



# 12V 36W Power Supply

## PS-361

### ! ATTENTION

This user manual contains information necessary for the safe and correct operation of the device. Before mounting the device, please read this user manual carefully and pay attention to warnings.

### Safety and Warnings

**! ATTENTION** Do not open the device under any circumstances. An opened device's warranty will become void.

**! ATTENTION** The device must be mounted only by qualified personnel with necessary precautions against electric shock in place. Incorrect connection may create dangerous result for people and environment. Incorrect connection may result in permanent damage to the performance of the device.

- Before you energize the device or remove the device from mains, make sure that the supply cable isn't connected to mains.

- Supply input of the device must be connected according to EN60950 standards.

**! A supply voltage greater than 265V AC may result in an explosion in the device or in damages to the user.**

- Device supply must be at a sufficient power capacity and must comply with security standards.
- Cables connected to the outputs of PS-361 must be suitable for the maximum current that PS-361 can provide.
- After device connection is finished, connection points must be protected against accidental contacts.
- Mounting of the device must be done vertically as shown in Figure-1, with AC supply input at the bottom side and the DC output at the top side.

### 1- Introduction

**1.1 Applications :** PS-361 is a 36W high efficiency SMPS which was designed according to DIN case standards for easy installation in panels. It can be safely used in industrial and building automation applications.

### 1.2 General Features :

- Wide input voltage range 85-265V AC (50-60 Hz) / 110-350V DC
- 36 W output power (3A DC @12V DC)
- Status notification LED (yellow)
- High efficiency operation at >85%
- Low/High input voltage protection
- Short circuit, overload protection
- Thermal protection
- Class 2 device, no earth connection is necessary
- DIN4 case
- IP20 Protection class
- CE, EN 60950,EN 61204



Figure-1

**1.3 Operation :** The part of the device which is numbered as 1 in Figure-1 is the input voltage connection point of PS-361 and it is shown with L (Line) and N (Neutral) on the device body. Connect the supply voltage to these points. The part of the device which is numbered as 2 in Figure-1 is the DC output connection point of PS-361 and its polarity is shown with + and - on the device body. When supply voltage is applied to PS-361, the yellow LED which is numbered as 3 in Figure-1 will light up. When this LED is lit, it indicates that PS-361 is working and it generates an output voltage. The device will turn itself off to protect itself during cases of overload, overheating and shortcircuit at the output contacts. When the error state is resolved, it will activate itself automatically.

### 2- Block Diagram

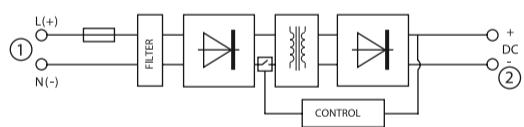


Figure-2

### 2.1 Input (1)

- The part which is numbered as 1 in Figure-2 is the Line and Neutral supply inputs of PS-361.
- 100-240V AC input voltage can be connected by using the L and N terminals.
- 110-350V DC input voltage can be connected by using the L and N terminals.
- The device will turn itself off to protect itself during cases of overload, overheating and shortcircuit at the output contacts. When the error state is resolved, it will activate itself automatically.

### 2.2 Output (2)

- The part which is numbered as 1 in Figure-2 is the DC voltage output of PS-361.
- Positive and negative parts of the output voltage are shown with (+) and (-).
- Output voltage is 12V DC.
- Device output is protected against short circuit.
- When the output is shorted circuited, device turns off completely and turns on again after the short circuit condition is resolved.
- The device can operate up to an ambient temperature of +55°C.

### PS-361 has LED indicator (Parts 3 in Figure-1).

- **When there's no energy :** Output OK LED is off.
- **Normal operation mode :** Output OK LED is on.
- **Short circuit :** Output OK LED is off. If short circuit situation is resolved, the device starts to work again.
- **Oversupply on Output :** Output OK LED blinks.

### 3- Connection and Mounting

#### 3.1 Wire Connection

- AC Input (1): Under nominal load, PS-361 draws maximum 0.9A AC and minimum 0.4A AC. Wire thickness must be selected according to these values. Maximum 14 AWG stranded wire (2.5 mm<sup>2</sup>) or 12 AWG solid wire (4 mm<sup>2</sup>) can be connected to the input terminal.
- DC output (2): Output current is 3A DC. Wire thickness must be selected according to this value. Maximum 14 AWG stranded wire (2.5 mm<sup>2</sup>) or 12 AWG solid wire (4 mm<sup>2</sup>) can be connected to the output terminal.
- In terms of complying with standards, use copper wires that can operate at 75°C.

