PDU Solutions

PDU&Monitoring Solutions

Canovate offers a full range of PDU's from basic and metered ones to IP PDU's with per socket switching capability and wireless sensor connectivity. Our PDU's can be used in the most complex ISP and Colocation datacenter applications and provide you the opportunity to control, monitor your energy comsumption and help you to make the correct billing to your customers.

PDU Solutions

BASİC PDU

Density Single-power inlet; 7-12 outlets (Schuko-C13) per rack-mount 1.5U enclosure Max 36 outlet for vertical 0U models
Power 250VAC, 50/60 Hz, 16 or 32-Amp power inlet options. Single or 3 phase option

IEC C13 TYPE

Product Code	Product Description
PB-C06-010-116-W	1U 19" Aluminum 6 way with circuit breaker
PB-C06-100-116-W	1U 19" Aluminum 6 way with on/off switch (*)
PB-C08-010-116-W	1U 19" Aluminum 8 way with circuit breaker
PB-C08-100-116-W	1U 19" Aluminum 8 way with on/off switch (*)
PB-C12-010-116-W	1U Vertical Aluminum 12 way with circuit breaker
PB-C16-010-132	1,5U Vertical Aluminum 16 way with circuit breaker
PB-C18-010-132	1,5U Vertical Aluminum 18 way with circuit breaker

GERMAN TYPE (SCHUKO)

Product Code	Product Description
PB-S04-100-116-W	1U 19" Aluminum 4 way with on/off switch (*)
PB-S04-010-116-W	1U 19" Aluminum 4 way with circuit breaker
PB-S06-100-116-W	1U 19" Aluminum 6 way with on/off switch (*)
PB-S06-010-116-W	1U 19" Aluminum 6 way with circuit breaker
PB-S08-000-116-W	1U 19" Aluminum 8 way (*)
PB-S08-010-116-W	1U Vertical Aluminum 8 way with circuit breaker
PB-S08-100-116-W	1U 19" Aluminum 8 way with on/off switch (*)
PB-S12-010-116	1,5U Vertical Aluminum 12 way with circuit breaker
PB-S16-000-132	1,5U Vertical Aluminum 16 way (*)
PB-S16-010-132	1,5U Vertical Aluminum 16 way with circuit breaker
PB-S18-010-132	1,5U Vertical Aluminum 18 way with circuit breaker

UK TYPE

Product Code	Product Description
PB-U05-100-113-W	1U 19" Aluminum 5 way with on/off switch (*)
PB-U05-010-113-W	1U 19" Aluminum 5 way with circuit breaker
PB-U07-100-113	1,5U 19" Aluminum 7 way with on/off switch (*)
PB-U08-100-113	1,5U 19" Aluminum 8 way with on/off switch (*)
PB-U08-010-113	1,5U 19" Aluminum 8 way with circuit breaker
PB-U12-100-113	1,5U Vertical Aluminum 12 way with on/off switch (*)
PB-U12-010-113	1,5U Vertical Aluminum 12 way with circuit breaker
PB-U16-010-132	1,5U Vertical Aluminum 16 way with circuit breaker
PB-U18-010-132	1,5U Vertical Aluminum 18 way with circuit breaker

FRENCH TYPE

Product Code	Product Description
PB-F06-100-116-W	1U 19" Aluminum 6 way with on/off switch (*)
PB-F06-010-116-W	1U 19" Aluminum 6 way with circuit breaker
PB-F08-100-116-W	1U 19" Aluminum 8 way with on/off switch (*)
PB-F08-010-116	1,5U 19" Aluminum 8 way with circuit breaker
PB-F09-000-116-W	1U 19" Aluminum 9 way (*)
PB-F12-010-116	1,5U Vertical Aluminum 12 way with circuit breaker
PB-F16-010-132	1,5U Vertical Aluminum 16 way with circuit breaker

UNIVERSAL TYPE

Product Code	Product Description
PB-E06-100-116	1U 19" Aluminum 6 way with on/off switch (*)
PB-E06-010-116	1U 19" Aluminum 6 way with circuit breaker
PB-E08-100-116	1U 19" Aluminum 8 way with circuit breaker
PB-E08-010-116	1U 19" Aluminum 8 way with on/off switch (*)

Minimum Order Quantity:30 Pcs.

