

READ INSTRUCTIONS BEFORE INSTALLING OR OPERATING THIS DEVICE. KEEP FOR FUTURE REFERENCE.

1. Safety instructions

Read this first!

**⚠ WARNING** **ELECTRIC SHOCK**

- Switch main power off before connecting or disconnecting the device.
- If the unit is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- The main power must be turned off before connecting or disconnecting wires to the terminals!
- Do not introduce any objects into the unit!
- Dangerous voltage present for at least 5 minutes after disconnecting all sources of power.
- The power supplies are built-in units and must be installed in a cabinet or room (condensation free environment and indoor location) that is relatively free of conductive contaminants.
- "FOR USE IN A CONTROLLED ENVIRONMENT".

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

**⚠ CAUTION** **🔥 BURNING HAZARD**

- To guarantee sufficient convection cooling, please refer to Fig. 6 to ensure sufficient clearance around the device.
- Note that the enclosure of the device can become very hot depending on the ambient temperature and load of the power supply. Risk of burns!

**Failure to follow these instructions can result in injury or equipment damage.**

2. Device description (Fig. 1)

- (1) Input terminal block connector
- (2) Output terminal block connector
- (3) DC voltage adjustment potentiometer
- (4) DC OK LED (green)
- (5) Universal mounting rail system

3. Mounting (Fig. 2)

The power supply unit can be mounted on 35 mm DIN rails in accordance with EN 60715. For vertical mounting (Fig. 6), the device should be installed with input terminal block on the bottom.

Each device is delivered ready to install.

1. Tilt the unit slightly upwards and put it onto the DIN rail. Snap on the DIN rail as shown in Fig. 2.
1. Push downwards until stopped.
2. Press against the bottom front side for locking.
3. Shake the unit slightly to ensure that it is secured.

4. Dismounting (Fig. 3)

To uninstall, pull or slide down the latch as shown in Fig. 3. Then, slide the PSU in the opposite direction, release the latch and pull out the PSU from the rail.

5. Connection

The terminal block connectors allow easy and fast wiring. You can use flexible (stranded wire) or solid cables with the following cross sections:

Refer to Fig. 1:	Stranded / Solid		Torque	
	(mm <sup>2</sup> )	(AWG)	(Kgf-cm)	(lb-in)
(1)	2.5 ... 4.0	14 ... 12	6.1	5.3
(2)	2.5 ... 4.0	14 ... 12	6.1	5.3

To secure reliable and shock proof connections, the stripping length should be 8 mm (see Fig. 4 (1)). Please ensure that the wires are fully inserted into the connecting terminals as shown in Fig. 4 (2). All wire strands must be fully inserted into the terminals with the screws securely fastened in order to ensure safety and maximum contact.

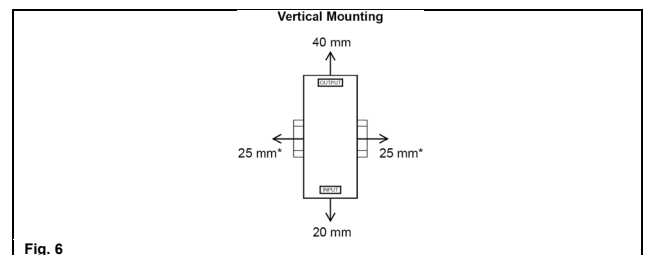
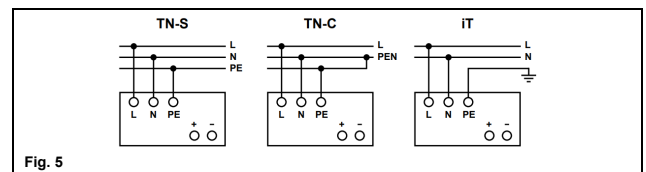
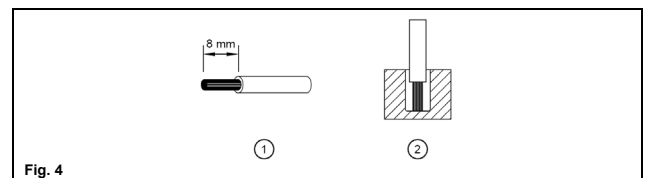
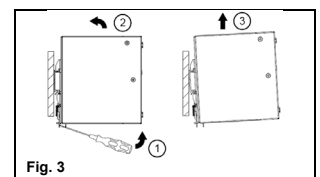
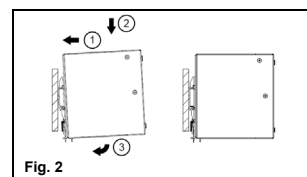
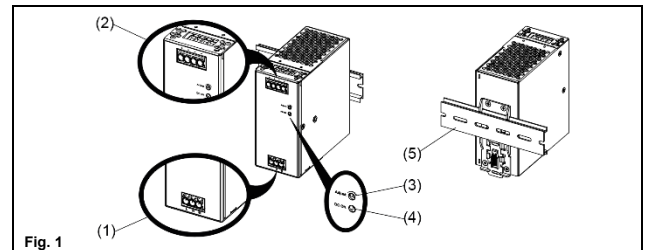
In accordance to EN/UL 62368-1 and EN/UL 61010-2-201. Use Copper Conductors Only. Wires are designed to sustain operating temperature of at least 105 °C.

