

QUINT-PS-3X400-500AC/48DC/20 - Power supply



2938222

<https://www.phoenixcontact.com/us/products/2938222>

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DIN rail power supply, 48 V DC/20 A, primary-switched, 3-phase



Commercial data

Item number	2938222
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	CM11
Product key	CMPP34
GTIN	4017918927066
Weight per piece (including packing)	3,842 g
Weight per piece (excluding packing)	3,500 g
Customs tariff number	85044030
Country of origin	DE

Technical data

Input data

AC operation

Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 320 V AC ... 575 V AC (for all three phases) 450 V DC ... 800 V DC (for all three phases)
Input voltage range AC	3x 320 V AC ... 575 V AC (for all three phases)
Input voltage range DC	450 V DC ... 800 V DC (for all three phases)
Voltage type of supply voltage	AC/DC
Inrush current	< 15 A
Inrush current integral (I^2t)	2 A ² s
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Mains buffering time	> 20 ms (400 V AC) > 30 ms (480 V AC)
Current consumption	approx. 3x 2.3 A (400 V AC) 1.9 A (480 V AC)
Nominal power consumption	1034 W
Protective circuit	Transient surge protection; Varistor
Typical response time	< 1 s
Permissible backup fuse	B6 B10 B16
Recommended breaker for input protection	3x 6 A ... 16 A (Characteristics B, C, D, K)

Output data

Efficiency	> 90 % (for 230 V AC and nominal values)
Nominal output voltage	48 V DC \pm 1 %
Setting range of the output voltage (U_{Set})	30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
Nominal output current (I_N)	20 A (-25 °C ... 60 °C)
POWER BOOST (I_{Boost})	22 A (-25 °C ... 40 °C permanent)
Derating	60 °C ... 70 °C (2.5 %/K)
Residual ripple	< 20 mV _{PP}
Output power	960 W
Peak switching voltages nominal load	< 140 mV _{PP} (20 MHz)
Maximum no-load power dissipation	20 W
Power loss nominal load max.	90 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

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Maximum inrush current	≤ 20 mA
Continuous load current	≤ 20 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. 0.5 A
Continuous load current	≤ 1 A

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm ²
Conductor cross-section, rigid max.	6 mm ²
Conductor cross-section flexible min.	0.2 mm ²
Conductor cross-section flexible max.	4 mm ²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	10
Stripping length	8 mm
Screw thread	M3

Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.5 mm ²
Conductor cross-section, rigid max.	16 mm ²
Conductor cross-section flexible min.	0.5 mm ²
Conductor cross-section flexible max.	10 mm ²
Conductor cross-section AWG min.	20
Conductor cross-section AWG max.	6
Stripping length	10 mm
Screw thread	M4

Signal

Conductor cross-section, rigid min.	0.5 mm ²
Conductor cross-section, rigid max.	16 mm ²
Conductor cross-section flexible min.	0.5 mm ²
Conductor cross-section flexible max.	10 mm ²
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

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Operating voltage display	Green LED
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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	$U_{OUT} < 0.9 \times U_N$: LED flashing

Electrical properties

Number of phases	3
Insulation voltage input/output	3 kV (type test)
	1.5 kV (routine test)

Product properties

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

Insulation characteristics

Protection class	I (with PE connection)
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Dimensions

Width	240 mm
Height	130 mm
Depth	125 mm

Alternative assembly

Width	122 mm
Height	130 mm
Depth	243 mm

Mounting

Mounting type	DIN rail 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 ... 70 °C (> 60 °C Derating: 2,5 %/K)

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Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25 °C, non-condensing)

