pduOutletMeterName	1.3.6.1.4.1.21239.5.2.3.6.1.2[.1-.100]	R	SnmpAdminString	
	pduOutletMeterLabel	1.3.6.1.4.1.21239.5.2.3.6.1.3[.1-.100]	RW	SnmpAdminString	
	pduOutletMeterVoltage	1.3.6.1.4.1.21239.5.2.3.6.1.4[.1-.100]	R	Gauge32	decivolts (rms)
	pduOutletMeterVoltageMax	1.3.6.1.4.1.21239.5.2.3.6.1.5[.1-.100]	R	Gauge32	decivolts (rms)
	pduOutletMeterVoltageMin	1.3.6.1.4.1.21239.5.2.3.6.1.6[.1-.100]	R	Gauge32	decivolts (rms)
	pduOutletMeterVoltagePeak	1.3.6.1.4.1.21239.5.2.3.6.1.7[.1-.100]	R	Gauge32	decivolts
	pduOutletMeterCurrent	1.3.6.1.4.1.21239.5.2.3.6.1.8[.1-.100]	R	Gauge32	centiamps (rms)
	pduOutletMeterCurrentMax	1.3.6.1.4.1.21239.5.2.3.6.1.9[.1-.100]	R	Gauge32	centiamps (rms)
	pduOutletMeterCurrentMin	1.3.6.1.4.1.21239.5.2.3.6.1.10[.1-.100]	R	Gauge32	centiamps (rms)
	pduOutletMeterCurrentPeak	1.3.6.1.4.1.21239.5.2.3.6.1.11[.1-.100]	R	Gauge32	centiamps
	pduOutletMeterRealPower	1.3.6.1.4.1.21239.5.2.3.6.1.12[.1-.100]	R	Gauge32	watts
	pduOutletMeterApparentPower	1.3.6.1.4.1.21239.5.2.3.6.1.13[.1-.100]	R	Gauge32	volt-amps
	pduOutletMeterPowerFactor	1.3.6.1.4.1.21239.5.2.3.6.1.14[.1-.100]	R	Gauge32	%
	pduOutletMeterEnergy	1.3.6.1.4.1.21239.5.2.3.6.1.15[.1-.100]	R	Gauge32	watt-hours
	pduOutletMeterReset	1.3.6.1.4.1.21239.5.2.3.6.1.16[.1-.100]	RW	INTEGER	
tempSensorTable					
	tempSensorSerial	1.3.6.1.4.1.21239.5.2.4.1.2[.1-.100]	R	DisplayString	
	tempSensorLabel	1.3.6.1.4.1.21239.5.2.4.1.3[.1-.100]	RW	SnmpAdminString	
	tempSensorAvail	1.3.6.1.4.1.21239.5.2.4.1.4[.1-.100]	R	Gauge32	

Section		Details			
	Field	OID[Instance]	R/W	Type	Units
	tempSensorTemp	1.3.6.1.4.1.21239.5.2.4.1.5[.1-.100]	R	Integer32	decidegrees
airFlowSensorTable					
	airFlowSensorSerial	1.3.6.1.4.1.21239.5.2.5.1.2[.1-.100]	R	DisplayString	
	airFlowSensorLabel	1.3.6.1.4.1.21239.5.2.5.1.3[.1-.100]	RW	SnmpAdminString	
	airFlowSensorAvail	1.3.6.1.4.1.21239.5.2.5.1.4[.1-.100]	R	Gauge32	
	airFlowSensorTemp	1.3.6.1.4.1.21239.5.2.5.1.5[.1-.100]	R	Integer32	decidegrees
	airFlowSensorFlow	1.3.6.1.4.1.21239.5.2.5.1.6[.1-.100]	R	Integer32	
	airFlowSensorHumidity	1.3.6.1.4.1.21239.5.2.5.1.7[.1-.100]	R	Integer32	%
	airFlowSensorDewPoint	1.3.6.1.4.1.21239.5.2.5.1.8[.1-.100]	R	Integer32	decidegrees
t3hdSensorTable					
	t3hdSensorSerial	1.3.6.1.4.1.21239.5.2.8.1.2[.1-.100]	R	DisplayString	
	t3hdSensorLabel	1.3.6.1.4.1.21239.5.2.8.1.3[.1-.100]	RW	SnmpAdminString	
	t3hdSensorAvail	1.3.6.1.4.1.21239.5.2.8.1.4[.1-.100]	R	Gauge32	
	t3hdSensorIntLabel	1.3.6.1.4.1.21239.5.2.8.1.5[.1-.100]	RW	SnmpAdminString	
	t3hdSensorIntTemp	1.3.6.1.4.1.21239.5.2.8.1.6[.1-.100]	R	Integer32	decidegrees
	t3hdSensorIntHumidity	1.3.6.1.4.1.21239.5.2.8.1.7[.1-.100]	R	Integer32	%
	t3hdSensorIntDewPoint	1.3.6.1.4.1.21239.5.2.8.1.8[.1-.100]	R	Integer32	decidegrees
	t3hdSensorExtAAvail	1.3.6.1.4.1.21239.5.2.8.1.9[.1-.100]	R	Gauge32	
	t3hdSensorExtALabel	1.3.6.1.4.1.21239.5.2.8.1.10[.1-.100]	RW	SnmpAdminString	
	t3hdSensorExtATemp	1.3.6.1.4.1.21239.5.2.8.1.11[.1-.100]	R	Integer32	decidegrees
	t3hdSensorExtBAvail	1.3.6.1.4.1.21239.5.2.8.1.12[.1-.100]	R	Gauge32	
	t3hdSensorExtBLabel	1.3.6.1.4.1.21239.5.2.8.1.13[.1-.100]	RW	SnmpAdminString	
	t3hdSensorExtBTemp	1.3.6.1.4.1.21239.5.2.8.1.14[.1-.100]	R	Integer32	decidegrees
thdSensorTable					
	thdSensorSerial	1.3.6.1.4.1.21239.5.2.9.1.2[.1-.100]	R	DisplayString	
	thdSensorLabel	1.3.6.1.4.1.21239.5.2.9.1.3[.1-.100]	RW	SnmpAdminString	
	thdSensorAvail	1.3.6.1.4.1.21239.5.2.9.1.4[.1-.100]	R	Gauge32	
	thdSensorTemp	1.3.6.1.4.1.21239.5.2.9.1.5[.1-.100]	R	Integer32	decidegrees
	thdSensorHumidity	1.3.6.1.4.1.21239.5.2.9.1.6[.1-.100]	R	Integer32	%
	thdSensorDewPoint	1.3.6.1.4.1.21239.5.2.9.1.7[.1-.100]	R	Integer32	decidegrees
a2dSensorTable					
	a2dSensorSerial	1.3.6.1.4.1.21239.5.2.11.1.2[.1-.100]	R	DisplayString	
	a2dSensorLabel	1.3.6.1.4.1.21239.5.2.11.1.3[.1-.100]	RW	SnmpAdminString	
	a2dSensorAvail	1.3.6.1.4.1.21239.5.2.11.1.4[.1-.100]	R	Gauge32	

Section	Field	Details OID[Instance]	R/W	Type	Units
	a2dSensorValue	1.3.6.1.4.1.21239.5.2.11.1.5[.1-.100]	R	Integer32	
	a2dSensorDisplayValue	1.3.6.1.4.1.21239.5.2.11.1.6[.1-.100]	R	SnmpAdminString	
	a2dSensorMode	1.3.6.1.4.1.21239.5.2.11.1.7[.1-.100]	RW	INTEGER	
	a2dSensorUnits	1.3.6.1.4.1.21239.5.2.11.1.8[.1-.100]	RW	SnmpAdminString	
	a2dSensorMin	1.3.6.1.4.1.21239.5.2.11.1.9[.1-.100]	RW	Integer32	
	a2dSensorMax	1.3.6.1.4.1.21239.5.2.11.1.10[.1-.100]	RW	Integer32	
	a2dSensorLowLabel	1.3.6.1.4.1.21239.5.2.11.1.11[.1-.100]	RW	SnmpAdminString	
	a2dSensorHighLabel	1.3.6.1.4.1.21239.5.2.11.1.12[.1-.100]	RW	SnmpAdminString	
	a2dSensorAnalogLabel	1.3.6.1.4.1.21239.5.2.11.1.13[.1-.100]	RW	SnmpAdminString	
humiditySensorTable					
	humiditySensorSerial	1.3.6.1.4.1.21239.5.2.12.1.2[.1-.100]	R	DisplayString	
	humiditySensorLabel	1.3.6.1.4.1.21239.5.2.12.1.3[.1-.100]	RW	SnmpAdminString	
	humiditySensorAvail	1.3.6.1.4.1.21239.5.2.12.1.4[.1-.100]	R	Gauge32	
	humiditySensorValue	1.3.6.1.4.1.21239.5.2.12.1.5[.1-.100]	R	Integer32	
trapObj					
	trapSeverity	1.3.6.1.4.1.21239.5.2.32767.1.1[.0]	T	INTEGER	
	trapThreshType	1.3.6.1.4.1.21239.5.2.32767.1.2[.0]	T	INTEGER	

VERTIV-V5-MIB_deviceInfo

General Device Information OIDs

productTitle

OID/Instance	1.3.6.1.4.1.21239.5.2.1.1 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	Product name

productVersion

OID/Instance	1.3.6.1.4.1.21239.5.2.1.2 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	Product version

productFriendlyName

OID/Instance	1.3.6.1.4.1.21239.5.2.1.3 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	User-assigned name

productMacAddress

OID/Instance	1.3.6.1.4.1.21239.5.2.1.4 [.0]
Type/Units	MacAddress
Access	read-only
Description	Product's unique MAC address

deviceCount

OID/Instance	1.3.6.1.4.1.21239.5.2.1.6 [.0]
Type/Units	Integer32, 0 to 16
Access	read-only
Description	Total number of devices on unit

temperatureUnits

OID/Instance	1.3.6.1.4.1.21239.5.2.1.7 [.0]
Type/Units	INTEGER { fahrenheit(0), celsius(1) }
Access	read-write
Description	Current units for temperature/dewpoint values:0 = Degrees Fahrenheit1 = Degrees Celsius

productModelNumber

OID/Instance	1.3.6.1.4.1.21239.5.2.1.8 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	Product model number (factory-assigned)

productPartNumber

OID/Instance	1.3.6.1.4.1.21239.5.2.1.9 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	Product part number (factory-assigned)

productSerialNumber

OID/Instance	1.3.6.1.4.1.21239.5.2.1.10 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	Product serial number (factory-assigned)

productPlatform

OID/Instance	1.3.6.1.4.1.21239.5.2.1.11 [.0]
Type/Units	SnmpAdminString
Access	read-only
Description	Product platform

VERTIV-V5-MIB_pduMainTable

PDU general information

pduMainSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only
Description	Serial number

pduMainName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.3 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-only
Description	PDU name (factory-assigned)

pduMainLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.4 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	PDU label (user-defined)

pduMainAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.5 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability:0 = Unavailable1 = Available2 = Partially Unavailable

pduMeterType

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.6 [.1-.100]
Type/Units	INTEGER { wye(0), delta(1) }
Access	read-only
Description	Current meter type:0 = Wye1 = Delta

pduTotalName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.7 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-only
Description	Total name (factory-assigned)

pduTotalLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.8 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	Total label (user-defined)

pduTotalRealPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.9 [.1-.100]
Type/Units	Gauge32, 0 to 9999, watts
Access	read-only
Description	PDU total real power

pduTotalApparentPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.10 [.1-.100]
Type/Units	Gauge32, 0 to 9999, volt-amps
Access	read-only
Description	PDU total apparent power

pduTotalPowerFactor

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.11 [.1-.100]
Type/Units	Gauge32, 0 to 100, %
Access	read-only
Description	PDU total power factor

pduTotalEnergy

OID/Instance	1.3.6.1.4.1.21239.5.2.3.1.1.12 [.1-.100]
Type/Units	Gauge32, 0 to 9999000, watt-hours
Access	read-only

Description	PDU total accumulated energy in watt-hours

VERTIV-V5-MIB_pduPhaseTable

PDU phases information

pduPhaseName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.2 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-only
Description	PDU phase name (factory-assigned)

pduPhaseLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.3 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-write
Description	PDU phase label (user-defined)

pduPhaseVoltage

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.4 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	PDU phase voltage in tenths of a volt

pduPhaseVoltageMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.5 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	Highest RMS voltage measured on this phase, since power-up or last reset. The value is given in tenths of a volt.

pduPhaseVoltageMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.6 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	Lowest RMS voltage measured on this phase, since power-up or last reset. The value is given in tenths of a volt.

pduPhaseVoltagePeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.7 [.1-.100]
Type/Units	Gauge32, 0 to 4400, decivolts
Access	read-only

Description	Highest instantaneous voltage measured on this phase, since power-up or last reset. The value is given in tenths of a volt. This object may not exist on all platforms, due to hardware differences.

pduPhaseCurrent

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.8 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	PDU phase current reading in hundreths of an amp

pduPhaseCurrentMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.9 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Highest RMS current measured on this phase, since power-up or last reset. The value is given in hundreths of an amp.

pduPhaseCurrentMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.10 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Lowest RMS current measured on this phase, since power-up or last reset. The value is given in hundreths of an amp.

pduPhaseCurrentPeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.11 [.1-.100]
Type/Units	Gauge32, 0 to 15000, centiamps
Access	read-only
Description	Highest instantaneous current measured on this phase, since power-up or last reset. The value is given in hundreths of an amp. This object may not exist on all platforms, due to hardware differences.

pduPhaseRealPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.12 [.1-.100]
Type/Units	Gauge32, 0 to 9999, watts
Access	read-only
Description	Real power for phase in watts

pduPhaseApparentPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.13 [.1-.100]
Type/Units	Gauge32, 0 to 9999, volt-amps
Access	read-only
Description	Apparent power for phase in volt-amps

pduPhasePowerFactor

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.14 [.1-.100]
Type/Units	Gauge32, 0 to 100, %
Access	read-only
Description	Power factor for phase

pduPhaseEnergy

OID/Instance	1.3.6.1.4.1.21239.5.2.3.2.1.15 [.1-.100]
Type/Units	Gauge32, 0 to 9999000, watt-hours
Access	read-only
Description	Accumulated energy for phase in watt-hours

VERTIV-V5-MIB_pduBreakerTable

PDU breaker information

pduBreakerName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.2 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-only
Description	PDU breaker name (factory-assigned)

pduBreakerLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	PDU breaker label (user-defined)

pduBreakerCurrent

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.4 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	PDU breaker current reading in hundreths of an amp

pduBreakerCurrentMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.5 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Highest RMS current measured on this breaker, since power-up or last reset. The value is given in hundreths of an amp.

pduBreakerCurrentMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.6 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Lowest RMS current measured on this breaker, since power-up or last reset. The value is given in hundreths of an amp.

pduBreakerCurrentPeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.7 [.1-.100]
Type/Units	Gauge32, 0 to 15000, centiamps
Access	read-only
Description	Highest instantaneous current measured on this breaker, since power-up or last reset. The value is given in hundreths of an amp. This object may not exist on all platforms, due to hardware differences.

pduBreakerVoltage

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.8 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	PDU breaker voltage in tenths of a volt. This object may not exist on all platforms, due to hardware differences.

pduBreakerVoltageMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.9 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	Highest RMS voltage measured on this breaker, since power-up or last reset. The value is given in tenths of a volt. This object may not exist on all platforms, due to hardware differences.

pduBreakerVoltageMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.10 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only

Description	Lowest RMS voltage measured on this breaker, since power-up or last reset. The value is given in tenths of a volt. This object may not exist on all platforms, due to hardware differences.

pduBreakerVoltagePeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.11 [.1-.100]
Type/Units	Gauge32, 0 to 4400, decivolts
Access	read-only
Description	Highest instantaneous voltage measured on this breaker, since power-up or last reset. The value is given in tenths of a volt. This object may not exist on all platforms, due to hardware differences.

pduBreakerRealPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.12 [.1-.100]
Type/Units	Gauge32, 0 to 9999, watts
Access	read-only
Description	Real power for breaker in watts. This object may not exist on all platforms, due to hardware differences.

pduBreakerApparentPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.13 [.1-.100]
Type/Units	Gauge32, 0 to 9999, volt-amps
Access	read-only
Description	Apparent power for breaker in volt-amps. This object may not exist on all platforms, due to hardware differences.

pduBreakerPowerFactor

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.14 [.1-.100]
Type/Units	Gauge32, 0 to 100, %
Access	read-only
Description	Power factor for breaker. This object may not exist on all platforms, due to hardware differences.

pduBreakerEnergy

OID/Instance	1.3.6.1.4.1.21239.5.2.3.3.1.15 [.1-.100]
Type/Units	Gauge32, 0 to 9999000, watt-hours
Access	read-only
Description	Accumulated energy for breaker in watt-hours. This object may not exist on all platforms, due to hardware differences.

