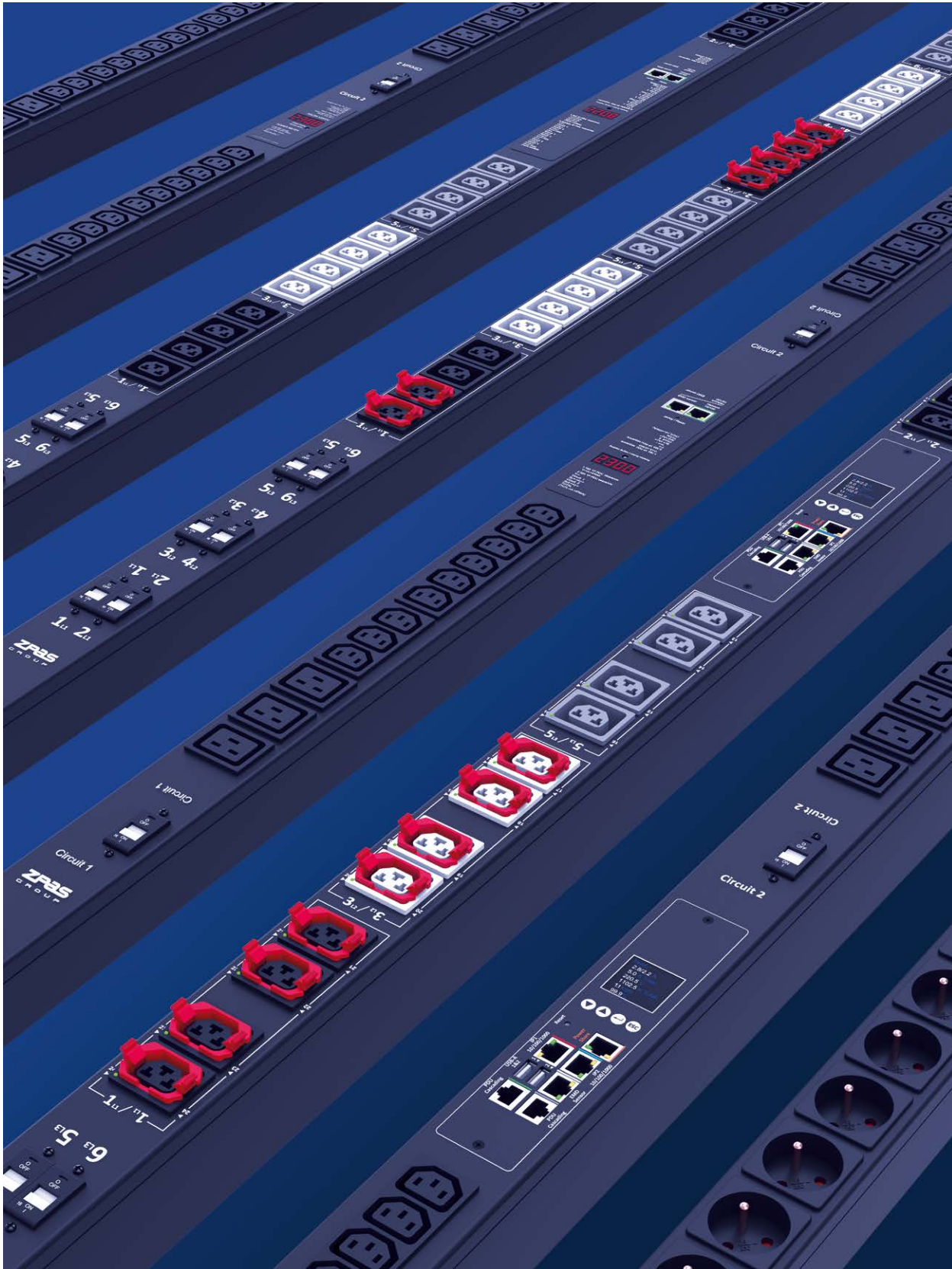


# POWER SUPPLY SYSTEMS



**POWER SUPPLY SYSTEMS**

# Basic PDU 19" BASIC 19" POWER STRIPS

## Characteristics

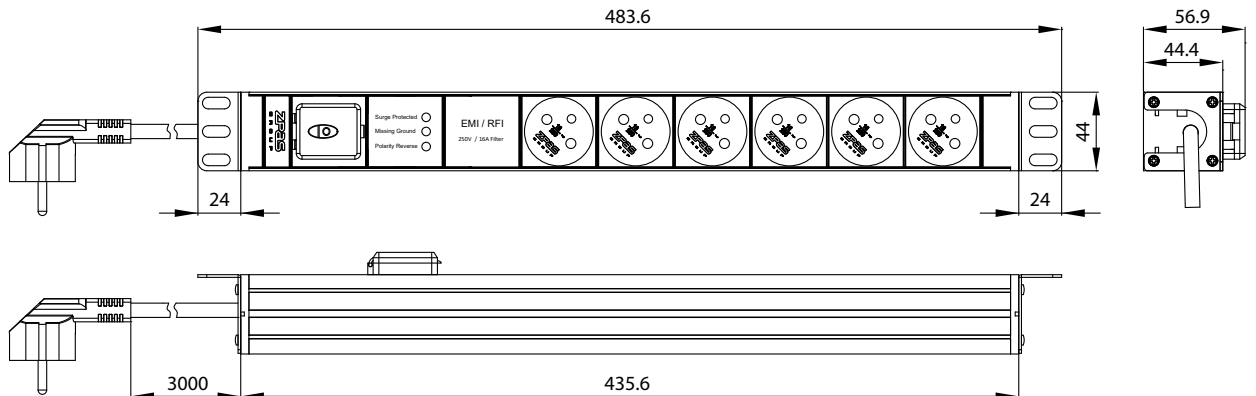
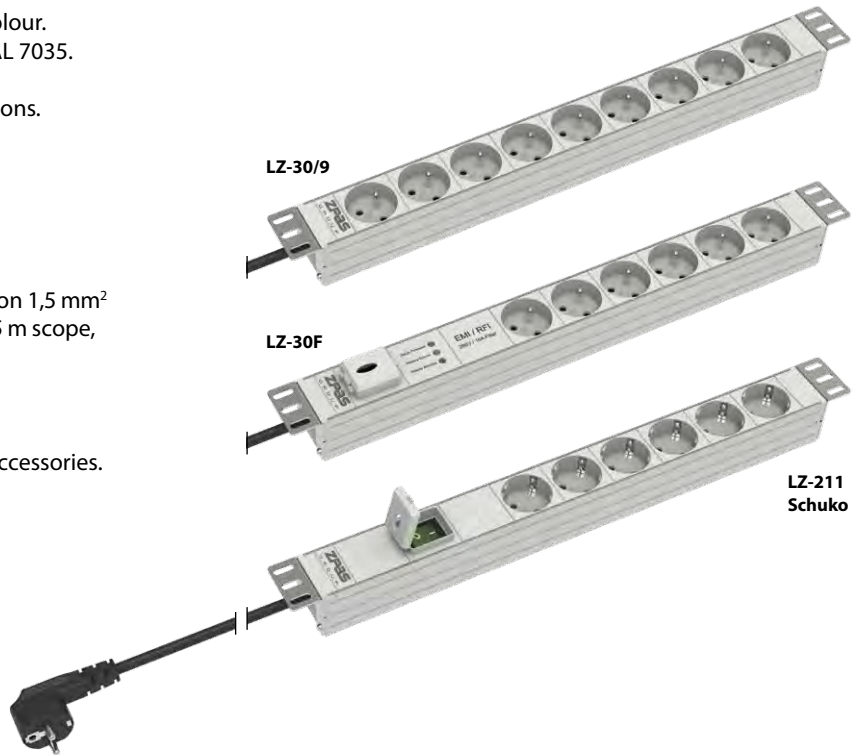
Anodized aluminium body, in natural colour.  
Plastic elements: light-grey similar to RAL 7035.  
Removable metal mounting brackets.  
Possibility to mount the strip on 4 positions.

## Technical data

Nominal voltage: 230 V AC  
Maximum load: 16 A / 3680 W  
Protection degree: IP 20  
Power cord: 3 m, black, conductor section 1,5 mm<sup>2</sup>  
(other lengths within of 1-5 m scope, available on request)

## Scope of delivery

Power strip with brackets, set of fixing accessories.



Maximum load	Installation	Type	Body dimensions [mm]	Equipment					Catalogue number
				Illuminated switch	Surge protection	RFI noise filter	Number of ITE sockets	Number of Schuko sockets	
16 A 230 V 1 phase	19 inch	LZ-30/9	435.6 x 44 x 44.4				9		WZ-LZ130-09-00-000
		LZ-30/9 Schuko	435.6 x 44 x 44.4				9		WZ-LZ130-09-SU-000
		LZ-30F	435.6 x 44 x 56.9	•	•	•	6		WZ-LZ30-F0-00-000
		LZ-30F Schuko	435.6 x 44 x 56.9	•	•	•	6		WZ-LZ30-F0-SU-000
		LZ-211	435.6 x 44 x 56.9	•			6		WZ-LZ21-10-00-000
		LZ-211 Schuko	435.6 x 44 x 56.9	•			6		WZ-LZ21-10-SU-000

ADVANCED POWER STRIPS

# Smart PDU

## Advantages and functions

### Energy efficient latching relays

Uses energy efficient bi-stable latching relays. These relays consume up to 70% less energy than alternatives, making outlet switching safer and configured in such a way that the outlet power distribution is always maintained.



