Power Metering & Switching

Power Switching

NETIO

Networked power sockets


# PRODUCTS OVERVIEW 2023

www.netio-products.com

NETIO
Networked power sockets

## WHO IS NETIO?

The NETIO products company is a Czech producer of PDUs (Power Distribution Units) that can be controlled over LAN and WiFi. Our motto is: "NETIO products: Smart power sockets controlled over LAN and WiFi".

We are headquartered in Prague and our products are designed and manufactured in Europe. Product quality and ease of use are our primary recipes for customer satisfaction and solving customers' needs.

## WHO ARE OUR PRODUCTS FOR?

Our power sockets are dedicated mainly for businesses (B2B). A typical user is a system integrator that uses our products in various industrial projects. Our products can be found in demonstration booths, shops, showrooms, digital signage screens, hospitals, and many other M2M and IoT applications.

We provide many power socket variants and different form factors for different application areas (PDUs for datacenter racks, DIN versions for smart building and electromobility applications, cables for compact solutions).

## WHAT MAKES NETIO UNIQUE?

### Remote WEB control

Control and configuration via web interface, where you can easily switch ON, OFF or REBOOT. Simple functions, such as Scheduler, IP Watchdog, Power-Up state and more...

### Industrial quality

Quality is the number one priority: Long-life products with Zero Current Switching, well documented API standards, firmware updates, backwards compatibility and support - that is NETIO.

### Easy integration using Open API

Control your NETIO power socket via any interoperable device, software or cloud. NETIO products support many Open API standards such as MQTT, Modbus/TCP, JSON over HTTP, SNMP, ...

### NETIO Cloud (secured service)

NETIO Cloud is a perfect solution for remote restarting - one screen to control multiple devices from anywhere! Have you tried turning it OFF and ON again remotely?

### Precise power metering

NETIO power socket models with metering support measure: Current [A], Output Power [W], Energy [Wh], True Power Factor, Voltage [V] and more... Great data source for your power analysis!

### AV Drivers ready

To make integration even simpler, our partners develop amazing drivers for home automation and AV controllers - Control 4, ELAN, Crestron, RTI, Neets, Brightsign and many more...


### LAN
Ethernet 10/100 Mbit interface (RJ-45) for wired connection to LAN (Local Area Network).


### WEB INTERFACE
NETIO devices include their own web server. Each output can be controlled (switch on/off/restart) and configured over the web interface.


### SERIAL PORT (RS-232)
Some NETIO devices include a (3-pin) RS-232 serial port. The serial port (serial console) can be connected to a specified TCP/IP port.


### 19" RACK
Some NETIO devices fit into 19" cabinet (1U). Metal brackets (Rack Mount Kits) are available as an accessory.


### NETIO CLOUD
NETIO Cloud is a service for controlling multiple NETIO devices from one screen. It is well-secured and reliable. It is accessible via any web browser.


### ZCS (ZERO CURRENT SWITCHING)
The relay contacts switch the output on or off when the current crosses the zero level. This reduces the negative effect of Inrush Current.


### POWERUP STATE
This parameter defines the output state (On/Off/Last) after powering up the device or when power is restored after a power outage.


### CONDITION & RULES
NETIO Condition (PAB & WatchDog) & Rules are pre-defined detections (Conditions) and related actions. Runnig in NETIO PDU devices.


### NFC PRE-CONFIG
Some devices can be easily configured (e.g.WiFi connection parameters set) using a mobile phone and the NETIO Mobile2 app.


### JSON over HTTP
JavaScript Object Notation (JSON) is a platform-independent data transfer format. A JSON data structure is transferred over HTTP(s).


### SNMP v1/v2
SNMP v1/v2 (Simple Network Management Protocol) is a UDP-based protocol for monitoring and management of networks and services.


### MQTT-flex
The MQTT-flex version of the MQTT protocol can be configured in detail thanks to the "flex" extension.


### Telnet
Telnet is a TCP/IP-based protocol used in computer networks that allows the user to connect to a remote computer using a Telnet application (console).


### HTTP(s) Push JSON
NETIO devices can periodically connect to the specified server over http/https and send data in a .json (JavaScript Object Notation) structure.


### WIFI
2,4 GHz wireless interface for connection to LAN (Local Area Network). Supports standard security options.


### POWER METERING
Some NETIO devices can measure electrical values – [A], [W], [Wh], TPF (True Power Factor), [V], [Hz], [°], ...


### DI (DIGITAL INPUT)
Digital Input is an interface, which allows to detect binary signals (0 or 1). A digital input (DI) can be used to control the outputs or count S0 pulses.


### MOBILE APPLICATION
NETIO Mobile 2 is a mobile application, which allows you to control multiple NETIO smart PDUs, strips, sockets and cables from a single screen.


### INDUSTRIAL PRODUCT
Long-life products with wide operating temperature range, well documented devices and APIs, firmware updates, backwards compatibility,...


### ZVS (ZERO VOLTAGE SWITCHING)
The relay contacts switch the output on or off when the voltage crosses the zero level. This reduces the negative effect of Inrush Current.


### SCHEDULER
The Scheduler function (also known as Planner or Calendar) allows to specify a time plan for swit-ching individual electrical sockets on and off.


### IP WATCHDOG (PING)
Function, that checks the availability of another device in the network using the "ping" command (ICMP protocol).


### POWER WATCHDOG
PDU based autonomous monitoring of connected (powered) electrical device system. Power consumption drops-down can be used for autonomous restart.


### MODBUS/TCP
Modbus/TCP is a communication protocol designed for industrial applications - exchanging data messages in a master-slave mode.


### SNMP v3
SNMP version 3 supports secure communication. Unlike SNMP v1 and v2, it uses username and password authentication and SSL encryption.


### MQTT
MQTT (Message Queuing Telemetry Transport) is a simple protocol for exchanging messages among devices. It is frequently used in IoT applications.


### XML over HTTP
XML stands for eXtensible Markup Language. It is a language that uses tags in a defined structure. A XML data structure is transferred over HTTP(s).