Standards and regulations

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

Approvals

UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1

EMC data

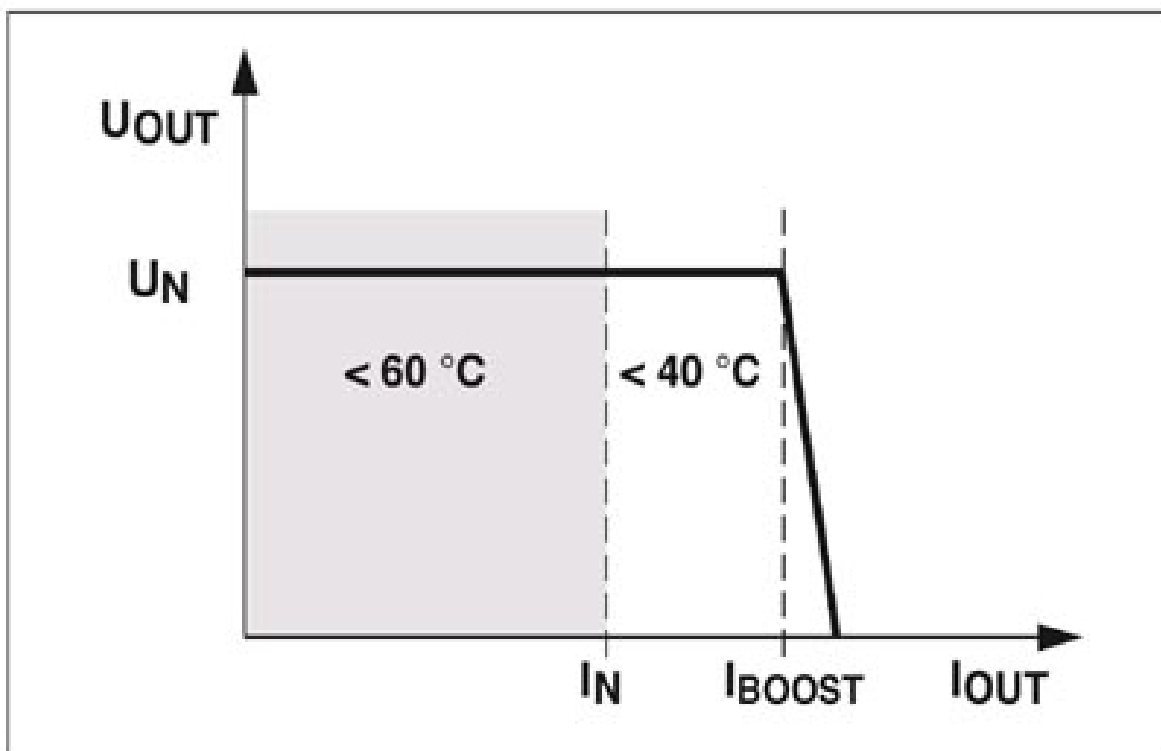
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2

Noise emission

Standards/regulations	EN 55011 (EN 55022)
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Drawings

Diagram



POWER BOOST

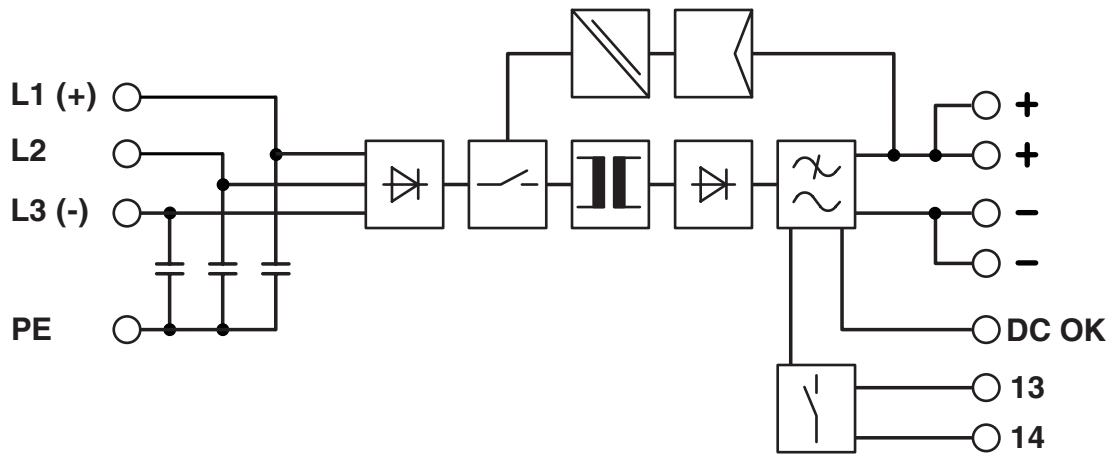
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Block diagram



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Approvals

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cUL Recognized
Approval ID: FILE E 211944



UL Recognized
Approval ID: E211944



UL Listed
Approval ID: FILE E 123528



cUL Listed
Approval ID: FILE E 123528

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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, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-50
	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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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com