

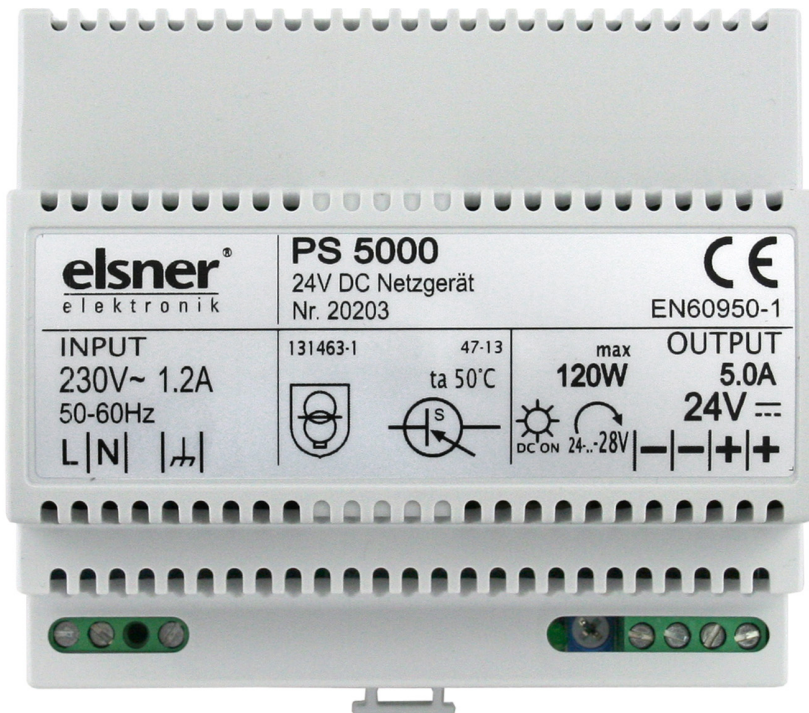


PS5000

24 V DC power supply

Technical specifications and installation instructions

Part number 20203



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1. Description

The **PS5000 24 V power supply** converts 230 V AC into 24 V DC and thus delivers the supply voltage for 24 V DC devices. Due to the high stability the device is also suitable for difficult loads such as drives.

Functions:

- Input voltage 230 V AC or 275-350 V DC
- Output voltage can be set between 24 and 28 V DC
- Output voltage remains constant in the event of mains voltage fluctuations and load variations of 0-100% within a tolerance of $\pm 3\%$
- No minimum load required, output voltage remains stable in the load range of 0-100%
- No load running test
- Maximum constant current is also maintained in the event of overload and short circuit, without the device switching off.
- LED for displaying the operational status (lights if voltage is on at the output)

1.0.1. Deliverables

- Power supply for serial mounting (housing with 6 modules)

1.1. Technical specifications

Housing	Plastic
Colour	Grey
Assembly	Series installation on mounting rail
Protection category	IP 20
Protection class	II
Norms	Safety EN60950, EN61558-1, UL1950, UL508, EMV EN55022/B EN61000-4 EN55022/B
Dimensions	approx. 108 x 95 x 69 (W x H x D, mm), 6 modules
Minimum installation gap	40 mm above and below
Weight	approx. 360 g
Ambient temperature	Operation: -10...+50°C, storage: -40...+85°C
Ambient humidity	max. 95% RH, avoid condensation
Input voltage	230 V AC $\pm 15\%$ / 50-60Hz or 275-350 V DC.
Power consumption input	approx. 1.4 W at 24 V output voltage, approx. 1.6 W at 28 V output voltage, each at 230 V AC input voltage.
Output	24 to -28 V DC, variable. max. 5 A, 120 W

Efficiency	> 90% (230 V)
Minimum separation between input and output cables	34 mm

2. Installation and commissioning

2.1. Installation notes



Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.



DANGER!

Risk to life from live voltage (mains voltage)!

There are unprotected live components within the device.

- VDE regulations and national regulations are to be followed.
 - Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
 - Do not use the device if it is damaged.
 - Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.
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The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Installation location



DANGER!

Risk to life from live voltage (mains voltage)!

- Install the device in a position that can only be accessed by qualified personnel.
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The device must only be installed and operated in dry, indoor spaces. Avoid condensation.

Protect the device from

- greater temperature fluctuations
- direct sunlight
- warm air currents or smoke
- shocks and vibrations.

The **PS5000 24 V power supply** is only suitable for operation in networks of over-voltage category II. It must be installed in a suitable housing (distributor) made of self-extinguishing material compliant with the EN 60950 standard.

The device is designed for series installation on mounting rails and occupies 6 module units. When installing the device, the clamping bar must point downwards.

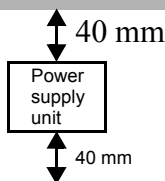


Fig. 1

For correct heat exchange sufficient air circulation must be ensured:

- A gap of 40 mm must remain free above and below the device.
- The ventilating holes must remain free.

For an ambient temperature of 60°C (10°C above the maximum operating temperature) and for an installation at a height of more than 2000 metres above sea level, the output power must be reduced by 30%.

2.3. Connection



DANGER!

Risk to life from live voltage (mains voltage)!



BEWARE!

Danger of fire!

- Never connect the device to a power source that is not clearly defined.
- Do not connect the output terminals with the AC mains network.
- Leads and cables may not be squashed or damaged.
- Do not connect when hands are wet.
- Do not short circuit terminals and input and output cables.
- Do not open or drill through the device, the label must be legible.
- Keep device and cables away from dust and condensation.

For all connections to the device, the cables and down conductors must be so selected that a current density of 4 A/mm² is not exceeded. The cable ends must be fitted with wire end ferrules.

A 2 pole power-protection switch must be installed upstream.

A distance of 34 mm between the input and the output cables must be maintained so that the protection class II for the device and the interference suppression standard are complied with.

The products must be viewed as one component; during installation together with other devices, compliance with the specified EMC standards must be ensured.

Tighten the screws on the clamps accurately.

2.3.1. Connection overview

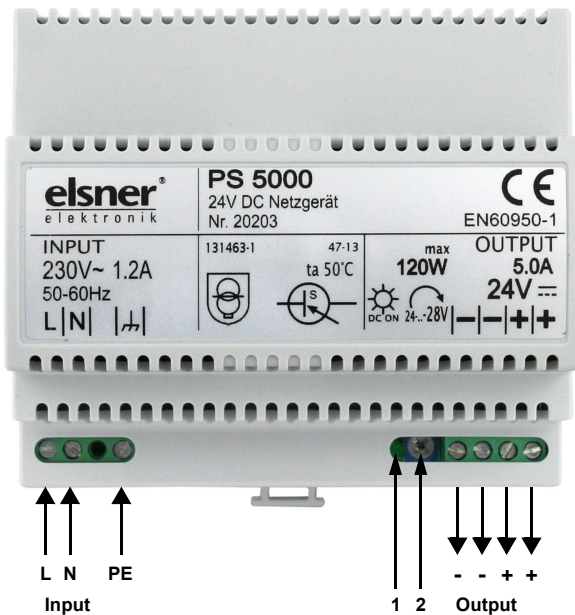


Fig. 2

- 1 LED "output"
- 2 Adjusting screw (24...28 V DC)

2.4. Instructions for maintenance and dismantling

**DANGER!****Risk to life from live voltage (mains voltage)!**

- before starting any work on the device, isolate all input leads from the power source and take precautions against it being accidentally switched back on.
 - After removing the cable ends from the terminals insulate the wire ends correctly.
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