### URL API (http get)
Simple method for passing parameters as a part of a URL address (http get). In this way, it is easy to turn on/off or toggle each individual socket.

# PRODUCT FAMILIES

## PowerBOX family

## PowerPDU family

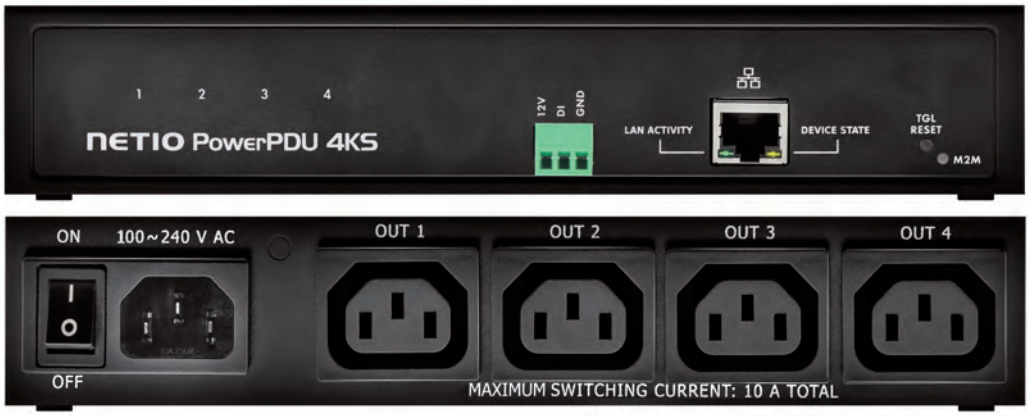

## PowerDIN family


## PowerCable family

# PowerPDU 4KS

*PowerPDU 4KS is a metered PDU with four IEC-320 C13 power outlets, LAN port and 1x DI (Digital Input). PowerPDU 4KS measures electrical parameters (A, kWh, TPF, W, V, Hz) on each power outlet individually. Each output is controllable via device web, NETIO Cloud service (not mandatory) or NETIO Mobile 2 App. Integrations are simple thanks to its Open API and ready to use AV drivers (Crestron, Extron, Savant, RTI, Neets, ELAN and more).*

## Power Metering & Switching




### SPECIFICATIONS

- Switching & metering each power output independently
- **4x power metering (A, W, kWh, TPF, V, Hz)**
- Power input: IEC-320 C14 (110/230V AC) 10A
- Power output: 4x IEC-320 C13 / 10A
- 1x RJ45 Ethernet
- 1x **DI** - Digital Input
- ZCS (Zero Current Switching)

### FEATURES

- **Ping + Power WatchDog**
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2
- 1x DI (Digital Input)

### OPEN API

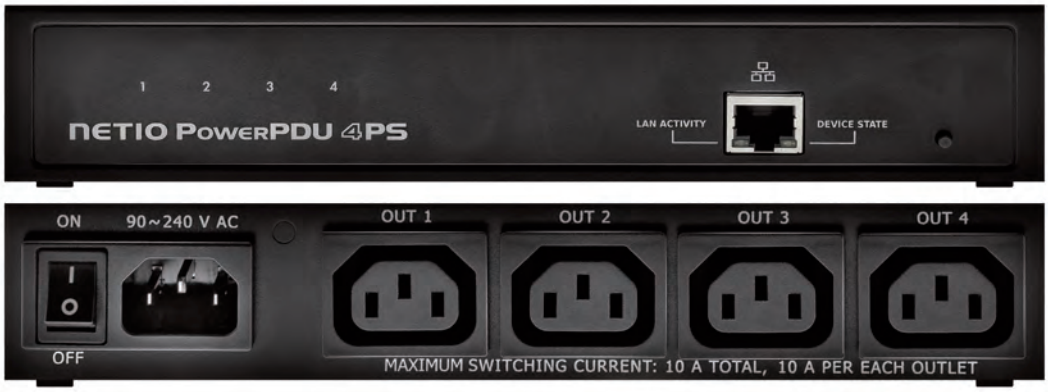
- Telnet
- SNMP v1/v3
- Modbus/TCP
- MQTT-flex
- URL API – HTTP get
- JSON over HTTP

& more

# PowerPDU 4PS

***PowerPDU 4PS is a managed PDU (Power Distribution Unit) with four power outlets (4x IEC 320 C13). Each output can be switched on/off individually. NETIO PowerPDU 4PS can be mounted in rack cabinets – horizontally, vertically, or as a 1U device. Integration into third-party systems is possible by using various protocols (JSON over HTTP, Modbus/TCP, SNMP, MQTT-flex, Telnet, …). With the NETIO Cloud service, the outputs can be controlled from anywhere. Drivers for AV systems are available (Crestron, Neets, ELAN and many more).***

## Power Switching




### SPECIFICATIONS

- Switching each power output independently
- Power input: IEC-320 C14 (110/230V AC) 10A
- Power output: 4x IEC-320 C13/10A
- 1x RJ45 Ethernet
- ZVS (Zero Voltage Switching)

### FEATURES

- Ping WatchDog function
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2

### OPEN API

- Telnet
- SNMP v1/v3
- Modbus/TCP
- MQTT-flex
- URL API – HTTP get
- JSON over HTTP

& more

# PowerPDU 8QS

*PowerPDU 8QS is a PDU (Power Distribution Unit) with eight power outputs controlled and metered over LAN. Each output can be switched on/off individually. It fits into a 19" cabinet (1U). PowerPDU 8QS supports two channels for electrical measurements: the PDU as a whole (all outputs combined), and the first output separately (Output1). A Digital Input (DI) can be used to control the outputs or count S0 pulses. With the NETIO Cloud service, the outputs can be controlled from anywhere. Drivers for AV systems are available (Crestron, Extron, Savant, RTI, Neets, ELAN and more).*

