

Vertiv™ Liebert® TFX 50* – 300 kVA PDU



Efficient and reliable power distribution for your mission-critical applications

Overview

The Vertiv™ Liebert® TFX is a power distribution unit for small to mid-sized data centers, server rooms, network closets, and remote facilities. The Liebert® TFX offers flexible power configuration for enterprises and colocation companies with specific distribution needs. With a compact footprint and easy mobility, it is ideally suited for edge data centers and facilities with limited space.

Benefits

- Reliable uninterrupted power distribution to your IT infrastructure
- Customized configuration with up to 3x42P panelboards, and up to 5x600AF or 12x250AF subfeeds
- Available as a Standard Configuration in 200, 225, 250, and 300 kVA models
- Available as ETO - Engineered to Order in 50, 75, 100, 125, and 150 kVA models
- Modular unit design allows for onsite maintenance of monitoring components while the unit is live
- Power monitoring system allows you to manage equipment loads on local and remote facilities

How it works

The Vertiv™ Liebert® TFX provides reliable uninterrupted single or two-stage power distribution for small to mid-sized mission-critical environments. The unit transforms UPS voltage into standard voltage for distribution to IT infrastructure, and can handle energy levels between 50*-300 kVA. Manufactured for high energy efficiency, the made-to-order PDU is shipped to you with a custom configuration of panelboards and subfeeds, created for your facility's specific power requirements. Additionally, you can supplement the transformer with Liebert® FLX expansion cabinets for additional power distribution.

Solving problems

Many companies face the problem of limited floor space in their data centers, especially in smaller remote facilities. The Liebert TFX features a compact front-facing transformer cabinet that can be installed next to walls, and in corners or alcoves, allowing you to maximize space for IT infrastructure. The Liebert TFX cabinet offers easy mobility, and with a 36-inch depth, can fit through doorways or into service elevators.

Also, the Liebert TFX features a modular design that helps to minimize downtime during maintenance. Isolated panelboards make it easy for service personnel to replace or troubleshoot low-voltage monitoring components without powering down the unit.

Adding value

Monitoring power usage in your critical environment is essential to ensuring the safety and continuity of your IT infrastructure. Easy access to accurate, real-time data on power status and load levels is crucial, whether the IT footprint is deployed in an on-site data center or a remote facility.

The Liebert TFX features intelligent power monitoring, with a 9-inch color touchscreen display that provides one-line system and individual breaker status and equipment load levels. A navigation menu makes it easy to program the system and manage equipment loads, and to import or export site specific configurations to or from other PDU units. The monitoring system offers voltage, current, power, and energy metering accurate to 1%.

Furthermore, the monitoring system integrates with your BMS to provide management of local and remote power distribution, with automatic notification of potential overloads and local or remote emergency power-off.



Technical specifications

Electrical

kVA Rating	200kVA, 225kVA, 250kVA, 300kVA Standard / *50kVA, 75kVA, 100kVA, 125kVA, 150kVA ETO* - Engineered to Order.
Input	3-phase, 3-wire plus ground
Input Voltage	@50Hz, 380V-415V @60Hz, 480V
Output	3-phase, 4-wire plus ground
Output Voltage	@50Hz: 380/230V, 415/240V @60Hz: 415/240V, 208/120V
Agency listed to	UL-60950-1, UL-62368-1, FCC Part 15, and ANSI/IEEE C62.41 for Category B1 locations

Operating conditions

Operating Temperature	0 to 40°C
Storage Temperature	-20 to 55°C
Audible Noise	Meets NEMA ST-20 standard
Relative Humidity	0 to 90% non-condensing
Altitude	up to 6,600ft

Transformer

Meets DOE2016 standard	
Transformer Ratings available in	K4, K13, K20
Transformer Material Type	Copper (Cu) and Aluminum (Al)
Neutral conductor rating	200%
Temp Rise options	150°C (Standard), 115°C, 80°C

Vertiv transformers have been designed and built by Vertiv in our world-class manufacturing facility for over 40 years

Monitoring

Monitoring Configurations	Monitoring at the System level (Input and Output) Monitoring down to the branch circuit level (BCMS)
Display	9.0" Color touchscreen
Measured Values	Voltage, Current, Power Factor, Energy, Harmonics / Waveform Capture Available as an option.
Protocols	Modbus TCP, SNMP, BACnet IP or MSTP, Modbus/RTU, SMS, Email, HTTP/HTTPS and Vertiv Protocol
Environmental sensor enabled through same protocols	



Depth = 35.1" without front door

* Top conduit plate adds 4" to overall installed height

Compact design: Space-saving unit requires minimal floor space, and can fit through any doorway or into freight elevators.