#### Mounting (Figure 2)

- PS-361 can be mounted on DIN rails which comply with EN50022 standards.
- Mount the device vertically. When mounting the device, it is recommended that the DC output side stays on top side.
- Mind the device's ventilation when mounting the device. After the mounting, it is recommended to leave a 1 cm space between PS-361 and devices next to it.

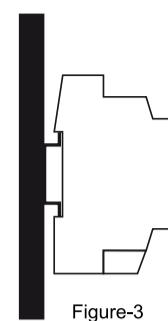
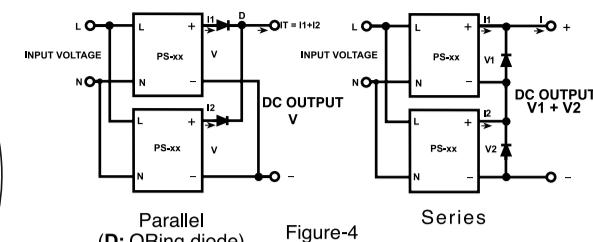


Figure-3



**Note:** When selecting ORing diode, take twice the nominal output voltage and current values of the power supply for reference

### 4- Technical Properties:

#### Input

Nominal input voltage	100-240 VAC / 130-320 VDC
Input voltage range	85-265V AC / 110-350V DC
Frequency	45-65 Hz / 0 Hz
Generated current (@36W)	0.4-0.9A AC ( $\pm 10\%$ )
Starting current	<15A
Internal fuse	1.6A
Estimated opening time after nominal voltage is supplied	<1 s (@220V AC - 36W)
Mains buffering	>20 ms (@220V AC - 36W)
Transient surge	
Voltage protection	Varistor
Line regulation	<1% (@24V DC)

#### Output

Nominal output voltage	12V DC ( $\pm 0.5\%$ )
Nominal output current	3A DC (<55°C)
Maximum output current	5A DC
Efficiency	>82% @85V AC >85% @265V AC
Residual fluctuation	<50 mV (under nominal load)
Overload protection	max. 6A (@25°C)
Short circuit protection	Hysteresis turn off
Thermal protection	>55°C (@1.7A DC)(under nominal load)
Series connection	Yes
Parallel connection	Yes (by connecting ORing diode)
Load regulation	<1%

#### Indicators

Output OK	Yellow LED
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#### General Information

Operating Temperature	-20°C...+55°C
Humidity	<95% (@25°C)
Mounting Type	Rail mount (EN 50022)
Rail mounting spaces	1 cm horizontally, 5 cm vertically (spacing between other devices)
Connection	Terminals with fixed screws
Connection wire	compatible with Phillips screw drives max. 12 AWG (4mm <sup>2</sup> )solid wire, 14 AWG(2.5mm <sup>2</sup> ) stranded wire
Protection class	IP20
Pollution Degree	Class 2
Oversupply protection class	3
Dimensions	DIN4 (72*95*60) mm
Casing	Nylon 6
Weight	250 gr

#### Product Standards

Product standard	EN61204-1, EN61204-3, EN61204-4, EN61204-7 EN61558-1 EN60950, EN61558-2-17
SMPS transformer standard	4 kV
Electric safety	>5 MW (between input-output)
Insulation voltage (input/output)	3 kV Criterion A EN61000-4-5
Insulation resistance	4 kV Criterion B EN61000-4-4
Surge voltage	8 kV Criterion A EN61000-4-2
Burst voltage	4 kV Criterion A EN61000-4-2
ESD	(@220 VAC) 0% 20ms Criterion A EN61000-4-11 70% 500ms Criterion A EN61000-4-11
Air discharge	EN61000 3-2, EN61000 6-2, EN55011, EN55022
Contact discharge	
Sag in input voltage	
Other	

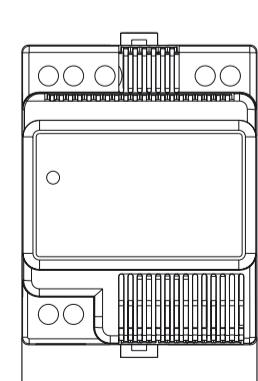
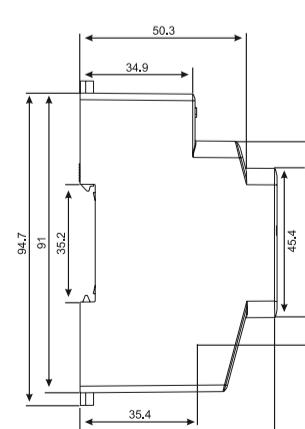


Figure-5

