

## Power supply unit - TRIO-PS67/1AC/24DC/10/M12 - 1111634


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TRIO POWER primary-switched power supply in IP67 die-cast housing, M12 circular connector, input: 1-phase, output: 24 V DC/10 A



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 063151 031824 |
| GTIN                                 | 4063151031824   |
| Weight per Piece (excluding packing) | 1,660.000 g   |
| Custom tariff number                 | 85044082  |
| Country of origin                    | China   |

### Technical data

#### Dimensions

|        |        |
|--------|--------|
| Width  | 136 mm |
| Height | 240 mm |
| Depth  | 53 mm  |

#### Ambient conditions

|   |  |
|---|--|
| Degree of protection  | IP67                                       |
| Inflammability class in acc. with UL 94 (housing / terminal blocks) | V0   |
| Ambient temperature (operation)                                     | -25 °C ... 70 °C (Derating >60°C: 2.5 %/K) |
| Ambient temperature (storage/transport)                             | -40 °C ... 85 °C                           |
| Max. permissible relative humidity (operation)                      | ≤ 100 % (at 25 °C, non-condensing)         |
| Permissible humidity (operation)                                    | ≤ 100 % (at 25 °C, non-condensing)         |

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## Technical data

### Ambient conditions

|                     |  |
|---------------------|--|
| Climatic class      | 3K3 (in acc. with EN 60721)                |
| Degree of pollution | 3  |
| Installation height | ≤ 4000 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 ±10 %   |
|  | 110 V DC ... 250 V DC ±10 %   |
| Dielectric strength maximum              | ≤ 300 V AC 15 s   |
| AC frequency range                       | 50 Hz ... 60 Hz ±10 %   |
| Frequency range (f <sub>N</sub> )        | 50 Hz ... 60 Hz ±10 %   |
| Discharge current to PE                  | < 3.5 mA  |
| Current consumption                      | 2.8 A (100 V AC)  |
|  | 1.2 A (240 V AC)  |
| Nominal power consumption                | 285 VA  |
| Inrush current                           | ≤ 25 A (typical)  |
| Mains buffering time                     | > 15 ms (120 V AC)  |
|  | > 15 ms (230 V AC)  |
| 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) |
| Power factor (cos phi)                   | > 0.93  |
| Type of protection                       | Transient surge protection  |
| Protective circuit/component             | Varistor  |

### Output data

|  |  |
|--|--|
| Nominal output voltage                             | 24 V DC ±1 %                                     |
| Nominal output current (I <sub>N</sub> )           | 10 A   |
| Dynamic Boost (I <sub>Dyn.Boost</sub> )            | 15 A (5 s)                                       |
| Derating   | > 60 °C ... 70 °C (2.5%/K)                       |
| Connection in parallel                             | no   |
| Connection in series                               | No   |
| 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 %)          |

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### Output data

|                                   |                       |
|-----------------------------------|-----------------------|
| Residual ripple                   | ≤ 10 mV <sub>PP</sub> |
| Output power                      | 240 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)     |

### General

|   |  |
|---|--|
| Net weight  | 1.5 kg   |
| Efficiency  | typ. 91 % (120 V AC)   |
|   | typ. 93 % (230 V AC)   |
| MTBF (IEC 61709, SN 29500)  | > 1800000 h (25 °C)  |
|   | > 1000000 h (40 °C)  |
|   | > 480000 h (60 °C)   |
| Insulation voltage input/output                                     | 3 kV AC (type test)  |
|   | 1.5 kV AC (routine test)   |
| Degree of protection  | IP67   |
| Protection class  | I  |
| Inflammability class in acc. with UL 94 (housing / terminal blocks) | V0   |
| Assembly instructions   | Alignable: 20 mm horizontally, 50 mm vertically above, 100 mm vertically below |