### OLED display

Shows input power parameters and scroll individual outlet (V, A, PF, W, kWh). Screen turns its orientation according PDU position.



### Accurate environment monitoring cascading sensors EMD

The sensors benefit from the latest, most high-tech metering components, delivering the highest metering accuracy for temperature and relative humidity. Each sensor is built with 2 additional digital input contacts for water leak, door contact, motion, vibration, smoke and any other sensor with normally open or closed. Sensors can be deployed in cascade up to 8 EMD sensors using network cables.



### PDU cascading option

In order to save on network ports and manage multiple devices from one IP address we offer the opportunity to daisy chain up to 16 PDUs using Cat5/6 cable.



### kWh metering accuracy

Enabling precise allocation of data centre expenses with +/- 1% billing grade accuracy.



### High outlet flexibility and alternating phase

IEX socket is a UL and IEC tested combination of C13 and C19 outlet that accommodates either a C14 and or C20 plug. Alternating phase set up helps on power balance for three phase systems.



### RCM residual current monitoring option

By measuring current flowing in the ground wire, our residual current monitoring reduces the risk of electric shock. PDUs equipped with residual current monitoring dramatically reduce the burden of regulatory auditing.



### Secure locking outlets

ZPAS intelligent rack PDUs are equipped with lockable outlets preventing power cords accidentally coming unplugged due to human error or vibration.



### Interoperability with third party software

If you need to centrally manage all PDUs in your data centre we offer all communication protocols. Our solutions offer the option to communicate the status of rack-level power and environmental information to any third party datacentre infrastructure management (DCIM) solution.



### Field-replaceable controller

The hot-swappable onboard controller, ensures that servers will never experience downtime when maintenance in the Data Centre is required and ensuring the infrastructure will never be obsolete being update ready.



### Redundant network connection

World's first double Gigabit ethernet port PDU ensures monitoring reliability and allowing to be shared with data centre management and end clients in one or two separate networks.



### Security

PDUs support the most stringent security protocols in the market in order to prevent unauthorized access (256 bit AES encryption, Radius, SNMP v3, user permissions, SSH v2, SSL, HTTPS).



### Hydraulic-magnetic circuit breakers monitoring

Built with highly reliable hydraulic-magnetic circuit breakers which are not affected by ambient temperature and support delay curves appropriate for IT-equipment. The PDU proactively monitoring the status of the breakers in order to prevent downtime due to server power supply failure or overloads, sending an alert for any high load that risk a tripped circuit.



### Full colour range

Coloured PDUs make it easier to reduce human errors, identify power feeds, lowering the risk of unplanned downtime, PDUs are available in any RAL-colour.

# Smart PDU ADVANCED POWER STRIPS

## Lite network controller

Used in PIML PDU's

**CASCADING SENSORS**  
All in one temperature and humidity sensor with 2 digital inputs (for connect air flow, door contacts, water leakage, smoke and vibration) plug and play bus allows to connect 8 T/H devices in one PDU

**RESET BUTTON**  
Full electronics reboot without powerdown the sockets

**4 DIGITAL  
7 SEGMENT  
LED DISPLAY**  
Displayed values:  
V, A, kWh

**NETWORKING**  
Megabit Ethernet port



## Advanced network controller

Used in PIM, POM, POS and POMS PDU's

**RESET BUTTON**  
Full electronics reboot without powerdown the sockets

**NETWORKING**  
Dual Gigabit Ethernet ports

**DUAL USB**  
**USB 1**  
Wireless LAN adapter  
iOS device IECView App  
Flash Drive Bulk Configuration

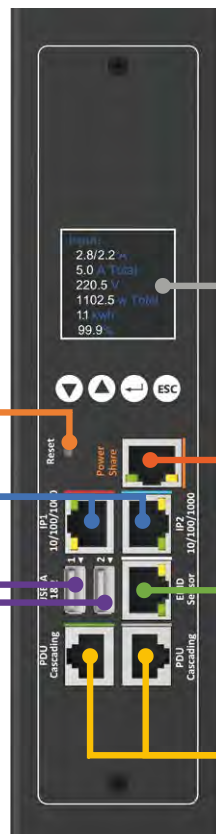
**USB 2**  
Wireless LAN adapter  
Android IECView App  
Future Features

