Powersmiths PDU

Versatile power distribution unit optimized for safe maintainability

from 50 to 1000kVA

Powersmiths PDU

Applications

- Mission critical
- IT / data centers
- Commercial & industrial
- Healthcare
- Finance
- Utility

Strong points

- 50 to 1000kVA, efficient OPAL™ transformer
- Integrated sub-feed distributions
- Integrated panelboard distributions
- Integrated Socomec Diris metering
- Safe maintainability
- Isolated cold tap option
- High-density option
- Multi-voltage outputs option
- 360° IR port option
- Outdoor options

Conformity to standards

- cULus 1062, File E487282

Function

The **Powersmiths PDU** (Power Distribution Unit) is optimized for applications demanding the highest levels of power distribution density and reliability in the smallest overall footprint. The unit boasts high levels of configurability, efficiency, live maintainability with service safety, and diagnostic monitoring. It is suitable for applications feeding busways, RPPs (Remote Power Panels), or server racks directly.

Advantages

Powersmiths modular configurable approach

- Enables tailoring to individual project requirements on a UL listed platform
- Cost and delivery advantages associated with a standard product

The true front-only access

- Minimizes the installed footprint
- Leveraging the safer service and maintainability features

Plug & play design

- Highest levels of operational efficiency
- Substantially lower losses and heat load
- Low inrush
- KAIC levels management

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Powersmiths transformer

The transformer in the PDU is critical to the electrical systems of high-power density data centers, ensuring efficiency, load optimization, and overload capacity. It also provides a separately derived source with electrical noise attenuation, controls impedance, fault levels, arc flash, and inrush, and offers harmonic mitigation where necessary. Powersmiths' OPAL™ best practice delivers optimized transformer characteristics tailored to each application. Available transformer winding options include copper, aluminum, or a hybrid copper/aluminum, with full-capacity multi-voltage outputs.

Standard communication feature

- Modbus RTU
- Modbus TCP/IP
- BACnet IP
- SNMP
- Webserver

Technical data

PDU power	
Power rating	50 to 1000kVA
Input	
Voltage	200/380/400/415/440/480/600 V
Frequency	50-60 Hz
Main breaker rating	80% or 100%
Main breaker kAIC	35 to 100 kA
Output	
Voltage	200/380/400/415/440/480/600 V
Multi-voltage	Dual tap-triple tap
Neutral	100%, 150%, 200%
Subfeed distribution	
Subfeeds number	2 to 12
Subfeed current	50 to 600A
Subfeed brand	Square-D, ABB, or per specficiation
Mounting	Plug in or rack in
Panelboards distribution	
Total poles	1*42 to 6*84
Current per feed	100 to 800A
Transformer	
Type	Dry-type
Cooling	Convection cooling
Temperature rise	80°C, 105°C, 115°C, 130°C
Material	Aluminum, copper, hybrid (Cu/Al)
Efficiency	> DOE 2016
Operation losses	Up to 50% reduction
K ratings	K4, K7, K9, K13, K20
Impedances	4% to 7%
Inrush	<7 FLA
EMC	Dual electrostatic shield
Temperature monitoring	Temperature sensors on each coil
Metering	
Meter brand	Socomec A-200/Socomec Digiware or per specification
Mechanical characteristics	
Nema	Type 1, type 3R (outdoor)
Temperature	Operating temperature: 0 to 40°C
Wiring	Wiring: braced, compression lugs (breakers/terminals excepted)
Ventilation	Top vents with debris trap (no horizontal top vents)
Dimensions/Weight	Size & configuration dependent
Standard	
Certification	UL 1062

Power monitoring

- Instantaneous, average, min and max values
- Voltage unbalance
- Neutral current (measured or calculated)
- Ground leakage monitoring
- Fast metrology RMS values
- Breaker status
- Branch circuit monitoring

Power quality

- Harmonic analysis (THD/individual) up to 63rd / only THDs
- Power quality events (sags, swells, interruptions, overcurrents)
- Waveform capture
- ITIC plotting

Options

- Dual feeding
- Kirk key interlocking
- SPD
- EPO
- Floorstand
- Rotatable IR port

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