### Connection data, input

|                    |                        |
|--------------------|------------------------|
| Connection method  | M12 circular connector |
| Type of locking    | M12 screw locking      |
| Coding             | S-coded                |
| Range of positions | 3 Plug                 |

### Connection data, output

|                    |                        |
|--------------------|------------------------|
| Connection method  | M12 circular connector |
| Type of locking    | M12 screw locking      |
| Coding             | L-coded                |
| Range of positions | 4 Socket               |

### Standards

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

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## Technical data

### Standards

|                                 |   |
|---------------------------------|---|
| Standard designation            | Safe isolation  |
| Standards/regulations           | IEC 61558-2-16  |
| Standard designation            | Low-voltage power supplies, DC output   |
| Standards/regulations           | EN 61204-3  |
| Standard designation            | Safety requirements for electrical equipment for measurement, control, and laboratory use |
| Standards/regulations           | IEC 61010-1   |
| Standard designation            | Limit values for harmonic currents  |
| Standards/regulations           | EN 61000-3-2  |
| Standard designation            | Degrees of protection provided by enclosures (IP code)                                    |
| Standards/regulations           | EN/IEC 60529  |
| Overvoltage category EN 61010-1 | III ( $\leq 2000$ m)  |
|                                 | II ( $\leq 4000$ m)   |

### 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  |
|                               | EN 61000-6-3 (Class B)                            |
| Noise emission                | EN 55016  |
|                               | EN 61000-6-3 (Class B)                            |
| Harmonic currents             | EN 61000-3-2                                      |
|                               | EN 61000-3-2 (Class A)                            |
| Electrostatic discharge       | EN 61000-4-2                                      |
| Contact discharge             | 6 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                                       |

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## Technical data

### EMC data

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

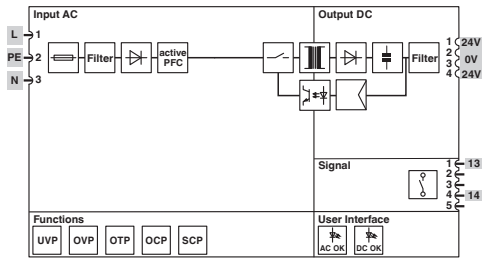
### Environmental Product Compliance

|            |   |
|------------|---|
| 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" |