5.1. Input connection (Fig. 1, Fig. 5)

Use L, N and PE connections of input terminal connector (see Fig. 1 (1)) to establish the 100 V AC ... 240 V AC connection.

The device has an internal fuse. The unit is tested and approved with branch circuit protective device up to 20 A.

**⚠** **The internal fuse must not be replaced by the user.**



**5.2. Output connection (Fig. 1 (2))**

Use the "+" and "-" screw connections to establish the 48 V DC connection. The green LED DC OK displays correct function of the output (Fig. 1 (4)). The device has a short circuit and overload protection and an overvoltage protection limited to < 68 V.

**5.3. Output characteristic curve**

The device functions normal under operating line and load conditions. In the event of an overload ( $I_o = 105\% \dots 150\%$ ) the output voltage will start to droop until overload has been removed.

**5.4. Thermal behavior (Fig. 7)**

If the output capacity is beyond what is recommended in Fig. 7, the device will run into thermal protection by switching off i.e. the output voltage will go into latch-off mode until the component temperature cools down and the AC power is recycled.

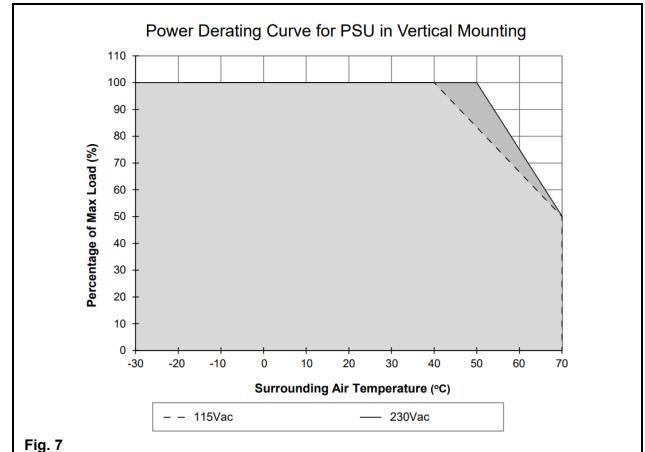


Fig. 7

<b>Input (AC)</b>		
Nominal input voltage	100 V AC ... 240 V AC	
Voltage range	90 V AC ... 264 V AC	
Frequency	47 Hz ... 63 Hz	
Nominal current	4.7 A typ. @ 115 V AC, 2.4 A typ. @ 230 V AC	
Inrush current limitation (+25 °C)	40 A typ. @ 230 V AC	
Mains buffering at nominal load	25 ms typ. @ 115 V AC & 230 V AC	
Turn-on time	800 ms typ. @ 115 V AC & 230 V AC	
Internal fuse	F10A / 250 V	
Recommended backup fuse	20 A	
Power circuit-breaker characteristic	B	
Leakage current	< 1.5 mA @ 240 V AC	
<b>Output (DC)</b>		
Nominal output voltage $U_N$ / tolerance	48 V DC $\pm 1\%$	
Adjustment range of the voltage	48 V DC ... 55 V DC (Maximum power $\leq 480$ W)	
Nominal current	10 A	
Derating	Temperature	> 40 °C (1.67 % / °C) @ 115 V AC > 50 °C (2.50 % / °C) @ 230 V AC
	Input voltage	< 100 V AC 1 % / V AC
Startup with capacitive loads	Max. 3000 $\mu$ F	
Power dissipation at 0 % load	< 0.75 W @ 115 V AC & 230 V AC	
Efficiency at 100 % load	93.5 % typ. @ 230 V AC	
PARD (20 MHz) at 100 % load	< 200 mVpp @ 0 °C ... +70 °C < 600 mVpp @ -30 °C ... 0 °C	
<b>General Data</b>		
Type of housing	Aluminum	
Signals	Green LED DC OK	
MTBF	Telcordia SR-332 > 700000 hrs. (I/P: 115 V AC & 230 V AC; O/P: 100 % load; Ta: 25 °C)	
Dimensions (H x W x D)	123.6 mm x 56 mm x 116.8 mm	
Weight	0.87 kg	
Connection method	Screw connection	
Wire stripping length	8 mm	
Operating temperature	-30 °C ... +70 °C (Refer to Fig. 7)	
Storage temperature	-40 °C ... +85 °C	
Humidity at +25 °C, no condensation	20 % ... 90 % RH	
Vibration	Operating	IEC 60068-2-6, Sine Wave: 10 Hz ... 500 Hz; 3 G peak; 60 min. per axis for all X, Y, Z directions
	Non-operating	IEC 60068-2-6, Random: 5 Hz ... 500 Hz (2.09 Grms); 20 min. per axis for all X, Y, Z directions
Shock	Operating	IEC 60068-2-27, Half Sine Wave: 10 G for a duration of 11 ms, shock for 1 direction (X axis)
	Non-operating	IEC 60068-2-27, Half Sine Wave: 50 G for duration of 11 ms, 3 shocks for each 3 directions
Pollution degree	2	
Altitude	Operating 5000 Meters	
<b>Safety and Protection</b>		
Surge voltage protection against internal surge voltages	Yes	
Isolation voltage	Input / output	3 kV AC
	Input / PE	2 kV AC
	Output / PE	1 kV AC
Safety class	Class I with PE connection	