

## Power supply unit - TRIO-PS-2G/3AC/72DC/14 - 1076188

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Primary-switched TRIO power supply for DIN rail mounting, input: 3-phase, output: 72 V DC/14 A, dynamic boost, tool-free fast connection technology for rigid and flexible 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.



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 783918
GTIN	4055626783918
Weight per Piece (excluding packing)	3,060.000 g
Custom tariff number	85044030
Country of origin	China

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	110 mm
Height	130 mm
Depth	160 mm
Installation distance right/left	0 mm / 0 mm

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## Technical data

### Dimensions

Installation distance top/bottom	50 mm / 50 mm
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### Ambient conditions

Degree of protection	IP20
Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K)
Ambient temperature (start-up type tested)	-40 °C
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	≤ 4000 m (> 2000 m, Derating: 10 %/1000 m)

### Input data

Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 400 V AC ... 500 V AC -20 % ...+15 %
AC frequency range	50 Hz ... 60 Hz
Frequency range (f <sub>N</sub> )	50 Hz ... 60 Hz ±5 Hz
Discharge current to PE	< 3.5 mA
Current consumption	3x 1.9 A (400 V AC) 3x 1.7 A (500 V AC)
Nominal power consumption	1335.1 VA
Inrush current	≤ 30 A (typical)
Mains buffering time	> 10 ms (400 V AC) > 20 ms (480 V AC)
Input fuse	6.3 A (internal (device protection))
Recommended breaker for input protection	10 A ... 16 A (Characteristics B, C, D, K)
Power factor (cos phi)	0.77
Type of protection	Transient surge protection
Protective circuit/component	Varistor

### Output data

Nominal output voltage	72 V DC ±1 %
Setting range of the output voltage (U <sub>Set</sub> )	70 V DC ... 85 V DC (> 72 V DC, constant capacity restricted)
Nominal output current (I <sub>N</sub> )	14 A
Dynamic Boost (I <sub>Dyn.Boost</sub> )	21 A (5 s)
Derating	> 60 °C ... 70 °C (2.5%/K)
Connection in parallel	yes
Connection in series	yes

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### Output data

Feedback voltage resistance	< 105 V DC
Protection against overvoltage at the output (OVP)	≤ 105 V DC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	≤ 300 mV <sub>PP</sub>
Output power	1008 W
Typical response time	< 1 s
Maximum power dissipation in no-load condition	< 7 W (400 V AC)
Power loss nominal load max.	< 58 W (400 V AC)
Short-circuit current	< 23.5 A DC (Permanent)

### General

Net weight	2.5 kg
Efficiency	> 94.6 % (400 V AC)
	> 94.3 % (480 V AC)
MTBF (IEC 61709, SN 29500)	> 1730000 h (25 °C)
	> 1051000 h (40 °C)
	> 510000 h (60 °C)
Insulation voltage input/output	3 kV AC (type test)
	1.5 kV AC (routine test)
Degree of protection	IP20
Protection class	I (in closed control cabinet)
Inflammability class in acc. with UL 94 (housing / terminal blocks)	V0
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 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 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.	4 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
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### Technical data

#### Connection data, output

Conductor cross section solid min.	0.75 mm <sup>2</sup>
Conductor cross section solid max.	16 mm <sup>2</sup>
Conductor cross section flexible min.	0.75 mm <sup>2</sup>
Conductor cross section flexible max.	16 mm <sup>2</sup>
Conductor cross section AWG min.	20
Conductor cross section AWG max.	4
Stripping length	18 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.	0.75 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.	18
Stripping length	8 mm

#### Standards

EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
Standard - Safety of transformers	EN 61558-2-16 (air clearances and creepage distances only)
Standard - Electrical safety	IEC 61010-2-201
Standard - Safe isolation	DIN VDE 0100-410
Standard - Limitation of mains harmonic currents	EN 61000-3-2

#### Conformance/approvals

UL approvals	UL/C-UL Listed UL 61010-1
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#### EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Conducted noise emission	EN 55016-2-1
	EN 61000-6-4 (Class A)
Noise emission	EN 55016-2-3
	EN 61000-6-4 (Class A)
Harmonic currents	EN 55016-2-3
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3

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### EMC data

	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	2 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	4 kV (Test Level 3 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Signal	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A
Surge voltage load (surge)	EN 61000-4-5
Input	2 kV (Test Level 4 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 3 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Signal	1 kV (Test Level 2 - asymmetrical)
Comments	Criterion A
Conducted interference	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Comments	Criterion A
Voltage dips	EN 61000-4-11
Voltage	400 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 periods
Comments	Criterion A

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## Technical data

### EMC data

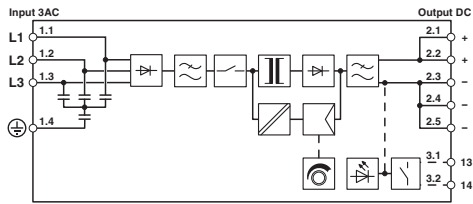
Voltage dip	0 %
Number of periods	1 period
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.
Criterion C	Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements.

### Environmental Product Compliance

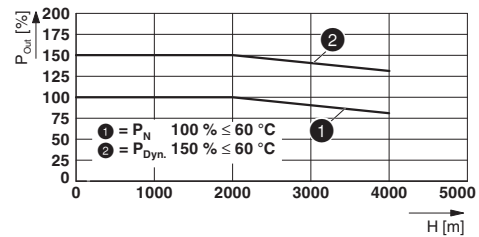
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Block diagram



Diagram



## Classifications

### eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 11.0	27040701
eCl@ss 9.0	27040701

## Approvals

### Approvals

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UL Listed / cUL Listed / cULus Listed

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## Approvals


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Ex Approvals

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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cULus Listed			
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