**OLED  
MULTI-COLOUR  
SCREEN**  
Push button multi-colour screen  
Live alarms displayed  
Power metrics displayed

**POWER SHARING PORT**  
Maintain controller alive even power failure in one of the PDU's

**CASCADING SENSORS**  
All in one temperature and humidity sensor with 2 digital inputs (for connect air flow, door contacts, water leakage, smoke and vibration) plug and play bus allows to connect 8 T/H devices in one PDU

**PDU LINKING**  
Up to 16 PDU RJ45 serial cascading





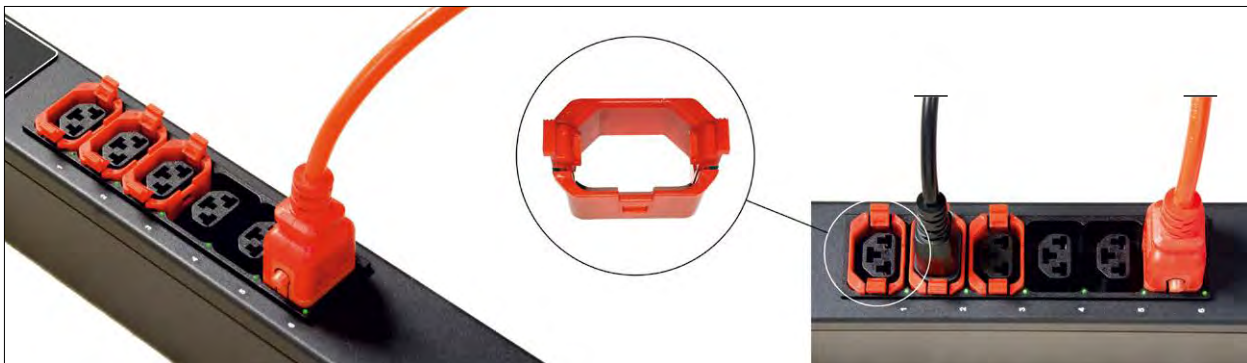
ADVANCED POWER STRIPS **Smart PDU**

**IEX - full flexibility of socket types during long operation**

The new IEX socket is a combination of the C13 and C19 outlet standards that gives the maximum flexibility with the ability to hold both C14 and C20 plugs. Fully patented and backed by IEC/EN and UL safety certifications it brings reliability in design.

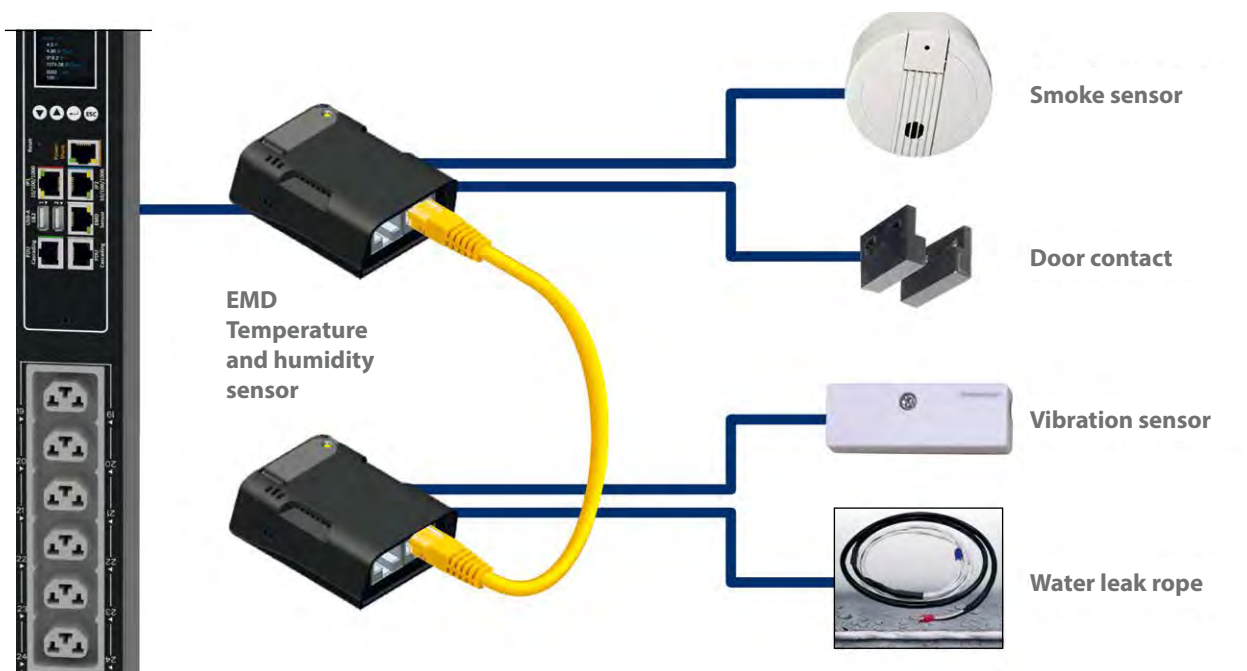
**IEX removable locker for C14 plugs and lockable power cords for C20 plugs**

