

# Power supply unit - TRIO-PS-2G/1AC/48DC/5 - 2903159

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Primary-switched TRIO power supply for DIN rail mounting, input: 1-phase, output: 48 V DC / 5 A, dynamic boost, tool-free fast connection technology for solid and stranded conductors with ferrule

## Product Description

TRIO POWER power supplies with standard functionality

The TRIO POWER power supply range with push-in connection has been perfected for use in machine building. All functions and the space-saving design of the single and three-phase modules are optimally tailored to the stringent requirements. Under challenging ambient conditions, the power supply units, which feature an extremely robust electrical and mechanical design, ensure the reliable supply of all loads.

## Why buy this product

- Save time and costs, thanks to the Push-in connection and narrow design
- Increase system availability, thanks to dynamic boost with 150% of the nominal current for five seconds
- Maximum flexibility due to the wide temperature range from -25°C to +70°C and device startup at -40°C
- Rugged design



## Key Commercial Data

Packing unit	1 STK
GTIN	
GTIN	4055626255422
Weight per Piece (excluding packing)	1,120.000 g
Custom tariff number	85044030
Country of origin	China

## Technical data

### Dimensions

Width	42 mm
Height	130 mm
Depth	160 mm

### Ambient conditions

Degree of protection	IP20
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## Technical data

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2
Installation height	≤ 5000 m (> 2000 m, Derating: 10 %/1000 m)

### Input data

Nominal input voltage range	100 V AC ... 240 V AC
	110 V DC ... 250 V DC
Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
	99 V DC ... 275 V DC
Dielectric strength maximum	15 s
AC frequency range	50 Hz ... 60 Hz #10 %
Discharge current to PE	<
Current consumption	2.9 A (100 V AC)
	2.3 A (120 V AC)
	1.2 A (230 V AC)
	1.2 A (240 V AC)
Nominal power consumption	20.1 W
Inrush surge current	15 A (at 25 °C)
Power failure bypass	> 15 ms (120 V AC)
	> 15 ms (230 V AC)
Input fuse	6.3 A (internal (device protection))
Choice of suitable circuit breakers	6 A ... 16 A (Characteristics B, C, D, K)

### Output data

Nominal output voltage	48 V DC ±1 %
Setting range of the output voltage ( $U_{Set}$ )	36 V DC ... 55 V DC (> 48 V DC, constant capacity restricted)
Nominal output current ( $I_N$ )	5 A
Dynamic Boost ( $I_{Dyn.Boost}$ )	7.5 A (5 s)
Derating	> 60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes
Circuit breaker against surge voltage at output by invasive foreign matter	≤ 60 V DC
Residual ripple	< 50 mV <sub>PP</sub> (with nominal values)
Output power	240 W
Peak switching voltages nominal load	< 1000 mV <sub>PP</sub>
Maximum power dissipation in no-load condition	< 3.5 W (230 V)
Power loss nominal load max.	< 20 W

### General

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## Technical data

### General

Net weight	0.9 kg
Efficiency	> 92.4 % (for 230 V AC and nominal values)
Insulation voltage input/output	3 kV AC
	1.5 kV AC
Protection class	I (in closed control cabinet)
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	> (25 °C)
	> 1200000 h (40 °C)
	60 °C
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm ( $\leq 40$ °C) 10 mm ( $\leq 70$ °C), vertically 50 mm

### Connection data, input

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	10 mm

### Connection data, output

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	4 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	8 mm

### Connection data for signaling

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

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### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005
Standard - Safety of transformers	EN 61558-2-16 (air clearances and creepage distances only)
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Limitation of mains harmonic currents	EN 61000-3-2
UL approvals	UL Listed UL 508
	UL/C-UL Recognized UL 60950-1
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 4g, 90 min.
Rail applications	EN 50121-4

## Drawings

Block diagram