VERTIV-V5-MIB_pduLineTable

PDU line current information

pduLineName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.4.1.2 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-only
Description	PDU line name (factory-assigned)

pduLineLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.4.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	PDU line label (user-defined)

pduLineCurrent

OID/Instance	1.3.6.1.4.1.21239.5.2.3.4.1.4 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	PDU line current reading in hundreths of an amp

pduLineCurrentMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.4.1.5 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Highest RMS current measured on this line, since power-up or last reset. The value is given in hundreths of an amp.

pduLineCurrentMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.4.1.6 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Lowest RMS current measured on this line, since power-up or last reset. The value is given in hundreths of an amp.

pduLineCurrentPeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.4.1.7 [.1-.100]
Type/Units	Gauge32, 0 to 15000, centiamps
Access	read-only

Description	Highest instantaneous current measured on this line, since power-up or last reset. The value is given in hundreths of an amp. This object may not exist on all platforms, due to hardware differences.

VERTIV-V5-MIB_pduOutletSwitchTable

Data, config and control for outlets with switching

pduOutletSwitchName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.2 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-only
Description	PDU outlet name (factory-assigned)

pduOutletSwitchLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	PDU outlet label (user-defined)

pduOutletSwitchState

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.4 [.1-.100]
Type/Units	INTEGER { on(1), off(2), on2off(3), off2on(4), rebootOn(5), rebootOff(6), unavailable(7) }
Access	read-only
Description	Switch state of the outlet: 1 = Outlet is on, 2 = Outlet is off, 3 = Outlet is on, but will turn off after a delay, 4 = Outlet is off, but will turn on after a delay, 5 = Starting reboot cycle, outlet is on, but will go to the rebootOff(6) state after a delay, ,6 = Rebooting, outlet is off, but it will turn on after a delay, 7 = Cannot get outlet state

pduOutletSwitchRelayFailure

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.5 [.1-.100]
Type/Units	TruthValue
Access	read-only
Description	Tells if the outlet relay has failed. In normal operation, the value will be false(2).

pduOutletSwitchControl

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.6 [.1-.100]
Type/Units	INTEGER { cancel(1), on(2), onAfterDelay(3), off(4), offAfterDelay(5), reboot(6), rebootAfterDelay(7), none(8) }
Access	read-write
Description	Used for manual control of the outlet. If the outlet is in manual mode, this field can be set to one of the following values:

	1 = Cancel pending operation, 2 = Turn outlet on, 3 = After delay (pduOutletSwitchOnDelay), turn outlet on, 4 = Turn outlet off, 5 = After delay (pduOutletSwitchOffDelay), turn outlet off, 6 = Reboot: turn off, delay (pduOutletSwitchRebootHoldDelay), turn outlet back on, 7 = After delay (pduOutletSwitchRebootDelay), reboot outletWhen not in manual mode, setting this field will give an inconsistentValue error. Returns none(8) for all get requests.

pduOutletSwitchTimeToAction

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.7 [.1-.100]
Type/Units	Integer32, 0 to 600
Access	read-only
Description	Seconds until an outlet state change. The value of pduOutletSwitchState tells what state the outlet will be set, after the delay.

pduOutletSwitchOnDelay

OID/In3stance	1.3.6.1.4.1.21239.5.2.3.5.1.8 [.1-.100]
Type/Units	Integer32, 0 to 600
Access	read-write
Description	Seconds to wait before powering on the outlet, during onAfterDelay(3) operation. Changing this value has no effect on pending actions.

pduOutletSwitchOffDelay

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.9 [.1-.100]
Type/Units	Integer32, 0 to 600
Access	read-write
Description	Seconds to wait before powering off the outlet, during offAfterDelay(5) operation. Changing this value has no effect on pending actions.

pduOutletSwitchRebootDelay

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.10 [.1-.100]
Type/Units	Integer32, 0 to 600
Access	read-write
Description	Seconds to wait before powering off the outlet, during rebootAfterDelay(7) operation. Changing this value has no effect on pending actions. See pduOutletSwitchControl for more info.

pduOutletSwitchRebootHoldDelay

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.11 [.1-.100]
Type/Units	Integer32, 0 to 600
Access	read-write
Description	Seconds to hold the outlet off, before powering on the outlet, during rebootAfterDelay(7) operation. Changing this value has no effect on pending actions. See pduOutletSwitchControl for more info.

pduOutletSwitchPoaAction

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.12 [.1-.100]
Type/Units	INTEGER { on(1), off(2), last(3) }
Access	read-write
Description	The outlet is set to this state during power-up. The action can be have one the following values:1 = Outlet will be turned on2 = Outlet will stay off3 = Outlet will be set to last known state

pduOutletSwitchPoaDelay

OID/Instance	1.3.6.1.4.1.21239.5.2.3.5.1.13 [.1-.100]
Type/Units	Integer32, 0 to 600
Access	read-write
Description	Seconds to wait before setting the outlet to the pduOutletSwitchPoaAction state. The delay starts at power-up.

VERTIV-V5-MIB_pduOutletMeterTable

Metering data for outlets that support this feature

pduOutletMeterName

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.2 [.1-.100]
Type/Units	SnmpAdminString, 1 to 25
Access	read-only
Description	PDU outlet name (factory-assigned)

pduOutletMeterLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	PDU outlet label (user-defined)

pduOutletMeterVoltage

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.4 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	PDU outlet voltage in tenths of a volt

pduOutletMeterVoltageMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.5 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	Highest RMS voltage measured on this outlet, since power-up or last reset. The value is given in tenths of a volt.

pduOutletMeterVoltageMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.6 [.1-.100]
Type/Units	Gauge32, 0 to 3100, decivolts (rms)
Access	read-only
Description	Lowest RMS voltage measured on this outlet, since power-up or last reset. The value is given in tenths of a volt.

pduOutletMeterVoltagePeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.7 [.1-.100]
Type/Units	Gauge32, 0 to 4400, decivolts
Access	read-only
Description	Highest instantaneous voltage measured on this outlet, since power-up or last reset. The value is given in tenths of a volt.

pduOutletMeterCurrent

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.8 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	PDU outlet current reading in hundreths of an amp

pduOutletMeterCurrentMax

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.9 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Highest RMS current measured on this outlet, since power-up or last reset. The value is given in hundreths of an amp.

pduOutletMeterCurrentMin

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.10 [.1-.100]
Type/Units	Gauge32, 0 to 9900, centiamps (rms)
Access	read-only
Description	Lowest RMS current measured on this outlet, since power-up or last reset. The value is given in hundreths of an amp.

pduOutletMeterCurrentPeak

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.11 [.1-.100]
Type/Units	Gauge32, 0 to 15000, centiamps
Access	read-only
Description	Highest instantaneous current measured on this outlet, since power-up or last reset. The value is given in hundreths of an amp. This object may not exist on all platforms, due to hardware differences.

pduOutletMeterRealPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.12 [.1-.100]
Type/Units	Gauge32, 0 to 9999, watts
Access	read-only
Description	Real power for outlet in watts

pduOutletMeterApparentPower

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.13 [.1-.100]
Type/Units	Gauge32, 0 to 9999, volt-amps
Access	read-only
Description	Apparent power for outlet in volt-amps

pduOutletMeterPowerFactor

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.14 [.1-.100]
Type/Units	Gauge32, 0 to 100, %
Access	read-only
Description	Power factor for outlet

pduOutletMeterEnergy

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.15 [.1-.100]
Type/Units	Gauge32, 0 to 9999000, watt-hours
Access	read-only
Description	Accumulated energy for outlet in watt-hours

pduOutletMeterReset

OID/Instance	1.3.6.1.4.1.21239.5.2.3.6.1.16 [.1-.100]
Type/Units	INTEGER { resetEnergy(1), resetMinMax(2), none(8) }
Access	read-write
Description	Used to reset energy and min/max values. If read, the value is none (8). It can be set to one of the following values:1 = Reset outlet energy to 02 = Reset min, max, and peak to present current and voltage readings

VERTIV-V5-MIB_tempSensorTable

Remote Temperature (RT) sensor

tempSensorSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.4.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only

Description	Serial number

tempSensorLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.4.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	User-defined label

tempSensorAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.4.1.4 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability:0 = Unavailable1 = Available2 = Partially Unavailable

tempSensorTemp

OID/Instance	1.3.6.1.4.1.21239.5.2.4.1.5 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Temperature in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

VERTIV-V5-MIB_airFlowSensorTable

Remote Airflow, Humidity, Temperature and Dewpoint (AFHT3) Sensor

airFlowSensorSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only
Description	Serial number

airFlowSensorLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	User-defined label

airFlowSensorAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.4 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability: 0 = Unavailable 1 = Available 2 = Partially Unavailable

airFlowSensorTemp

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.5 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Temperature reading in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

airFlowSensorFlow

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.6 [.1-.100]
Type/Units	Integer32, 0 to 100
Access	read-only
Description	Airflow reading. Still air will be less than 20, while rushing air will be around 100.

airFlowSensorHumidity

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.7 [.1-.100]
Type/Units	Integer32, 0 to 100, %
Access	read-only
Description	Humidity reading

airFlowSensorDewPoint

OID/Instance	1.3.6.1.4.1.21239.5.2.5.1.8 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Dewpoint reading in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

VERTIV-V5-MIB_t3hdSensorTable

Remote Temperature x 3, Humidity and Dewpoint Sensor

t3hdSensorSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only
Description	Serial number

t3hdSensorLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	User-defined label

t3hdSensorAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.4 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability:0 = Unavailable1 = Available2 = Partially Unavailable

t3hdSensorIntLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.5 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	Internal label (user-defined)

t3hdSensorIntTemp

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.6 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Internal temperature in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

t3hdSensorIntHumidity

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.7 [.1-.100]
Type/Units	Integer32, 0 to 100, %
Access	read-only
Description	Internal humidity

t3hdSensorIntDewPoint

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.8 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Internal dewpoint in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

t3hdSensorExtAAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.9 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	External A status:0 = Unavailable1 = Available

t3hdSensorExtALabel

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.10 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	External A label (user-defined)

t3hdSensorExtATemp

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.11 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	External A temperature in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

t3hdSensorExtBAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.12 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	External B status:0 = Unavailable1 = Available

t3hdSensorExtBLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.13 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	External B label (user-defined)

t3hdSensorExtBTemp

OID/Instance	1.3.6.1.4.1.21239.5.2.8.1.14 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	External B temperature in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

VERTIV-V5-MIB_thdSensorTable

Remote Temperature, Humidity, and Dewpoint (THD) Sensor.

thdSensorSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.9.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only
Description	Serial number

thdSensorLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.9.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	User-defined label

thdSensorAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.9.1.4 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability:0 = Unavailable1 = Available2 = Partially Unavailable

thdSensorTemp

OID/Instance	1.3.6.1.4.1.21239.5.2.9.1.5 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Temperature value in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

thdSensorHumidity

OID/Instance	1.3.6.1.4.1.21239.5.2.9.1.6 [.1-.100]
Type/Units	Integer32, 0 to 100, %
Access	read-only
Description	Humidity value

thdSensorDewPoint

OID/Instance	1.3.6.1.4.1.21239.5.2.9.1.7 [.1-.100]
Type/Units	Integer32, -400 to 2540, decidegrees
Access	read-only
Description	Dewpoint value in tenths of a degree. Units are given by temperatureUnits field in deviceInfo.

