

TRIO-PS67/1AC/24DC/10/IPD - Power supply unit



1111664

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Primary-switched power supply unit TRIO POWER, IPD panel feed-through with Push-in spring connection, Wall mounting, input: 1-phase, output: 24 V DC / 10 A



Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1111664 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | CM08 |
| Product key | CMPF13 |
| GTIN | 4063151031428 |
| Weight per piece (including packing) | 1,749 g |
| Weight per piece (excluding packing) | 1,326 g |
| Customs tariff number | 85044095 |
| Country of origin | CN |

Technical data

Input data

AC operation

| | |
|--|--|
| Supply system configuration | Star network (TN, TT, IT (PE)) |
| Nominal input voltage range | 100 V AC ... 240 V AC |
| Input voltage range | 100 V AC ... 240 V AC $\pm 10\%$ |
| Switch-on voltage | > 75 V AC |
| Shut-down voltage | < 70 V AC |
| Electric strength, max. | ≤ 300 V AC 15 s |
| Typical national grid voltage | 120 V AC |
| | 230 V AC |
| Voltage type of supply voltage | AC/DC |
| Inrush current | ≤ 25 A (typical) |
| Inrush current integral (I^2t) | < 0.5 A ² s |
| Inrush current limitation | typ. 25 A (after 1 ms) |
| AC frequency range | 50 Hz ... 60 Hz $\pm 10\%$ |
| Frequency range (f_N) | 50 Hz ... 60 Hz $\pm 10\%$ |
| Mains buffering time | > 15 ms (120 V AC) |
| | > 15 ms (230 V AC) |
| Current consumption | 2.8 A (100 V AC) |
| | 1.2 A (240 V AC) |
| Nominal power consumption | 285 VA |
| Protective circuit | Transient surge protection; Varistor |
| Power factor (cos phi) | > 0.93 |
| Switch-on time | < 1 s |
| Input fuse | 6.3 A (internal (device protection)) |
| Recommended breaker for input protection | 6 A ... 16 A (US/CAN: branch circuit protection < 20 A) (Characteristic B, C, D, K or comparable) |
| Discharge current to PE | < 3.5 mA |

DC operation

| | |
|--------------------------------|----------------------------------|
| Nominal input voltage range | 110 V DC ... 250 V DC |
| Input voltage range | 110 V DC ... 250 V DC $\pm 10\%$ |
| Switch-on voltage | ≥ 95 V DC |
| Shut-down voltage | < 95 V DC |
| Voltage type of supply voltage | AC/DC |
| Mains buffering time | > 15 ms (230 V AC) |
| Current consumption | 2.4 A (110 V DC) |
| | 1.1 A (250 V DC) |

Output data

| | |
|------------|----------------------|
| Efficiency | typ. 91 % (120 V AC) |
|------------|----------------------|

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| | |
|--|--|
| | typ. 93 % (230 V AC) |
| Nominal output voltage | 24 V DC ± 1 % |
| Nominal output current (I_N) | 10 A |
| Dynamic Boost ($I_{Dyn.Boost}$) | 15 A (5 s) |
| Derating | > 60 °C ... 70 °C (2.5 %/K) |
| Feedback voltage resistance | ≤ 35 V DC |
| Protection against overvoltage at the output (OVP) | ≤ 30 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 | ≤ 10 mV _{PP} |
| Short-circuit-proof | yes |
| No-load proof | yes |
| Output power | 240 W 360 W |
| Maximum no-load power dissipation | < 10 W (120 V AC) < 6 W (230 V AC) |
| Power loss nominal load max. | < 22 W (120 V AC) < 17 W (230 V AC) |
| Rise time | ≤ 12 ms (U_{OUT} (10 % ... 90 %)) |
| Connection in parallel | yes, for redundancy and increased capacity |
| Connection in series | yes |

Signal: DC OK

| | |
|---------------------------|------------|
| Maximum switching voltage | 30 V AC/DC |
| Continuous load current | 100 mA |

Signal relay 13/14

| | |
|---------|------------------------|
| Default | closed |
| Digital | 30 V AC 30 V DC 100 mA |