## Power Metering & Switching


### SPECIFICATIONS

- Switching each power output independently
- 2x Power metering (Total + Output1 separately)
- Power input: IEC-320 C20 (110/230V AC) 16A
- Power output: 8x IEC-320 C13 / 10A
- 1x RJ45 Ethernet
- ZVS (Zero Voltage Switching)
- 1x DI (Digital Input)
- 19" rack mounting as a 1U device

### FEATURES

- Ping + Power WatchDog
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2
- DI (Digital Input)

### OPEN API

- Telnet
- SNMP v1/v2
- SNMP v3
- MQTT-flex
- URL API – HTTP get
- XML over HTTP
- JSON over HTTP
- HTTP(s) Push JSON
- HTTP(s) Push XML
- Modbus/TCP

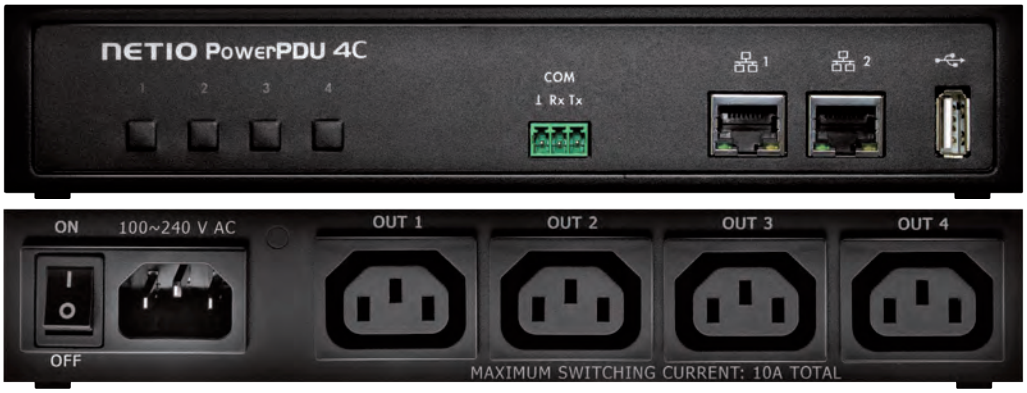

## 11 options how to control NETIO device power output(s):

1) From the **device's web** (it can be different than Admin's username/psw for that).
2) Using the **NETIO Mobile 2** on **LAN**.
3) Using **NETIO Cloud service** from anywhere (Welcome credit for free, basic service price approx 5€/year/device.)
4) Using the **NETIO Mobile2** (**NETIO Cloud** user account).
5) Using **AV drivers** you can control Outputs from many Audio Video SW (Crestron, Control4, Neets, BrightSign, …).
6) Using built in **Week-Scheduler** function you can define several On/Off intervals per each output. It requires time NTP synchronization.
7) With built in **PING WatchDog function**, you can restart (by power output) any LAN device when not responding to PINGs from NETIO PDU (Device frozen / sleeping / in IDLE mode).
8) With built in **Power consumption WatchDog function**, you can restart (by power output) any device powered from metered NETIO PDU output. Device frozen / sleeping / IDLE mode is detected by power consumption drop for several times.
9) Each **DI input** on the NETIO device can be assigned by Rules to Switch On/Off/Toggle any power output(s) on the same device.
10) There are several **Open APIs** (protocols) to control outputs/meter power consumption in M2M applications: JSON over HTTP, XML, SNMP, Modbus/TCP, MQTT, URL-API (http get), and others.
11) Using **FLIC 2 button** (BT + LAN gw) you can control up to 3 outputs (group of outputs) inside building.

# PowerPDU 4C (Linux based)

*PowerPDU 4C is a metered PDU with four IEC-320 C13 power outlets, 2 LAN ports (embedded Ethernet switch) and a serial port (RS-232). PowerPDU 4C measures electrical parameters (A, kWh, TPF, W, V, Hz) on each power outlet individually. Each output is controllable via its web interface over the local network or, when used with the NETIO Cloud service, integrators can easily access it remotely. Integrations are simple thanks to its Open API and ready AV drivers (Crestron, Extron, Savant, RTI, Neets, ELAN and more).*

## Power Metering & Switching




### SPECIFICATIONS

- Switching each power output independently
- 4x power metering (A, W, kWh, TPF, V, Hz)
- Power input: IEC-320 C14 (110/230V AC) 10A
- Power output: 4x IEC-320 C13 / 10A
- **2x RJ45 Ethernet (built-in LAN switch)**
- **Serial port (RS-232)**
- ZCS (Zero Current Switching)

### FEATURES

- Ping WatchDog function
- Week Scheduler function
- PowerUp state
- PowerUp delay
- Lua scripting
- AV drivers ready
- **Custom HTTPs certificate**

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2
- Buttons
- **Lua script**

### OPEN API

- Telnet
- SNMP v1/v3
- Modbus/TCP
- MQTT
- URL API – HTTP(s) get
- XML over **HTTP(s)**
- JSON over **HTTP(s)**

# PowerDIN 4PZ

***PowerDIN 4PZ is a dual 230V/16A electricity meter with LAN/WiFi and I/O, designed to fit on a DIN rail. Each of the 4 outputs can be switched on or off independently using the Web interface, Open API or NETIO Cloud. Power Outputs 1 & 2 are metered (A, W, kWh, TPF, V, Hz). Energy (Wh) is metered in both directions (consumed / supplied energy). States of 2x DI (Digital Input) with S0 pulse counter (32 bit) can be also read remotely.***

## Power Metering & Switching


### SPECIFICATIONS

- 1 phase (power input 230V / max 16A)
- Switching each power output independently
- 2x Power metering (Output 1 & 2)
- 1x RJ45 Ethernet
- ZCS (Zero Current Switching) on Power Output 1 & 2

### FEATURES

- Ping + Power WatchDog
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

- Power Outputs 1 & 2 – independently-metered and switched channels (230V/max 16A AC)
- Relay Outputs 3 & 4 – relay outputs NO/NC (max 230VAC/2A or 48VDC/2A)
- DI (Digital Inputs) In1 & In2 – can be used to connect any dry contact or S0 pulse meter

