

# MINI-PS-100-240AC/24DC/1.5/EX - Power supply



2866653

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Please use the following item in new systems: 2904614  
Primary-switched MINI POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A, for potentially explosive areas

## Product description

MINI POWER power supplies for MCR technology

In measurement and control technology (MCR), modular electronics housing has become the industry standard. MINI POWER is the power supply unit to go with it. The devices are flexible, thanks to special voltages and special versions.

## Your advantages

- Easy-maintenance connection technology thanks to keyed COMBICON connectors
- For supplying the supply voltage via the foot element (DIN rail connector) where AC voltages are available
- 100 V AC ... 240 V AC nominal input voltage range
- Output voltage: 24 V DC
- For up to 60 MINI Analog modules
- For up to 1.5 A, secondary
- Status and error indication via diagnostic LEDs

## Commercial data

Item number	2866653
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	CM11
Product key	CMPM13
GTIN	4046356147989
Weight per piece (including packing)	289.3 g
Weight per piece (excluding packing)	250 g
Customs tariff number	85044030
Country of origin	CN

## Technical data

### Input data

#### AC operation

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
Input voltage range AC	85 V AC ... 264 V AC
Voltage type of supply voltage	AC
Inrush current	< 15 A (typical)
Inrush current integral ( $I^2t$ )	0.6 A <sup>2</sup> s
AC frequency range	45 Hz ... 65 Hz
Mains buffering time	typ. 35 ms (120 V AC) typ. 150 ms (230 V AC)
Current consumption	0.75 A (120 V AC) 0.45 A (230 V AC)
Nominal power consumption	88 VA
Typical response time	< 0.5 s
Input fuse	3.15 A (slow-blow, internal)
Permissible backup fuse	B6 B10 B16 AC:
Permissible DC backup fuse	DC: Connect a suitable fuse upstream
Recommended breaker for input protection	6 A ... 16 A (AC: Characteristics B, C, D, K)

### Output data

Efficiency	> 84 % (for 230 V AC and nominal values)
Output characteristic	U/I
Nominal output voltage	24 V DC $\pm$ 1 %
Nominal output current ( $I_N$ )	1.5 A (-25 °C ... 60 °C)
POWER BOOST ( $I_{Boost}$ )	2 A (-25 °C ... 40 °C)
Derating	60 °C ... 70 °C (2.5 %/K)
Feedback voltage resistance	35 V DC
Residual ripple	< 40 mV <sub>PP</sub> (with nominal values)
Output power	36 W
Peak switching voltages nominal load	< 20 mV <sub>PP</sub> (20 MHz)
Maximum no-load power dissipation	1.5 W
Power loss nominal load max.	6.5 W
Connection in parallel	yes, for redundancy and increased capacity
Connection in series	yes

#### Signal: DC OK active

Output description	$U_{OUT} > 0.9 \times U_N$ : High signal
Maximum switching voltage	$\leq$ 24 V
Output voltage	+ 24 V DC (Signal)
Maximum inrush current	max. 44 mA

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Continuous load current	≤ 40 mA
Signal: DC OK floating	
Output description	Relay contact, $U_{OUT} > 0.9 \times U_N$ : Contact closed

## Connection data

### Input

Connection method	Pluggable screw connection
Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross-section, rigid max.	2.5 mm <sup>2</sup>
Conductor cross-section flexible min.	0.2 mm <sup>2</sup>
Conductor cross-section flexible max.	2.5 mm <sup>2</sup>
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	12
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

### Output

Connection method	Pluggable screw connection
Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross-section, rigid max.	2.5 mm <sup>2</sup>
Conductor cross-section flexible min.	0.2 mm <sup>2</sup>
Conductor cross-section flexible max.	2.5 mm <sup>2</sup>
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	12
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

### Signal

Conductor cross-section, rigid min.	0.5 mm <sup>2</sup>
Conductor cross-section, rigid max.	2.5 mm <sup>2</sup>
Conductor cross-section flexible min.	0.5 mm <sup>2</sup>
Conductor cross-section flexible max.	2.5 mm <sup>2</sup>
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	12
Screw thread	M4

### Signal

Conductor cross-section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross-section, rigid max.	2.5 mm <sup>2</sup>
Conductor cross-section flexible min.	0.2 mm <sup>2</sup>
Conductor cross-section flexible max.	2.5 mm <sup>2</sup>
Conductor cross-section AWG min.	24

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Conductor cross-section AWG max.	12
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

## Signaling

Types of signaling	LED
	Relay contact

### Signal output: DC OK active

Status display	"DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$ : LED flashing

### Signal output: DC OK floating

Status display	"DC OK" LED green
Note on status display	$U_{OUT} > 21.5 \text{ V DC}$ : LED ON

## Electrical properties

Insulation voltage input/output	4 kV AC (type test)
	3 kV AC (routine test)
Insulation voltage input / PE	4 kV AC (type test)
	3 kV AC (routine test)

## Product properties

Product type	Power supply
Product family	MINI POWER
MTBF (IEC 61709, SN 29500)	> 2789000 h (40 °C)

### Insulation characteristics

Protection class	II (in closed control cabinet)
Overvoltage category	III
Degree of pollution	2

## Dimensions

Width	35 mm
Height	99 mm
Depth	95 mm

### Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	50 mm / 50 mm

## Mounting

Assembly note	alignable: horizontally 0 mm, vertically 50 mm
Mounting position	horizontal DIN rail NS 35, EN 60715

## Material specifications

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Type of housing	Polyamide PA, color: green
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C Derating: 2,5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	100 % (condensation permitted)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude $\pm 2.5$ mm (according to IEC 60068-2-6) 15 Hz ... 150 Hz, 2.3g, 90 min.

## Standards and regulations

Rail applications	EN 50121-4
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standards/specifications	EN 60079-0

## Approvals

UL approvals	UL/C-UL listed UL 508 UL/C-UL Recognized UL 60950-1
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### Conformity/Approvals

ATEX	⊕ II 3 G Ex nA nC IIC T4 Gc X
SIL in accordance with IEC 61508	0

## EMC data

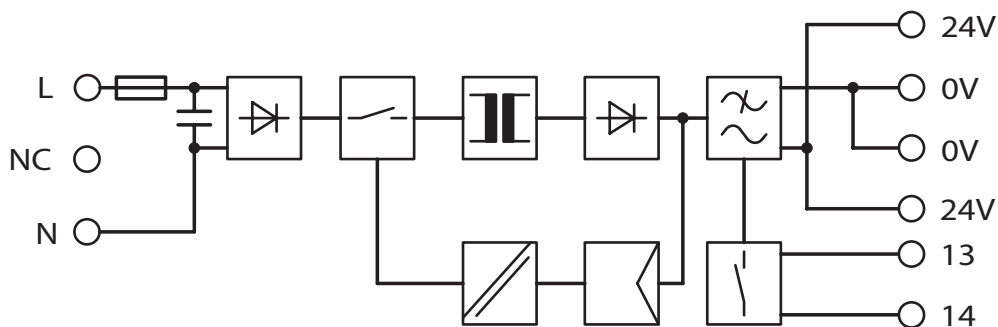
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
EMC requirements for noise emission	EN 61000-6-3 EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1 EN 61000-6-2

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## Drawings

Block diagram



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## Classifications

### UNSPSC

UNSPSC 21.0	39121004
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-25
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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