Connection data

Input

| | |
|---|---|
| Connection method | IPD panel feed-through with Push-in spring connection |
| Conductor cross section, rigid min. | 0.5 mm ² |
| Conductor cross section, rigid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.5 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Single conductor/terminal point, stranded, with ferrule, min. | 0.5 mm ² |
| Single conductor/terminal point, stranded, with ferrule, max. | 2.5 mm ² |
| Conductor cross section AWG max. | 14 |
| Color-coded | gray |
| Type of locking | Clip locking |
| Number of positions | 3 |

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Output

| | |
|---|---|
| Connection method | IPD panel feed-through with Push-in spring connection |
| Conductor cross section, rigid min. | 0.5 mm ² |
| Conductor cross section, rigid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.5 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Single conductor/terminal point, stranded, with ferrule, min. | 0.5 mm ² |
| Single conductor/terminal point, stranded, with ferrule, max. | 2.5 mm ² |
| Conductor cross section AWG max. | 14 |
| Color-coded | black |
| Type of locking | Clip locking |
| Number of positions | 3 |

Signaling

| | |
|--------------------|-------------------------|
| Types of signaling | LED |
| | Floating signal contact |
| Status display | 2 x green LEDs |

Signal output: LED status indicator

| | |
|---------------------------|---|
| Signalization designation | AC OK |
| Status display | LED |
| Color | green |
| AC OK | $AC_{In} > 0.55 \times AC_N$ ($AC_N = 90 \text{ V AC}$) |

Signal output: LED status indicator

| | |
|---------------------------|--|
| Signalization designation | DC OK |
| Status display | LED |
| Color | green |
| DC OK | $U_{OUT} > 0.9 \times U_N$ ($U_N = 24 \text{ V DC}$) |

Electrical properties

| | |
|---------------------------------|--------------------------|
| Number of phases | 1.00 |
| Insulation voltage input/output | 3 kV AC (type test) |
| | 1.5 kV AC (routine test) |

Product properties

| | |
|----------------------------|---------------------|
| Product type | Power supply |
| Product family | TRIO POWER |
| MTBF (IEC 61709, SN 29500) | > 1200000 h (25 °C) |
| | > 700000 h (40 °C) |
| | > 300000 h (60 °C) |

Insulation characteristics

| | |
|------------------|-----------------|
| Protection class | I |
| Pollution degree | 2 (IEC 61010-1) |

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Dimensions

Item dimensions

| | |
|--------|--------|
| Width | 136 mm |
| Height | 292 mm |
| Depth | 53 mm |

Drill hole

| | |
|----------|--------|
| Diameter | 5.6 mm |
|----------|--------|

Installation dimensions

| | |
|----------------------------------|----------------|
| Installation distance right/left | 20 mm / 20 mm |
| Installation distance top/bottom | 50 mm / 100 mm |

Mounting

| | |
|-------------------------|--|
| Mounting type | Wall mounting |
| Assembly instructions | Alignable: 20 mm horizontally, 50 mm vertically above, 100 mm vertically below |
| With protective coating | No |

Material specifications

| | |
|--|------------------|
| Flammability rating according to UL 94 (housing / terminal blocks) | V0 |
| Housing material | Metal |
| Type of housing | Aluminum (AlMg3) |

Environmental and real-life conditions

Ambient conditions

| | |
|--|--|
| Degree of protection | IP67 |
| Ambient temperature (operation) | -25 °C ... 70 °C (Derating >60°C: 2.5 %/K) |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |
| Ambient temperature (start-up type tested) | -40 °C |
| Maximum altitude | ≤ 4000 m (> 2000 m, Derating: 10 %/1000 m) |
| Climatic class | 4K26 (EN 60721-3-4) |
| Max. permissible relative humidity (operation) | ≤ 100 % (at 25 °C, non-condensing) |
| Permissible humidity (operation) | ≤ 100 % (at 25 °C, non-condensing) |
| 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. |

Standards and regulations

Overvoltage category

| | |
|------------|----------------|
| EN 61010-1 | III (≤ 2000 m) |
| | II (≤ 4000 m) |