For other options please contact to your sales representative
Canovate can make changes without notification

*Protection should be located in power distribution panel for the models without circuit breakers

PDU Solutions

Metered PDU

Density Single-power inlet; 6-11 (Schuko-C13) outlets per rack-mount 1.5U enclosureMax 32 outlet for vertical 0U models
Power 250VAC, 50/60 Hz, 16 or 32-Amp power inlet options.
Input Current Monitor Precisely measure the aggregate current (in amps) of power inlet. On-site verification of the input current with the LED digital display. (Optional voltage monitor)

Numeric Led display with ampermeter module
Measures current between 0 and 30 A

Product Description	Schuko Type	UK Type	IEC C13 Type
1U 19" Aluminum 6 way with Ampermeter (*)	PA-S06-000-116	PA-U06-000-116	PA-C06-000-116
1,5U Vertical Aluminum 12 way with Ampermeter (*)	PA-S12-000-116	PA-U12-000-116	PA-C12-000-116
1,5U Vertical Aluminum 16 way with Ampermeter (*)	PA-S16-000-132	PA-U16-000-132	PA-C16-000-132
1,5U Vertical Aluminum 18 way with Ampermeter (*)	PA-S18-000-132	PA-U18-000-132	PA-C18-000-132

Minimum Order Quantity:30 Pcs.
*Protection should be located in power distribution panel for the models without circuit breakers

PROTECTED PDU

Density Single-power inlet; 5-10 (Schuko-C13) outlets per rack-mount 1.5U enclosure, Max 32 outlet for vertical 0U models
Power 250VAC, 50/60 Hz, 16 or 32-Amp power inlet options.
Protection Surge & spike protection, Circuit breaker, optional ON/OFF switch

Product Description	Schuko Type	UK Type	IEC C13 Type
1U 19" Aluminum 5 way with Ampermeter, SP (*)	PA-S05-001-116		PA-C05-001-116
1U 19" Aluminum 5 way with Ampermeter, CB	PA-S05-010-116	PA-U05-010-116	PA-C05-010-116
1U 19" Aluminum 4 way with Ampermeter, CB+SP	PA-S04-011-116		PA-C04-011-116
1,5U Vertical Aluminum 11 way with Ampermeter, SP (*)	PA-S11-001-116	PA-U11-001-116	PA-C11-001-116
1,5U Vertical Aluminum 11 way with Ampermeter, CB	PA-S11-010-116	PA-U11-010-116	PA-C11-010-116
1,5U Vertical Aluminum 10 way with Ampermeter, CB+SP	PA-S10-011-116	PA-U10-011-116	PA-C10-011-116
1,5U Vertical Aluminum 15 way with Ampermeter, SP (*)	PA-S15-001-132	PA-U15-001-132	PA-C15-001-132
1,5U Vertical Aluminum 15 way with Ampermeter, CB	PA-S15-010-132	PA-U15-010-132	PA-C15-010-132
1,5U Vertical Aluminum 14 way with Ampermeter CB+SP	PA-S14-011-132	PA-U14-011-132	PA-C14-011-132
1,5U Vertical Aluminum 17 way with Ampermeter, SP (*)	PA-S17-001-132	PA-U17-001-132	PA-C17-001-132
1,5U Vertical Aluminum 17 way with Ampermeter, CB	PA-S17-010-132	PA-U17-010-132	PA-C17-010-132
1,5U Vertical Aluminum 16 way with Ampermeter CB+SP	PA-S16-011-132	PA-U16-011-132	PA-C16-011-132

SP : Surge Protector CB : Circuit Breaker

*Protection should be located in power distribution panel for the models without circuit breakers

Minimum Order Quantity:30 Pcs.

PDU Solutions

Modular PDU

Canovate Modular PDU offers flexibility to design you own PDU that exactly meet your needs. The special light weighted housing design is the key to modularity. Also the wide range of modules, which enable users to mix and match socket styles, let you arrange the socket density in you applications. In adition to product choice and configuration flexibility the modules are also hot swappable. That means you can disconnect, change or swap any of the modules that is installed without stopping the whole PDU. Just detach devices that is connected to the module, remove the original and snap-in the replacement.