VERTIV-V5-MIB_a2dSensorTable

Analog measurement (A2D) sensor (voltage, current, or dry-contact)

a2dSensorSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only
Description	Serial number

a2dSensorLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	User-defined label

a2dSensorAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.4 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability:0 = Unavailable1 = Available2 = Partially Unavailable

a2dSensorValue

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.5 [.1-.100]
Type/Units	Integer32, -1000000 to 1000000
Access	read-only
Description	Analog measurement value, within either a user-defined or preset range, depending on a2dSensorMode.

a2dSensorDisplayValue

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.6 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-only

Description	For current/voltage modes, the analog value is given as a string. In binary modes, the value is either a2dSensorLowLabel or a2dSensorHighLabel, based on a2dSensorValue.

a2dSensorMode

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.7 [.1-.100]
Type/Units	INTEGER { door(1), customBinary(10), customCurrent(11), powerFailure(2), flood(3), wscLeak(4), wscFault(5), smoke(6), ivsNegGnd(7), ivsPosGnd(8), customVoltage(9) }
Access	read-write
Description	Binary modes have two states represented by the values 0 (low) or 1 (high). These correspond to a2dSensorLowLabel and a2dSensorHighLabel. Current and voltage modes provide a scaled value from a2dSensorMin to a2dSensorMax. Analog modes: 1 = Door (binary) 2 = Power failure (binary) 3 = Flood (binary) 4 = Water-sensing cable leak (binary) 5 = Water-sensing cable fault (binary) 6 = Smoke alarm (binary) 7 = Isolated voltage negative ground (voltage) 8 = Isolated voltage positive ground (voltage) 9 = Custom voltage (voltage) 10 = Custom binary (binary) 11 = Custom current (current)

a2dSensorUnits

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.8 [.1-.100]
Type/Units	SnmpAdminString, 0 to 7
Access	read-write
Description	The units for the analog value. If a2dSensorMode is customVoltage (9) or customCurrent(11), then this field has a user-defined value. Otherwise, the value is fixed, based on mode.

a2dSensorMin

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.9 [.1-.100]
Type/Units	Integer32, -1000000 to 1000000
Access	read-write
Description	Minimum analog value, given as an integer. The analog measurement is scaled to the range a2dSensorMin to a2dSensorMax. If a2dSensorMode is customVoltage(9) or customCurrent(11), then this field has a user-defined value. Otherwise, the value is fixed, based on mode.

a2dSensorMax

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.10 [.1-.100]
Type/Units	Integer32, -1000000 to 1000000
Access	read-write
Description	Maximum analog value, given as an integer. The analog measurement is scaled to the range a2dSensorMin to a2dSensorMax. If a2dSensorMode is customVoltage(9) or customCurrent(11), then this field has a user-defined value. Otherwise, the value is fixed, based on mode.

a2dSensorLowLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.11 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	Label for 0 (low) binary value. This field is only applicable if a2dSensorMode is one of the binary modes. If a2dSensorMode is customBinary(10), then this field is user-defined. Otherwise, it has a pre-defined value based on the mode.

a2dSensorHighLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.12 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	Label for 1 (high) binary value. The field is only applicable if a2dSensorMode is one of the binary modes. If a2dSensorMode is customBinary(10), then this field is user-defined. Otherwise, it has a pre-defined value based on the mode.

a2dSensorAnalogLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.11.1.13 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	Label for the analog measurement

VERTIV-V5-MIB_humiditySensorTable

Remote humidity sensor

humiditySensorSerial

OID/Instance	1.3.6.1.4.1.21239.5.2.12.1.2 [.1-.100]
Type/Units	DisplayString
Access	read-only
Description	Serial number

humiditySensorLabel

OID/Instance	1.3.6.1.4.1.21239.5.2.12.1.3 [.1-.100]
Type/Units	SnmpAdminString, 0 to 25
Access	read-write
Description	User-defined label

humiditySensorAvail

OID/Instance	1.3.6.1.4.1.21239.5.2.12.1.4 [.1-.100]
Type/Units	Gauge32
Access	read-only
Description	Device availability:0 = Unavailable1 = Available2 = Partially Unavailable

humiditySensorValue

OID/Instance	1.3.6.1.4.1.21239.5.2.12.1.5 [.1-.100]
Type/Units	Integer32, 0 to 100
Access	read-only
Description	Humidity value

VERTIV-V5-MIB_trapObj

Trap payload only OIDs

trapSeverity

OID/Instance	1.3.6.1.4.1.21239.5.2.32767.1.1 [.0]
Type/Units	INTEGER { none(0), warning(1), alarm(2) }
Access	accessible-for-notify
Description	Indicates the severity of the trap: 0 = None 1 = Warning 2 = Alarm

trapThreshType

OID/Instance	1.3.6.1.4.1.21239.5.2.32767.1.2 [.0]
Type/Units	INTEGER { low(1), high(2) }
Access	accessible-for-notify
Description	Only sent for threshold alarms. Identifies the threshold type: 1 = Low 2 = High

2.1.2 Traps

v5 devices send a "*NOTIFY*" trap when an alarm triggers. If the alarm condition persists, the system can be configured to send additional "*NOTIFY*" traps. When the alarm clears, a single "*CLEAR*" trap is sent.

There are two type of alarm triggers: threshold and state. A "*threshold*" alarm triggers when a sensor reading crosses a threshold value. An abnormal device state is what triggers a "*state*" alarm.

The v5 MIB has a "*NOTIFY*" and "*CLEAR*" trap for each table sensor value and each device state. These traps are named for the trigger field (value or state), followed by "*NOTIFY*" or "*CLEAR*". For example, the trap names for Remote Temperature "*state*" would be: tempSensorAvailNOTIFY and tempSensorAvailCLEAR. There is one additional trap, internalTestNOTIFY, that's sent as a test trap.

Name	OID	Var-Binds
internalTestNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10101	
pduMainAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10305	pduMainAvail, trapSeverity, sysName, pduMainLabel
pduMainAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20305	pduMainAvail, trapSeverity, sysName, pduMainLabel
pduTotalRealPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10309	pduTotalRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalRealPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20309	pduTotalRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalApparentPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10310	pduTotalApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalApparentPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20310	pduTotalApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalPowerFactorNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10311	pduTotalPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalPowerFactorCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20311	pduTotalPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalEnergyNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10312	pduTotalEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduTotalEnergyCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20312	pduTotalEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
pduPhaseVoltageNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10324	pduPhaseVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseVoltageCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20324	pduPhaseVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseVoltageMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10325	pduPhaseVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseVoltageMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20325	pduPhaseVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseVoltageMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10326	pduPhaseVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseVoltageMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20326	pduPhaseVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseVoltagePeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10327	pduPhaseVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel

Name	OID	Var-Binds
pduPhaseVoltagePeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20327	pduPhaseVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10328	pduPhaseCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20328	pduPhaseCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10329	pduPhaseCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20329	pduPhaseCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10330	pduPhaseCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20330	pduPhaseCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentPeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10331	pduPhaseCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseCurrentPeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20331	pduPhaseCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseRealPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10332	pduPhaseRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseRealPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20332	pduPhaseRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseApparentPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10333	pduPhaseApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseApparentPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20333	pduPhaseApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhasePowerFactorNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10334	pduPhasePowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhasePowerFactorCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20334	pduPhasePowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseEnergyNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10335	pduPhaseEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduPhaseEnergyCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20335	pduPhaseEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
pduBreakerCurrentNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10354	pduBreakerCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerCurrentCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20354	pduBreakerCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerCurrentMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10355	pduBreakerCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerCurrentMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20355	pduBreakerCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerCurrentMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10356	pduBreakerCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel

Name	OID	Var-Binds
pduBreakerCurrentMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20356	pduBreakerCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerCurrentPeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10357	pduBreakerCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerCurrentPeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20357	pduBreakerCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltageNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10358	pduBreakerVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltageCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20358	pduBreakerVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltageMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10359	pduBreakerVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltageMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20359	pduBreakerVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltageMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10360	pduBreakerVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltageMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20360	pduBreakerVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltagePeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10361	pduBreakerVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerVoltagePeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20361	pduBreakerVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerRealPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10362	pduBreakerRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerRealPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20362	pduBreakerRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerApparentPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10363	pduBreakerApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerApparentPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20363	pduBreakerApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerPowerFactorNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10364	pduBreakerPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerPowerFactorCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20364	pduBreakerPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerEnergyNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10365	pduBreakerEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduBreakerEnergyCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20365	pduBreakerEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
pduLineCurrentNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10374	pduLineCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduLineCurrentCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20374	pduLineCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduLineCurrentMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10375	pduLineCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel

Name	OID	Var-Binds
pduLineCurrentMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20375	pduLineCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduLineCurrentMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10376	pduLineCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduLineCurrentMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20376	pduLineCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduLineCurrentPeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10377	pduLineCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduLineCurrentPeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20377	pduLineCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
pduOutletMeterVoltageNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10385	pduOutletMeterVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltageCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20385	pduOutletMeterVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltageMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10386	pduOutletMeterVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltageMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20386	pduOutletMeterVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltageMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10387	pduOutletMeterVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltageMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20387	pduOutletMeterVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltagePeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10388	pduOutletMeterVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterVoltagePeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20388	pduOutletMeterVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10389	pduOutletMeterCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20389	pduOutletMeterCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentMaxNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10390	pduOutletMeterCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentMaxCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20390	pduOutletMeterCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentMinNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10391	pduOutletMeterCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentMinCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20391	pduOutletMeterCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentPeakNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10392	pduOutletMeterCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterCurrentPeakCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20392	pduOutletMeterCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterRealPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10393	pduOutletMeterRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel

Name	OID	Var-Binds
pduOutletMeterRealPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20393	pduOutletMeterRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterApparentPowerNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10394	pduOutletMeterApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterApparentPowerCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20394	pduOutletMeterApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterPowerFactorNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10395	pduOutletMeterPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterPowerFactorCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20395	pduOutletMeterPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterEnergyNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10396	pduOutletMeterEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
pduOutletMeterEnergyCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20396	pduOutletMeterEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
tempSensorAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10404	tempSensorAvail, trapSeverity, sysName, tempSensorLabel
tempSensorAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20404	tempSensorAvail, trapSeverity, sysName, tempSensorLabel
tempSensorTempNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10405	tempSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, tempSensorLabel
tempSensorTempCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20405	tempSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, tempSensorLabel
airFlowSensorAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10504	airFlowSensorAvail, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20504	airFlowSensorAvail, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorTempNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10505	airFlowSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorTempCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20505	airFlowSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorFlowNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10506	airFlowSensorFlow, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorFlowCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20506	airFlowSensorFlow, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorHumidityNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10507	airFlowSensorHumidity, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorHumidityCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20507	airFlowSensorHumidity, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorDewPointNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10508	airFlowSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
airFlowSensorDewPointCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20508	airFlowSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
t3hdSensorAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10804	t3hdSensorAvail, trapSeverity, sysName, t3hdSensorLabel
t3hdSensorAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20804	t3hdSensorAvail, trapSeverity, sysName, t3hdSensorLabel
t3hdSensorIntTempNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10806	t3hdSensorIntTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel

Name	OID	Var-Binds
t3hdSensorIntTempCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20806	t3hdSensorIntTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
t3hdSensorIntHumidityNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10807	t3hdSensorIntHumidity, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
t3hdSensorIntHumidityCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20807	t3hdSensorIntHumidity, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
t3hdSensorIntDewPointNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10808	t3hdSensorIntDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
t3hdSensorIntDewPointCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20808	t3hdSensorIntDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
t3hdSensorExtATempNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10811	t3hdSensorExtATemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtALabel
t3hdSensorExtATempCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20811	t3hdSensorExtATemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtALabel
t3hdSensorExtBTempNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10814	t3hdSensorExtBTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtBLabel
t3hdSensorExtBTempCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20814	t3hdSensorExtBTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtBLabel
thdSensorAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10904	thdSensorAvail, trapSeverity, sysName, thdSensorLabel
thdSensorAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20904	thdSensorAvail, trapSeverity, sysName, thdSensorLabel
thdSensorTempNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10905	thdSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
thdSensorTempCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20905	thdSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
thdSensorHumidityNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10906	thdSensorHumidity, trapThreshType, trapSeverity, sysName, thdSensorLabel
thdSensorHumidityCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20906	thdSensorHumidity, trapThreshType, trapSeverity, sysName, thdSensorLabel
thdSensorDewPointNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.10907	thdSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
thdSensorDewPointCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.20907	thdSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
a2dSensorAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.11104	a2dSensorAvail, trapSeverity, sysName, a2dSensorLabel
a2dSensorAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.21104	a2dSensorAvail, trapSeverity, sysName, a2dSensorLabel
a2dSensorValueNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.11105	a2dSensorValue, trapThreshType, trapSeverity, sysName, a2dSensorLabel, a2dSensorAnalogLabel, a2dSensorDisplayValue
a2dSensorValueCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.21105	a2dSensorValue, trapThreshType, trapSeverity, sysName, a2dSensorLabel, a2dSensorAnalogLabel, a2dSensorDisplayValue
humiditySensorAvailNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.11204	humiditySensorAvail, trapSeverity, sysName, humiditySensorLabel

Name	OID	Var-Binds
humiditySensorAvailCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.21204	humiditySensorAvail, trapSeverity, sysName, humiditySensorLabel
humiditySensorValueNOTIFY	1.3.6.1.4.1.21239.5.2.32767.0.11205	humiditySensorValue, trapThreshType, trapSeverity, sysName, humiditySensorLabel
humiditySensorValueCLEAR	1.3.6.1.4.1.21239.5.2.32767.0.21205	humiditySensorValue, trapThreshType, trapSeverity, sysName, humiditySensorLabel

internalTestNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10101
Var-Binds	
Description	Test SNMP Trap

pduMainAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10305
Var-Binds	pduMainAvail, trapSeverity, sysName, pduMainLabel
Description	PDU availability trap

pduMainAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20305
Var-Binds	pduMainAvail, trapSeverity, sysName, pduMainLabel
Description	PDU availability clear trap

pduTotalRealPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10309
Var-Binds	pduTotalRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total real power trap

pduTotalRealPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20309
Var-Binds	pduTotalRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total real power clear trap

pduTotalApparentPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10310
Var-Binds	pduTotalApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total apparent power trap

pduTotalApparentPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20310
Var-Binds	pduTotalApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total apparent power clear trap

pduTotalPowerFactorNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10311
Var-Binds	pduTotalPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total power factor trap

pduTotalPowerFactorCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20311
Var-Binds	pduTotalPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total power factor clear trap

pduTotalEnergyNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10312
Var-Binds	pduTotalEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total energy trap

pduTotalEnergyCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20312
Var-Binds	pduTotalEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduTotalLabel
Description	PDU total energy clear trap

pduPhaseVoltageNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10324
Var-Binds	pduPhaseVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage trap

pduPhaseVoltageCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20324
Var-Binds	pduPhaseVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage clear trap

pduPhaseVoltageMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10325
Var-Binds	pduPhaseVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage (max) trap

pduPhaseVoltageMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20325
Var-Binds	pduPhaseVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage (max) clear trap

pduPhaseVoltageMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10326
Var-Binds	pduPhaseVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage (min) trap

pduPhaseVoltageMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20326
Var-Binds	pduPhaseVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage (min) clear trap

pduPhaseVoltagePeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10327
Var-Binds	pduPhaseVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage (peak) trap

pduPhaseVoltagePeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20327
Var-Binds	pduPhaseVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase voltage (peak) clear trap

pduPhaseCurrentNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10328
Var-Binds	pduPhaseCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current trap

pduPhaseCurrentCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20328
Var-Binds	pduPhaseCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current clear trap

pduPhaseCurrentMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10329
Var-Binds	pduPhaseCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current (max) trap

pduPhaseCurrentMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20329
Var-Binds	pduPhaseCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current (max) clear trap

pduPhaseCurrentMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10330
Var-Binds	pduPhaseCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current (min) trap

pduPhaseCurrentMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20330
Var-Binds	pduPhaseCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current (min) clear trap

pduPhaseCurrentPeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10331
Var-Binds	pduPhaseCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current (peak) trap

pduPhaseCurrentPeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20331
Var-Binds	pduPhaseCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase current (peak) clear trap

pduPhaseRealPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10332
Var-Binds	pduPhaseRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase real power trap

pduPhaseRealPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20332
Var-Binds	pduPhaseRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase real power clear trap

pduPhaseApparentPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10333
Var-Binds	pduPhaseApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase apparent power trap

pduPhaseApparentPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20333
Var-Binds	pduPhaseApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase apparent power clear trap

pduPhasePowerFactorNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10334
Var-Binds	pduPhasePowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase power factor trap

pduPhasePowerFactorCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20334
Var-Binds	pduPhasePowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase power factor clear trap

pduPhaseEnergyNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10335
Var-Binds	pduPhaseEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase energy trap

pduPhaseEnergyCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20335
Var-Binds	pduPhaseEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduPhaseLabel
Description	PDU phase energy clear trap

pduBreakerCurrentNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10354
Var-Binds	pduBreakerCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current trap

pduBreakerCurrentCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20354
Var-Binds	pduBreakerCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current clear trap

pduBreakerCurrentMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10355
Var-Binds	pduBreakerCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current (max) trap

pduBreakerCurrentMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20355
Var-Binds	pduBreakerCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current (max) clear trap

pduBreakerCurrentMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10356
Var-Binds	pduBreakerCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current (min) trap

pduBreakerCurrentMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20356
Var-Binds	pduBreakerCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current (min) clear trap

pduBreakerCurrentPeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10357
Var-Binds	pduBreakerCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current (peak) trap

pduBreakerCurrentPeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20357
Var-Binds	pduBreakerCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker current (peak) clear trap

pduBreakerVoltageNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10358
Var-Binds	pduBreakerVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage trap

pduBreakerVoltageCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20358
Var-Binds	pduBreakerVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage clear trap

pduBreakerVoltageMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10359
Var-Binds	pduBreakerVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage (max) trap

pduBreakerVoltageMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20359
Var-Binds	pduBreakerVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage (max) clear trap

pduBreakerVoltageMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10360
Var-Binds	pduBreakerVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage (min) trap

pduBreakerVoltageMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20360
Var-Binds	pduBreakerVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage (min) clear trap

pduBreakerVoltagePeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10361
Var-Binds	pduBreakerVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage (peak) trap

pduBreakerVoltagePeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20361
Var-Binds	pduBreakerVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker voltage (peak) clear trap

pduBreakerRealPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10362
Var-Binds	pduBreakerRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker real power trap

pduBreakerRealPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20362
Var-Binds	pduBreakerRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker real power clear trap

pduBreakerApparentPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10363
Var-Binds	pduBreakerApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker apparent power trap

pduBreakerApparentPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20363
Var-Binds	pduBreakerApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker apparent power clear trap

pduBreakerPowerFactorNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10364
Var-Binds	pduBreakerPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker power factor trap

pduBreakerPowerFactorCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20364
Var-Binds	pduBreakerPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker power factor trap

pduBreakerEnergyNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10365
Var-Binds	pduBreakerEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker energy trap

pduBreakerEnergyCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20365
Var-Binds	pduBreakerEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduBreakerLabel
Description	PDU breaker energy clear trap

pduLineCurrentNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10374
Var-Binds	pduLineCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current trap

pduLineCurrentCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20374
Var-Binds	pduLineCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current clear trap

pduLineCurrentMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10375
Var-Binds	pduLineCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current (max) trap

pduLineCurrentMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20375
Var-Binds	pduLineCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current (max) clear trap

pduLineCurrentMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10376
Var-Binds	pduLineCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current (min) trap

pduLineCurrentMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20376
Var-Binds	pduLineCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current (min) clear trap

pduLineCurrentPeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10377
Var-Binds	pduLineCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current (peak) trap

pduLineCurrentPeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20377
Var-Binds	pduLineCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduLineLabel
Description	PDU line current (peak) clear trap

pduOutletMeterVoltageNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10385
Var-Binds	pduOutletMeterVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage trap

pduOutletMeterVoltageCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20385
Var-Binds	pduOutletMeterVoltage, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage clear trap

pduOutletMeterVoltageMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10386
Var-Binds	pduOutletMeterVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage (max) trap

pduOutletMeterVoltageMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20386
Var-Binds	pduOutletMeterVoltageMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage (max) clear trap

pduOutletMeterVoltageMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10387
Var-Binds	pduOutletMeterVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage (min) trap

pduOutletMeterVoltageMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20387
Var-Binds	pduOutletMeterVoltageMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage (min) clear trap

pduOutletMeterVoltagePeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10388
Var-Binds	pduOutletMeterVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage (peak) trap

pduOutletMeterVoltagePeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20388
Var-Binds	pduOutletMeterVoltagePeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet voltage (peak) clear trap

pduOutletMeterCurrentNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10389
Var-Binds	pduOutletMeterCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current trap

pduOutletMeterCurrentCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20389
Var-Binds	pduOutletMeterCurrent, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current clear trap

pduOutletMeterCurrentMaxNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10390
Var-Binds	pduOutletMeterCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current (max) trap

pduOutletMeterCurrentMaxCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20390
Var-Binds	pduOutletMeterCurrentMax, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current (max) clear trap

pduOutletMeterCurrentMinNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10391
Var-Binds	pduOutletMeterCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current (min) trap

pduOutletMeterCurrentMinCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20391
Var-Binds	pduOutletMeterCurrentMin, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current (min) clear trap

pduOutletMeterCurrentPeakNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10392
Var-Binds	pduOutletMeterCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current (peak) trap

pduOutletMeterCurrentPeakCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20392
Var-Binds	pduOutletMeterCurrentPeak, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet current (peak) clear trap

pduOutletMeterRealPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10393
Var-Binds	pduOutletMeterRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet real power trap

pduOutletMeterRealPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20393
Var-Binds	pduOutletMeterRealPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet real power clear trap

pduOutletMeterApparentPowerNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10394
Var-Binds	pduOutletMeterApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet apparent power trap

pduOutletMeterApparentPowerCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20394
Var-Binds	pduOutletMeterApparentPower, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet apparent power clear trap

pduOutletMeterPowerFactorNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10395
Var-Binds	pduOutletMeterPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet power factor trap

pduOutletMeterPowerFactorCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20395
Var-Binds	pduOutletMeterPowerFactor, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet power factor clear trap

pduOutletMeterEnergyNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10396
Var-Binds	pduOutletMeterEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet energy trap

pduOutletMeterEnergyCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20396
Var-Binds	pduOutletMeterEnergy, trapThreshType, trapSeverity, sysName, pduMainLabel, pduOutletMeterLabel
Description	PDU outlet energy clear trap

tempSensorAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10404
Var-Binds	tempSensorAvail, trapSeverity, sysName, tempSensorLabel
Description	RT availability trap

tempSensorAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20404
Var-Binds	tempSensorAvail, trapSeverity, sysName, tempSensorLabel
Description	RT availability clear trap

tempSensorTempNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10405
Var-Binds	tempSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, tempSensorLabel
Description	RT temperature trap

tempSensorTempCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20405
Var-Binds	tempSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, tempSensorLabel
Description	RT temperature clear trap

airFlowSensorAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10504
Var-Binds	airFlowSensorAvail, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 availability trap

airFlowSensorAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20504
Var-Binds	airFlowSensorAvail, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 availability clear trap

airFlowSensorTempNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10505
Var-Binds	airFlowSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 temperature trap

airFlowSensorTempCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20505
Var-Binds	airFlowSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 temperature clear trap

airFlowSensorFlowNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10506
Var-Binds	airFlowSensorFlow, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 airflow trap

airFlowSensorFlowCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20506
Var-Binds	airFlowSensorFlow, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 airflow clear trap

airFlowSensorHumidityNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10507
Var-Binds	airFlowSensorHumidity, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 humidity trap

airFlowSensorHumidityCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20507
Var-Binds	airFlowSensorHumidity, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 humidity clear trap

airFlowSensorDewPointNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10508
Var-Binds	airFlowSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 dewpoint trap

airFlowSensorDewPointCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20508
Var-Binds	airFlowSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, airFlowSensorLabel
Description	AFHT3 dewpoint clear trap

t3hdSensorAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10804
Var-Binds	t3hdSensorAvail, trapSeverity, sysName, t3hdSensorLabel
Description	T3HD availability trap

t3hdSensorAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20804
Var-Binds	t3hdSensorAvail, trapSeverity, sysName, t3hdSensorLabel
Description	T3HD availability clear trap

t3hdSensorIntTempNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10806
Var-Binds	t3hdSensorIntTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
Description	T3HD Internal temperature trap

t3hdSensorIntTempCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20806
Var-Binds	t3hdSensorIntTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
Description	T3HD Internal temperature clear trap

t3hdSensorIntHumidityNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10807
Var-Binds	t3hdSensorIntHumidity, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
Description	T3HD Internal humidity trap

t3hdSensorIntHumidityCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20807
Var-Binds	t3hdSensorIntHumidity, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
Description	T3HD Internal humidity clear trap

t3hdSensorIntDewPointNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10808
Var-Binds	t3hdSensorIntDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
Description	T3HD Internal dewpoint trap

t3hdSensorIntDewPointCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20808
Var-Binds	t3hdSensorIntDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorIntLabel
Description	T3HD Internal dewpoint clear trap

t3hdSensorExtATempNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10811
Var-Binds	t3hdSensorExtATemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtALabel
Description	T3HD External A temperature trap

t3hdSensorExtATempCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20811
Var-Binds	t3hdSensorExtATemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtALabel
Description	T3HD External A temperature clear trap

t3hdSensorExtBTempNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10814
Var-Binds	t3hdSensorExtBTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtBLabel
Description	T3HD External B temperature trap

t3hdSensorExtBTempCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20814
Var-Binds	t3hdSensorExtBTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, t3hdSensorLabel, t3hdSensorExtBLabel
Description	T3HD External B temperature clear trap

thdSensorAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10904
Var-Binds	thdSensorAvail, trapSeverity, sysName, thdSensorLabel
Description	THD availability trap

thdSensorAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20904
Var-Binds	thdSensorAvail, trapSeverity, sysName, thdSensorLabel
Description	THD availability clear trap

thdSensorTempNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10905
Var-Binds	thdSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
Description	THD temperature trap

thdSensorTempCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20905
Var-Binds	thdSensorTemp, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
Description	THD temperature clear trap

thdSensorHumidityNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10906
Var-Binds	thdSensorHumidity, trapThreshType, trapSeverity, sysName, thdSensorLabel
Description	THD humidity trap

thdSensorHumidityCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20906
Var-Binds	thdSensorHumidity, trapThreshType, trapSeverity, sysName, thdSensorLabel
Description	THD humidity clear trap

thdSensorDewPointNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.10907
Var-Binds	thdSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
Description	THD dewpoint trap

thdSensorDewPointCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.20907
Var-Binds	thdSensorDewPoint, temperatureUnits, trapThreshType, trapSeverity, sysName, thdSensorLabel
Description	THD dewpoint clear trap

a2dSensorAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.11104
Var-Binds	a2dSensorAvail, trapSeverity, sysName, a2dSensorLabel
Description	A2D availability trap

a2dSensorAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.21104
Var-Binds	a2dSensorAvail, trapSeverity, sysName, a2dSensorLabel
Description	A2D availability clear trap

a2dSensorValueNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.11105
Var-Binds	a2dSensorValue, trapThreshType, trapSeverity, sysName, a2dSensorLabel, a2dSensorAnalogLabel, a2dSensorDisplayValue
Description	A2D measurement trap

a2dSensorValueCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.21105
Var-Binds	a2dSensorValue, trapThreshType, trapSeverity, sysName, a2dSensorLabel, a2dSensorAnalogLabel, a2dSensorDisplayValue
Description	A2D measurement clear trap

humiditySensorAvailNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.11204
Var-Binds	humiditySensorAvail, trapSeverity, sysName, humiditySensorLabel
Description	Remote humidity availability trap

humiditySensorAvailCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.21204
Var-Binds	humiditySensorAvail, trapSeverity, sysName, humiditySensorLabel
Description	Remote humidity availability clear trap

humiditySensorValueNOTIFY

OID	1.3.6.1.4.1.21239.5.2.32767.0.11205
Var-Binds	humiditySensorValue, trapThreshType, trapSeverity, sysName, humiditySensorLabel
Description	Remote humidity value trap

humiditySensorValueCLEAR

OID	1.3.6.1.4.1.21239.5.2.32767.0.21205
Var-Binds	humiditySensorValue, trapThreshType, trapSeverity, sysName, humiditySensorLabel
Description	Remote humidity value clear trap

2.2 v4 MIB

The v4 MIB is provided for legacy support and is deprecated. No further development is planned for this MIB. The v5 MIB is the replacement and will provide SNMP support for new products and features.

SNMP behavior for the v4 MIB was kept as similar as possible to the original v4.x.y firmware. So, all temperature and dewpoint values are reported in celsius only. All unit fields return celsius(2), regardless of what the system is set to.

While the v4 MIB is as compatible as possible, the original v4.x.y firmware contained some sensors and features that are no longer supported. In particular, alarm configuration via SNMP has been removed. Also removed are tables for old/unsupported devices like RS2. v4-style traps are being replaced by v5 traps, so trap definitions are gone as well.