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Electrical safety

| | |
|--------------------------|-------------------|
| Standard designation | Electrical safety |
| Standards/specifications | IEC 61010-1 |

Protective extra-low voltage

| | |
|--------------------------|------------------------------|
| Standard designation | Protective extra-low voltage |
| Standards/specifications | IEC 61010-1 (SELV) |
| | IEC 61010-2-201 (PELV) |

Safe isolation

| | |
|----------------------|----------------|
| Standard designation | Safe isolation |
|----------------------|----------------|

Low-voltage power supplies, DC output

| | |
|--------------------------|---------------------------------------|
| Standard designation | Low-voltage power supplies, DC output |
| Standards/specifications | EN 61204-3 |

Safety requirements for electrical equipment for measurement, control, and laboratory use

| | |
|--------------------------|---|
| Standard designation | Safety requirements for electrical equipment for measurement, control, and laboratory use |
| Standards/specifications | IEC 61010-1 |

Limit values for harmonic currents

| | |
|--------------------------|------------------------------------|
| Standard designation | Limit values for harmonic currents |
| Standards/specifications | EN 61000-3-2 |

Degrees of protection provided by enclosures (IP code)

| | |
|--------------------------|--|
| Standard designation | Degrees of protection provided by enclosures (IP code) |
| Standards/specifications | EN/IEC 60529 |

Approvals

UL

| | |
|----------------|---------------------------|
| Identification | UL/C-UL Listed UL 61010-1 |
|----------------|---------------------------|

UL

| | |
|----------------|-------------------------------|
| Identification | UL/C-UL Listed UL 61010-2-201 |
|----------------|-------------------------------|

EMC data

| | |
|-------------------------------|--|
| Low Voltage Directive | Conformance with Low Voltage Directive 2014/35/EC |
| Interference emission | Interference emission in accordance with EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial) |
| Noise immunity | Immunity in accordance with EN 61000-6-1 (residential), EN 61000-6-2 (industrial) |
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Conducted noise emission | EN 55016 |
| | EN 61000-6-3 (Class B) |
| Noise emission | EN 55011 (EN 55022) |
| Noise emission | EN 55016 |

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| | |
|----------------------------|------------------------------------|
| | EN 61000-6-3 (Class B) |
| Harmonic currents | |
| Standards/regulations | EN 61000-3-2 |
| | EN 61000-3-2 (Class A) |
| Electrostatic discharge | |
| Standards/regulations | EN 61000-4-2 |
| Electrostatic discharge | |
| Contact discharge | 6 kV (Test Level 3) |
| Comments | Criterion A |
| Electromagnetic HF field | |
| Standards/regulations | EN 61000-4-3 |
| Electromagnetic HF field | |
| 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) | |
| Standards/regulations | EN 61000-4-4 |
| Fast transients (burst) | |
| 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) | |
| Standards/regulations | 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 | |
| Standards/regulations | EN 61000-4-6 |
| Conducted interference | |
| Input/Output | asymmetrical |

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| | |
|-----------------|---------------------|
| Frequency range | 0.15 MHz ... 80 MHz |
| Comments | Criterion A |
| Voltage | 10 V (Test Level 3) |

Voltage dips

| | |
|-----------------------|---------------|
| Standards/regulations | EN 61000-4-11 |
| Voltage | 230 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 |
| Voltage dip | 0 % |
| Number of periods | 1 period |
| Comments | Criterion A |

Emitted interference

| | |
|--|--|
| Standards/regulations | EN 61000-6-3 |
| Radio interference voltage in acc. with EN 55011 | EN 55011 (EN 55022) Class B, area of application: Industry and residential |
| Emitted radio interference in acc. with EN 55011 | EN 55011 (EN 55022) Class B, area of application: Industry and residential |

Criteria

| | |
|-------------|--|
| 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. |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27040701 |
| ECLASS-12.0 | 27040701 |
| ECLASS-13.0 | 27040701 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC002540 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121000 |
|-------------|----------|

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Environmental product compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 25; For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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