The IEX Lock-VP is a removable component that makes standard C14 plugs lock securely. The C20 Socket design has built in locking compatibly as standard with P-LOCK and V-LOCK plugs.



**Flexible environmental monitoring with smart sensors**

The EMD is an environmental monitoring device that allows you to monitor temperature and humidity and status for 2 digital input sensors such as water leakage, door contact, motion, vibration, smoke and any other sensor with normally open or closed. Sensors can be deployed in cascade up to 8 EMD sensors using network cables.



# Smart PDU

## ADVANCED POWER STRIPS

### Characteristics and technical data

The housing is made of an ultra-light aluminum or stainless steel profile, painted in black RAL 9004. Possibility of painting in any RAL colour. Available sockets: C13, C19, IEX, Schuko, UTE (with a pin). Universal IEX socket operates with IEC 320 C14 and IEC 320 C20 from servers, UPS and other devices.

The sockets are available in white, gray and black colour. The C14 plug adapters are red or in the colour of the sockets.

Fully regulated assembling options by three included sets of brackets. Possibility of assembling in 4 positions.

Protection degree: IP 20. Power cord: 3 m, black, with IEC 60309 plug.

Conductor section: 1 phase 16 A - 1.5 mm<sup>2</sup>, 3 phase 16 A - 2.5 mm<sup>2</sup>, 1/3 phase 32 A - 4.0 mm<sup>2</sup>.

The above characteristics apply to the basic power distribution units and the types described below.

### Power Meter PDU

Built-in energy meter with 4 digital - 7 segment LED display and the changing switch of displayed parameters.

Energy metering: voltage [V], current [A], active power [W], power factor [%], energy consumption [kWh].

### Smart PDU - common features

Energy metering: voltage [V], current [A], active power [W], apparent power [VA], reactive power [VAR], frequency [Hz], power factor [%], energy consumption [kWh]. Residual Current Monitoring - optional.

Networking Protocols: DHCP, Ipv4 and Ipv6, DNS, http/https, SSHv.2, SNMP v1/v2c/v3, SNMP TRAPS/SETS/GETS, SMTP, Modbus, Telnet, TCP, RADIUS, Syslog, TLS 1.2, SNTP, ARP, ICMP, ICMP v6, UDP, NDP.

Reset button - full electronics reboot without power down the sockets.

### Per Inlet Monitoring Lite Smart PDU

Built-in lite network controller with 4 digital - 7 segment LED display and the changing switch of displayed parameters: voltage [V], current [A], energy consumption [kWh]. Other measured parameters are available after connection with the power strip in users interface. Ports: 1x Ethernet 1 Megabit, 1x Environmental Sensors.

### Smart PDU with an advanced controller - common features

Replaceable Hot Swappable controller with 4 button OLED display.

Ports: 2x Ethernet 1 Gigabit, 2x USB, 2x Daisy Chain, 1x Power Share, 1x Environmental Sensors.

### Possible functions:

- Per Inlet Monitoring Smart PDU**  
 Monitoring at the level of each phase circuit and 16 A of hydraulic-magnetic switches (applies to PDUs with a maximum load of 32 A).
- Per Outlet Monitoring Smart PDU**  
 Monitoring per input line and individual sockets.
- Per Outlet Switching Smart PDU**  
 Monitoring per input line. Remote sockets switching with LED socket status indicator.
- Per Outlet Metering and Switching Smart PDU**  
 Monitoring per input line and individual sockets. Remote sockets switching with LED socket status indicator.