2.2.1 Object Identifiers

Section	Field	OID[Instance]	R/W	Type	Units
rtafhd3Table					
	rtafhd3Serial	1.3.6.1.4.1.21239.6.1.3.1.1.2[.1-.64]	R	DeviceSerial	
	rtafhd3Label	1.3.6.1.4.1.21239.6.1.3.1.1.3[.1-.64]	RW	DeviceLabel	
	rtafhd3Status	1.3.6.1.4.1.21239.6.1.3.1.1.4[.1-.64]	R	DeviceStatus	
	rtafhd3Airflow	1.3.6.1.4.1.21239.6.1.3.1.1.5[.1-.64]	R	Gauge32	
	rtafhd3Humidity	1.3.6.1.4.1.21239.6.1.3.1.1.6[.1-.64]	R	Gauge32	
	rtafhd3Temp	1.3.6.1.4.1.21239.6.1.3.1.1.7[.1-.64]	R	TemperatureValue	
	rtafhd3DewPoint	1.3.6.1.4.1.21239.6.1.3.1.1.8[.1-.64]	R	TemperatureValue	
	rtafhd3TDUnits	1.3.6.1.4.1.21239.6.1.3.1.1.9[.1-.64]	R	TemperatureUnits	
rtTable					
	rtSerial	1.3.6.1.4.1.21239.6.1.8.1.1.2[.1-.64]	R	DeviceSerial	
	rtLabel	1.3.6.1.4.1.21239.6.1.8.1.1.3[.1-.64]	RW	DeviceLabel	
	rtStatus	1.3.6.1.4.1.21239.6.1.8.1.1.4[.1-.64]	R	DeviceStatus	
	rtTemp	1.3.6.1.4.1.21239.6.1.8.1.1.5[.1-.64]	R	TemperatureValue	
	rtUnits	1.3.6.1.4.1.21239.6.1.8.1.1.6[.1-.64]	R	TemperatureUnits	
t3hdTable					
	t3hdSerial	1.3.6.1.4.1.21239.6.1.9.1.1.2[.1-.64]	R	DeviceSerial	
	t3hdLabel	1.3.6.1.4.1.21239.6.1.9.1.1.3[.1-.64]	RW	DeviceLabel	
	t3hdStatus	1.3.6.1.4.1.21239.6.1.9.1.1.4[.1-.64]	R	DeviceStatus	
	t3hdMainLabel	1.3.6.1.4.1.21239.6.1.9.1.1.5[.1-.64]	RW	DeviceLabel	
	t3hdMainTemp	1.3.6.1.4.1.21239.6.1.9.1.1.6[.1-.64]	R	TemperatureValue	

Section	Field	OID[Instance]	R/W	Type	Units
	t3hdMainHumidity	1.3.6.1.4.1.21239.6.1.9.1.1.7[.1-.64]	R	Gauge32	
	t3hdMainDewPoint	1.3.6.1.4.1.21239.6.1.9.1.1.8[.1-.64]	R	TemperatureValue	
	t3hdExt1Status	1.3.6.1.4.1.21239.6.1.9.1.1.9[.1-.64]	R	INTEGER	
	t3hdExt1Label	1.3.6.1.4.1.21239.6.1.9.1.1.10[.1-.64]	RW	DeviceLabel	
	t3hdExt1Temp	1.3.6.1.4.1.21239.6.1.9.1.1.11[.1-.64]	R	TemperatureValue	
	t3hdExt2Status	1.3.6.1.4.1.21239.6.1.9.1.1.12[.1-.64]	R	INTEGER	
	t3hdExt2Label	1.3.6.1.4.1.21239.6.1.9.1.1.13[.1-.64]	RW	DeviceLabel	
	t3hdExt2Temp	1.3.6.1.4.1.21239.6.1.9.1.1.14[.1-.64]	R	TemperatureValue	
	t3hdTDUnits	1.3.6.1.4.1.21239.6.1.9.1.1.15[.1-.64]	R	TemperatureUnits	
thdTable					
	thdSerial	1.3.6.1.4.1.21239.6.1.10.1.1.2[.1-.64]	R	DeviceSerial	
	thdLabel	1.3.6.1.4.1.21239.6.1.10.1.1.3[.1-.64]	RW	DeviceLabel	
	thdStatus	1.3.6.1.4.1.21239.6.1.10.1.1.4[.1-.64]	R	DeviceStatus	
	thdTemp	1.3.6.1.4.1.21239.6.1.10.1.1.5[.1-.64]	R	TemperatureValue	
	thdHumidity	1.3.6.1.4.1.21239.6.1.10.1.1.6[.1-.64]	R	Gauge32	
	thdDewPoint	1.3.6.1.4.1.21239.6.1.10.1.1.7[.1-.64]	R	TemperatureValue	
	thdTDUnits	1.3.6.1.4.1.21239.6.1.10.1.1.8[.1-.64]	R	TemperatureUnits	
pduBaseDeltaTable					
	pduBaseDeltaSerial	1.3.6.1.4.1.21239.6.1.99.1.1.2[.1-.64]	R	DeviceSerial	
	pduBaseDeltaLabel	1.3.6.1.4.1.21239.6.1.99.1.1.3[.1-.64]	RW	DeviceLabel	
	pduBaseDeltaStatus	1.3.6.1.4.1.21239.6.1.99.1.1.4[.1-.64]	R	DeviceStatus	
	pduBaseDeltaKWattHrsTotal	1.3.6.1.4.1.21239.6.1.99.1.1.5[.1-.64]	R	Gauge32	
	pduBaseDeltaRealPowerTotal	1.3.6.1.4.1.21239.6.1.99.1.1.6[.1-.64]	R	Gauge32	
	pduBaseDeltaAmpsA	1.3.6.1.4.1.21239.6.1.99.1.1.7[.1-.64]	R	DeciAmps	
	pduBaseDeltaAmpsB	1.3.6.1.4.1.21239.6.1.99.1.1.8[.1-.64]	R	DeciAmps	
	pduBaseDeltaAmpsC	1.3.6.1.4.1.21239.6.1.99.1.1.9[.1-.64]	R	DeciAmps	
pduBaseWyeTable					
	pduBaseWyeSerial	1.3.6.1.4.1.21239.6.1.99.2.1.2[.1-.64]	R	DeviceSerial	
	pduBaseWyeLabel	1.3.6.1.4.1.21239.6.1.99.2.1.3[.1-.64]	RW	DeviceLabel	
	pduBaseWyeStatus	1.3.6.1.4.1.21239.6.1.99.2.1.4[.1-.64]	R	DeviceStatus	
	pduBaseWyeKWattHrsTotal	1.3.6.1.4.1.21239.6.1.99.2.1.5[.1-.64]	R	Gauge32	
	pduBaseWyeRealPowerTotal	1.3.6.1.4.1.21239.6.1.99.2.1.6[.1-.64]	R	Gauge32	
	pduBaseWyeChannelCount	1.3.6.1.4.1.21239.6.1.99.2.1.7[.1-.64]	R	Unsigned32	
pduChannelDeltaTable					
	pduChannelDeltaID	1.3.6.1.4.1.21239.6.1.99.3.1.1[.1][.1-.3]	R	Unsigned32	

Section	Field	OID[instance]	R/W	Type	Units
	pduChannelDeltaLabel	1.3.6.1.4.1.21239.6.1.99.3.1.2[.1][.1-.3]	RW	DeviceLabel	
	pduChannelDeltaName	1.3.6.1.4.1.21239.6.1.99.3.1.3[.1][.1-.3]	R	DisplayString	
	pduChannelDeltaKWattHrs	1.3.6.1.4.1.21239.6.1.99.3.1.4[.1][.1-.3]	R	Gauge32	
	pduChannelDeltaVolts	1.3.6.1.4.1.21239.6.1.99.3.1.5[.1][.1-.3]	R	Gauge32	
	pduChannelDeltaVoltMax	1.3.6.1.4.1.21239.6.1.99.3.1.6[.1][.1-.3]	R	Gauge32	
	pduChannelDeltaRealPower	1.3.6.1.4.1.21239.6.1.99.3.1.7[.1][.1-.3]	R	Gauge32	
	pduChannelDeltaApparentPower	1.3.6.1.4.1.21239.6.1.99.3.1.8[.1][.1-.3]	R	Gauge32	
	pduChannelDeltaPowerFactor	1.3.6.1.4.1.21239.6.1.99.3.1.9[.1][.1-.3]	R	Gauge32	
	pduChannelDeltaAmps	1.3.6.1.4.1.21239.6.1.99.3.1.10[.1][.1-.3]	R	DeciAmps	
pduChannelWyeTable					
	pduChannelWyeID	1.3.6.1.4.1.21239.6.1.99.4.1.1[.1][.1-.3]	R	Unsigned32	
	pduChannelWyeLabel	1.3.6.1.4.1.21239.6.1.99.4.1.2[.1][.1-.3]	RW	DeviceLabel	
	pduChannelWyeName	1.3.6.1.4.1.21239.6.1.99.4.1.3[.1][.1-.3]	R	DisplayString	
	pduChannelWyeKWattHrs	1.3.6.1.4.1.21239.6.1.99.4.1.4[.1][.1-.3]	R	Gauge32	
	pduChannelWyeVolts	1.3.6.1.4.1.21239.6.1.99.4.1.5[.1][.1-.3]	R	Gauge32	
	pduChannelWyeVoltMax	1.3.6.1.4.1.21239.6.1.99.4.1.6[.1][.1-.3]	R	Gauge32	
	pduChannelWyeAmps	1.3.6.1.4.1.21239.6.1.99.4.1.7[.1][.1-.3]	R	DeciAmps	
	pduChannelWyeAmpsMax	1.3.6.1.4.1.21239.6.1.99.4.1.8[.1][.1-.3]	R	DeciAmps	
	pduChannelWyeRealPower	1.3.6.1.4.1.21239.6.1.99.4.1.9[.1][.1-.3]	R	Gauge32	
	pduChannelWyeApparentPower	1.3.6.1.4.1.21239.6.1.99.4.1.10[.1][.1-.3]	R	Gauge32	
	pduChannelWyePowerFactor	1.3.6.1.4.1.21239.6.1.99.4.1.11[.1][.1-.3]	R	Gauge32	
pduGroupTable					
	pduGroupSerial	1.3.6.1.4.1.21239.6.1.99.5.1.2[.1][.1-.8]	R	DeviceSerial	
	pduGroupID	1.3.6.1.4.1.21239.6.1.99.5.1.3[.1][.1-.8]	R	Unsigned32	
	pduGroupLabel	1.3.6.1.4.1.21239.6.1.99.5.1.4[.1][.1-.8]	RW	DeviceLabel	
	pduGroupName	1.3.6.1.4.1.21239.6.1.99.5.1.5[.1][.1-.8]	R	DisplayString	
	pduGroupAmps	1.3.6.1.4.1.21239.6.1.99.5.1.6[.1][.1-.8]	R	DeciAmps	
	pduGroupAmpsMax	1.3.6.1.4.1.21239.6.1.99.5.1.7[.1][.1-.8]	R	DeciAmps	
	pduGroupApparentPower	1.3.6.1.4.1.21239.6.1.99.5.1.8[.1][.1-.8]	R	Gauge32	
	pduGroupPowerFactor	1.3.6.1.4.1.21239.6.1.99.5.1.9[.1][.1-.8]	R	Gauge32	
	pduGroupRealPower	1.3.6.1.4.1.21239.6.1.99.5.1.10[.1][.1-.8]	R	Gauge32	
	pduGroupVolts	1.3.6.1.4.1.21239.6.1.99.5.1.11[.1][.1-.8]	R	Gauge32	
	pduGroupVoltsMax	1.3.6.1.4.1.21239.6.1.99.5.1.12[.1][.1-.8]	R	Gauge32	
	pduGroupWattHours	1.3.6.1.4.1.21239.6.1.99.5.1.13[.1][.1-.8]	R	Gauge32	
pduOutletMainTable					

Section	Field	OID[Instance]	R/W	Type	Units
	pduOutletMainSerial	1.3.6.1.4.1.21239.6.1.99.6.1.2[.1][.1-.64]	R	DeviceSerial	
	pduOutletMainID	1.3.6.1.4.1.21239.6.1.99.6.1.3[.1][.1-.64]	R	Unsigned32	
	pduOutletMainLabel	1.3.6.1.4.1.21239.6.1.99.6.1.4[.1][.1-.64]	RW	DeviceLabel	
	pduOutletMainName	1.3.6.1.4.1.21239.6.1.99.6.1.5[.1][.1-.64]	R	DisplayString	
	pduOutletMainGroup	1.3.6.1.4.1.21239.6.1.99.6.1.6[.1][.1-.64]	R	DisplayString	
	pduOutletMainURL	1.3.6.1.4.1.21239.6.1.99.6.1.7[.1][.1-.64]	R	DisplayString	
pduOutletSwitchTable					
	pduOutletSwitchState	1.3.6.1.4.1.21239.6.1.99.7.1.1[.1][.1-.64]	R	INTEGER	
	pduOutletSwitchStateChangeTime	1.3.6.1.4.1.21239.6.1.99.7.1.2[.1][.1-.64]	R	Unsigned32	
	pduOutletSwitchCurrentAction	1.3.6.1.4.1.21239.6.1.99.7.1.3[.1][.1-.64]	R	INTEGER	
	pduOutletSwitchOnDelay	1.3.6.1.4.1.21239.6.1.99.7.1.4[.1][.1-.64]	RW	Unsigned32	
	pduOutletSwitchOffDelay	1.3.6.1.4.1.21239.6.1.99.7.1.5[.1][.1-.64]	RW	Unsigned32	
	pduOutletSwitchRebootDelay	1.3.6.1.4.1.21239.6.1.99.7.1.6[.1][.1-.64]	RW	Unsigned32	
	pduOutletSwitchRebootHold	1.3.6.1.4.1.21239.6.1.99.7.1.7[.1][.1-.64]	RW	Unsigned32	
	pduOutletSwitchStartupAction	1.3.6.1.4.1.21239.6.1.99.7.1.8[.1][.1-.64]	RW	INTEGER	
	pduOutletSwitchStartupStateDelay	1.3.6.1.4.1.21239.6.1.99.7.1.9[.1][.1-.64]	RW	Unsigned32	
	pduOutletSwitchControl	1.3.6.1.4.1.21239.6.1.99.7.1.10[.1][.1-.64]	RW	INTEGER	
pduOutletMeterTable					
	pduOutletMeterKWattHrs	1.3.6.1.4.1.21239.6.1.99.8.1.1[.1][.1-.64]	R	Gauge32	
	pduOutletMeterAmps	1.3.6.1.4.1.21239.6.1.99.8.1.2[.1][.1-.64]	R	DeciAmps	
	pduOutletMeterPower	1.3.6.1.4.1.21239.6.1.99.8.1.3[.1][.1-.64]	R	Gauge32	

VERTIV-QUETZAL-MIB_rtafhd3Table

Combo airflow, temp, humidity and dewpoint sensor

rtafhd3Serial

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.2 [.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	Unique device id

rtafhd3Label

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.3 [.1-.64]
Type/Units	DeviceLabel
Access	read-only
Description	User-defined name

rtafhd3Status

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.4 [.1-.64]
Type/Units	DeviceStatus
Access	read-only
Description	Sensor condition

rtafhd3Airflow

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.5 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Airflow reading

rtafhd3Humidity

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.6 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Humidity reading

rtafhd3Temp

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.7 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Temperature reading in units indicated by rtafhd3TDUnits.

rtafhd3DewPoint

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.8 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Dewpoint reading in units indicated by rtafhd3TDUnits.

rtafhd3TDUnits

OID/Instance	1.3.6.1.4.1.21239.6.1.3.1.1.9 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Tells what units are used for temperature and dewpoint.

VERTIV-QUETZAL-MIB_rtTable

Delete this text and replace it with your own content.

Contains entries for remote temperature devices

rtSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.8.1.1.2 [.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	Unique device id

rtLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.8.1.1.3 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name

rtStatus

OID/Instance	1.3.6.1.4.1.21239.6.1.8.1.1.4 [.1-.64]
Type/Units	DeviceStatus
Access	read-only
Description	Device condition

rtTemp

OID/Instance	1.3.6.1.4.1.21239.6.1.8.1.1.5 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Temperature reading. The units for this measurement are given by rtUnits.

rtUnits

OID/Instance	1.3.6.1.4.1.21239.6.1.8.1.1.6 [.1-.64]
Type/Units	TemperatureUnits
Access	read-only
Description	Indicates what units rtTemp will be given in.

