

Q.PS-PEL-240x
24 VDC Power Supply Unit

Document version

Version	Changes	Published	Remarks
EN01	2015-03-13	–	New document
ENG02	2015-08-17	2015-08-18	New edition for the low-voltage directive 2004/108/EC → 2014/30/EC

Brands and trademarks

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Technical modifications are based on the current state-of-the-art technology.

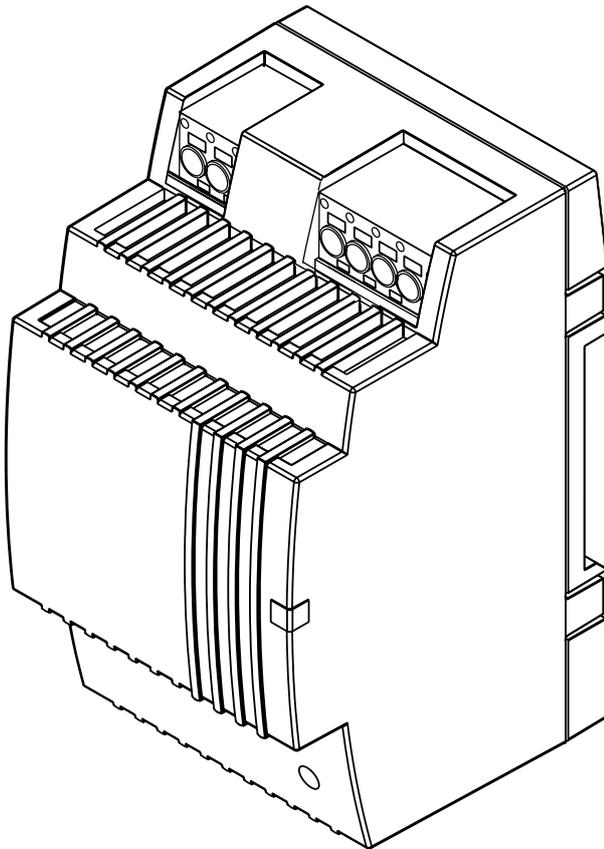
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General

The Q.PS-PEL-240x range of single phase primary switched mode power supplies can tolerate a wide range of supply voltage and are distinguished by their flat profile ideal for mounting in control panels for building and automation controls.

Available in 1.3 A and 4 A DIN rail mounting packages, all units feature overvoltage and short circuit protection.



Features

- Stabilised and adjustable output voltage
- Power output OK LED
- Parallel connection capability
- Spring-loaded connector system
- DIN rail mounting

Specifications

Input

Input rated voltage	100 to 240 Vac.
Input voltage range	85 to 264 Vac,
Input frequency range	44 to 66 Hz
Inrush current limiter	<30 A, NTC
Recommended external protection	6A, 10A, 16 A circuit breaker characteristic B, C

Output

Output rated voltage	24 Vdc \pm 2%
Output voltage range	22.8 to 26.4 Vdc
Overload behavior	constant current
Parallel operation	yes
Serial operation	yes
Residual ripple	100 mV typical

Environment

Storage temperature	-25°C to +80°C
Ambient temperature	-25°C to +55°C
Derating	-3%/K >+45°C
Mounting position	Vertical on DIN rail TH35
Humidity range	30 to 85 %RH, non-condensing
Space for cooling	50 mm above and below

Safety and protection

Protection	IP20
High voltage test volts	4.2 kVdc
Safety class	II (in closed cabinet)
Conductors	Use Cu only (rated 60°C or 60/75°C)
Installation	Install in Pollution Degree 2 environment
Feedback voltage	max. 30 Vdc

Safety standards

Safety	EN61558-2-17, EN60950 (SELV)
EMC	EN61204
UL	cURus, cULus
GL	GL, Germanischer Lloyd

Indication

Output power OK	Green LED (DC OK)
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Mechanical