Main Unit

Density Single power inlet; 6xSlots for hot swappable modules.
Power 250VAC, 50/60 Hz, 32-Amp power inlet options.
Protection Circuit braker on master module (5 slots stay to be configurable, if used)

Modules Hot swappable modules
Density Configurable with 3 way UK, 4 way Schuko, 5 way C13 outlets
Power 250VAC, 50/60 Hz, 16A

Product Code	Product Description
PM-002	Aluminum Housing with 2 Module Capacity
PM-004	Aluminum Housing with 4 Module Capacity
PM-006	Aluminum Housing with 6 Module Capacity

Product Code	Product Description
PQ-B02-010-116	Master Circuit Breaker Module
PQ-U03-000-116	3 way UK module
PQ-S04-000-116	4 way Schuko module
PQ-C05-000-116	5 way IEC module

Minimum Order Quantity:30 Pcs.

Master Circuit Breaker Module

4 way Schuko module

5 way IEC module

3 way UK module

Single Input

Expandable PDU

Extendable PDU is the most suitable solution to the users who want to control and maximize the space efficiency in the rack. The special design that is composed of two parts; the control unit and extension units, offers maximum modularity. PDU provides 28 outputs by connecting 4 extension units to one control unit. The control unit is zero-U rack mountable.You can install to the side or back of the rack without sacrificing any "U" space in the rack. Also the extension bars can be install to the frame of the rack.

Main unit

Density IEC 309 power inlet; 4xC19 cable outlets
Power 250VAC, 50/60 Hz, 32-Amp power inlet options.
Protection 2 poles Circuit braker for each expansion unit

Expansion unit

Hot swappable expansion units with LED indicator
Density 1xC20 inlet for main unit connection, 7xC13 outlets
Power 250VAC, 50/60 Hz, 16A

Product Code	Product Description
PE-040-020-132	Control Unit with 4 Branch
PF-C07-000-116	Extension Unit with 7 C13 Sockets

Minimum Order Quantity:30 Pcs.

For other options please contact to your sales representative

Control Unit

Extension Unit

Canovate can make changes without notification

PDU Solutions

PDP Power Distribution Panel

Can be configured for AC or DC power distribution
General protection with optional VMR, leakage relay, surge arrester and signalization auxilary contact.
Function Protection and control of the circuits against overloads and short-circuits; protection for people and big length cables in Telecom Network and IT systems.
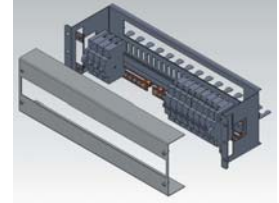Power up to 4 kVA DC 7.3 kVA AC
Material 3U steel enclosure, neutral and grounding bars.
Applications Telco applications

Product Code	Product Description
PDP-AXX-010-132	230 V VAC, 32 A, 10 ports output PDP
PDP-DXX-010-163	-48 VDC, 63 A, 10 ports output PDP (*)

(*) Maximum 63 A

DC PDU

Density Double DC power inputs, 16 electrical connector type output, 2U enclosure
Power 32 to 76VDC input, 16- 32- 64 Ampere power output options. Max. 120 A.
Material 2U steel enclosure, plexiglass cover and internal seperators. Viewable gap on the protection cover of brakers, Main bus bar for distribution to electrical connector contacts, Colored line outs and sequence numbers
Applications Telco applications, base stations

Product Code	Product Description
PDC-K10-010-132	-48 VDC, 32 A, 10 ports output PDU

High Protection PDU

Canovate offers a power distribution unit for both power protection and distribution for rack-mounted servers.
High Protection PDU provides twelve IEC C13 output receptacles that distribute power.
High Protection PDU also consumes rack U-space with 1U or ZeroU mounting options. The product has height of 4.4 cm which is suitable for both zero-U and 1U rack mount option.

Highlights
Designed to fit into rack cabinets
Circuit breaker protected
12 IEC 320 outputs
Surge and spike protection on modular based

Specification
Single input - 12 C13 outputs
16 A current capacity
230 V output sockets
Dual Circuit breaker, each controls six outputs
Input frequency 50/60 Hz
Surge suppression camping level 275 to 320V RMS
Surge current 10,000 A
Spike Protection 500 joules, 10x1000 usec

Product Code	Product Description
PH-C12-022-116-001	16 A , 12 C13 outputs

Masked Circuit Breaker

Minimum Order Quantity:30 Pcs.

