Power supply unit - TRIO-PS-2G/3AC/24DC/5 - 2903153

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Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 3-phase, output: 24 V DC/5 A

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

RoHS

Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 960946
GTIN	4046356960946
Weight per Piece (excluding packing)	580.000 g
Custom tariff number	85044030
Country of origin	China

Technical data

Dimensions

Width	35 mm
Height	130 mm

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Dimensions

Depth	115 mm

Ambient conditions

Degree of protection	IP20
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)
Noise immunity	EN 61000-6-2:2005
Installation height	≤ 5000 m (> 2000 m, observe derating)

Input data

Nominal input voltage range	3x 400 V AC ... 500 V AC -20 % ... +15 %
	2x 400 V AC ... 500 V AC -10 % ... +15 %
Input voltage range	3x 320 V AC ... 575 V AC
	2x 360 V AC ... 575 V AC
AC frequency range	50 Hz ... 60 Hz
Discharge current to PE	≤ 0.25 mA
Current consumption	3x 0.4 A (400 V AC)
	3x 0.3 A (500 V AC)
	2x 0.6 A (400 V AC)
	2x 0.5 A (500 V AC)
Inrush surge current	≤ 22 A (typical)
Power failure bypass	> 20 ms (400 V AC)
	> 20 ms (500 V AC)
Input fuse	3.15 A (internal (device protection), slow-blow)
Choice of suitable circuit breakers	6 A ... 16 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	24 V DC ±1 %
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 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
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)

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Output data

	< 0.1 % (change in input voltage ±10 %)
Residual ripple	≤ 20 mV_{PP}
Output power	120 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 1 W

General

Net weight	0.4 kg
Efficiency	> 91 % (at 400 V AC and nominal values)
Insulation voltage input/output	3 kV AC (type test)
	1.5 kV AC (routine test)
Protection class	II (in closed control cabinet)
MTBF (IEC 61709, SN 29500)	> 2300000 h (25 °C)
	> 1300000 h (40 °C)
	> 620000 h (60°C)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm (≤ 40 °C) 10 mm (≤ 70 °C), vertically 50 mm

Connection data, input

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	4 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
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 mm²
Conductor cross section solid max.	4 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	10 mm

Connection data for signaling

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Technical data

Connection data for signaling

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	1.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005
Standards/regulations	EN 61000-4-2
Contact discharge	4 kV (Test Level 2)
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1.4 GHz ... 2 GHz
Test field strength	3 V/m (Test Level 2)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	1 kV (Test Level 2 - asymmetrical)
Standards/regulations	EN 61000-6-3
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
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

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Standards and Regulations

Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 4g, 90 min.
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Rail applications	EN 50121-4

Approvals

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UL Recognized / UL Listed / cUL Recognized / cUL Listed / EAC / IECEE CB Scheme / DNV GL / cULus Recognized

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

UL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cUL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
cUL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
EAC		RU C-DE.A*30.B.01082

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Approvals

IECEE CB Scheme	CB scheme	http://www.iecee.org/	DK-44785-A1-M1-UL
DNV GL		http://exchange.dnv.com/tari/	TAA00000BM
cULus Recognized	c UL us	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	