Touchscreen control: 9-inch color LCD touchscreen for system programming with Vertiv™ Liebert® DPM power monitoring.

Easy maintenance access: Front access only for service, side access recommended for installation.

Custom configurations: Power configurations are made-to-order, according to your application demands.

Panelboards and subfeeds: Each unit includes up to 3 x 42P panelboards, and 5 x 600AF or 12 x 250AF subfeeds.

Isolated PCBs: Engineers can safely service or replace low voltage printed circuit boards while high-voltage breakers are live.

Product warranty: Comprehensive coverage through a standard exchange warranty. (One year after product startup, or 18 months after shipment).

Distribution topology

Up to 12x250AF or 5x600AF SF's or up to 3x42P PB's

Monitoring

DPM with internally or externally monitored breaker accessories

Breaker accessories

Auxiliary Switch(s), Alarm Switch

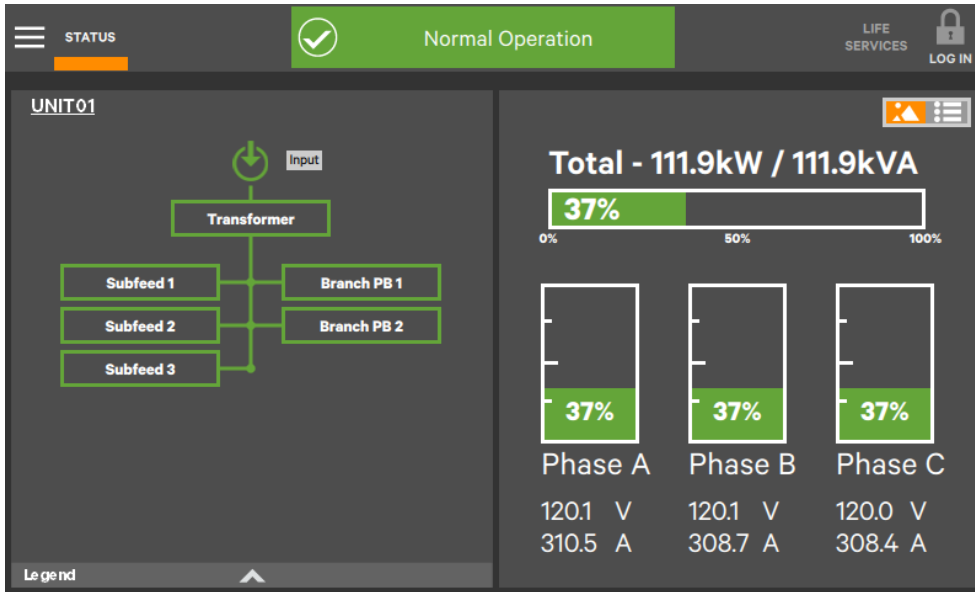
Access

Front access only for service, side access recommended for installation

Vertiv™ Liebert® TFX PDU Distribution Power Monitoring

The Vertiv™ Liebert® TFX PDU features an intelligent distribution power monitoring system, with a 9-inch color touchscreen display. Figure 1 (below) shows the "Status Page" visible on the display screen.

Figure 1: DPM Observer main screen



At left is a "single-line," an electrical diagram of the PDU unit, showing the input, the transformer, and the output distribution of branch panelboards and subfeed breakers. At right is the PDU's total output load, with individual power levels for each phase in a 3-phase distribution, including voltage and amperage for each phase.