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2
- 2x DI (Digital Input)

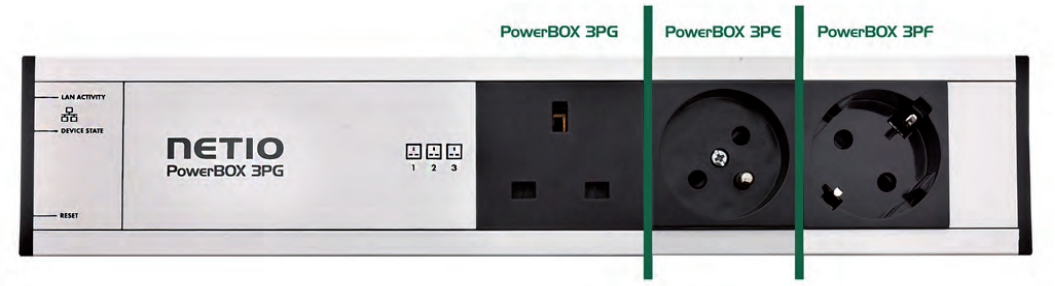
### OPEN API

- Telnet
- SNMP v1/v2
- SNMP v3
- MQTT-flex
- URL API – HTTP get
- XML over HTTP
- JSON over HTTP
- HTTP(s) Push JSON
- HTTP(s) Push XML
- Modbus/TCP

# PowerBOX 3Px

*NETIO PowerBOX 3Px is a professional electrical socket device with 3 outputs and LAN connectivity. Each output socket can be separately switched on or off over the web interface. Integration into third-party systems using various protocols (JSON over HTTP, Modbus/TCP, SNMP, MQTT-flex, Telnet, ...). With the NETIO Cloud service, the outputs can be controlled from anywhere. Drivers for AV systems are available (Crestron, Extron, Savant, RTI, Neets, ELAN and many more).*

## Power Switching




### SPECIFICATIONS

- Switching each power output independently
- Power Input: 230V / 16A (13A for 3PG)
- Power Output: **3x**; max 16A per output (13A for 3PG)
- 1x RJ45 Ethernet
- ZVS (Zero Voltage Switching)

### FEATURES

- Ping WatchDog function
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2

### OPEN API

- Telnet
- SNMP v1/v2
- SNMP v3
- MQTT-flex
- URL API – HTTP get
- XML over HTTP
- JSON over HTTP
- HTTP(s) Push JSON
- HTTP(s) Push XML
- Modbus/TCP

# PowerBOX 4Kx

*NETIO PowerBOX 4Kx is a LAN-enabled smart power strip with 4 outputs. Each output socket can be switched on or off individually over the web interface. Integration with third-party systems using various protocols (JSON over HTTP, Modbus/TCP, SNMP, MQTT-flex, Telnet, ...) is possible. With the secure NETIO Cloud service, the outputs can be controlled from anywhere. Drivers for AV systems are available (Crestron, Extron, Savant, RTI, Neets, ELAN and more).*

## Power Metering & Switching


### SPECIFICATIONS

- Switching each power output independently
- 4x Power metering (A, W, kWh, TPF, V, Hz)
- Power input: 230V / 16A (13A for 4KG)
- Power output: **4x**; max 16A per output (13A for 4KG)
- 1x RJ45 Ethernet
- ZCS (Zero Current Switching)

### FEATURES

- Ping + Power WatchDog
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2

### OPEN API

- Telnet
- SNMP v1/v2
- SNMP v3
- MQTT-flex
- URL API – HTTP get
- XML over HTTP
- JSON over HTTP
- HTTP(s) Push JSON
- HTTP(s) Push XML
- Modbus/TCP


# PowerCable REST 101x

*NETIO PowerCable REST 101x is a smart WiFi power socket for integration with third-party systems. Use PowerCable REST to measure electrical parameters (A, W, kWh, TPF, V, Hz) and switch its output on/off using one of the 10 Open API protocols, the web interface, NETIO Cloud, or the mobile app. Drivers for AV systems are available (Crestron, Extron, Savant, RTI, Neets, ELAN and more).*

## Power Metering & Switching


### SPECIFICATIONS

- Power output switching
- Power metering (A, W, kWh, TPF, V, Hz)
- Power input: Depending on the model
- Power output: 110/230V 10-16A (by model 101x)
- WiFi connection
- ZCS (Zero Current Switching)

### FEATURES

- Ping + Power WatchDog
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2

### OPEN API

- Telnet
- SNMP v1/v2
- SNMP v3
- MQTT-flex
- URL API – HTTP get
- XML over HTTP
- JSON over HTTP
- HTTP(s) Push JSON
- HTTP(s) Push XML
- Modbus/TCP

## Available models

PowerCable REST 101F

PowerCable REST 101E

PowerCable REST 101J

PowerCable REST 101S

PowerCable REST 101Y

PowerCable REST 101G

# PowerCable 2KF / 2KZ

***NETIO PowerCable 2KF is LAN & WiFi based flat PDU with 2 power outputs & 2x DI (Digital Input) for external devices.***

***Device measures electrical parameters (A, W, kWh, TPF, V, Hz) and switches individually both outputs ON/OFF/restart. 2x DI (Digital Input) with S0 pulse counter (32 bit) can be used to connect external devices or energy meters. Integration with 3rd party systems (Open API + AV drivers) is possible.***

## Power Metering & Switching

### SPECIFICATIONS

- Power input: 230V / 16A
- Outputs: 2x Power switching + metering
- RJ45 Ethernet + WiFi
- ZCS (Zero Current Switching)
- 2x DI (Digital Input) with 12V power

### FEATURES

- Ping + Power WatchDog
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### DEVICE TYPE OPTIONS

- PowerCable **2KF** – EU plug, 2x Type F sockets (schuko)
- PowerCable **2KZ** – no power cables, terminal block inside

### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2

# PowerCable 2PZ

*NETIO PowerCable 2PZ is cost effective version of the flat PDU. LAN & WiFi based PDU with 2 switched power outputs. Device switches both outputs individually ON/OFF/restart. Integration with 3rd party systems (Open API + AV drivers) is possible.*

## Power Switching


### SPECIFICATIONS

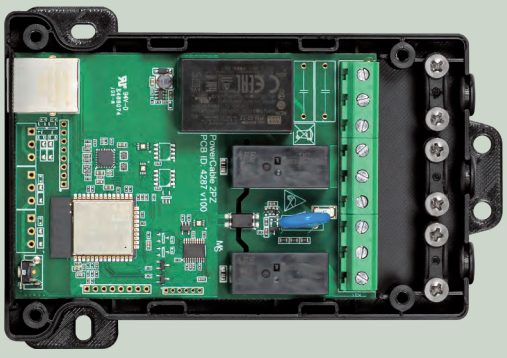
- Power input: 230V / 16A
- Outputs: 2x Power switching
- RJ45 Ethernet + WiFi
- ZVS (Zero Voltage Switching)

### FEATURES

- Ping WatchDog function
- Week Scheduler function
- PowerUp state
- PowerUp delay
- AV drivers ready

### DEVICE TYPE OPTIONS

- PowerCable **2PZ** – no power cables, terminal block inside



### CONTROL OPTIONS

- Web interface
- Open API
- NETIO Cloud service
- NETIO Mobile 2

# Socket types



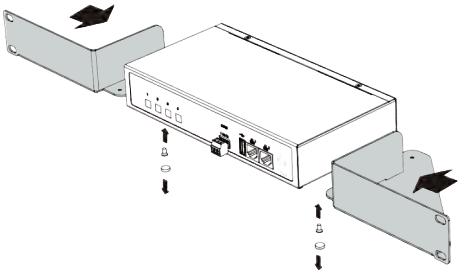




# PowerPDU family accessories

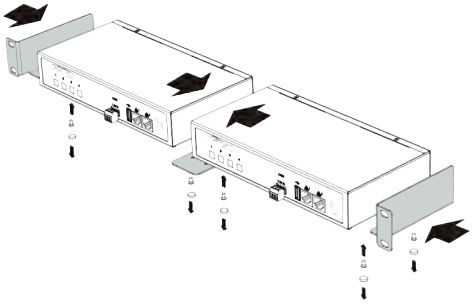
## NETIO RM1 4C

Metal brackets to install one PowerPDU 4PS, 4KS or 4C device into a 1U space in a 19” rack frame.



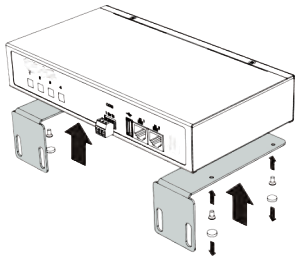
## NETIO RM2 2x4C

Metal brackets to install two pieces of PowerPDU 4PS, 4KS or 4C devices into a 1U space in a 19” rack frame.



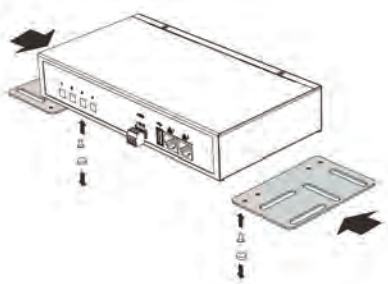
## NETIO RM3 4C vertical

Metal brackets to fasten one NETIO PowerPDU device (PowerPDU 4PS, 4KS, 8QS or 4C) to a vertical bar in a rack frame.



## NETIO RM4 4C universal

Universal metal brackets to fasten one PowerPDU 4PS, 4KS, 8QS or 4C device e.g. to horizontal bars in a rack frame.



# PowerBOX family accessories

## NETIO MK1 PowerBOX

Metal bracket for mounting 1 piece of PowerBOX 3Px or PowerBOX 4Kx on the wall, contains two metal pieces. Both parts slide into the aluminum profile (back side).

## NETIO MK2 PowerBOX 19 horizontal

Metal brackets for 1 unit of NETIO PowerBOX 3Px / 4Kx into a 1.5U space in a 19” rack frame.

## NETIO MK3 PowerBOX 19 vertical

Metal brackets to fasten 1 unit of NETIO PowerBOX 3Px/4Kx to a vertical bar in a rack frame.

# NETIO Cloud

***NETIO Cloud is an ideal solution for remote control and restarting. With NETIO Cloud, all power outputs of multiple NETIO devices can be switched on/off or power-cycled over a single screen (web) independently. Unlimited number of NETIO devices connected to your NETIO Cloud user account. For metered outputs, the service displays the up-to-date overall consumption reading.***

- **One web page** to control dozens and hundreds of electrical power outputs (On / Off / Power-cycle).
- **End to end SSL (TLS) secured** communication is used between devices, servers, apps and your web browser.
- Name and group assignment for each output and device.
- **Outputs can be arranged into groups** (buildings, location, customer, ...).
- For metered outputs, up-to-date overall consumption readings (kWh) are shown.
- With each NETIO device, **"Welcome credit"** is given free of charge. The welcome credit is loaded automatically when the device is first connected to the NETIO Cloud.

- NETIO Cloud supports Open API (MQTTs), it can be used as the single point for integration of multiple devices.

- The basic NETIO Cloud service can be extended for **individual outputs** by activating NETIO Cloud **Premium**. Premium is paid daily from the credit deposited in the user account.
- Premium version includes the option of displaying power measurements, alarming for individual outputs and exporting measurement history in csv format.
- Premium further reduces the response time to a connection loss (email alert from the cloud) of individual device from 35 minutes to 2 minutes.


