PWR 01

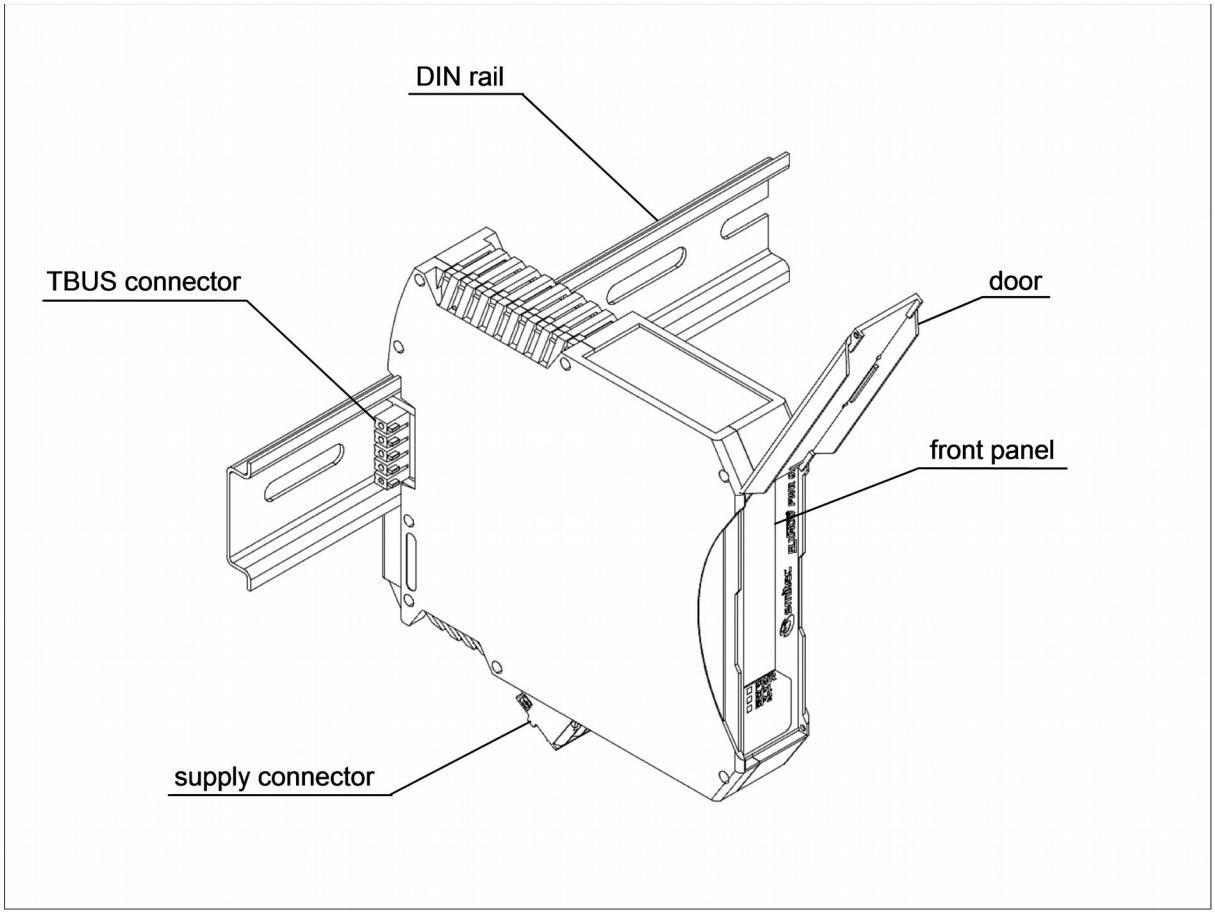
Power supply module

Datasheet

Description

Power supply module; the unit takes the 24V supply from the input connector and provides proper feeding for modules on bus. Main characteristics:

- 5 V / 3 A main output
- High conversion efficiency
- Overcurrent and short circuit protection on 5V output
- Integrated bus termination resistor
- Status and diagnostic LEDs



Ordering informations

Products	SMITEC part number
Power supply, complete with accessories (power connector and TBUS connector)	KZ010354

Accessories	SMITEC part number
Power supply connector (Phoenix Contact p/n 1910377)	KF100009
TBUS connector (Phoenix Contact p/n 2713722)	KF101034

Documentation	SMITEC part number
Installing instructions for PWR 01 (multilanguage)	DK400043
Datasheet for PWR 01 (english)	DK400063
FLXMOD system integration manual (english)	DK400076

