

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



1111634

<https://www.phoenixcontact.com/gb/products/1111634>

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Primary-switched power supply unit TRIO POWER, M12 circular connector, Wall mounting, input: 1-phase, output: 24 V DC / 10 A



## Commercial data

Item number	1111634
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CMPF13
Product key	CMPF13
GTIN	4063151031824
Weight per piece (including packing)	1,613 g
Weight per piece (excluding packing)	1,252 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.	$\leq 300$ V AC 15 s
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC/DC
Inrush current	$\leq 25$ A (typical)
Inrush current integral ( $I^2t$ )	< 0.5 A <sup>2</sup> 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	$\geq 95$ 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. 90 % (120 V AC)
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	typ. 92 % (230 V AC)
Nominal output voltage	24 V DC $\pm 1$ %
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	$\leq 35$ V DC
Protection against overvoltage at the output (OVP)	$\leq 30$ 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 $\pm 10$ %)
Residual ripple	$\leq 10$ mV <sub>PP</sub>
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	$\leq 12$ 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	M12 circular connector
Coding	S
Type of locking	M12 screw locking
Number of positions	3

Output

Connection method	M12 circular connector
Coding	L
Type of locking	M12 screw locking
Number of positions	4

## Signaling

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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
Degree of pollution	3

## Dimensions

### Item dimensions

Width	136 mm
Height	240 mm
Depth	53 mm

### Drill hole

Diameter	5.6 mm
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## 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)

### 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
Standards/specifications	IEC 61558-2-16

### 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
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Standards/specifications	IEC 61010-1
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## 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
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### UL

Identification	UL/C-UL Listed UL 61010-2-201
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## 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 EN 61000-6-3 (Class B)

## Harmonic currents

Standards/regulations	EN 61000-3-2 EN 61000-3-2 (Class A)
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## Electrostatic discharge

Standards/regulations	EN 61000-4-2
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## Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
Comments	Criterion A

## Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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## Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 2 GHz

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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
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## 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
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## Conducted interference

Input/Output	asymmetrical
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

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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

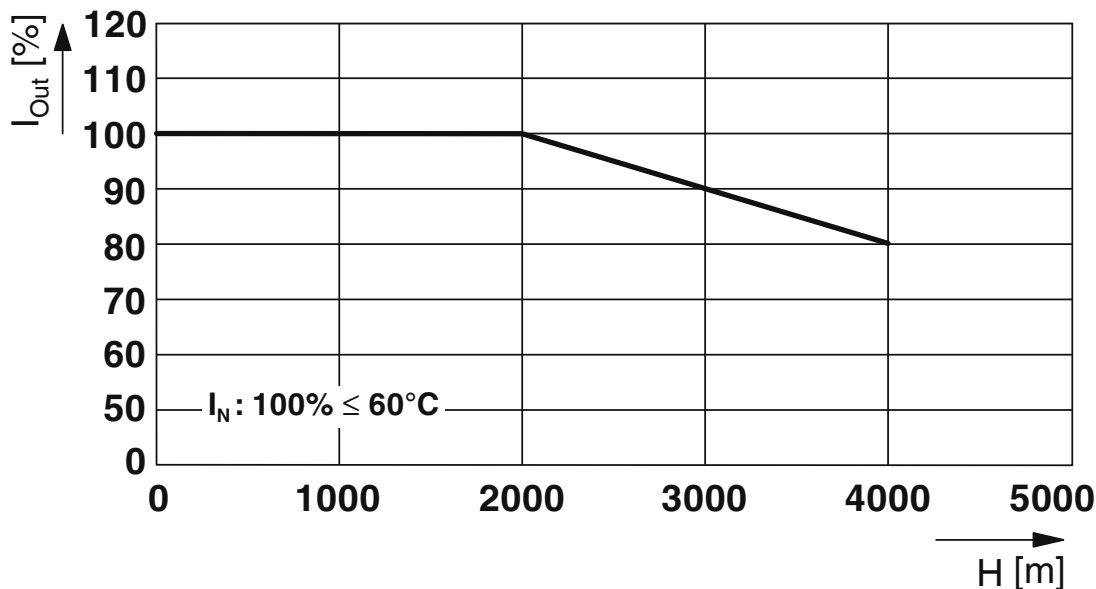
## Criteria

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.