**Ask for On Premise version.**

# NETIO Mobile 2

MOBILE APPLICATION

***NETIO Mobile 2 is a mobile app to control all outputs on several NETIO devices over LAN (WiFi) or NETIO Cloud account from mobile phones and tablets. It is supported by all NETIO devices.***

- **Control individual power outputs** – switch ON, switch OFF, RESET
- Mobile App control devices on **LAN** or all devices in defined **user account** (NETIO Cloud).
- **Read power consumption data** (A, W, Wh) from outputs that support energy metering
- Turn the Scheduler on / off for each output
- Outputs can be arranged into groups
- Group control - switch on/off all outputs in the group
- Group control - turn the Scheduler on/off for all outputs in the group
- Organize the outputs within groups (by function or location)
- Change output / device names (visible in the application)
- Add multiple devices to the mobile app
- Search your network for NETIO devices (LAN discover function)

SCHEDULER LAN WiFi POWER METERING NETIO CLOUD

**Get our mobile app NETIO Mobile 2:**

GET IT ON Google Play

Download on the App Store

# Accurate power metering


***As a unique feature, NETIO power socket models that support power metering can measure electrical parameters with a high accuracy (1%) - each device is two-point calibrated at the factory, giving you a reliable data source for your power analysis!***
***All metered values are accessible via web interface and Open API.***

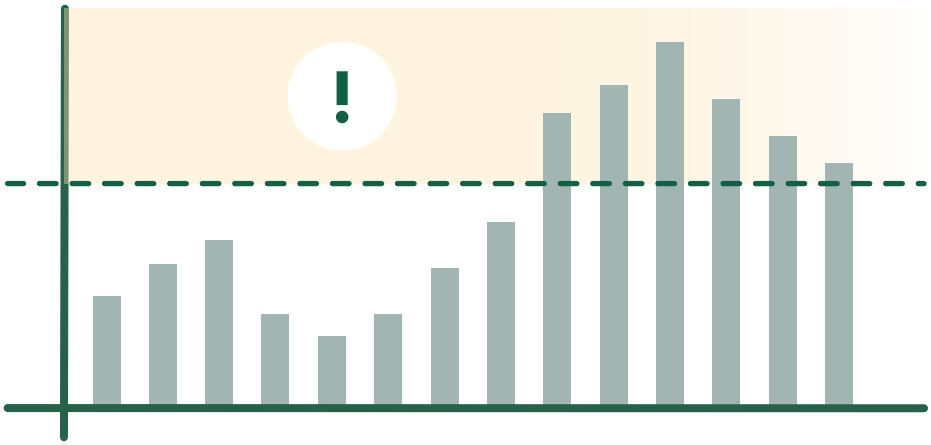
## Metered values*

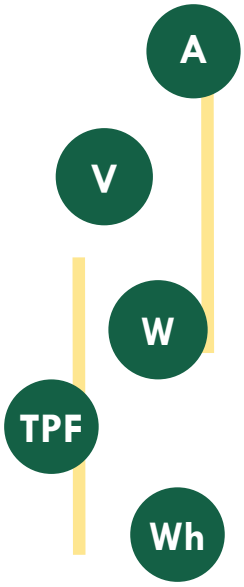
- Current [A]
- Output power [W]
- Phase shift [°]
- TPF (True Power Factor)
- Voltage [V]
- Grid frequency [Hz]
- Energy [Wh]
- Reverse Energy [Wh]

*Actual number of metered values depends on the product model

## How can you use the data?

- Power & Cost analysis of your electrical appliance (TV screens, fridges etc.)
- Long-term behavior monitoring and predictive maintenance
- Threshold warnings when power is too high / too low
- Monitoring fault conditions (e.g. water pump is running dry)
- Power monitoring over SNMP in Zabbix / Nagios / Prometheus / Grafana etc.
- Counting repeated work cycles of a generic mechanical machine (e.g. gates, robots or vending machines)
- Download CSV file from NETIO Cloud if Premium account is enabled per output.



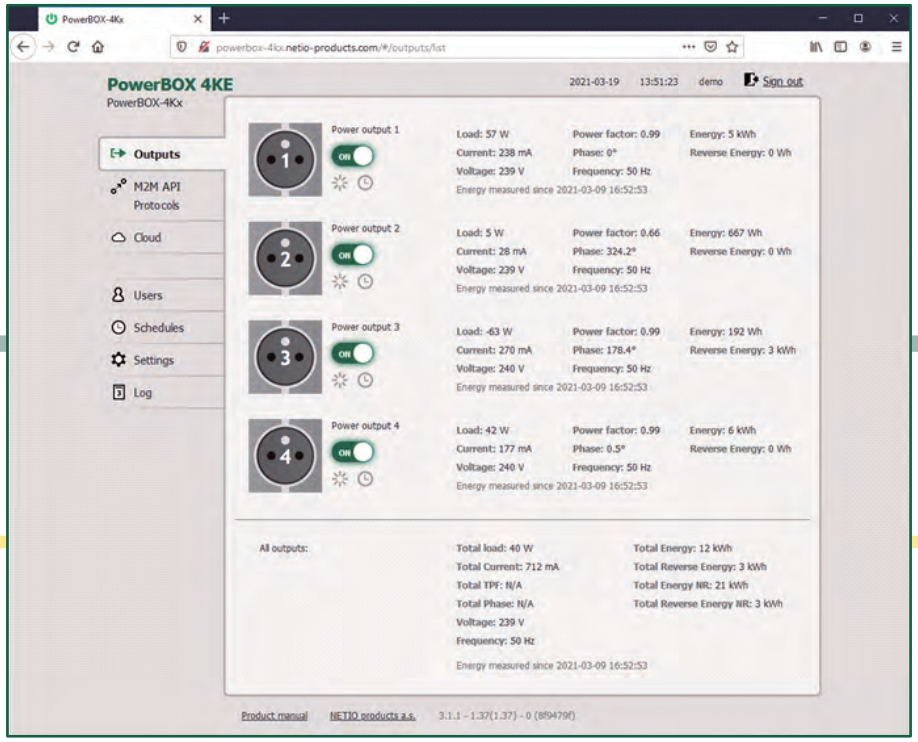



# User-friendly web interface


***NETIO devices include their own web server and can be configured over the web interface. The web interface is accessible over the local network with any web browser at the device´s IP address. Each output can be controlled independently and electrical metering data are visible for metered outputs.***