Technical data

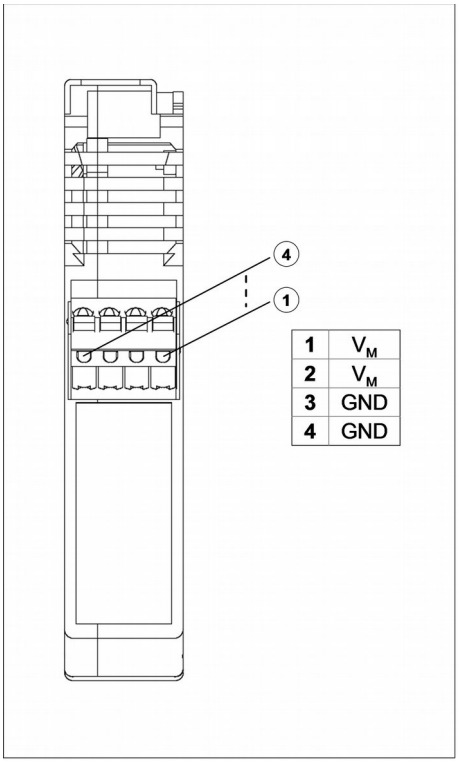
General data	
Housing dimensions (width x height x depth)	22.5 mm x 99.0 mm x 114.5 mm
Weight	95 g (without connectors), 107 g (with connectors)
Permissible operating temperature	+5° to +55°C
Permissible storage and transport temperature	-25° to +85°C
Permissible humidity	10% to 95% not condensing
Permissible air pressure (operation)	80 to 106 kPa (up to 2000 m above sea level)
Permissible air pressure (storage and transport)	70 to 106 kPa (up to 3000 m above sea level)
Degree of protection	IP20 according to IEC 60529
Connection method for connectors	Spring cage terminals
Conductor cross-section (power connector)	0.2 to 2.5 mm^2 (24 – 12 AWG)
Functional earth connection	To the DIN rail with spring contact
Mode state visual indicators	Input power (PWR), bus power 1 (BP1) and bus power 2 (BP2) LED lamps on front panel

Power supply	
Main power supply V_M	24 V DC (-15% ÷ + 20% according to IEC 61131-2)
Maximum allowed ripple	5% of supply voltage (according to IEC 61131-2)
Current consumption from main supply	3 A max.
Supply overvoltage protection on V_M	Bidirectional Zener clamp (V_z > 30 V)
Supply reverse polarity protection	None
Input power visual indicators	Green LED lamp, lighted if supply is present (PWR)
Local bus power #1	5 V DC / 3 A, regulated
Local bus power #1 protections	Overcurrent, catastrophic overvoltage
Local bus power #1 visual indicators	Green LED lamp, lighted if supply is present (BP1)
Local bus power #2	24 V DC / 2 A, unregulated
Local bus power #2 protections	None
Local bus power #2 visual indicators	Green LED lamp, lighted if supply is present (BP2)
Total power dissipation	Approx. 0,85W + total local bus 5V power load * 0,1 (see power load of each module connected to local bus and sum respective values)

Bus termination	
Bus termination resistor	120Ω

Connections

The module has a connector that allows easy “plug and play” of the module, and also a fast replacement of a faulty unit.



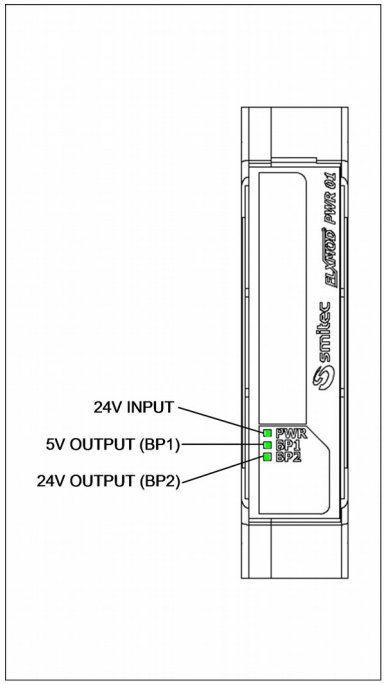
Power connector

The power connector is located on the bottom side of the module. For the pinout, refer to the illustration at right.

Refer to the FLXMOD System Integration Manual for power connections topology.

Diagnostic and status indicators

The module is provided with a series of LED lamps on the front panel (see illustration).



The green input power (**PWR**) LED is lighted if the 24 V supply (V_M) is present and the internal fuse is not blown.

The green bus power 1 (**BP1**) LED is lighted if the 5 V output is present. If the indicator is off or blinking, there is an excessive current absorption or a faulty power supply unit.

The green bus power 2 (**BP2**) LED is lighted if the 24 V output is present. If the indicator is off or blinking, there is an excessive current absorption or a faulty power supply unit.