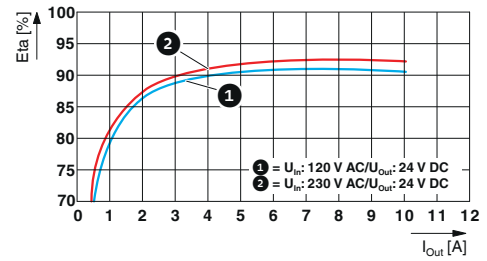
## Drawings

# Power supply unit - TRIO-PS67/1AC/24DC/10/M12 - 1111634

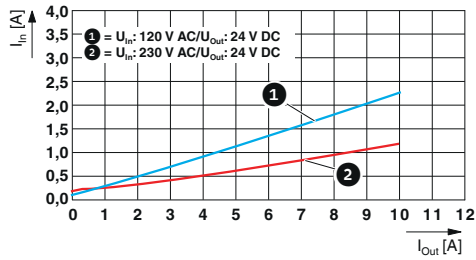
Block diagram



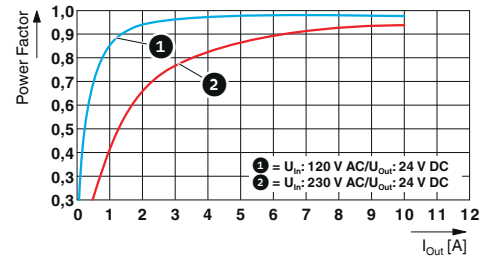
Diagram



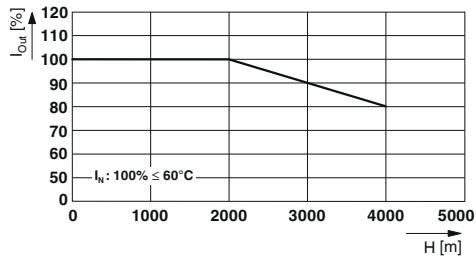
Diagram



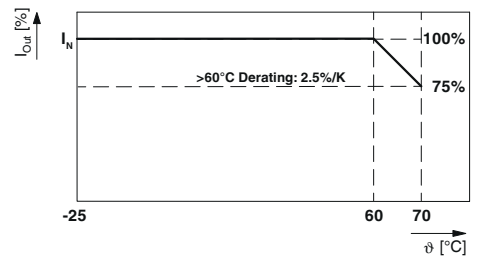
Diagram



Diagram

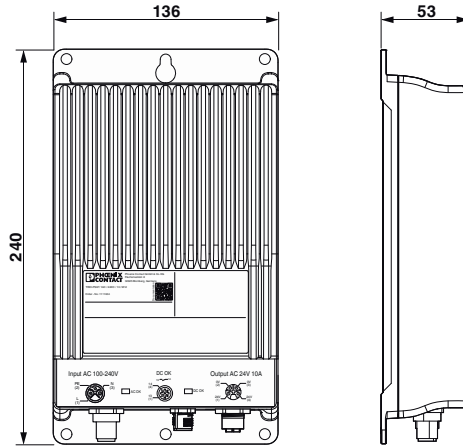


Diagram



# Power supply unit - TRIO-PS67/1AC/24DC/10/M12 - 1111634

Dimensional drawing



## Classifications

eCl@ss

|             |          |
|-------------|----------|
| eCl@ss 11.0 | 27040701 |
| eCl@ss 9.0  | 27040701 |

ETIM

|          |          |
|----------|----------|
| ETIM 7.0 | EC002540 |
|----------|----------|

## Approvals

Approvals

Approvals

cULus Listed / IECCE CB Scheme / EAC

Ex Approvals

## Approval details

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

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## Approvals

|                 |  |   |              |
|-----------------|--|---|--------------|
| IECEE CB Scheme |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DK-113104-UL |
|-----------------|--|---|--------------|

|     |  |  |                          |
|-----|--|--|--------------------------|
| EAC |  |  | RU S-<br>DE.BL08.W.00764 |
|-----|--|--|--------------------------|

## Accessories

### Accessories

#### Circular connector (cable-side)

Power connector - SACC-M12FSS-2PEPL-CM SH - 1080227



Power connector, Power, 3-position, shielded, Socket straight M12, Coding: S, Push-lock spring connection, knurl material: Nickel-plated brass, external cable diameter 6 mm ... 11 mm

Power connector - SACC-M12MSL-4PL-CM SH - 1080239



Power connector, Power, 4-position, shielded, Plug straight M12, Coding: L, Push-lock spring connection, knurl material: Nickel-plated brass, external cable diameter 6 mm ... 11 mm

Connector - SACC-M12FS-5PL M - 1424652



Connector, Universal, 5-position, unshielded, Socket straight M12, Coding: A, Push-lock spring connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 4 mm ... 8 mm

#### Power cable

## Power supply unit - TRIO-PS67/1AC/24DC/10/M12 - 1111634

### Accessories

Power cable - SAC-3P- 1,0-PUR/M12FSS PE - 1176479



Power cable, 3-position, PUR halogen-free, black, free cable end, on Socket straight M12, coding: S, cable length: 1 m, for AC current up to 16 A/230 V

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Power cable - SAC-4P-M12MSL/ 1,5-105 - 1425025



Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug straight M12, coding: L, on free cable end, cable length: 1.5 m, For direct current up to 12 A/63 V

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### Sensor/actuator cable

Sensor/actuator cable - SAC-5P- 1,5-PUR/M12FS - 1669822



Sensor/actuator cable, 5-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket straight M12, coding: A, cable length: 1.5 m