Input terminals	2.5 mm ² max
Output terminals	2.5 mm ² max

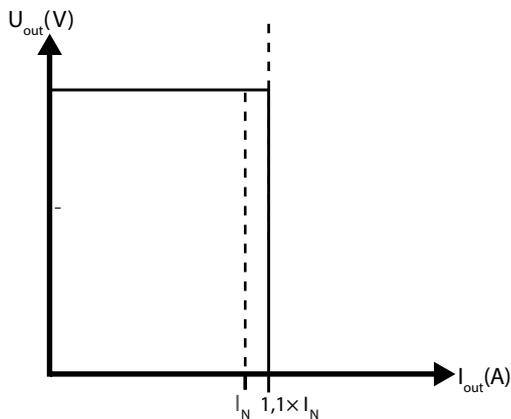
Model Dependent Specifications

Model number	Q.PS-PEL-2401	Q.PS-PEL-2403
Derating input voltage	Max 1 A (<100 Vac)	Max 3.5 A (<100 Vac) 3 A (<90 Vac)
Rated input current (nominal load) 110/230 Vac	0.7/0.5 A	1.6/0.9 A
Internal fuse	2 AT	4 AT
Mains drop compensation at nominal load 110/230 Vac	10/80 ms	18/100 ms
Rated output current	1.3 A <45°C 0.9 A <55°C	4 A <45°C 2.8 A <55°C
Efficiency	82% typ.	88% typ.
Current rating at any mounting position	Max. 0.9 A	Max. 2.4 A
Weight	0.17 kg	0.3 kg
Dimensions	54 × 89 × 54 mm	90 × 89 × 54 mm

Voltage/Current Characteristic for short circuit and overload

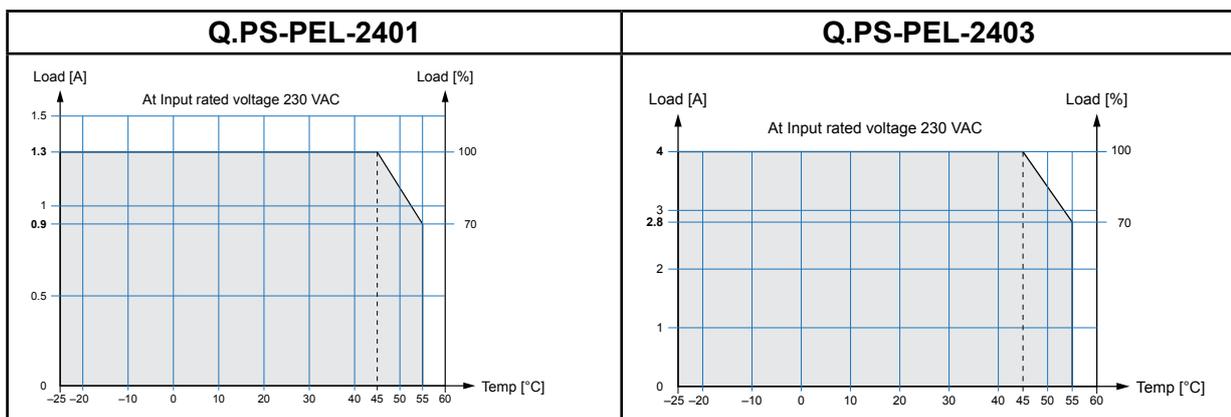
The output of the device is electrically protected against overload and short circuit

Output Characteristic (U/I Characteristic)

