

Ziegler

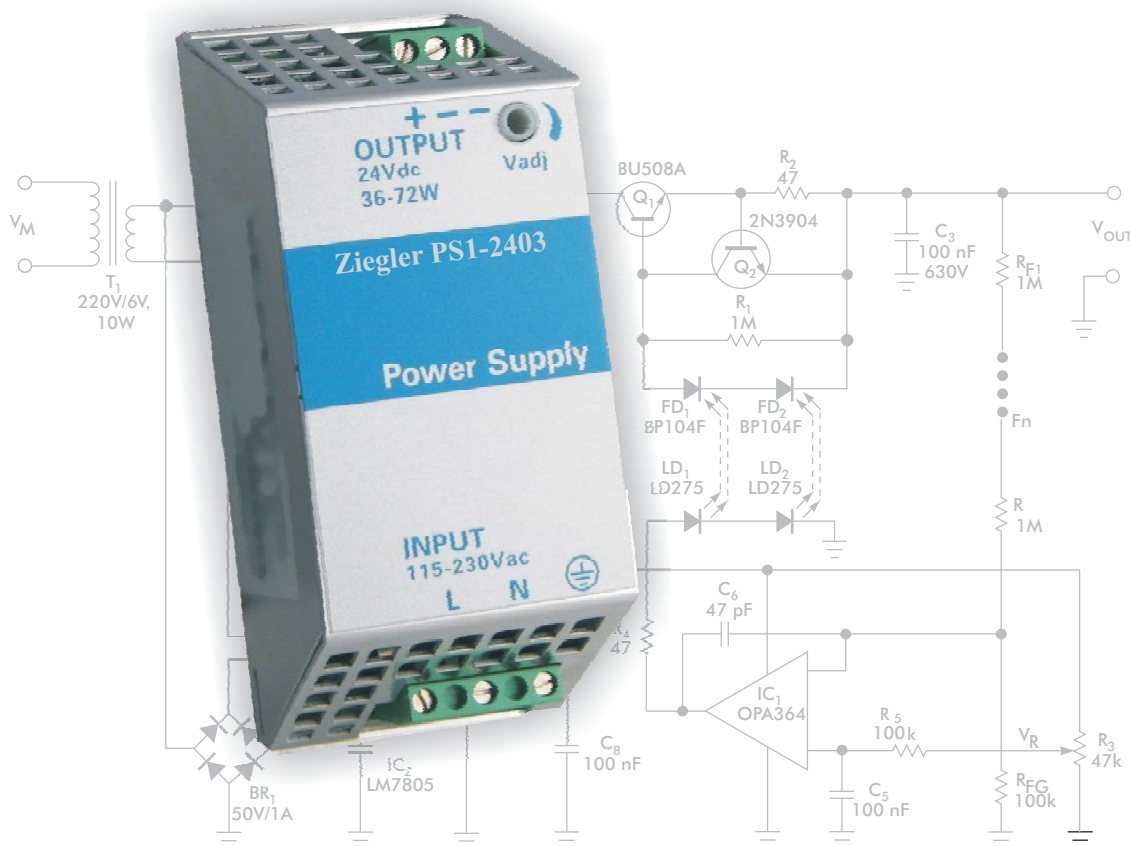
Redefine Innovative Metering

made
in
Germany

Data Sheet

Switching Power Supply . Single Phase

Switched-Mode Power Supply (SMPS)



PS1-2403

24 VDC - 3 A

Input	Single-Phase. 115 Vac - 230 Vac
Output	24 Vdc 50°C
Efficiency	Up to 88%
Power Continuity	Strong Overload Without Switch-Off
Installation	From 36 W to 72 W - Flexible
Size	DIN Rail Mountable
Warranty	Extremely Small Size
	3 Year



Features

Input Data

Nominal Input Voltage (2 x Vac)	115 Vac - 230 Vac
Input Voltage range (Vac)	90 Vac to 135 Vac (115 Vac) 170 Vac to 264 Vac (230 Vac)
Inrush Current (Vn and In Load) I ² T	≤ 7 A ≤ 5 msec.
Frequency	47 Hz to 63 Hz ±6%
Input Current (115 - 230 Vac)	1 A - 0.7 A
Internal Fuse	T 4 A
External Fuse (recommended)	6 A (MCB Curve B)

Output Data

Output Voltage (Vn) Factory Setting ±3%	24 Vdc
Adjustment Range (Vadj)	22 Vdc to 27 Vdc
Start Up with Strong Load (Capacitive Load)	≤ 50.000μF
Turn-On Delay After Applying Mains Voltage	1.5 sec. (Max)
Continuous Current at 24 V < 40 °C (In)	2 A (115 Vac) 3 A (230 Vac)
Continuous Current at 24 V < 50 °C (In)	1.5 A (115 Vac) 2.5 A (230 Vac)
Power Boost Current at 24 Vdc 50 °C (In)	3.5 A ≥ 3 min.
Current Max. Overload ≥ 4 Vdc (Permanent)	I _{max} = I _n 50 °C × (1.8 - 2.2)
Max Current Short Circuit (I _{sc})	7 A
Hold-up Time (Min. Vac) 24 Vdc 5A	Typ. 20 msec
Residual Ripple	≤ 80 mV _{pp}
Efficiency	≥ 88 %
Over Temperature Protection	Yes. Shut-Down Output and Automatic Restart.
Short-Circuit Protection	Yes. Continuous Mode
Dissipation Power Load Max (W)	6 W
Over Load Protection	Yes. Continuous Mode
Over Voltage Output Protection	Yes. (Typ. 35 Vdc)
Parallel Connection	Yes