PDU Solutions

Metered High Protection PDU

Canovate offers a power distribution unit with power protection and power metering capability for rack-mounted server's power distributions.

High Protection PDU provides eight IEC C13 output receptacles that distribute power.

High Protection PDU consumes 1U from Rack's U-space. The product has height of 4.45 cm which is suitable for both zero-U and 1U rack mount option.
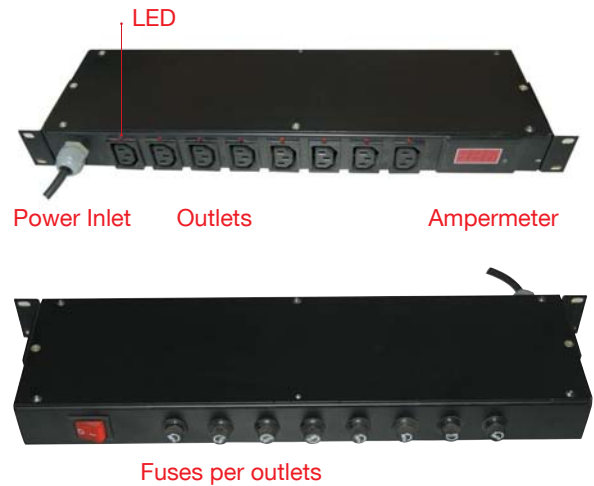
Highlights
Designed to fit into 19" rack cabinets
Fuses protection for each outlets (2A)
8 IEC 320 C13 outputs with led indicators

Specification
Single input - 8C13 outputs
16 A Total input current capacity
230 V output sockets
Fuses for each outlets
Input frequency 50/60 Hz
Ampermeter

Product Code	Product Description
PH-C08-080-116-L	16 A , **8C13 outputs fuse protection on each outlets**

LED

Power Inlet   *Outlets*   *Ampermeter*

Fuses per outlets

Minimum Order Quantity:30 Pcs.

* Canovate can make changes without notification

AC Socket/Outlet Types

IEC320 C13

IEC320 C19

BS1363 (UK)

Multi Universal Type

CEE 7/5 (French)

CEE 7/4 (German/Schuko)

AC Plug/Inlet Types

IEC320 C14

IEC320 C20

CEE 7/7 (German&French Schuko)

BS1363 (UK)

IEC-60309 1P+N+E (Commando)

IEC-60309 3P+N+E (Commando)

Single Phase

Three Phase

PDU Solutions

IP PDU

IP PDU is a simple solution where reliable power distribution for home and office applications is needed, in addition to the branch circuit protection. IP PDU also provides power control and environmental monitoring using internet connection. There won't be any problem like disconnection of server, switch-lock or router-lock especially in IT center. Reset your routers with remote control. You can control your home appliances by your mobile phone or any internet connection.You can also reset ATM units remotely

Metered IP PDU

Density 8-12 (C13) outlets per rack mount 19" 1U horizantal, 24 outlets (3x16 C13 and 3x2 C19) per 0U vertical models
Power 230VAC, 50/60 Hz, 16 or 32-Amp power inlet options.
Protection 2 poles circuit braker
Metering Volt and Amperemeter display, temperature and humidity sensor connectivity. RMS current and active power measurement for inlet
Monitoring Optional rack and room environmental monitoring system connectivity support to enhance monitoring capabilities such as room temperature, room humidity,
Smoke, noisy, PIR, LPG, NLG gas, water leakage, air flow, door and frame camera.
Management IP based WEB Access, http, SMTP, SNMP, SNTP protocol Support, e-mail sending feature
Options Environmental monitoring integration
LED indicator per Outlet