VERTIV-QUETZAL-MIB_t3hdTable

Contains entries for T3HD devices

t3hdSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.2 [.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	Unique device id

t3hdLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.3 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name

t3hdStatus

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.4 [.1-.64]
Type/Units	DeviceStatus
Access	read-only
Description	Device condition

t3hdMainLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.5 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined label for measurements from the main device

t3hdMainTemp

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.6 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Temperature reading from the main device

t3hdMainHumidity

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.7 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Humidity reading from the main device

t3hdMainDewPoint

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.8 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Dew Point value from the main device

t3hdExt1Status

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.9 [.1-.64]
Type/Units	INTEGER { unplugged(0), normal(1), error(2) }
Access	read-only

Description	Sensor status for external temp 1. The status is one of the following values: 0 = Sensor unplugged 1 = Normal operation 2 = Sensor error

t3hdExt1Label

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.10 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for external temp 1

t3hdExt1Temp

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.11 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Temperature reading from external temp 1

t3hdExt2Status

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.12 [.1-.64]
Type/Units	INTEGER { unplugged(0), normal(1), error(2) }
Access	read-only
Description	Sensor status for external temp 2. The status is one of the following values: 0 = Sensor unplugged 1 = Normal operation 2 = Sensor error

t3hdExt2Label

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.13 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for external temp 2

t3hdExt2Temp

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.14 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Temperature reading from external temp 2

t3hdTDUnits

OID/Instance	1.3.6.1.4.1.21239.6.1.9.1.1.15 [.1-.64]
Type/Units	TemperatureUnits
Access	read-only
Description	Tells what units are used for temperatures and dewpoint.

VERTIV-QUETZAL-MIB_thdTable

Contains entries for THD devices

thdSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.2 [.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	Unique device id

thdLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.3 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name

thdStatus

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.4 [.1-.64]
Type/Units	DeviceStatus
Access	read-only
Description	Device condition

thdTemp

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.5 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Temperature reading

thdHumidity

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.6 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Humidity reading

thdDewPoint

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.7 [.1-.64]
Type/Units	TemperatureValue
Access	read-only
Description	Dew Point value

thdTDUnits

OID/Instance	1.3.6.1.4.1.21239.6.1.10.1.1.8 [.1-.64]
Type/Units	TemperatureUnits
Access	read-only
Description	Units used for temperature and dew point

VERTIV-QUETZAL-MIB_pduBaseDeltaTable

Base table for a delta-wired PDU. It contains general information about the PDU. Entries in sub-tables provide data for channels, groups and outlets. The system creates these sub-table entries based on hardware and configuration options, set at the factory.

pduBaseDeltaSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.2 [.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	PDU's unique ID, used as a reference for channels, groups and outlets

pduBaseDeltaLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.3 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for the delta PDU device

pduBaseDeltaStatus

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.4 [.1-.64]
Type/Units	DeviceStatus
Access	read-only
Description	Condition of the device

pduBaseDeltaKWattHrsTotal

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.5 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Total kilowatt hours for the delta PDU

pduBaseDeltaRealPowerTotal

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.6 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Total real power for the delta PDU

pduBaseDeltaAmpsA

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.7 [.1-.64]
Type/Units	DeciAmps
Access	read-only
Description	Current reading for A

pduBaseDeltaAmpsB

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.8 [.1-.64]
Type/Units	DeciAmps
Access	read-only
Description	Current reading for B

pduBaseDeltaAmpsC

OID/Instance	1.3.6.1.4.1.21239.6.1.99.1.1.9 [.1-.64]
Type/Units	DeciAmps
Access	read-only
Description	Current reading for C

VERTIV-QUETZAL-MIB_pduBaseWyeTable

Base table for a Wye-wired PDU. It contains general information about the PDU. Entries in sub-tables provide data for channels, groups and outlets. The system creates these sub-table entries based on hardware, wiring, and configuration options, set at the factory.

pduBaseWyeSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.99.2.1.2 [.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	PDU's unique ID, used as a reference for channels, groups and outlets

pduBaseWyeLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.99.2.1.3 [.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for the PDU

pduBaseWyeStatus

OID/Instance	1.3.6.1.4.1.21239.6.1.99.2.1.4 [.1-.64]
Type/Units	DeviceStatus
Access	read-only
Description	Condition of the device

pduBaseWyeKWattHrsTotal

OID/Instance	1.3.6.1.4.1.21239.6.1.99.2.1.5 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Total kilowatt hours for the PDU

pduBaseWyeRealPowerTotal

OID/Instance	1.3.6.1.4.1.21239.6.1.99.2.1.6 [.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Total real power used by the PDU

pduBaseWyeChannelCount

OID/Instance	1.3.6.1.4.1.21239.6.1.99.2.1.7 [.1-.64]
Type/Units	Unsigned32, 1 to 3
Access	read-only
Description	Count of the total number of Wye channels. Data for these channels is found in the pduChannelWyeTable.

VERTIV-QUETZAL-MIB_pduChannelDeltaTable

The pduChannelDeltaTable contains specific channel information for a delta PDU.

pduChannelDeltaID

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.1 [.1][.1-.3]
Type/Units	Unsigned32, 1 to 3
Access	read-only
Description	Delta channel id number

pduChannelDeltaLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.2 [.1][.1-.3]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for this channel

pduChannelDeltaName

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.3 [.1][.1-.3]
Type/Units	DisplayString
Access	read-only
Description	Factory-assigned name for this channel

pduChannelDeltaKWattHrs

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.4 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Kilowatt hours for this channel

pduChannelDeltaVolts

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.6 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Max volt reading

pduChannelDeltaRealPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.7 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Real power

pduChannelDeltaApparentPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.8 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Apparent Power

pduChannelDeltaPowerFactor

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.9 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only

Description	Power Factor

pduChannelDeltaAmps

OID/Instance	1.3.6.1.4.1.21239.6.1.99.3.1.10 [.1][.1-.3]
Type/Units	DeciAmps
Access	read-only
Description	Current reading

VERTIV-QUETZAL-MIB_pduChannelWyeTable

The pduChannelWyeTable contains specific channel information for a wye-wired PDU.

pduChannelWyeID

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.1 [.1][.1-.3]
Type/Units	Unsigned32, 1 to 3
Access	read-only
Description	Wye channel id

pduChannelWyeLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.2 [.1][.1-.3]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for this channel

pduChannelWyeName

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.3 [.1][.1-.3]
Type/Units	DisplayString
Access	read-only
Description	Factory-assigned name for this channel

pduChannelWyeKWattHrs

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.4 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Kilowatt hours

pduChannelWyeVolts

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.5 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Volt reading

pduChannelWyeVoltMax

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.6 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Max volt reading

pduChannelWyeAmps

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.7 [.1][.1-.3]
Type/Units	DeciAmps
Access	read-only
Description	Current reading

pduChannelWyeAmpsMax

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.8 [.1][.1-.3]
Type/Units	DeciAmps
Access	read-only
Description	Max current reading

pduChannelWyeRealPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.9 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Real power

pduChannelWyeApparentPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.10 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Apparent power

pduChannelWyePowerFactor

OID/Instance	1.3.6.1.4.1.21239.6.1.99.4.1.11 [.1][.1-.3]
Type/Units	Gauge32
Access	read-only
Description	Power factor

VERTIV-QUETZAL-MIB_pduGroupTable

Contains meter readings per outlet group

pduGroupSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.2 [.1][.1-.8]
Type/Units	DeviceSerial
Access	read-only
Description	Serial number of an existing base PDU

pduGroupID

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.3 [.1][.1-.8]
Type/Units	Unsigned32, 1 to 8
Access	read-only
Description	Group id number

pduGroupLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.4 [.1][.1-.8]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined name for this group

pduGroupName

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.5 [.1][.1-.8]
Type/Units	DisplayString
Access	read-only
Description	Factory-assigned name for this group

pduGroupAmps

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.6 [.1][.1-.8]
Type/Units	DeciAmps
Access	read-only
Description	Total amps for outlet group

pduGroupAmpsMax

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.7 [.1][.1-.8]
Type/Units	DeciAmps
Access	read-only
Description	Total amps-max for outlet group

pduGroupApparentPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.8 [.1][.1-.8]
Type/Units	Gauge32
Access	read-only

Description	Total apparent-power for outlet group

pduGroupPowerFactor

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.9 [.1][.1-.8]
Type/Units	Gauge32
Access	read-only
Description	Total power-factor for outlet group

pduGroupRealPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.10 [.1][.1-.8]
Type/Units	Gauge32
Access	read-only
Description	Total real-power for outlet group

pduGroupVolts

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.11 [.1][.1-.8]
Type/Units	Gauge32
Access	read-only
Description	Volts reading for outlet group

pduGroupVoltsMax

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.12 [.1][.1-.8]
Type/Units	Gauge32
Access	read-only
Description	Volts-max reading for outlet group

pduGroupWattHours

OID/Instance	1.3.6.1.4.1.21239.6.1.99.5.1.13 [.1][.1-.8]
Type/Units	Gauge32
Access	read-only
Description	Watt-hours reading for outlet group

VERTIV-QUETZAL-MIB_pduOutletMainTable

Outlet data common to all outlet types. Other tables provide additional data, based on the outlet type.

pduOutletMainSerial

OID/Instance	1.3.6.1.4.1.21239.6.1.99.6.1.2 [.1][.1-.64]
Type/Units	DeviceSerial
Access	read-only
Description	Serial number of an existing PDU device

pduOutletMainID

OID/Instance	1.3.6.1.4.1.21239.6.1.99.6.1.3 [.1][.1-.64]
Type/Units	Unsigned32, 1 to 64
Access	read-only
Description	Outlet id number

pduOutletMainLabel

OID/Instance	1.3.6.1.4.1.21239.6.1.99.6.1.4 [.1][.1-.64]
Type/Units	DeviceLabel
Access	read-write
Description	User-defined outlet name

pduOutletMainName

OID/Instance	1.3.6.1.4.1.21239.6.1.99.6.1.5 [.1][.1-.64]
Type/Units	DisplayString
Access	read-only
Description	Factory-assigned outlet name

pduOutletMainGroup

OID/Instance	1.3.6.1.4.1.21239.6.1.99.6.1.6 [.1][.1-.64]
Type/Units	DisplayString
Access	read-only
Description	Outlet's group name

pduOutletMainURL

OID/Instance	1.3.6.1.4.1.21239.6.1.99.6.1.7 [.1][.1-.64]
Type/Units	DisplayString
Access	read-only
Description	Link info for outlet

VERTIV-QUETZAL-MIB_pduOutletSwitchTable

Contains entries for outlets that support switching. This table supplements the corresponding entries in pduOutletMainTable.

pduOutletSwitchState

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.1 [.1][.1-.64]
Type/Units	INTEGER { outletOff(0), outletOn(1), outletError(2) }
Access	read-only
Description	Switch state of the outlet

pduOutletSwitchStateChangeTime

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.2 [.1][.1-.64]
Type/Units	Unsigned32
Access	read-only
Description	Seconds until an action will occur

pduOutletSwitchCurrentAction

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.3 [.1][.1-.64]
Type/Units	INTEGER { manual(1), reboot(2), startUp(3), other(4) }
Access	read-only
Description	Outlet action in progress

pduOutletSwitchOnDelay

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.4 [.1][.1-.64]
Type/Units	Unsigned32
Access	read-write
Description	Delay used in turning the outlet on

pduOutletSwitchOffDelay

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.5 [.1][.1-.64]
Type/Units	Unsigned32
Access	read-write
Description	Delay used in turning the outlet off

pduOutletSwitchRebootDelay

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.6 [.1][.1-.64]
Type/Units	Unsigned32
Access	read-write
Description	Delay used prior to outlet reboot

pduOutletSwitchRebootHold

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.7 [.1][.1-.64]
Type/Units	Unsigned32
Access	read-write
Description	Time the outlet is kept off during a reboot

pduOutletSwitchStartupAction

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.8 [.1][.1-.64]
Type/Units	INTEGER { startOff(0), startOn(1), lastKnown(2) }
Access	read-write

Description	State the outlet should take at startup (first powered)

pduOutletSwitchStartupStateDelay

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.9 [.1][.1-.64]
Type/Units	Unsigned32
Access	read-write
Description	Delay from startup before the outlet changes to the StartupAction

pduOutletSwitchControl

OID/Instance	1.3.6.1.4.1.21239.6.1.99.7.1.10 [.1][.1-.64]
Type/Units	INTEGER { none(0), cancelActions(1), onNoDelay(2), onDelay (3), offNoDelay(4), offDelay(5), rebootNoDelay(6), rebootDelay (7) }
Access	read-write
Description	Used for manual control of the outlet. The default is none(0). When set, it keeps this value until the operation is complete. Then the value goes back to none(0). Outlet must be in manual mode to set, otherwise it causes an inconsistentValue error. Can be set to one of the following: 1 = Cancel pending action 2 = Turn outlet on without delay 3 = After delay, turn outlet on 4 = Turn outlet off without delay 5 = After delay, turn outlet off 6 = Reboot outlet without delay 7 = After delay, reboot outlet

VERTIV-QUETZAL-MIB_pduOutletMeterTable

Contains entries for outlets that support metering. This table supplements the corresponding entries in pduOutletMainTable.

pduOutletMeterKWattHrs

OID/Instance	1.3.6.1.4.1.21239.6.1.99.8.1.1 [.1][.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Kilowatt hours for outlet

pduOutletMeterAmps

OID/Instance	1.3.6.1.4.1.21239.6.1.99.8.1.2 [.1][.1-.64]
Type/Units	DeciAmps
Access	read-only
Description	Current reading for outlet

pduOutletMeterPower

OID/Instance	1.3.6.1.4.1.21239.6.1.99.8.1.3 [.1][.1-.64]
Type/Units	Gauge32
Access	read-only
Description	Power measurement for outlet

2.2.2 Traps

Units will send v5 traps, regardless of which hardware is used. v4-style traps are no longer supported and have been removed from the MIB. See the v5 Trap section for more details.

2.3 System Group

v5 firmware supports the same system group OIDs that we support on GUv3. Most of the SNMP objects are mapped to api values (see descriptions in System - Object Identifiers). Modifying an api value changes what's reported in SNMP. Since you can change the SNMP value via the api, we simplified SNMP by making all of the objects read-only.