## SELECTED PDU CONFIGURATIONS

Maximum load	Equipment				Catalogue number	PDU functions shortcut to insert in the index in an empty space e.g. WZ-LZ-_11618IEX → WZ-LZ-POMS11618IEX
	Hydraulic-magnetic circuit breakers	IEX sockets	C13 sockets	C19 sockets		
1 phase 230 V, 16 A		18			WZ-LZ-_11618IEX	<b>B</b> – basic (no electronics) <b>PM</b> – built-in power meter <b>PIML</b> – remote monitoring per input line - Lite version <b>PIM</b> – remote monitoring per input line - advanced <b>POM</b> – remote monitoring per input line and individual sockets <b>POS</b> – remote monitoring per input line + sockets switching <b>POMS</b> – remote monitoring per input line and individual sockets + sockets switching
			20	4	WZ-LZ-_11620C134C19	
1 phase 230 V, 32 A	2	24			WZ-LZ-_13224IEX	
3 phase 380-415 V, 16 A		24			WZ-LZ-_31624IEX	
3 phase 380-415 V, 32 A	6	36			WZ-LZ-_33236IEX	
	6		30	6	WZ-LZ-_33230C136C19	

In order to select a different configuration, please contact the ZPAS sales department.

ADVANCED POWER STRIPS **Smart PDU**

Examples of PDU configurations



# Smart PDU ADVANCED POWER STRIPS

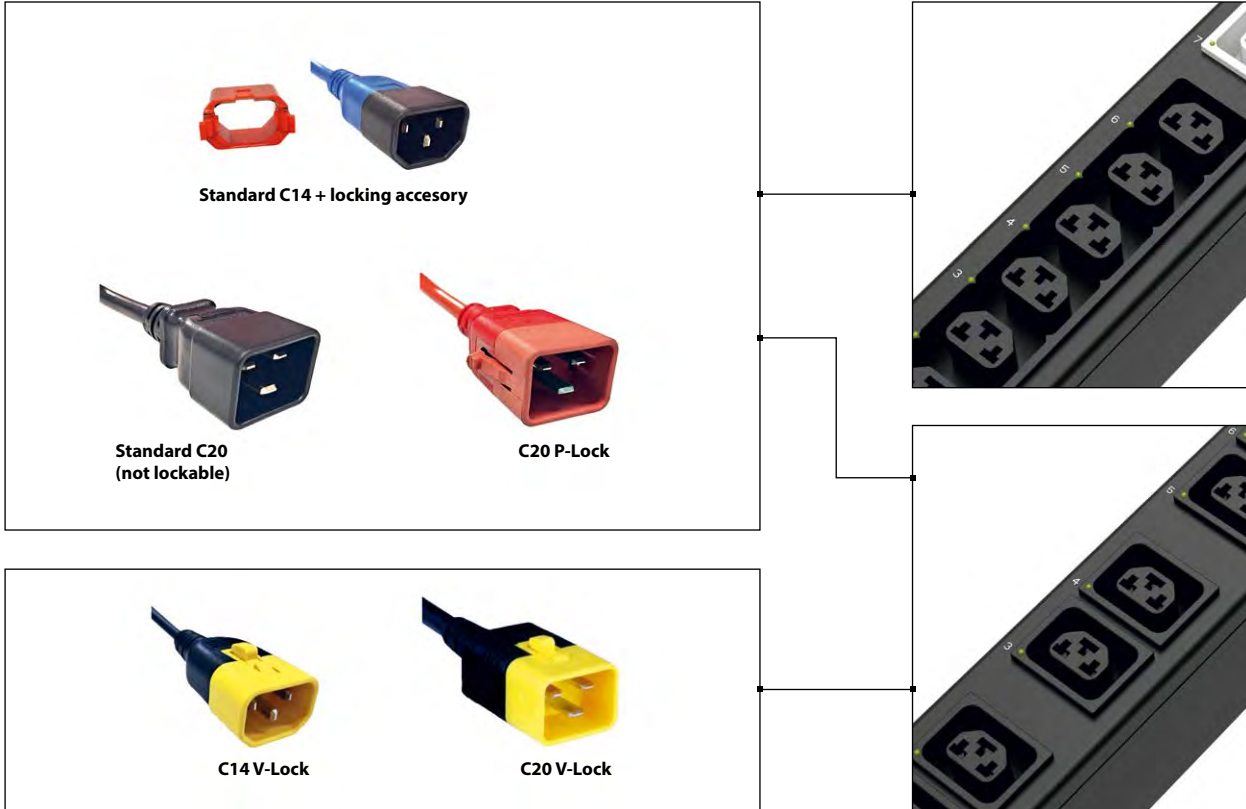
## POWER STRIPS COMPARISON

Characteristics	PDU types						
	BASIC	PM built-in power meter	PIML remote monitoring per input line  Lite version	PIM remote monitoring per input line  Advanced	POM remote monitoring per input line and individual sockets	POS remote monitoring per input line + sockets switching	POMS remote monitoring per input line and individual sockets + sockets switching
<b>Mechanical features</b> - ultra light aluminium or stainless steel profile, - full adjustable mounting options, - low profile hydraulic magnetic breakers 10 kA Icn, - sockets: C13, C19, IEX, UTE, Schuko	✓	✓	✓	✓	✓	✓	✓