Product Code	Product Description
PS-S10-000-116	IP-PDU 10 way Schuko Sockets

Switched and Outlet Level Monitored IP PDUs

Smart Switched PDU's become integral parts of modern datacenter environment to control your energy consumption, to control&monitor your active devices remotely and to monitor all environmantal factors, which will affect the performance of your datacenter.
Switch POPS (Per Outlet Power Sensing) units monitor,control and manage servers (Blade servers) and IT equipment and the equipment cabinet infrastructure that houses them POPS Power information per individual outlet includes: current load (A), voltage (V), power (kW), apparent power (VA), crest factor, and power factor. Using grouping technology, power information is available per device, groups of devices (application), individual Cabinet PDU or cabinet. kW and kW-hour power information that can be utilized for billing your customers in Colocation datacenters and to take power reports for controlling your energy consumption
Density 8-12 (C13) outlets per rack mount 19" 1U horizantal, 24 outlets (3x16 C13 and 3x2 C19) per Zero U vertical models
Power 230VAC, 50/60 Hz, 16 or 32-Amp power inlet options.
Protection 2 poles circuit braker
Metering Volt and Amperemeter display, temperature and humidity sensor connectivity. RMS current and active power measurement for inlet
RMS current, active power measurement per outlet including preset condition control
Monitoring Optional rack and room environment monitoring system connectivity support to enhance monitoring capabilities such as room temperature, room humidity, Smoke, noisy, PIR, LPG, NLG gas, water leakage, air flow, door and frame camera
Management IP based WEB Access and outlet level control, http, SMTP, SNMP, SNTP protocol Support, e-mail sending feature, Outlet grouping
Options Environmental monitoring integration with wireless sensors
LED indicator per Outlet

Product Code	Product Description
PP-C24-020-116	IP-PDU 24 way IEC C13 Sockets

Minimum Order Quantity:30 Pcs.

* For other options please contact to your sales representative
* Canovate can make changes without notification

Sensor Connections   Camera Connection   Ethernet Connection

PDU Solutions

EMS Environmental Monitoring System

Advanced technology, excellent performance, strong functions, safe and reliable. Real-time monitoring of micro environment within the cabinet through LAN or WAN. Intelligent remote monitoring system combines complete software technique of embedded system, long-distance monitoring technique based on SNMP, network node technique of sensors, power distribution technique, modularized structure technique and other advanced techniques to precisely monitor the micro environment within one or several cabinets.

Three levels of monitoring is possible:

- Product Centered
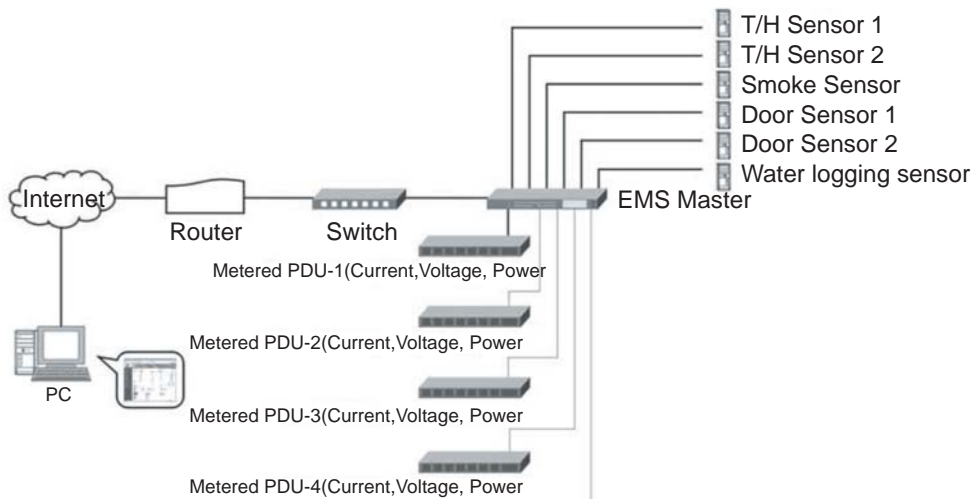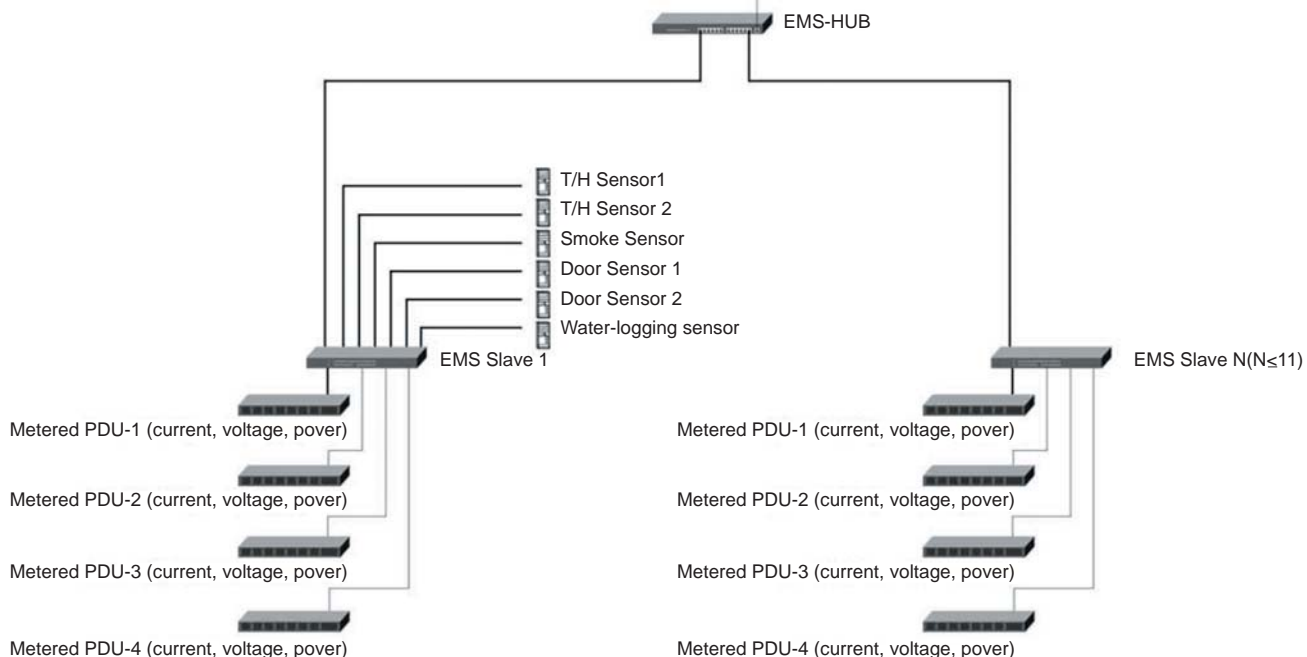- Cabinet Centered
- Room Centered

EMS Master

EMS Slave

EMS Hub

Power Distrubution Unit

Application of EMS Master standalone configuration

T/H Sensor 1
T/H Sensor 2
Smoke Sensor
Door Sensor 1
Door Sensor 2
Water logging sensor
EMS Master

Internet
Router
Switch
Metered PDU-1(Current,Voltage, Power
PC
Metered PDU-2(Current,Voltage, Power
Metered PDU-3(Current,Voltage, Power
Metered PDU-4(Current,Voltage, Power

Application of EMS Master and Slave configuration

EMS-HUB

T/H Sensor1
T/H Sensor 2
Smoke Sensor
Door Sensor 1
Door Sensor 2
Water-logging sensor
EMS Slave 1

EMS Slave N(N≤11)

Metered PDU-1 (current, voltage, pover)
Metered PDU-1 (current, voltage, pover)

Metered PDU-2 (current, voltage, pover)
Metered PDU-2 (current, voltage, pover)

Metered PDU-3 (current, voltage, pover)
Metered PDU-3 (current, voltage, pover)

Metered PDU-4 (current, voltage, pover)
Metered PDU-4 (current, voltage, pover)

PDU Solutions

EMS-Environmental Monitoring System Master

The EMS master can be applied alone. Master unit can support up to 11 slaves by using EMS HUB. EMS can timely monitor the micro environment of one cabinet from long distance.