2.3.1 Object Identifiers

Section	Field	OID[Instance]	R/W	Type	Units
system					
	sysDescr	1.3.6.1.2.1.1.1[.0]	R	DisplayString	
	sysObjectID	1.3.6.1.2.1.1.2[.0]	R	ObjectIdentifier	
	sysUpTime	1.3.6.1.2.1.1.3[.0]	R	TimeTicks	
	sysContact	1.3.6.1.2.1.1.4[.0]	R	DisplayString	
	sysName	1.3.6.1.2.1.1.5[.0]	R	DisplayString	
	sysLocation	1.3.6.1.2.1.1.6[.0]	R	DisplayString	
	sysServices	1.3.6.1.2.1.1.7[.0]	R	Integer32	

SNMPv2-MIB::system

sysDescr

OID/Instance	1.3.6.1.2.1.1.1 [.0]
Type/Units	DisplayString, 0 to 255
Access	read-only
Description	Description of the system. API equivalent is conf/contact/description.

sysObjectID

OID/Instance	1.3.6.1.2.1.1.2 [.0]
Type/Units	ObjectIdentifier
Access	read-only
Description	Provides a product identifier OID used to identify the device type. R-Series v5 (r05) = 1.3.6.1.4.1.21239.42.1.15 GU v2 (i03) = 1.3.6.1.4.1.21239.42.1.53

sysUpTime

OID/Instance	1.3.6.1.2.1.1.3 [.0]
Type/Units	TimeTicks
Access	read-only
Description	The amount of time the device has been running since power-up. Measured in hundredths of a second.

sysContact

OID/Instance	1.3.6.1.2.1.1.4 [.0]
Type/Units	DisplayString, 0 to 255
Access	read-only
Description	Contact info for the admin of this device. Maps to conf/contact/contactEmail in api.

sysName

OID/Instance	1.3.6.1.2.1.1.5 [.0]
Type/Units	DisplayString, 0 to 255
Access	read-only
Description	Admin-assigned name for the device. Equivalent to conf/system/label in api

sysLocation

OID/Instance	1.3.6.1.2.1.1.6 [.0]
Type/Units	DisplayString, 0 to 255
Access	read-only
Description	Description of where the device is located. API equivalent is conf/contact/location

sysServices

OID/Instance	1.3.6.1.2.1.1.7 [.0]
Type/Units	Integer32, 0 to 127
Access	read-only
Description	Indicates which services the device provides.

3 Provisioner

3.1 Provisioner API Usage

The Provisioner API conforms to the Geist Web API with the exception of the root path. All Provisioner requests are performed on a path starting with /provisioner/ instead of /api/ (an example usage would be http://<ip_address>/provisioner/host). Otherwise, the behavior of nodes in the path is unchanged from the regular API.

3.2 Provisioner API

Object Field	Data Format	Range	Default	Notes read-only unless marked otherwise
apiVersion	String	0 to String Max		
state	String	"idle" | "scan" | "busy"		
result				
retMessag e	String			
retCode	Error Code			
file/firmware/ID				
date	String			
platform	String			
version	String			
file/config/ID				
date	String			
host/ID				
parent	String			
provisione d	Boolean			
platform	String	0 to 8 chars		
version	String	0 to String Max		
label	String	0 to String Max		
httpPort	Integer			
httpsPort	Integer			
addresses	String Array			
state	String	"idle" | "refresh" | "updateFirmware" | "updateConf" | "delete"		
host/ID/dev/ID				
label	String	0 to String Max		
type	String	"i03" | "rs" | "remotetemp" | "unknown"		
class	String	"pdu" | "environmental" | "unknown"		

Object Field	Data Format	Range	Default	Notes read-only unless marked otherwise
host/ID/result				
retMessag e	String			
retCode	Error Code			

API: provisioner: get

```
provisioner: get
{
"apiVersion": 1,
"state": "idle",
"result": { ... },
"file": { ... },
"host": { ... }
}
```

Line Number	Description
2	The version of the API used by this system.
4	String describing what this system is currently doing. "Scan" indicates that the system is currently scanning for updated hosts. "Busy" indicates that the system is currently busy with another operation. "Idle" indicates that the system is prepared to receive commands.
5	provisioner/result
6	provisioner/file
7	provisioner/host

CLI: get provisioner

```
user> get provisioner
apiVersion: 1
state: idle
result:
...
file:
...
host:
...
```

Line Number	Description
2	The version of the API used by this system.
3	String describing what this system is currently doing. "Scan" indicates that the system is currently scanning for updated hosts. "Busy" indicates that the system is currently busy with another operation. "Idle" indicates that the system is prepared to receive commands.
4	provisioner/result

Line Number	Description
5	provisioner/file
6	provisioner/host

3.2.1 Result

Contains the response code and message of the last operation performed on this system. Will be null if this system is currently performing an operation or if no command has been executed.

API: provisioner/result: get

```
1 provisioner/result: get
2 {
3 "retCode": 0,
4 "retMessage": "Success"
5 }
```

CLI: get provisioner result

```
1 user> get provisioner result
2 retCode: 0
3 retMessage: Success
```

3.2.2 File

Information about the currently stored firmware and configuration files to be used for mass update and configuration. Firmware and config files may be uploaded or downloaded on the appropriate transfer/provisioner path. There may only be one each of firmware and config files. Undesired files must be deleted with the delete command before uploading a new file.

API: provisioner/file: get

```
1 provisioner/file: get
2 {
3 "firmware": { ... },
4 "config": { ... }
5 }
```

Line Number	Description
3	provisioner/file/firmware
4	provisioner/file/config

CLI: get provisioner file

```
1 user> get provisioner file
```

```
2 firmware:
3 ...
4 config:
5 ...
```

Line Number	Description
2	provisioner/file/firmware
4	provisioner/file/config

Command: Delete

Removes the referenced file.

API: provisioner/file/config/ID: delete (Admin)

```
1 provisioner/file/config/ID: delete (Admin)
2 {
3 }
```

CLI: delete provisioner file config ID (Admin)

```
1 admin> delete provisioner file config ID
2 ~
```

API: provisioner/file/firmware/ID: delete (Admin)

```
1 provisioner/file/firmware/ID: delete (Admin)
2 {
3 }
```

CLI: delete provisioner file firmware ID (Admin)

```
1 admin> delete provisioner file firmware ID
2 ~
```

Firmware

Information about the currently stored firmware file.

API: provisioner/file/firmware: get

```
1 provisioner/file/firmware: get
2 {
3 "firmware.out": {
```

```
4  "version": "5.7.1",
5  "date": "2020-12-09 13:42:12",
6  "platform": "gmmb"
7  }
8  }
```

Line Number	Description
3	ID is the unique filename assigned on upload.
4	Version target for the firmware file.
5	Date the file was uploaded.
6	Platform target for the firmware file.

CLI: get provisioner file firmware get

```
1  user> get provisioner file firmware
2  firmware.out:
3  version: 5.7.1
4  date: 2020-12-09 13:42:12
5  platform: gmmb
```

Line Number	Description
2	ID is the unique filename assigned on upload.
3	Version target for the firmware file.
4	Platform target for the firmware file.
5	Date the file was uploaded.

Config

Information about the currently stored configuration file.

API: provisioner/file/config: get

```
1  provisioner/file/config: get
2  {
3  "config.json": {
4  "date": "2020-12-09 13:42:12"
5  }
6  }
```

Line Number	Description
3	ID is the unique filename assigned on upload.
4	Date the file was uploaded.

CLI: get provisioner file config

```
1 user> get provisioner file config
2 config.json:
3 date: 2020-12-09 13:42:12
```

Line Number	Description
2	ID is the unique filename assigned on upload.
3	Date the file was uploaded.

3.2.3 Host

List of discovered hosts. This list is not preserved across reboots.

API: provisioner/host/: get

```
1  provisioner/host/: get
2  {
3  "00:1e:c0:b1:98:e7": {
4  "parent": null,
5  "provisioned": true,
6  "platform": "gmmb",
7  "version": "5.5.6",
8  "label":"System label",
9  "httpPort": null,
10 "httpsPort": 123,
11 "addresses":[ ... ],
12 "state": "idle",
13 "result": { ... },
14 "dev":{ ... }
15 }
16 }
```

Line Number	Description
3	The ID is the MAC address of the discovered host.
4	The MAC address of the host's primary system. Null if the host is not a oneview secondary system.
5	Sourced from api/sys/state/adminExists on the host.
6	Sourced from api/sys/platform on the host.
7	Sourced from api/sys/version on the host.
8	Sourced from api/sys/label on the host.
9	Sourced from api/conf/http/httpPort on the host. Null if HTTP disabled on host.
10	Sourced from api/conf/http/httpsPort on the host. Null if HTTPS disabled on host.
11	List of all addresses found under api/conf/network/ID/address of the host.

Line Number	Description
12	String describing what the host is currently doing. Will be one of "idle", "refresh", "updateFirmware", "updateConf", "delete".
13	provisioner/host/ID/result
14	provisioner/host/ID/dev

CLI: get provisioner host

```
1  user> get provisioner host
2  00:1e:c0:b1:98:e7:
3  parent: ~
4  provisioned: true
5  platform: gmmb
6  version: 5.5.6
7  label: System Label
8  httpPort: ~
9  httpsPort: 123
10 addresses: [...]
11 state: idle
12 result:
13 ...
14 dev:
15 ...
```

Line Number	Description
2	The ID is the MAC address of the discovered host.
3	The MAC address of the host's primary system. Null if the host is not a oneview secondary system.
4	Sourced from api/sys/state/adminExists on the host.
5	Sourced from api/sys/platform on the host.
6	Sourced from api/sys/version on the host.
7	Sourced from api/sys/label on the host.
8	Sourced from api/conf/http/httpPort on the host. Null if HTTP disabled on host.
9	Sourced from api/conf/http/httpsPort on the host. Null if HTTPS disabled on host.
10	List of all addresses found under api/conf/network/ID/address of the host.
11	String describing what the host is currently doing. Will be one of "idle", "refresh", "updateFirmware", "updateConf", "delete".
12	provisioner/host/ID/result
13	provisioner/host/ID/dev

Command: Delete

Removes the referenced host from provisioner/host, regardless of current state. May be called on a specific host, where path is provisioner/host/ID, or may be called on all hosts, where path is provisioner/host. When called on all hosts, supports an optional filter which is used to limit, which hosts are deleted.

API: provisioner/host: delete (Enabled)

```
provisioner/host: delete (Enabled)
{
"filter": { ... },
}
```

Line Number	Description
3	Optional argument. This is a filter object that matches the host or hosts to be deleted. If it is not provided, all hosts will be deleted from this path.

CLI: delete provisioner host

```
enabled> delete provisioner host
~
```

Line Number	Description
2	Because CLI does not accept filter objects, provisioner may not be filtered from the command line.

API: provisioner/host/ID: delete (Enabled)

```
provisioner/host/ID: delete (Enabled)
{}
```

CLI: delete provisioner host ID (Enabled)

```
enabled> delete provisioner host ID
~
```

Command: Refresh

Refreshes hosts that have already been discovered. This command uses the current port and IP address information to query that host's API. New data overwrites old data for the host depending on the response code. This command can be called on all hosts together or single hosts by calling it on the generic provisioner/host path or by calling specific host/ID paths.

API: provisioner/host: refresh (Enabled)

```
1 provisioner/host: refresh (Enabled)
2 {
3
4 }
```

Line Number	Description
1	Refreshes all hosts on the path.

CLI: refresh provisioner host (Enabled)

```
enabled> refresh provisioner host
~
```

API: provisioner/host/ID: refresh (Enabled)

```
1 provisioner/host/ID: refresh (Enabled)
2 {
3
4 }
```

Line Number	Description
1	Refreshes only this host.

CLI: refresh provisioner host ID (Enabled)

```
enabled> refresh provisioner host ID
~
```

Command: Scan

Populates provisioner/host with hosts it can discover through GDP. If a discovered host is not already in provisioner/host, it is added to the list. If a system with oneview enabled is encountered, it will retrieve a list of secondary hosts from that unit and add those also. After a scan occurs, all hosts are scheduled for refresh, which fully populates all associated fields. An optional argument may be provided to restrict the scan to addresses supplied. While this command is running, provisioner/state will be set to "busy".

API: provisioner/host: scan (Enabled)

```
1 provisioner/host: scan (Enabled)
2 {
3 "list": [ ... ],
4 }
```

Line Number	Description
3	Optional argument. List of IP Addresses to restrict the scan to. If it is not provided, the system will discover as many as possible through GDP

CLI: scan provisioner host (Enabled)

```
1 enabled> scan provisioner host = ARGS
2 scan provisioner host = {list:["192.168.123.123",
  "192.168.123.128","192.168.128.125"]}
```

Line Number	Description
2	"list" is an optional argument. It is a list of IP addresses to restrict the scan to. If it is not provided, the system will discover as many as possible through GDP..

Command: Update

Applies configuration or firmware update to specified hosts. When used on the /provisioner/host/ID path, applies the update to that host only. When used on the /provisioner/host path, applies updates to all hosts on the path. When applied to multiple hosts, an optional "filter" argument may be specified to restrict the update to hosts matching the filter.

When a configuration update includes the api/dev tree, any device IDs present in the configuration will be mapped to an appropriate device ID present on the host. If no appropriate conversion is found, references to the unconverted ID will be removed from the update before applying it to the host. The mapping and reference dropping takes place on a per-host basis, even when the update is called on multiple hosts.

API: provisioner/host: update (Admin)

```
1 provisioner/host: update (Admin)
2 {
3 "path": "/provisioner/file/firmware/firmware.out",
4 "username": "optional",
5 "password": "optional",
6 "filter": { ... }
7 }
```

Line Number	Description
3	Required. Specifies the path to the file to be used in the update.
4	Optional argument. Username to log in to every host as for the update. If this argument is present, "password" must also be present.
5	Optional argument. If this argument is present, "username" must also be present.
6	Optional argument. Restricts the hosts to be updated to those matching the provided filter.

CLI: update provisioner host (Admin)

```
admin> update provisioner host = ARGS
update provisioner host =
{"path":"/provisioner/file/firmware/firmware.out","username":"optional",
"password":"optional"}
```

Line Number	Description
2	CLI does not accept filters.
	Required arguments: path.
	Optional arguments: username, password.
	If either username or password is present, the other must also be present.

API: provisioner/host/ID: update (Admin)

```
provisioner/host/ID: update (Admin)
{
"path": "/provisioner/file/firmware/firmware.out",
"username": "optional",
"password": "optional"
}
```

Line Number	Description
3	Required. Specifies the path to the file to be used in the update.
4	Optional argument. Username to log in to the host as for the update. If this argument is present, "password" must also be present.
5	Optional argument. If this argument is present, "username" must also be present.

CLI: update provisioner host ID (Admin)

```
admin> update provisioner host ID = ARGS
update provisioner host ID = {path:/provisioner/file/firmware/firmware.out,
username:optional, password: optional}① ② ③
```

Line Number	Description
2	Required arguments: path.
	Optional arguments: username, password.
	If either username or password is present, the other must also be present.

Host/ID/Dev

List of devices found under api/dev on the host.

API: provisioner/host/ID/dev: get

```
provisioner/host/ID/dev: get
{
"DEV_ID": {
"label": "Device label",
"type": "i03",
"class": "pdu"
}
}
```

Line Number	Description
3	Sourced from api/dev/ID on host.
4	Sourced from api/dev/ID/label on host.
5	Sourced from api/dev/ID/type on host.
6	Corresponds to "type" field. Will be one of "pdu", "environmental", or "unknown".