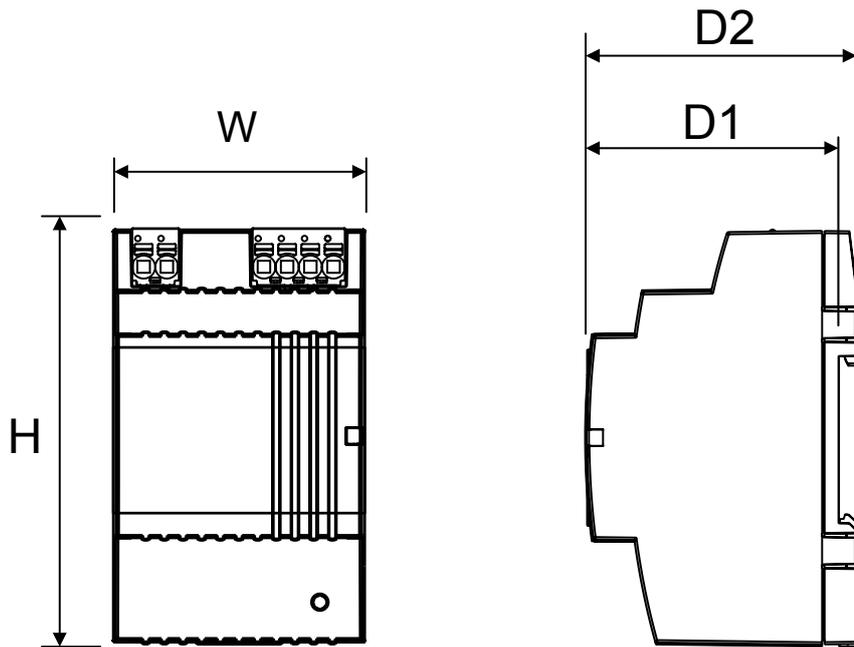


Current overload protection is constant current at 1.1 x nominal current

Output Derating Curve



Dimensions

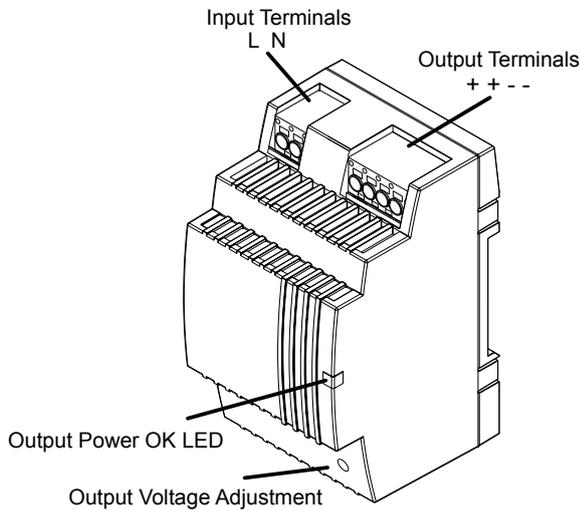


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Model	Q.PS-PEL-2401	Q.PS-PEL-2403
W	54 mm	90 mm
H	89 mm	89 mm
D1	54 mm	54 mm
D2	59 mm	59 mm

Installation xxx

Connections

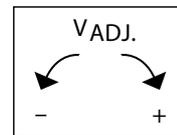


Output Power OK LED:

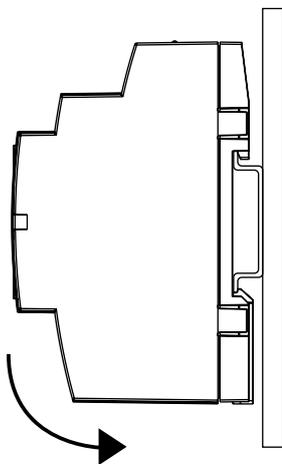
The green LED lights as soon as the output voltage is present

Output Voltage adjustment:

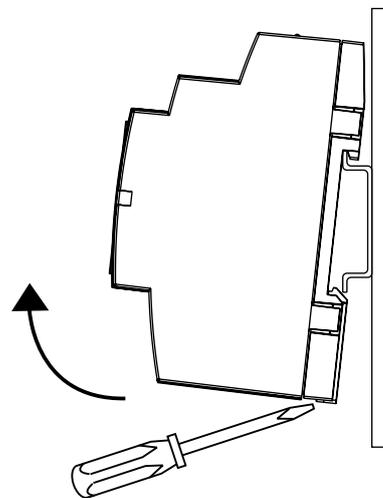
The output voltage can be altered using a screwdriver. Turning the adjustment screw anticlockwise reduces the voltage output.



Mount/Dismount



Mount unit by placing the DIN rail guide on the upper edge of the DIN rail and snapping it into place with a downward motion



Dismount unit by levering the lower catch open with a screwdriver, pulling the lower edge forward, and unhooking from the top of the DIN rail

Parallel connection

If units have their outputs connected in parallel, their output voltages must be adjusted to the same value (± 100 mV).

Impedances from the units to the star point must be equal

Note that leakage current, EMI, inrush current and harmonics can increase using multiple power supplies.

Installation

Safety measures before installation.

This equipment is to be protected against improper use. Components are not to be bent or isolation spacing changed, especially through handling and transport.

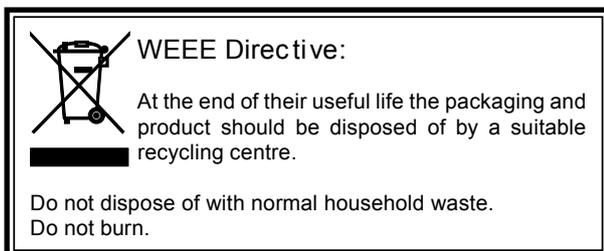
The contact with electrical components and terminals is to be avoided. Always disconnect the equipment from the mains supply, before commencing installation or wiring. The product description, technical information in this data sheet and the marking on the equipment ratings plate are to be observed.

Installation

Installation must be carried out according to the prevailing local conditions and safety regulations (e.g. VDE 0100) national accident prevention regulations (e.g. UVV-VBG4 or BGV A3) and the generally accepted rules of technology. This equipment is a component designed for installation into electrical systems and machines, and fulfils the requirements of the low voltage guidelines (2014/35/EU).

The required minimum spacing to neighboring components must be observed to guarantee the required cooling. When installed into machinery, the normal operation is forbidden until it is determined that the machine fulfils the requirements of the machinery guidelines (2014/30/EU). EN 60204 must be observed. The EMC requirements (2004/108/EG) must be fulfilled before operation is commenced. The observance of the required limitations for the EMC legislation is the responsibility of the manufacturer of the installation or machinery.

Disposal



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