<b>Inlet energy metering</b> - PDU input energy metering (kWh), - PDU input power measurements (W, VA, VAR), - PDU input (A, V, PF Hz) measurments, - circuit breaker monitoring, - residual current monitoring (optional), - 3 phase balance indicator.		✓	✓	✓	✓	✓	✓
<b>Security management</b> - memory logs for historical data and graphics, - user and alarms tresholds customizable.			✓	✓	✓	✓	✓
<b>SNMP controler</b> - PDU cascading (up to 16 PDUs), - hot swappable and replaceable controller, - double Gigabit Ethernet port, - controller power share.				✓	✓	✓	✓
<b>Outlet control</b> - remote On/Off by individual outlet or groups, - power On/Off delay, - sequential startup, - user level security assignable, - individual LED x outlet status indicator.					✓		✓
<b>Outlet metering</b> - PDU ouput energy metering (kWh), - PDU output power measurements (W, VA, VAR), - PDU output (A, V, PF, Hz) measurments.						✓	✓
<b>Environmental metering</b> - Environmental sensor (temperature & humidity), - cascading (up to 8), - door contact, - smoke detection, - vibration, - motion sensor, - water leakage, - user and alarms tresholds customizable.			✓	✓	✓	✓	✓
<b>Network and security</b> DHCP, IPv4 and IPv6, DNS, http/https, SSH v.2, SNMP v1/v2c/v3, SNMP TRAPS/SETS/GETS, SMTP, Modbus, Telnet, TCP, RADIUS, Syslog, TLS 1.2, SNTP.			✓	✓	✓	✓	✓



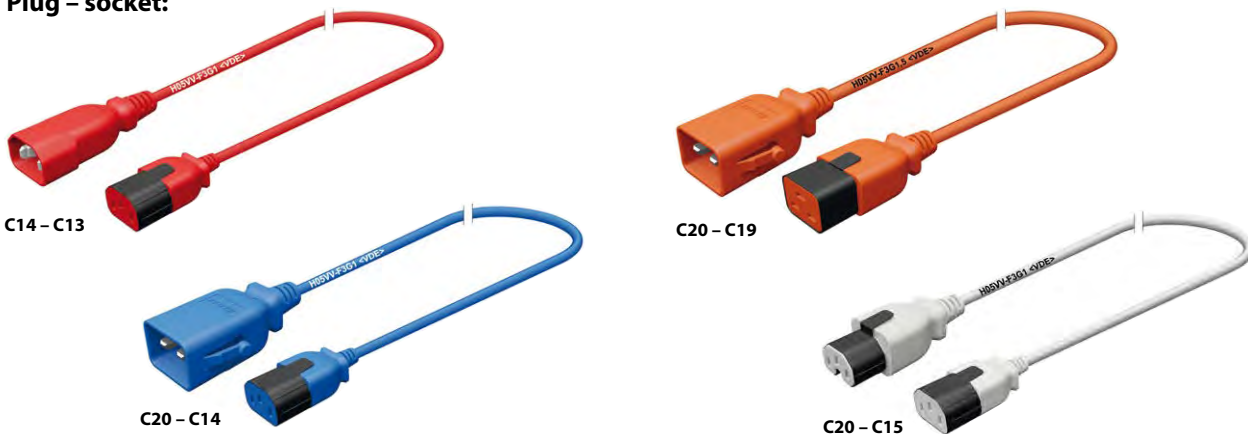
ADVANCED POWER STRIPS **Smart PDU**

**C13/C19 COMBINATION SOCKETS COMPATIBLE POWER CORDS**



**AVAILABLE CORDS**

**Plug – socket:**



**The cords are available in the following lengths and colors:**

0.5 m, 1 m, 2 m, 3 m, 4 m,  
white, black, red, blue, orange.

For more information, please contact the ZPAS sales department.

