QUINT-PS-100-240AC/24DC/10/EX - Power supply

2938866

https://www.phoenixcontact.com/us/products/2938866

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DIN rail power supply unit, primary-switched mode, 1-phase, output: 24 V DC / 10 A, for the potentially explosive area

Commercial data

Item number	2938866
Packing unit	1 pc
Sales key	CM11
Product key	CMPP13
GTIN	4017918943486
Weight per piece (including packing)	1,474.9 g
Weight per piece (excluding packing)	1,474.9 g
Customs tariff number	85044030
Country of origin	TH

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
	90 V DC ... 250 V DC
Input voltage range AC	85 V AC ... 264 V AC
Input voltage range DC	90 V DC ... 250 V DC
Voltage type of supply voltage	AC/DC
Inrush current	< 15 A (typical)
Inrush current integral (I^2t)	1.5 A^2s
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Mains buffering time	> 40 ms (120 V AC)
	> 40 ms (230 V AC)
Current consumption	approx. 2.4 A (120 V AC)
	1.3 A (230 V AC)
Nominal power consumption	264 W
Typical response time	< 1 s
Input fuse	6.3 A (slow-blow, internal)
Permissible DC backup fuse	DC: Connect a suitable fuse upstream
Recommended breaker for input protection	10 A ... 16 A (Characteristics B, C, D, K)

Output data

Efficiency	> 88 %
Nominal output voltage	24 V DC ±1 %
Setting range of the output voltage (U_{Set})	22.5 V DC ... 28.5 V DC
Nominal output current (I_N)	10 A (up to 60 °C)
POWER BOOST (I_{Boost})	15 A
Derating	60 °C ... 70 °C (2.5 %/K)
Feedback voltage resistance	35 V DC
Protection against overvoltage at the output (OVP)	≤ 35 V DC
Residual ripple	< 100 mV_{PP}
Output power	240 W
Maximum no-load power dissipation	4 W
Power loss nominal load max.	33 W
Connection in parallel	yes, for redundancy and increased capacity
Connection in series	yes

Signal: DC OK active

Output description	U_{OUT} > 0.9 x U_N: High signal
Maximum switching voltage	≤ 24 V

Output voltage	+ 24 V DC (Signal)
Maximum inrush current	max. 44 mA
Continuous load current	≤ 40 mA

Signal: DC OK floating

Output description	Relay contact, U_{OUT} > 0.9 x U_N: Contact closed
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A
Continuous load current	≤ 1 A

Connection data

Input

Connection method	Pluggable screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	12
Stripping length	7 mm
Screw thread	M3

Output

Connection method	Pluggable screw connection
Conductor cross-section, rigid min.	0.5 mm²
Conductor cross-section, rigid max.	16 mm²
Conductor cross-section flexible min.	0.5 mm²
Conductor cross-section flexible max.	10 mm²
Conductor cross-section AWG min.	20
Conductor cross-section AWG max.	6
Stripping length	7 mm
Screw thread	M4

Signal

Conductor cross-section, rigid min.	0.5 mm²
Conductor cross-section, rigid max.	16 mm²
Conductor cross-section flexible min.	0.5 mm²
Conductor cross-section flexible max.	10 mm²
Conductor cross-section AWG min.	20
Conductor cross-section AWG max.	6
Screw thread	M4

Signaling

Types of signaling	LED
	Active switching output

	Relay contact
Operating voltage display	Green LED

Signal output: DC OK active

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

Signal output: DC OK floating

Status display	"DC OK" LED green

Electrical properties

Number of phases	1
Insulation voltage input/output	4 kV AC (routine test)
	2 kV AC (type test)

Product properties

Product type	Power supply
Product family	QUINT POWER
MTBF (IEC 61709, SN 29500)	> 500000 h

Insulation characteristics

Protection class	I

Dimensions

Width	85 mm
Height	130 mm
Depth	125 mm

Alternative assembly

Width	122 mm
Height	130 mm
Depth	88 mm

Mounting

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

Material specifications

Housing material	Metal
Type of housing	AluNox (AlMg1)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

Max. permissible relative humidity (operation)	100 % (condensation permitted)

Standards and regulations

Declaration of conformity in acc. with EN 60079-15	Ⓔx II 3 G Ex nAC IIC T4 X
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)
	EN 61558-2-17
Standard - Equipment safety	GS (tested safety)
Standard - Safe isolation	DIN VDE 0100-410
Standard - Safety of transformers	EN 61558-2-17
Standards/specifications	EN 60079-0

Approvals

Shipbuilding approval	DNV GL (EMC A)
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Conformity/Approvals