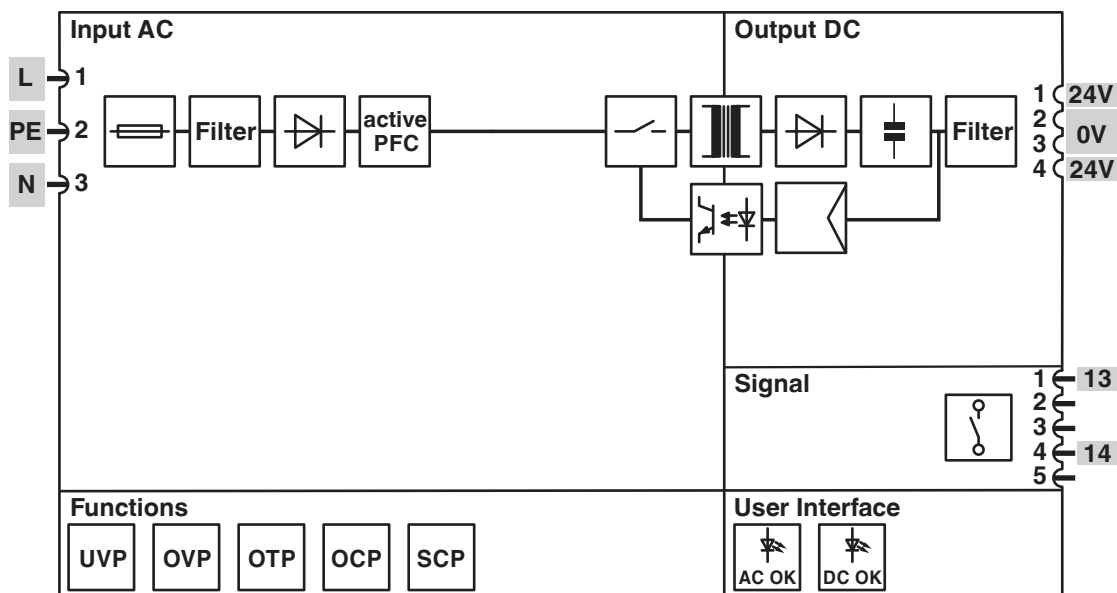
Drawings

Diagram

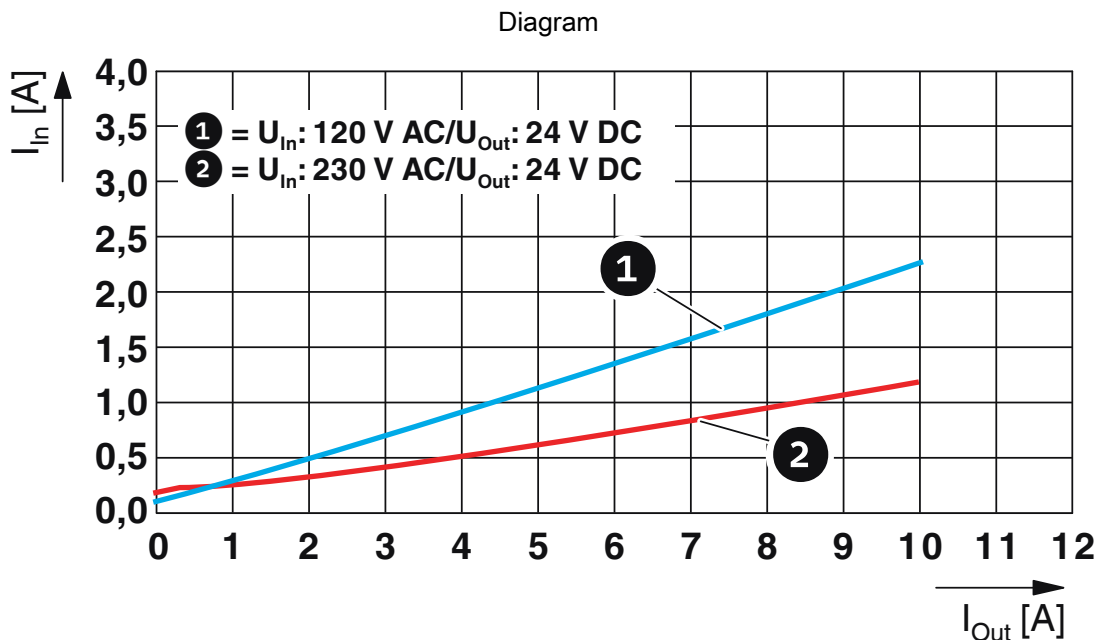


Output current/installation altitude

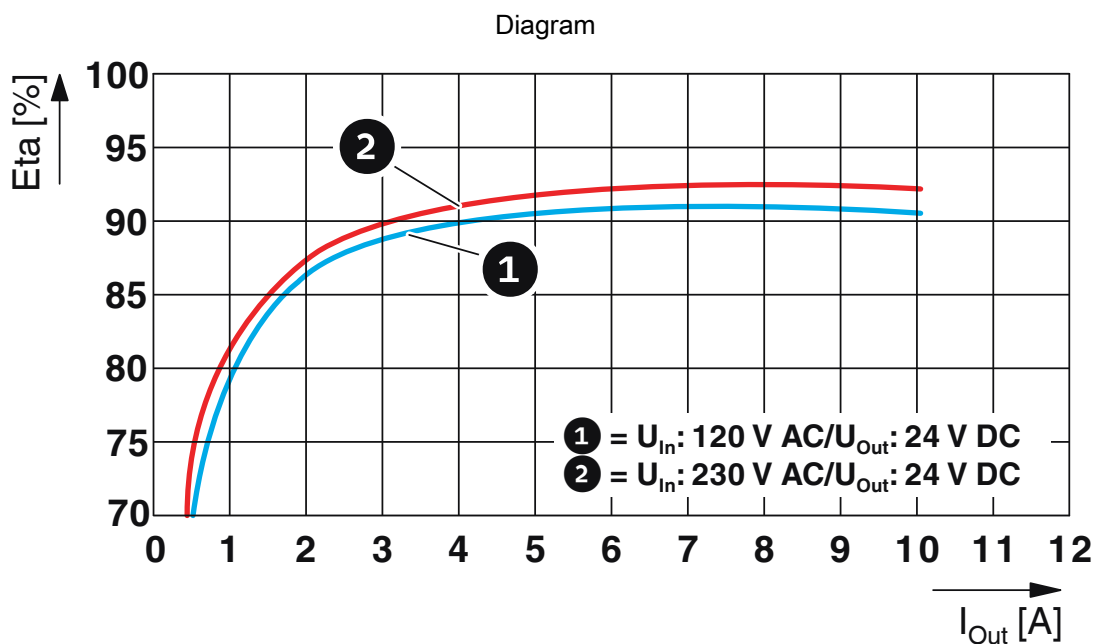
Block diagram



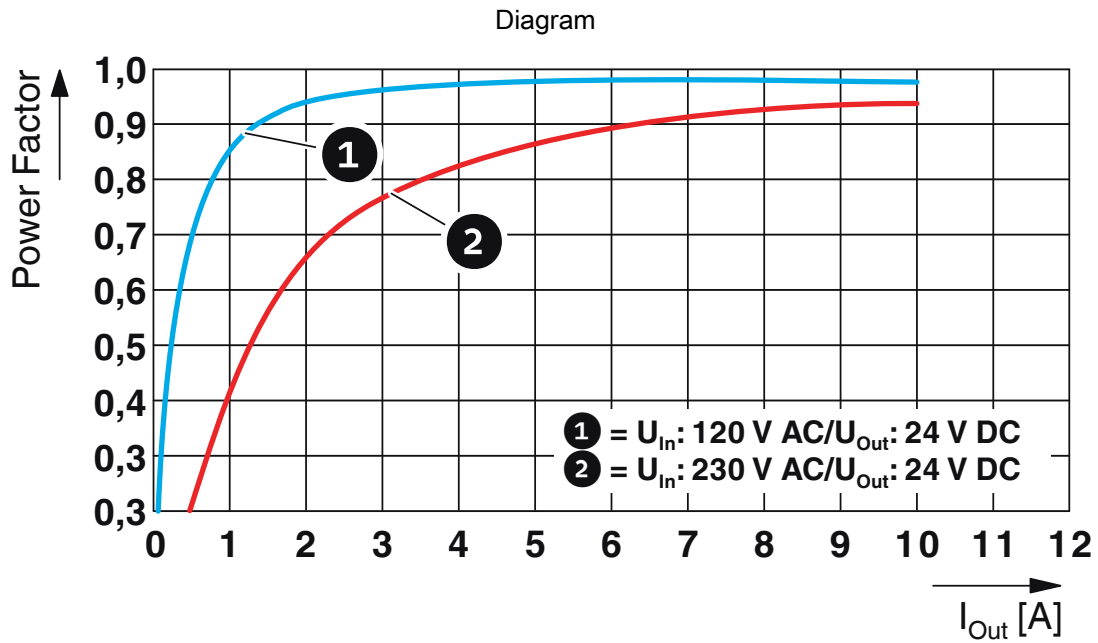
Block diagram



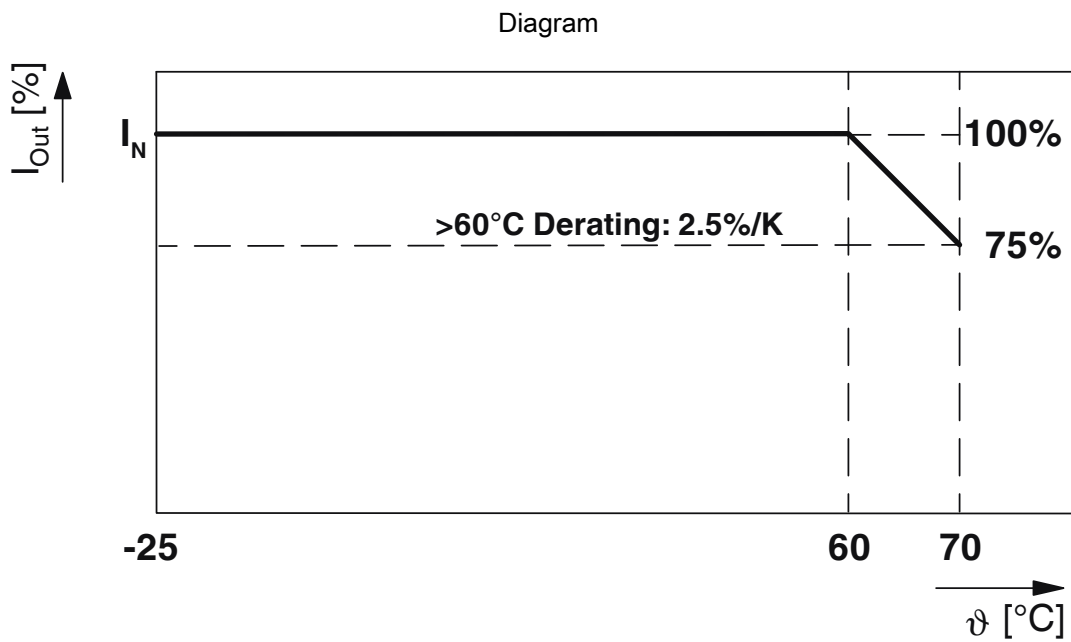
Input current/output current



Efficiency



Power factor



Output current/ambient temperature

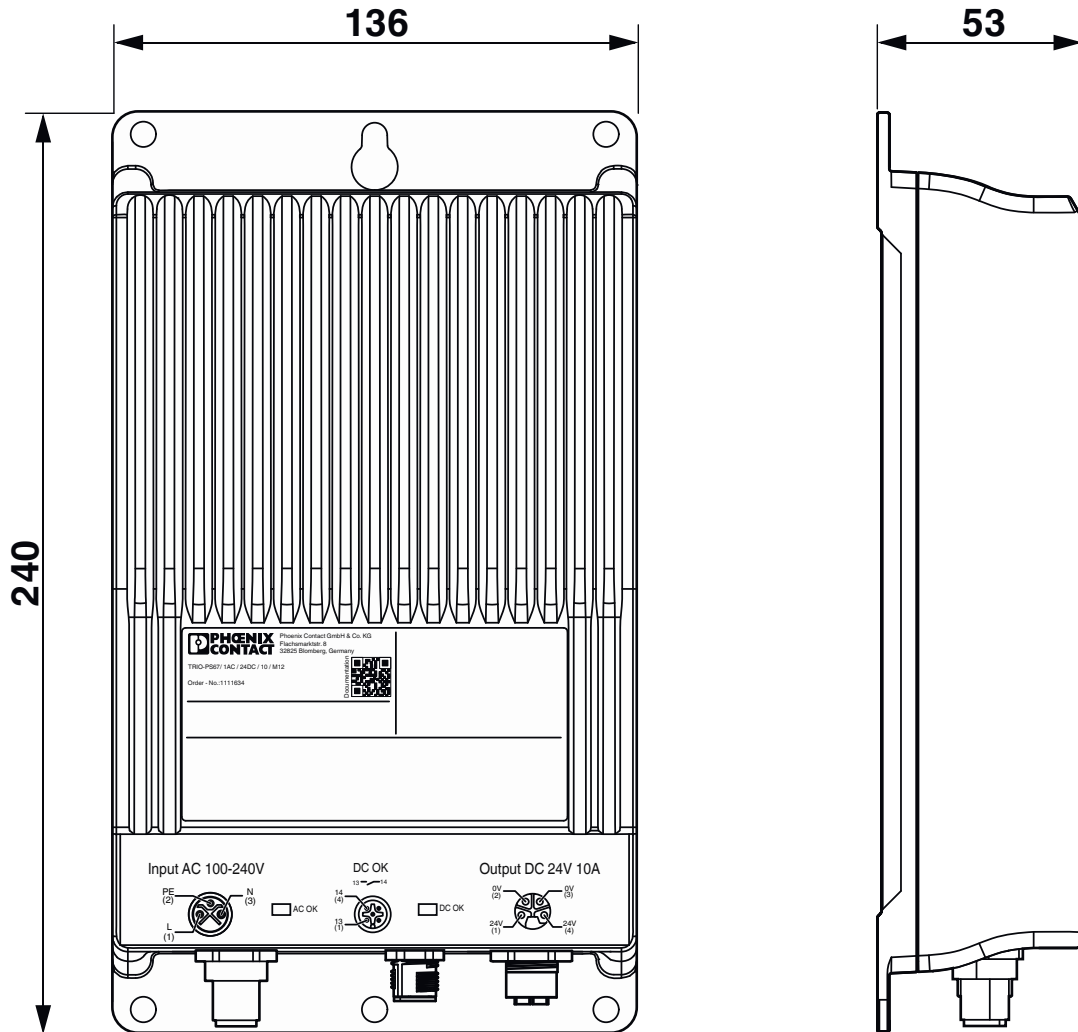
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Dimensional drawing



Device dimensions (dimensions in mm)

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1111634>



### IECEE CB Scheme

Approval ID: DK-135371-A1-UL



### cULus Listed

Approval ID: FILE E 123528



### EAC

Approval ID: RU S-DE.BL08.W.00764

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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC002540
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### 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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## Accessories

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

1080227

<https://www.phoenixcontact.com/gb/products/1080227>



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

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

1176479

<https://www.phoenixcontact.com/gb/products/1176479>



Power cable, 3-position, free cable end, on Socket straight M12, coding: S, cable length: 1 m, For alternating current up to 16 A/250 V



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

1080239

<https://www.phoenixcontact.com/gb/products/1080239>



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

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

1425025

<https://www.phoenixcontact.com/gb/products/1425025>



Power cable, 4-position halogen-free, 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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## SACC-M12FS-5PL M - Connector

1424652

<https://www.phoenixcontact.com/gb/products/1424652>



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

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

1669822

<https://www.phoenixcontact.com/gb/products/1669822>



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

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