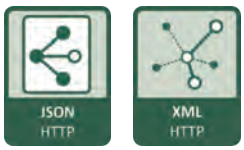
- **Switching** each power output On / Off / Reset
- Electrical **metering** data visible
- **Open API** configuration
- **NETIO Cloud** connection

- **Scheduler function:** Time-based power switching for each output
- **IP WatchDog(s), Rules & Condition configuration.**
- **PowerUp state:** Define the behavior of the power output after the device is powered up (or after power is restored after power outage). Possible values: On / Off / Last state.
- **PowerUp delay:** Set a delay (in milliseconds) to wait before switching the output (e.g. when the power is restored after an outage). This prevents circuit breakers from tripping.



# Open API

***Monitor and control your NETIO power socket via any interoperable device, software or cloud. NETIO devices can be easily integrated into the systems you are already using. NETIO products support many Open API standards such as MQTT, Modbus/TCP, JSON over HTTP, SNMP, XML and more...***




## JSON and XML over HTTP(s)

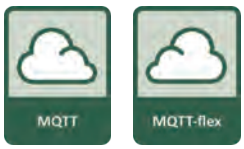
JSON and XML are popular thanks to their simplicity and human-readability. JSON is the most popular protocol, used in most integrations in the AV market – Crestron, Control4, RTI, Savant and more.


## URL API (http get)

By accessing a certain WWW address, a socket can be switched on, switched off, or toggled. This method is often used in IP surveillance cameras, JAVA scripts, or other web technologies.

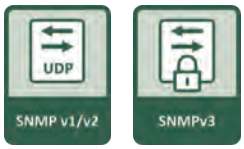

## HTTP(s) Push – JSON / XML

NETIO devices can periodically connect to the specified server over http / https and send data in a JSON or XML structure. It is useful in cases where the NETIO device is not acce-ssible from the internet or the server (NETIO device is in a LAN behind a NAT).



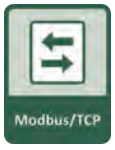

## MQTT / MQTT-flex

MQTT is often used in IoT applications and related cloud services. It is designed for large networks with low data traffic to minimize data volumes. MQTT-flex is a text based configurable version of the standard MQTT protocol (broker details, topics, payloads, etc.).




## SNMP v1/v2, SNMP v3

NETIO sockets can be controlled via SNMP v1/v2 or the more secure SNMP v3. Popular SNMP applications are: Nagios, Zabix, Cacti, Paessler PRTG Network Monitor and more.




## Modbus/TCP

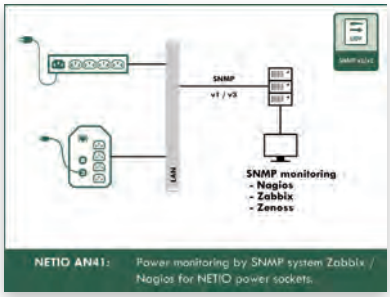
Modbus/TCP is very common in industry, where it is a de-facto standard for communication on a local level. It does not support any security. Thanks to Modbus/TCP support, NETIO sockets can be controlled from PLCs or various SCADA applications.

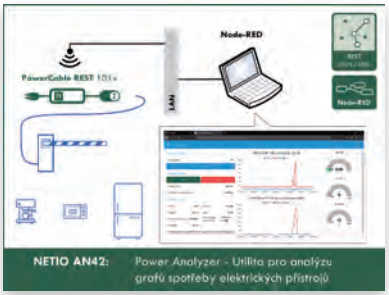

## Telnet

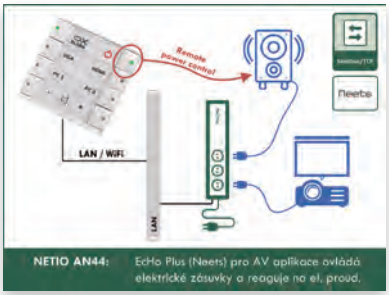
NETIO sockets can be controlled with commands sent over a Telnet connection. We maintain Telnet command compatibility with the KShell (Koukaam Shell) instruction set to ensure backward compatibility with Koukaam products.

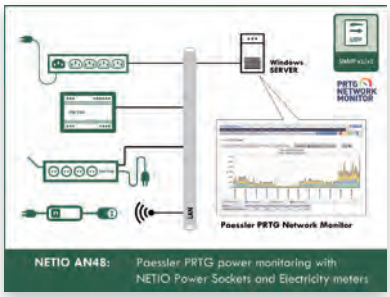
# Application Notes

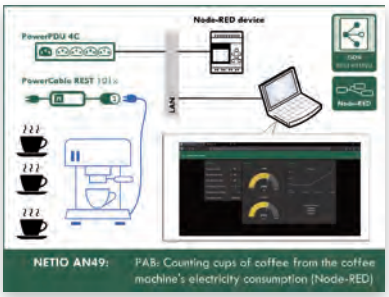
*A huge library of Application Notes helps with a better understanding of using NETIO products in your applications. Visit www.netio-products.com – to learn about "How to API", browse examples of integrations, setups and more…*

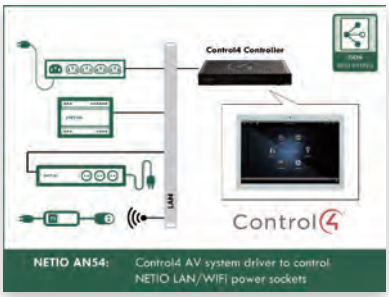



# Integration partners

*We believe in interoperability and easy integration using Open API. Each NETIO device supports multiple APIs, which makes it a versatile component to your system.*