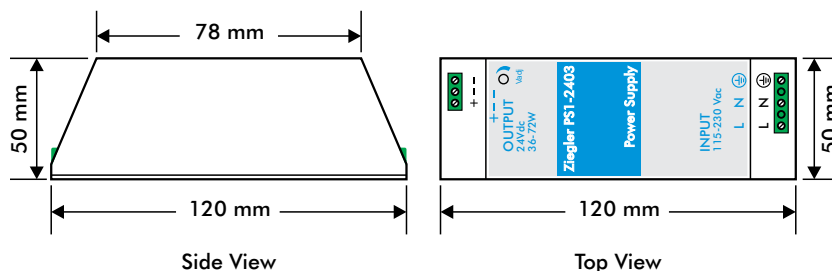
Climatic Data

Ambient Temperature Operation	-25 °C Up to +70 °C (>50° Derating 2.5% °C)
Ambient Temperature Storage	-40 °C Up to +85 °C
Humidity at 25 °C, No Condensation	95 % to 25 °C

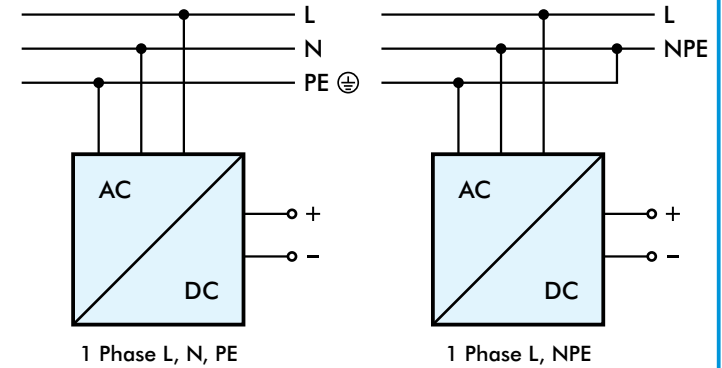
General Data

Isolation Voltage (Input / Output)	3000 Vac
Input / Ground Isolation PE (Input / PE)	1605 Vac
Output / Ground Isolation PE (Output / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP20 (Degree of Protection)
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2.5 mm (24 AWG to 14 AWG)
Protection Class	I with PE Connected
Dimension (W-H-D)	50 mm × 120 mm × 50 mm
Weight	0.3 kg Approx.

