

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 |
|-------------------------|---|

Dimensions

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

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Dimensions

| | |
|----------------------------------|---------------|
| Installation distance top/bottom | 50 mm / 50 mm |
|----------------------------------|---------------|

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 _N) | 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 _{Set}) | 70 V DC ... 85 V DC (> 72 V DC, constant capacity restricted) |
| Nominal output current (I _N) | 14 A |
| Dynamic Boost (I _{Dyn.Boost}) | 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

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|--|--|
| 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 _{PP} |
| 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 ² |
| Conductor cross section solid max. | 4 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 4 mm ² |
| 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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Connection data, output

| | |
|---------------------------------------|----------------------|
| Conductor cross section solid min. | 0.75 mm ² |
| Conductor cross section solid max. | 16 mm ² |
| Conductor cross section flexible min. | 0.75 mm ² |
| Conductor cross section flexible max. | 16 mm ² |
| 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 ² |
| Conductor cross section solid max. | 0.75 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 1.5 mm ² |
| 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 |
|--------------|---------------------------|

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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EMC data

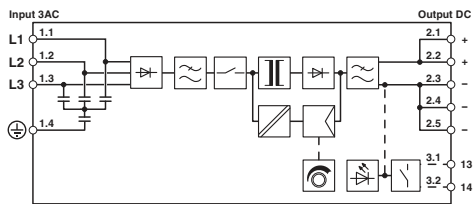
| | |
|-------------------|--|
| Voltage dip | 0 % |
| Number of periods | 1 period |
| Comments | Criterion A |
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |
| Criterion 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

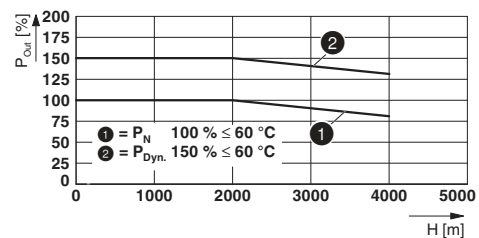
| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 25; |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

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

Approvals


UL Listed / cUL Listed / cULus Listed


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Approvals

Ex Approvals

Approval details

| | | | |
|-----------|---|---|---------------|
| UL Listed |  | http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|-----------|---|---|---------------|

| | | | |
|------------|---|---|---------------|
| cUL Listed |  | http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|------------|---|---|---------------|

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|--------------|--|--|--|
| cULus Listed |  | | |
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