SAVANT ELAN Control4 ZABBIX

RTI LOXONE HS BrightSign TRIDIUM

Neets PAESSLER® the network monitoring company OIII7SENSE Domoticz control at your fingertips

kramer domotz SKAARHOJ

Node-RED Nagios® CRESTRON AVS

# Product comparison

| | PowerPDU 4C | PowerPDU 4KS | PowerPDU 4PS | PowerPDU 8QS | PowerBOX 3PF | PowerBOX 3PE | PowerBOX 3PG | PowerBOX 4KF | PowerBOX 4KE |
|---|---|---|---|---|---|---|---|---|---|
| **Power input type** | C14 | C14 | C14 | C20 | Europlug | Europlug | Type G | Europlug | Europlug |
| **Power input voltage** | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V |
| **Power input current** | max 10A | max 10A | max 10A | max 16A | max 16A | max 16A | max 13A | max 16A | max 16A |
| **Power output type** | 4x C13 | 4x C13 | 4x C13 | 8x C13 | 3x Type F | 3x Type E | 3x Type G | 4x Type F | 4x Type E |
| **Switched channels** | 4 | 4 | 4 | 8 | 3 | 3 | 3 | 4 | 4 |
| **ZCS/ZVS** | ZCS | ZCS | ZVS | ZVS | ZVS | ZVS | ZVS | ZCS | ZCS |
| **Metered channels** | 4 | 4 | - | 1+ Total | - | - | - | 4 | 4 |
| **Surge protection (SPD Type 3)** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Internal consumption** | 2 - 5 W | 1 - 2 W | 1 - 2 W | 1 - 3 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W |
| **RS-232 (serial port)** | ● | - | - | - | - | - | - | - | - |
| **PAB (Power Analyze Block)** | - | ● | - | ● | - | - | - | ● | ● |
| **Relay outputs (NO/NC)** | - | - | - | - | - | - | - | - | - |
| **Digital Inputs (DI) + S0 counter** | - | 1 | - | 1 | - | - | - | - | - |
| **LAN** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **LAN switch** | 2 ports | - | - | - | - | - | - | - | - |
| **WiFi** | - | - | - | - | - | - | - | - | - |
| **Web interface** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Open API** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **PowerUp state** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **PowerUp delay** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Week Scheduler function** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **PING WatchDog** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Power WatchDog** | - | ● | - | ● | - | - | - | ● | ● |
| **Condition & Rules** | - | ● | ● | ● | ● | ● | ● | ● | ● |
| **Lua scripting** | ● | - | - | - | - | - | - | - | - |
| **NETIO Cloud support** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Mobile App** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **SNMP v1/v2/v3** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Modbus/TCP** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **MQTT-flex** | - | ● | ● | ● | ● | ● | ● | ● | ● |
| **MQTT** | ● | - | - | - | - | - | - | - | - |
| **JSON over HTTP (XML)** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **Telnet** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **URL API (http get)** | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| **HTTP(s) Push - JSON** | - | ● | ● | ● | ● | ● | ● | ● | ● |
| **HTTP(s) Push - XML** | - | ● | ● | ● | ● | ● | ● | ● | ● |
| **HTTPs** | ● | - | - | - | - | - | - | - | - |
| **19" rack mount** | ○ | ○ | ○ | ● | ○ | ○ | ○ | ○ | ○ |

# Product comparison

| PowerBOX 4KG | PowerDIN 4PZ | PowerCable 2PZ | PowerCable 2KZ | PowerCable REST 101F | PowerCable REST 101E | PowerCable REST 101G | PowerCable REST 101S | PowerCable REST 101J | PowerCable REST 101Y | |
|---|---|---|---|---|---|---|---|---|---|---|
| Type G | Term. b. | Term. b. | Term. b. | Europlug | Europlug | Type G | Type S | Type J | Europlug | **Power input type** |
| 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | 100-240 V | **Power input voltage** |
| max 13A | max 16A | max 16A | max 16A | max 16A | max 16A | max 13A | max 10A | max 10A | max 10A | **Power input current** |
| 4x Type G | 4x Term. b. | 2x Term.b. | 2x Term.b. | 1x Type F | 1x Type E | 1x Type G | 1x Type S | 1x Type J | 1x Type S | **Power output type** |
| 4 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | **Switched channels** |
| ZCS | ZCS | ZVS | ZCS | ZCS | ZCS | ZCS | ZCS | ZCS | ZCS | **ZCS/ZVS** |
| 4 | 2 | - | 2 | 1 | 1 | 1 | 1 | 1 | 1 | **Metered channels** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Surge pr. (SPD Type 3)** |
| 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | 1 - 2 W | **Internal consumption** |
| - | - | - | - | - | - | - | - | - | - | **RS-232 (serial port)** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **PAB (Pow. Anal. Block)** |
| - | 2 | - | - | - | - | - | - | - | - | **Relay outputs (NO/NC)** |
| - | 2 | - | 2 | - | - | - | - | - | - | **Dig. Inp. + S0 counter** |
| ● | ● | ● | ● | - | - | - | - | - | - | **LAN** |
| - | - | - | - | - | - | - | - | - | - | **LAN switch** |
| - | ● | ● | ● | ● | ● | ● | ● | ● | ● | **WiFi** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Web interface** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Open API** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **PowerUp state** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **PowerUp delay** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Week Scheduler func.** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **PING WatchDog** |
| ● | ● | - | ● | ● | ● | ● | ● | ● | ● | **Power WatchDog** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Condition & Rules** |
| - | - | - | - | - | - | - | - | - | - | **Lua scripting** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **NETIO Cloud support** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Mobile App** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **SNMP v1/v2/v3** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Modbus/TCP** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **MQTT-flex** |
| - | - | - | - | - | - | - | - | - | - | **MQTT** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **JSON over HTTP (XML)** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **Telnet** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **URL API (http get)** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **HTTP(s) Push - JSON** |
| ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | **HTTP(s) Push - XML** |
| - | - | - | - | - | - | - | - | - | - | **HTTPs** |
| ○ | - | - | - | - | - | - | - | - | - | **19" rack mount** |

# Contact us

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Networked power sockets

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