CLI: get provisioner host ID dev

```
user> get provisioner host ID dev
DEV_ID:
label: Device Label
type: i03
class: pdu
```

Line Number	Description
2	Sourced from api/dev/ID on host.
3	Sourced from api/dev/ID/label on host.
4	Sourced from api/dev/ID/type on host.
5	Corresponds to "type" field. Will be one of "pdu", "environmental", or "unknown".

Host/ID/Result

Contains the response code and message of the last operation performed on the host. Null if the host is currently performing an operation or if no command has been executed.

```
provisioner/host/ID/result: get
{
"retCode": 0,
"retMessage": "Success"
}
```

4 OneView

4.1 OneView API Usage

The OneView API conforms to the Geist Web API with the exception of the root path. All OneView requests are performed on a path starting with /oneview/ instead of /api/ (an example usage would be http://<ip_address>/oneivew/host). Otherwise, the behavior of nodes in the path is unchanged from the regular API. OneView must be enabled at /api/conf/oneview/enabled in order to use it.

Enabling OneView requires Admin level authentication.

4.2 OneView API

Object	Data			Notes
Field	Format	Range	Default	Unless otherwise noted, this tree is Read-Only
cli				Deprecated, to be removed.
state	String			
code	Integer			
conf/gdp				Deprecated, to be removed.
address	IP Address			
discoveryLimit	Integer			
attempts	Integer			
sequenceId	Integer			
timeout	Integer			
group/ID				
name	String			
label	String	1 to String Max	contents of "name"	Settable
order	Integer	0 to 4294967295	Next unused integer	Settable
state	String	"idle", "discovered", "partiallyUnavailable ", "unresponsive"		
snmpInstance	Integer			
group/ID/entity/TYPE/ID/				
name	String			
group/ID/entity/TYPE/ID/alarm				
severity	String	"", "alarm", "warning"		
state	String	"clear", "acked", "latched", "tripped", "inactive", "none"		
group/ID/entity/TYPE/ID/measurement/ID				
type	String	Measurement type, as a string		

Object	Data			Notes	
minValue	String	0 to 8 chars			
maxValue	String	0 to 8 chars			
avgValue	String	0 to 8 chars			
sumValue	String	0 to String Max			
units	String	1 to 4 chars			
state	String	"normal", "unavailable"			
group/ID/entity/TYPE/ID/measurement/ID/alarm					
severity	String	"", "alarm", "warning"			
state	String	"clear", "acked", "latched", "tripped", "inactive", "none"			
host/ID					
type	String				
order	Integer	0 to 4294967295	Next unused integer	Settable	
state	String				
group	String				
httpsPort	Integer				
webPort	Integer				
snmpInstance	Integer				
snmpPort	Integer				
host/ID/gdp					
retCode	Integer	0 to 9999			
retMsg	String	0 to String Max			
host/ID/groupMap					
group	String		"unassigne d"	Settable	
host/ID/groupMap/dev/ID					
group	String		null	Settable	
info				Deprecated, to be removed.	
apiVersion	String				
dirtyCount	Integer				
state	String				

API: /oneview: get

```
/oneview: get
{
"host": {},
"group": {},
"cli": {},
"conf": {},
```

```
7  "info": {}
8  }
```

Line Number	Description
3	oneview/host: Collection of all discovered hosts.
4	oneview/group: Host aggregation groups.
5	oneview/cli: CLI state. Deprecated.
6	oneview/conf: OneView configuration. Deprecated.
7	oneview/info: OneView details and overall state. Deprecated.

```
1  CLI: get oneview
2  user> get oneview
3  host:
4  ...
5  group:
6  ...
7  cli:
8  ...
9  conf:
10 ...
11 info:
12 ...
```

Line Number	Description
3	oneview/host: Collection of all discovered hosts.
5	oneview/group: Host aggregation groups.
7	oneview/cli: CLI state. Deprecated.
9	oneview/conf: OneView configuration. Deprecated.
11	oneview/info: OneView details and overall state. Deprecated.

4.3 Host: /oneview/host

API: /oneview/host: get

```
1  /oneview/host: get
2  {
3  "00:11:22:33:44:55": {
4  "type":  "pdu",
5  "order":  1,
6  "state":  "idle",
7  "group":  "2",
8  "webPort":  16009,
9  "snmpPort":  15009,
10 "cache": {},
11 "gdp": {}
12 "httpsPort":  17056
13 "snmpInstance":   3
14 "groupMap":  {}
15 }
16 }
```

Line Number	Description
4	pdu, environmental, ups, cooling, or unknown.
5	order
6	idle, discovered, partiallyUnavailable, unresponsive.
7	ID in oneview/group
8	Web port forwarding. Not present on all hosts.
9	SNMP port forwarding
10	oneview/host/ID/cache
11	oneview/host/ID/gdp
12	HTTPS port forwarding. Not present on all hosts.
13	SNMP Instance.
14	oneview/host/ID/groupMap

LI: get oneview host

```
1  user> get oneview host
2  00:11:22:33:44:55:
3  type: pdu
4  order: 1
5  state:  idle
6  group: 2
7  webPort:  16009
8  snmpPort:  15009
9  cache:
10 ...
11 gdp:
12 ...
13 httpsPort: 17056
14 snmpInstance:  3
```

```
15 groupMap:
16 ...
```

Line Number	Description
3	pdu, environmental, ups, cooling, or unknown.
4	order
5	idle, discovered, partiallyUnavailable, unresponsive.
6	ID in oneview/group
7	Web port forwarding. Not present on all hosts.
8	SNMP port forwarding
9	oneview/host/ID/cache
11	oneview/host/ID/gdp
13	HTTPS port forwarding. Not present on all hosts.
14	SNMP Instance.
15	oneview/host/ID/groupMap

4.3.1 ID/GDP

API: /oneview/host/ID/gdp: get

```
1 /oneview/host/ID/gdp: get
2 {
3 "retCode": 0,
4 "retMsg": "",
5 "payload": {}
6 }
```

Line Number	Description
2	Of last GDP configure command
3	Of last GDP configure command
4	See "Payload" section of GDP documentation for more information.

CLI: get oneview host ID gdp

```
1 user> get oneview host ID gdp
2 retCode: 0
3 retMsg:
4 payload:
5 ...
```

Line Number	Description
2	Of last GDP configure command
3	Of last GDP configure command
4	See "Payload" section of GDP documentation for more information.

4.3.2 ID/Cache

Is a Read-Only JSON object with the same contents as /api on the host.

4.3.3 ID/groupMap/dev/ID

/oneview/host/ID/groupMap/dev: get

API: /oneview/host/ID/groupMap/dev: get

```
/oneview/host/ID/groupMap/dev: get
{
"4F001EC0B198E7C3": {
"outlet": {
"0": {
"group": null
}
}
}
}
```

Line Number	Description
2	Device ID
3	List of associated outlets
4	Group assignment of the outlet. Outlets not assigned a group will have null value here.

CLI: get oneview host ID groupMap dev

```
user> get oneview  host  ID  groupMap  dev
4F001EC0B198E7C3:
outlet:
0:
group: ~
```

Line Number	Description
2	Device ID
3	List of associated outlets
5	Group assignment of the outlet. Outlets not assigned a group will have null value here.

Table 2.10 OneView Supported Devices

Name	Type	Notes
GU1	rack PDU	
GU2	rack PDU	
MPH2	rack PDU	
MPX	rack PDU	
PSI5	UPS	
GXT4	UPS	
GXT5	UPS	
EXM	UPS	
ITA2	UPS	
APM	UPS	
VRC	Cooling	only via rack PDU USB port
CRV	Cooling	
SRT	Environmental	
GTHD	Environmental	
GT3HD	Environmental	

4.3.4 IDgroupMap

API: /oneview/host/ID/groupMap: get

```
1 /oneview/host/ID/groupMap: get{
2 "group": "unassigned",
3 "dev": {}
4 }
```

Line Number	Description
2	Assigned group name.
3	Device List

CLI: get oneview host ID groupMap

```
1  user> get oneview  host  ID  groupMap
2  {
3  "4F001EC0B198E7C3": {
4  "outlet": {
5  "0": {
6  "group": null
7  }
8  }
9  }
10 }
```

Line Number	Description
2	Device ID
3	List of associated outlets
4	Group assignment of the outlet. Outlets not assigned a group will have null value here.

4.4 Group: oneview/group

Groups aggregate the data for all hosts that belong to them. There are 2 permanent groups that cannot be deleted. "total" will aggregate all hosts regardless of which group they belong to. "unassigned" will be the default group for any new hosts.

API: /oneview/group: get

```
/oneview/group: get
{
"0": {
"name": "Group 1",
"label": "Rack 1",
"order": 1,
"state": "idle",
"snmpInstance": 1,
"entity": {}
},
"unassigned": {},
"total": {}
}
```

Line Number	Description
4	default name
5	user set name
6	order.
7	rolled up from contained hosts. idle, discovered, partiallyUnavailable, unresponsive.
8	SNMP instance number
9	oneview/group/ID/entity
11	Unassigned group. The default group for any new hosts. Cannot be deleted. Contains all hosts not assigned to another group.
12	Total group. Aggregates all hosts regardless of group. Cannot be deleted.

CLI: get oneview group

```
user> get oneview group
0:
name: Group 1
label: Rack 1
order: 1
state: idle
snmpInstance: 1
entity:
...
unassigned:
...
total:
...
```

Line Number	Description
3	default name
4	user set name
5	order.
6	rolled up from contained hosts. idle, discovered, partiallyUnavailable, unresponsive.
7	SNMP instance number
8	oneview/group/ID/entity
10	Unassigned group. The default group for any new hosts. Cannot be deleted. Contains all hosts not assigned to another group.
12	Total group. Aggregates all hosts regardless of group. Cannot be deleted.

4.4.1 Entity

Entities contain a series of objects of different types. Each entity will have a set of generic attributes (see Entity: Common fields. Other attributes may be present depending on entity type. For groups, each entity's measurements will be an aggregation of every relevant host contained in the group. Different entity types are available depending on which hosts are in the group. Entity types are:

pduTotal	Total aggregation of all PDU measurements.
pduPhase	Aggregation of a single PDU phase.
ups	Aggregation of all UPS measurements.
environmental	Aggregation of all environmental measurements.
outlet	Aggregation of all outlet units measurements.

API: oneview/group/ID/entity: get

```
oneview/group/ID/entity: get
{
"pduTotal": {},
```

```
4  "pduPhase": {},
5  "ups": {},
6  "environmental": {},
7  "cooling": {},
8  "outlet": {}
9  }
```

Line Number	Description
3	All entities of the pduTotal type. Only present in groups which contain a relevant host.
4	All entities of the pduPhase type. Only present in groups which contain a relevant host.
5	All entities of the ups type. Only present in groups which contain a relevant host.
6	All entities of the environmental type. Only present in groups which contain a relevant host
7	All entities of the cooling type. Only present in groups which contain a relevant host.
8	All entities of the outlet type. Only present in groups which contain a relevant host.

CLI: get oneview group ID entity

```
1  user> get oneview group ID entity
2  pduTotal:
3  ...
4  pduPhase:
5  ...
6  ups:
7  ...
8  environmental:
9  ...
10 cooling:
11 ...
12 outlet:
13 ...
```

Line Number	Description
2	All entities of the pduTotal type. Only present in groups which contain a relevant host.
4	All entities of the pduPhase type. Only present in groups which contain a relevant host.
6	All entities of the ups type. Only present in groups which contain a relevant host.
8	All entities of the environmental type. Only present in groups which contain a relevant host
10	All entities of the cooling type. Only present in groups which contain a relevant host.
12	All entities of the outlet type. Only present in groups which contain a relevant host.

Entity: Common fields

API: oneview/group/ID/entity/TYPE: get

```
1 oneview/group/ID/entity/TYPE: get
2 {
3 "0": {
4 "name": "Phase A",
5 "alarm": {},
6 "measurement": {}
7 }
8 }
```

Line Number	Description
4	Name of the entity. Possible values are "Total", "Phase A", "Phase B", "Phase C", "UPS", "Cooling", "Environmental".
5	Rolled up from the available measurements.
6	Measurement object.

CLI: get oneview group ID entity TYPE

```
1 user> get oneview group ID entity TYPE
2 0:
3 name: Phase A
4 alarm:
5 ...
6 measurement:
7 ...
```

Line Number	Description
3	Name of the entity. Possible values are "Total", "Phase A", "Phase B", "Phase C", "UPS", "Cooling", "Environmental".
4	Rolled up from the available measurements.
6	Measurement object.

3Measurement

API: /oneview/group/ID/entity/TYPE/ID/measurement: get

```
1 /oneview/group/ID/entity/TYPE/ID/measurement: get
2 {
3 "0": {
4 "type": "temperature",
5 "minValue": "3.33",
6 "maxValue": "5.55",
7 "avgValue": "4.44",
8 "sumValue": "7.77",
9 "units": "C",
```

```
10  "state": "normal",
11  "alarm": {}
12  }
13  }
```

Line Number	Description
3	Measurement type. See above
4	String representation of the aggregated minimum value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
5	String representation of the aggregated maximum value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
6	String representation of the aggregated average value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
7	String representation of the aggregated sum value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
8	units
9	state. normal or unavailable
10	alarm state

CLI: get oneview group ID entity TYPE ID measurement

```
1  user> get oneview group ID entity TYPE ID measurement
2  0:
3  type: temperature
4  minValue: 3.33
5  maxValue: 4.44
6  avgValue: 5.55
7  sumValue: 7.77
8  units: C
9  state: normal
10 alarm:
11 ...
```

Line Number	Description
2	Measurement type. See above
3	String representation of the aggregated minimum value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
4	String representation of the aggregated maximum value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
5	String representation of the aggregated average value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.
6	String representation of the aggregated sum value of the measurement. Precision depends on measurement type. If "state" is "unavailable", will show last known value or "" if no known values exist. Not all entities will have this entry.

Line Number	Description
7	units
9	state. normal or unavailable
10	alarm state

4.5 CLI: oneview/cli

This tree will be removed soon and is included here only to acknowledge its presence.

4.6 Conf: oneview/conf

This tree will be removed soon and is included here only to acknowledge its presence.

4.7 Info: oneview/info

This tree will be removed soon and is included here only to acknowledge its presence.

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Appendix A: Glossary

Series	Description
v3	Geist Upgradeable PDU, Watchdog 15, or Watchdog 100 device using firmware v3.x.y
v4	R-Series PDU using firmware v4.x.y
v5	Geist Upgradeable PDU or R-Series PDU using firmware v5.x.y
GU	Geist Upgradeable PDU using either v3.x.y or v5.x.y firmware
GUv3	Geist Upgradeable PDU using firmware v3.x.y
GUv5	Geist Upgradeable PDU using firmware v5.x.y
RS	R-Series PDU using either v4.x.y or v5.x.y firmware
RSv5	R-Series PDU using firmware v5.x.y

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