ATEX	Ⓔx II 3 G Ex nA nC IIC T4 Gc X

EMC data

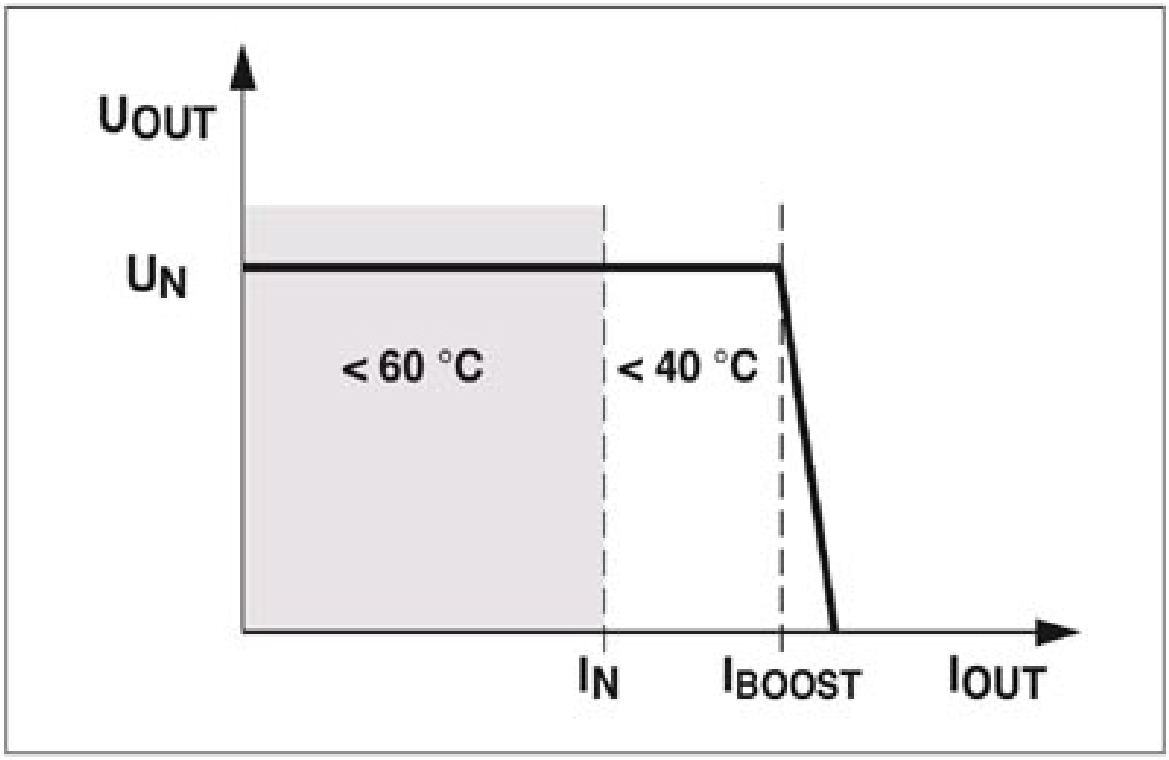
Electromagnetic compatibility	Conformance with EMC directive 89/336/EC
EMC requirements for noise immunity	EN 61000-6-2

Noise emission

Standards/regulations	EN 55011 (EN 55022)

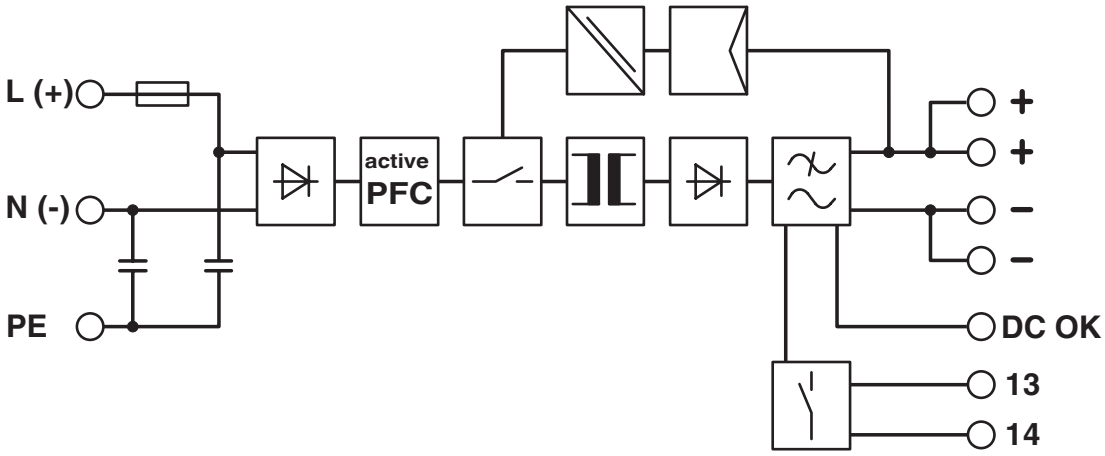
Drawings

Diagram



POWER BOOST

Block diagram



Classifications

UNSPSC

UNSPSC 21.0	39121004

Environmental product compliance

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.)	No substance above 0.1 wt%

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