# Smart PDU

ADVANCED POWER STRIPS

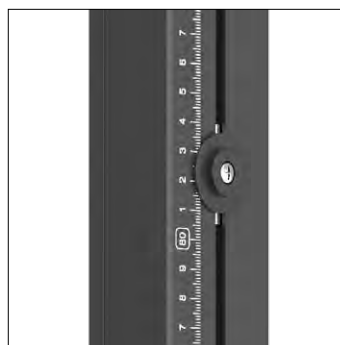
## Sets of brackets for power strips assembly



**Slip-on toolless brackets**  
Possibility to assemble in 4 positions



**Toolless brackets with hooks**  
Possibility of smooth space regulation of the brackets



**Hooks for toolless assembly**  
Possibility of smooth space regulation of the hooks



**Screwed brackets**  
Possibility of smooth space regulation of the brackets



POWER STRIPS **POU**

ACCESSORIES FOR VERTICAL INSTALLATION OF POWER STRIPS

**LZ fixing profile**

Fixing profile for vertical installation of power strips in 800 mm wide **SZBIT** cabinets.

**Material**

Sheet steel powder painted in light grey (RAL 7035) or black (RAL 9005).

**Scope of delivery**

LZ fixing profile with fixing accessories.

For cabinet height	Catalogue number	
	RAL 7035	RAL 9005
42 U	WZ-5367-52-03-011	WZ-5367-52-03-161
45 U	WZ-5367-52-02-011	WZ-5367-52-02-161
47 U	WZ-5367-52-01-011	WZ-5367-52-01-161

Package: 1 pc.



LZ fixing profiles



Server cabinet with power strips installed to LZ fixing profiles

**LZ brackets**

Brackets for vertical installation of power strips in **SRD** or **SRX** open racks. Available in short version for 1 power strip and long for 2 power strips.

**Material**

Sheet steel powder painted in light grey (RAL 7035) or black (RAL 9005).

**Scope of delivery**

LZ bracket with fixing accessories.

LZ bracket version	Catalogue number	
	RAL 7035	RAL 9005
short	WZ-5367-53-01-011	WZ-5367-53-01-161
long	WZ-5367-53-02-011	WZ-5367-53-02-161

Package: 1 pc.



Short LZ bracket

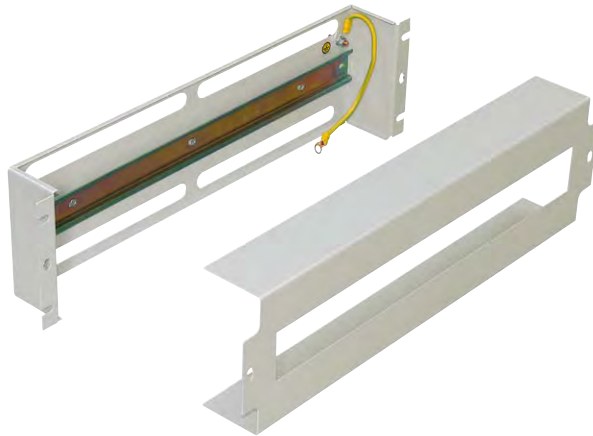


Long LZ bracket



Open rack with power strips installed to LZ brackets

POWER SUPPLY SYSTEMS



**Voltage distribution panel**

Universal 19" enclosure for modular devices. In the standard version equipped with DIN rail and housing with 402.5 x 45.5 mm opening.

**Dimensions**

- height:..... 133 mm (3 U),
- width:..... 19" (internal width: 446 mm),
- depth: ..... 60 mm

**Capacity of panel** - maximum number of built-in S-type modules (width of module 17.5 mm): 22 pcs.

**Material**

Sheet steel powder painted in light grey (RAL 7035) or black (RAL 9005).

**Scope of delivery**

In the standard version, panels are sold as empty enclosures, complete with: mounting base, DIN rail, housing, fixing accessories.

Package	Colour	Catalogue number
1 pc.	RAL 7035	WZ-PS3U-00-00-011
	RAL 9005	WZ-PS3U-00-00-161

**Voltage distribution panels equipped with electrical equipment**

On special order, we also produce panels of other overall dimensions and equipped with electrical equipment according to the customer's wishes.



PS-3U panel equipped with 48 V circuit breakers



PRS-3U panel for supplying power to appliances requiring high reliability of 230 V power supply

It contains two three-phase sections, powered for each phase separately by Powercon NAC3 sockets with a maximum load capacity of 20 A. Each phase is equipped with a lamp indicating the presence of voltage from the power supply side. The number and power of the appliances can be adjusted to the customer's needs within the total allowable power of 4500 VA per phase. To connect appliances, you can use C13 sockets with an interlock in the maximum number of 24 pcs. A maximum of 15 S-type overcurrent circuit breakers can be used to protect the outgoing feeders.

Technical parameters: rated voltage  $U_n = 2 \times 400 / 230 \text{ V}$   
 rated current for ingoing feeders  $I_n = 20 \text{ A}$   
 number and rated current for outgoing feeders = max. 24 pcs. with current according to customer's needs, max 4500 VA/phase