Figure 2: DPM Observer metering screen

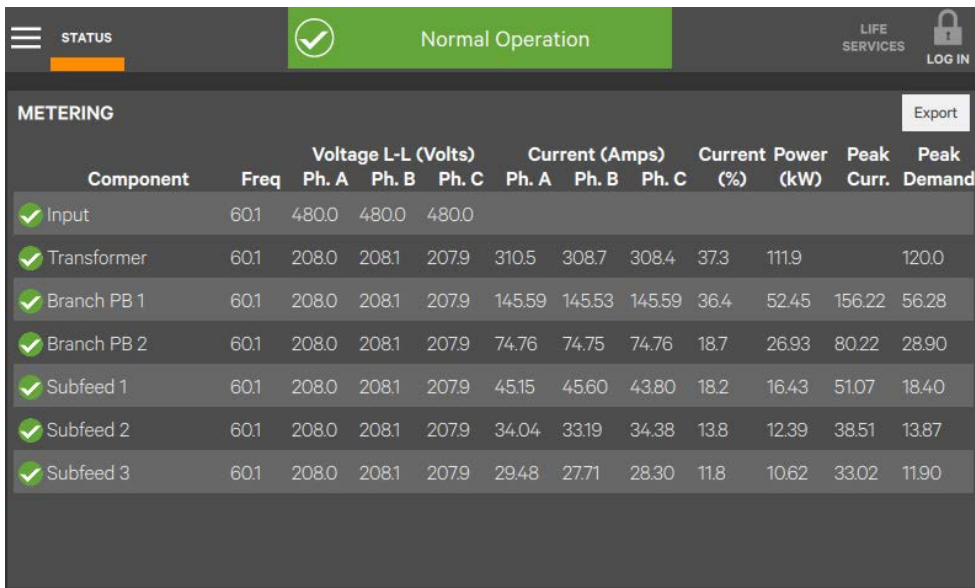


Figure 2 shows the Metering display screen, which gives a one-line status summary and equipment load levels for each component of the PDU unit, including the power input. Using the touchscreen display, you can tap on any of the components in the list, and receive more detailed power distribution information for that component.

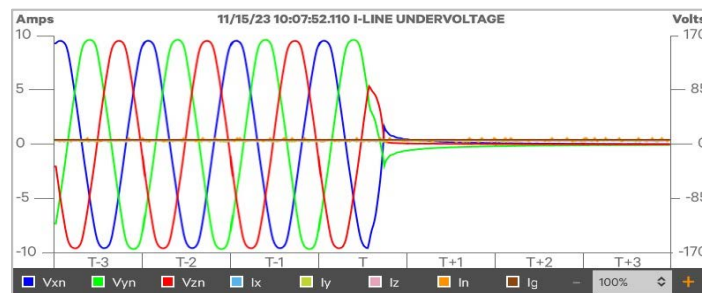
Figure 3: DPM Observer event log

Date/Time	Type	ID	Status	Component	SubComp	Description
3/4/2020 11:11 AM	Fault	335	ON	Subfeed 3		Ground Overcurrent: 3A
3/4/2020 11:11 AM	Fault	339	ON	Subfeed 2		Breaker Tripped
3/4/2020 11:11 AM	Fault	335	ON	Subfeed 1		Ground Overcurrent: 1A
3/4/2020 11:11 AM	Fault	232	OFF	Branch PB 2	Branch 12	Overcurrent: 69A
3/4/2020 11:11 AM	Status	235	ON	Branch PB 1	Branch 50	Energy Measure Rollover
3/4/2020 11:11 AM	Fault	120	ON	Transformer		Breaker Open Fail
3/4/2020 11:11 AM	Fault	123	ON	Transformer Input 2		Breaker Tripped
3/4/2020 11:11 AM	Fault	118	ON	Transformer Input 1		Breaker Tripped

Figure 3 shows the Event Log, which gives one-line summaries of power events that have occurred in the unit, with the location, date, and time of those events.

Benefits

- User-friendly graphical interface
- Single-line mimic diagram showing real-time system status. Easily identify root cause of power quality issues or outages
- Unit monitors power usage for billing or cost allocation
- Automatic charting display for logged power and environmental data
- Power monitoring system allows management of equipment loads on local and remote facilities
- Automatic warnings of near overload conditions
- Waveform Capture Available as an option
- 9-Inch Touchscreen Display
- Breaker Accessory Monitoring
- Alarm Annunciation
- On-Screen Programming
- Transformer in/out
- Waveform Capture



Vertiv.com | Vertiv Headquarters, 505 N Cleveland Ave, Westerville, OH 43082, USA

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