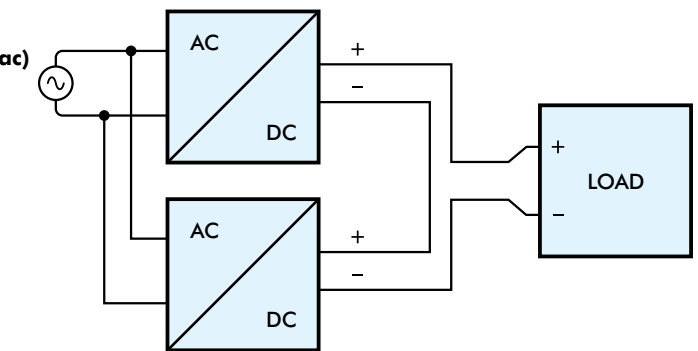
Connection



Connection

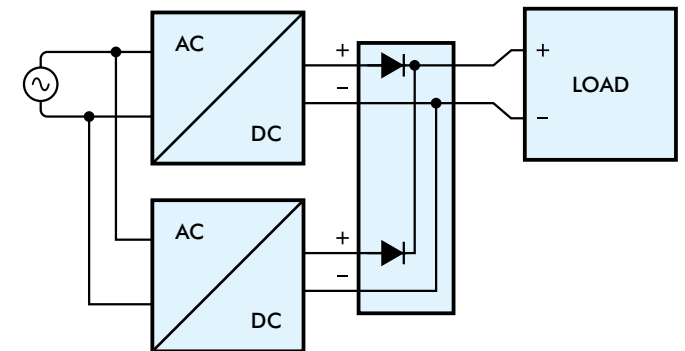


Serial Connection

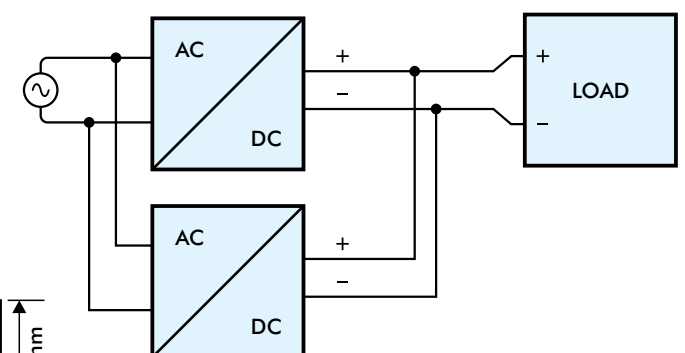


Parallel Connection

Parallel Connection Redundancy

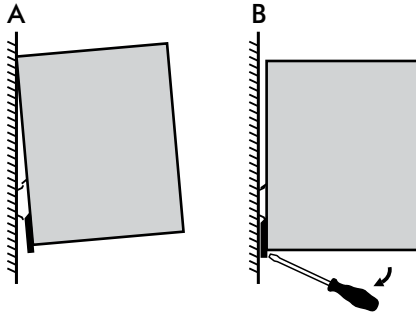


Parallel Connection, to Increase Output Power

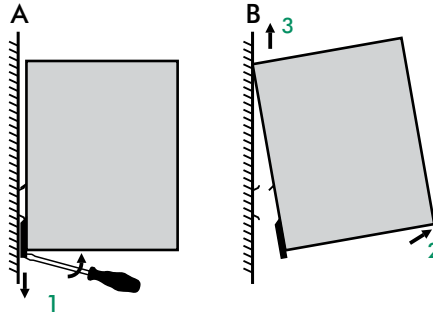


Rail Mounting

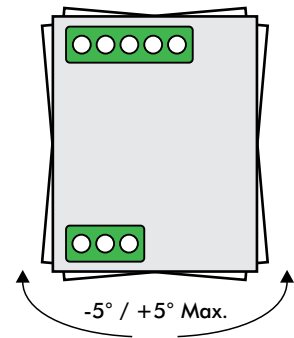
■ Assembly



■ Disassembly



■ Maximum Angle Assembly



Other Models / Modules Must have a Minimum Vertical and Horizontal Distance of 10 cm to This Power Supply in Order to Guarantee Sufficient Auto Convection. Depending on the Ambient Temperature and Load of the Device, the Temperature of the Housing Can Become Very High.

Standards and Certification

Norms and Certifications

The CE Mark in According to EMC 2004/108/EC and Low Voltage Directive 2006/95/EC.

Electrical Safety

In Compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE0160) for Assembling Device. The Unit Must be Installed According to IEC/EN 60950.

Input / Output Separation: SELV EN60950-1 6 Edition, and PELV EN 60204-1. Double or Reinforced Insulation.

EMC Immunity

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-2.

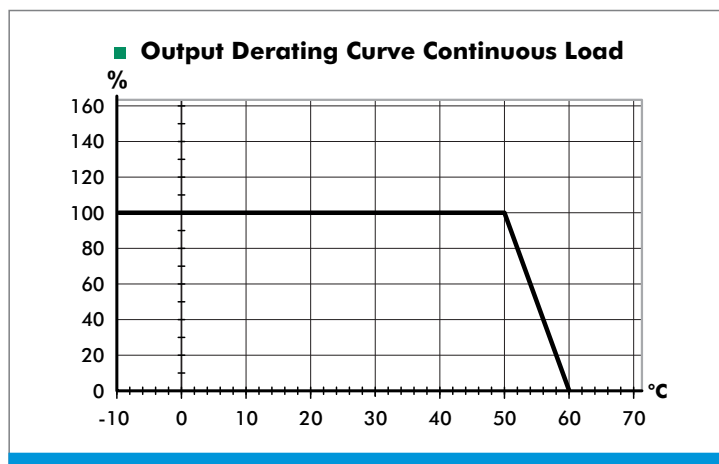
EMC Emission

EN 61000-6-4, EN 61000-3-2.

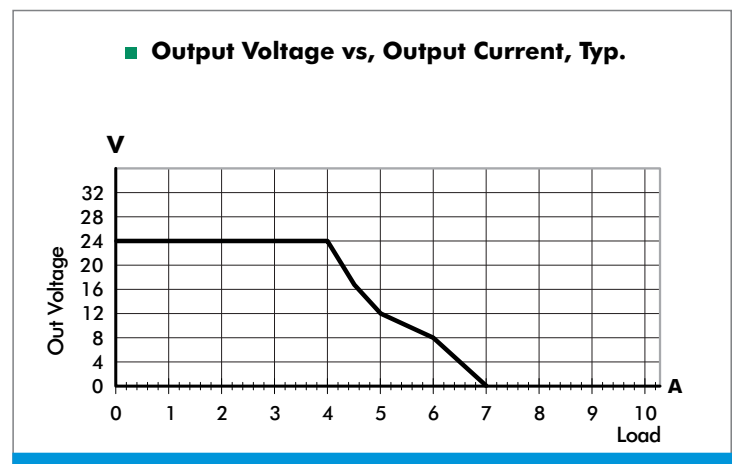
Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines.

Temperature Ratings



Output Device



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