Creative Concept

Three levels of monitoring is introduced including power monitoring

Product Centered, Cabinet Centered and Room Centered

Specifications of EMS Master

Parameter		Specification
Power input	Rated input voltage	110/220 VAC 50/60 Hz
	Input standard	IEC320 C14x2
	Cable length	3m
Signal input	Serial port for the voltage/current of Metered PDU	RJ45x4
	Serial port for power measurement	RJ45x4
	Serial port for UPS signal input	RJ45x4
Daisy-chain port	LINK	RJ45x4
Upgrade port	PORT	RJ45x4
Network port	Internet	RJ45x4
Sensor port	Temperature/Humidity sensor port	RJ11x2
	Door sensor port	RJ11x2
	Smog sensor port	RJ11x1
	Water-logging sensor port	RJ11x1
Demension	LxWxH	483x132x44 mm
Mounting methot	Horizontal installation	1U
Case color	Color	Black

Order Code : SM_EMS_MS

EMS-Environmental Monitoring System Slave

EMS slave collects all the environment signals of a cabinet.
The same with EMS master, one EMS slave can connect 4 Metered PDU, 2 T/H sensors, 2 door sensors, 1 smog sensor and 1 water sensor.
EMS slave can not be applied alone; it can only be used with the Master through HUB.
EMS slave is a passive device which supply power through master device connection by its link cable

Order Code : SM_EMS_SL

EMS-Environmental Monitoring System HUB

EMS HUB is a passive unit with multi-port on it which is specially used for the daisy-chain of Canovate EMS, NPM or CPDU-Cabinet PDU.
Through RJ45, HUB connects the salves and masters of EMS, NPM or CPDU.
Characteristics: Based on the passive HUB technique, EMS-HUB has one LINK port and 12 transfer port. It can connect 1 Master and 11 Slave, and ensure neither defective Slave will affect the communication of other Slaves with the Master.
EMS-HUB has indicators which clearly show the connection states.
Application:
EMS-HUB can be applied to Canovate EMS, NPM and CPDU products

Specifications of EMS Slave

Parameter		Specification
Product Type		Passive HUB
Link port		RJ45x1
Transfer port		RJ45x12
Connection state	Link port	LEDX1, green
	Transfer port	LEDx12, green
Working environment		-20ºC ~ 70ºC
Dimension		LxWxH: 483x68x44
Mounting method		Horizontal installation, 1U
Case color		Black

Order Code : SM_EMS_HB

Temperature&Humidity Sensor
Order Code : SM-EMS-TH

Door Sensor
Order Code : SM-EMS-MD

Smoke Sensor
Order Code : SM-EMS-SM

Water Sensor
Order Code : SM-EMS-WL

PDU Solutions

CPDU- Metered Cabinet/Rack PDU with MPD function module

CPDU is designed to be used with EMS system to complete Cabinet Management Solution. It can also be used alone as a basic rack pdu

Feature

Hot Swappable, replaceable structure ensures Metered PDU system operation with no power failure in case of metering system failure.

MPD functional module is a hot swappable energy meter with communication interface.

Intelligent MPD with RS485 port is available in two types; SAVM (current/voltage display and data collection function module) and SAVPEM (current/voltage/power/energy display and data collection function module).

Application:

Intelligent MPD functional module is applicable to Metered PDU of EMS system.

Advanced MPD functional module is applicable to basic PDU.

Main function:

SAVM-current/voltage display and data collection function module can display the load current, input voltage through LED display. RJ 45 port can output the signal of load current, input voltage of Metered PDU to the EMS monitoring system.

SAVPEM-current/voltage/power/energy display and data collection function module can display the load current, input voltage, load power and energy consumption through LCD display. RJ 45 port can output the signal of load current, input voltage, load power can energy consumption of Metered PDU to the EMS monitoring system.

Specifications

Item	Perfomance paramater	
Power input	Rated input voltage	110/220 VAC 50/60 Hz
	Input standard	IEC320 C14x2
	Cable length	3M
Signal input	Serial port for the voltage/current of Metered PDU	RJ45x4
	Serial port for power measure signal	RJ45x4
	Serial port for UPS signal	RJ45x4
Daisy-chain port	LINK	RJ45x4
Upgrade port	PORT	RJ45x4
Network port	Internet	RJ45x4
Sensor port	Temperature/Humidity sensor port	RJ11x2
	Door sensor port	RJ11x2
	Smog sensor port	RJ11x1
	Water-logging sensor port	RJ11x1
Demension	LxWxH	483x132x44 mm
Mounting methot	Horizontal installation	1U
Case color	Color	Black