

Power supply unit - QUINT-PS-100-240AC/24DC/ 5/EX



2938853

<https://www.phoenixcontact.com/us/products/2938853>

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DIN rail power supply unit, primary-switched mode, 1-phase, output: 24 V DC / 5 A, for the potentially explosive area

Power supply unit - QUINT-PS-100-240AC/24DC/ 5/EX



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Commercial Data

Item number	2938853
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	C14
Product Key	CMPP13
Catalog Page	Page 594 (IF-2009)
GTIN	4017918927233
Weight per Piece (including packing)	1,233 g
Weight per Piece (excluding packing)	1,000 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	< 20 A (typical)
Inrush current integral (I^2t)	2.5 A ² s
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Mains buffering time	> 20 ms (120 V AC)
	> 120 ms (230 V AC)
Current consumption	approx. 1.6 A (120 V AC)
	0.8 A (230 V AC)
Nominal power consumption	134 W
Typical response time	< 1 s
Input fuse	5 A (slow-blow, internal)
Permissible DC backup fuse	DC: Connect a suitable fuse upstream
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Efficiency	> 87 %
Nominal output voltage	24 V DC \pm 1 %
Setting range of the output voltage (U_{Set})	22.5 V DC ... 28.5 V DC
Nominal output current (I_N)	5 A (up to 60 °C)
POWER BOOST (I_{Boost})	7.5 A
Derating	60 °C ... 70 °C (2.5%/K)
Feedback voltage resistance	35 V DC
Protection against overvoltage at the output (OVP)	\leq 35 V DC
Residual ripple	< 100 mV _{PP}
Output power	120 W
Peak switching voltages nominal load	< 50 mV _{PP} (20 MHz)
Maximum no-load power dissipation	2.7 W
Power loss nominal load max.	18 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
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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, $U_{OUT} > 0.9 \times U_N$: Contact closed
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	max. 1 A
Continuous load current	≤ 1 A

Signal: DC OK active

Output description	$U_{OUT} > 0.9 \times U_N$: 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, $U_{OUT} > 0.9 \times U_N$: Contact closed
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	max. 1 A
Continuous load current	≤ 1 A

Connection data

Input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24

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Conductor cross section AWG max.	12
Stripping length	7 mm
Screw thread	M3

Signal

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
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

LED 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	$U_{OUT} < 0.9 \times U_N$: LED flashing

Signal output: DC OK floating

Status display	"DC OK" LED green
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Electrical properties

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

Product properties

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

Insulation characteristics

Protection class	I
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Dimensions

Width	55 mm
Height	130 mm
Depth	125 mm

Alternative assembly

Width	122 mm
Height	130 mm

Depth	58 mm
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Mounting

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

Material specifications

Color	aluminium
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	<input type="checkbox"/> 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

Approval data

Shipbuilding approval	DNV GL (EMC A)
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
	UL/C-UL Listed UL 1604 Class I, Division 2, Groups A, B, C, D

Conformity/Approvals

ATEX	<input type="checkbox"/> II 3 G Ex nA nC IIC T4 Gc X
SIL in accordance with IEC 61508	0

EMC data

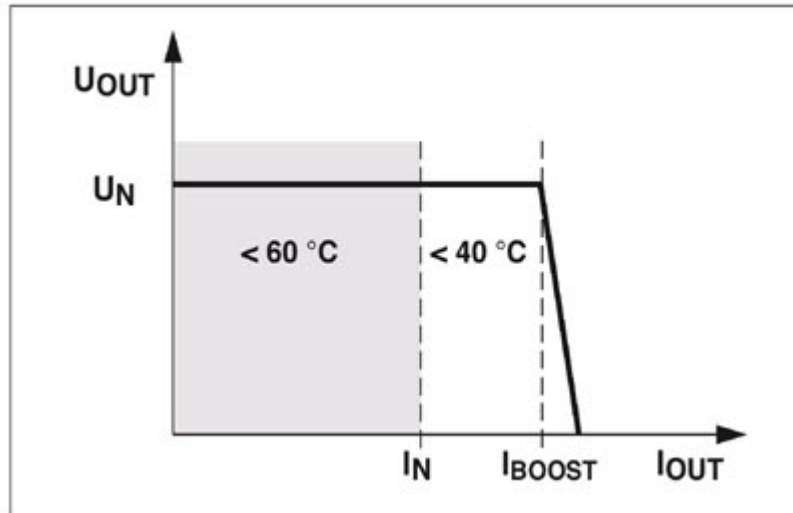
Electromagnetic compatibility	Conformance with EMC directive 89/336/EC
EMC requirements for noise immunity	EN 61000-6-2
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005

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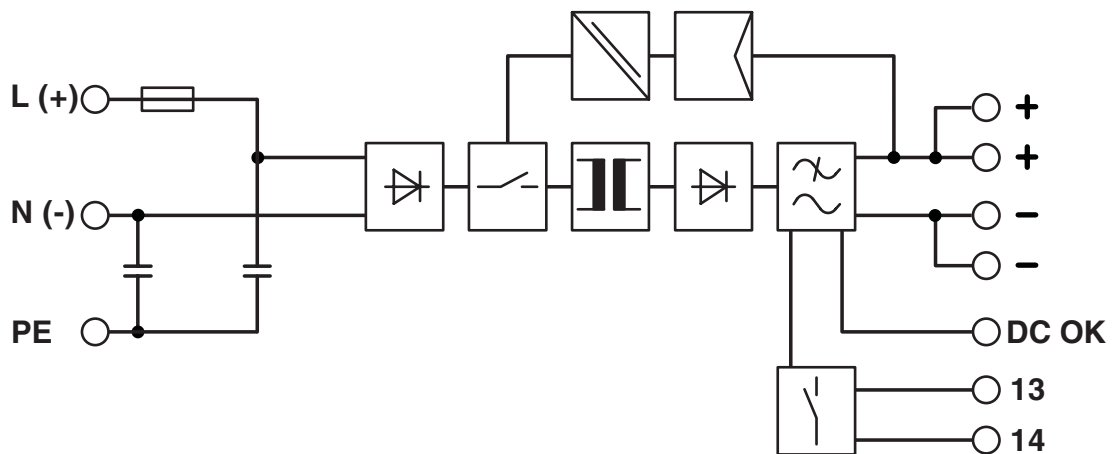
Drawings

Diagram



POWER BOOST

Block diagram



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Classifications

ECLASS

ECLASS-9.0	27040701
ECLASS-10.0.1	27040701

ETIM

ETIM 7.0	EC002540
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UNSPSC

UNSPSC 21.0	39121004
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Environmental Product Compliance

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

DIN rail adapter

DIN rail adapter - UTA 107 - 2853983

<https://www.phoenixcontact.com/us/products/2853983>

Universal DIN rail adapter, for screwing on switchgear



Mounting adapter

Mounting adapter - UWA 182/52 - 2938235

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Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.



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Mounting adapter

Mounting adapter - QUINT-PS-ADAPTERS7/1 - 2938196

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Assembly adapter for QUINT-PS... power supply on S7-300 rail



Mounting adapter

Mounting adapter - QUINT-PS-ADAPTERS7/2 - 2938206

<https://www.phoenixcontact.com/us/products/2938206>

Assembly adapter for QUINT POWER 10A on S7-300 rail



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