

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



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
Catalog page	Page 567 (IF-2009)
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 ± 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	≤ 24 V
Output voltage	+ 24 V DC

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Maximum inrush current	$\leq 20 \text{ mA}$
Continuous load current	$\leq 20 \text{ mA}$

Signal: DC OK floating

Output description	Relay contact, $U_{\text{OUT}} > 0.9 \times U_N$: Contact closed
Maximum switching voltage	$\leq 30 \text{ V AC/DC}$
Maximum inrush current	max. 0.5 A
Continuous load current	$\leq 1 \text{ A}$

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

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

Data management status

Article revision	07
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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
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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)	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

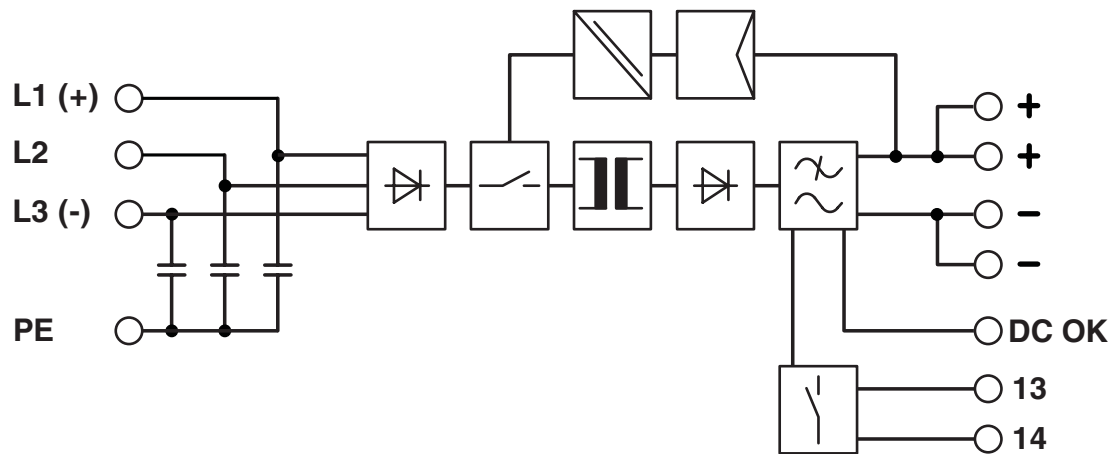
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1

EMC data

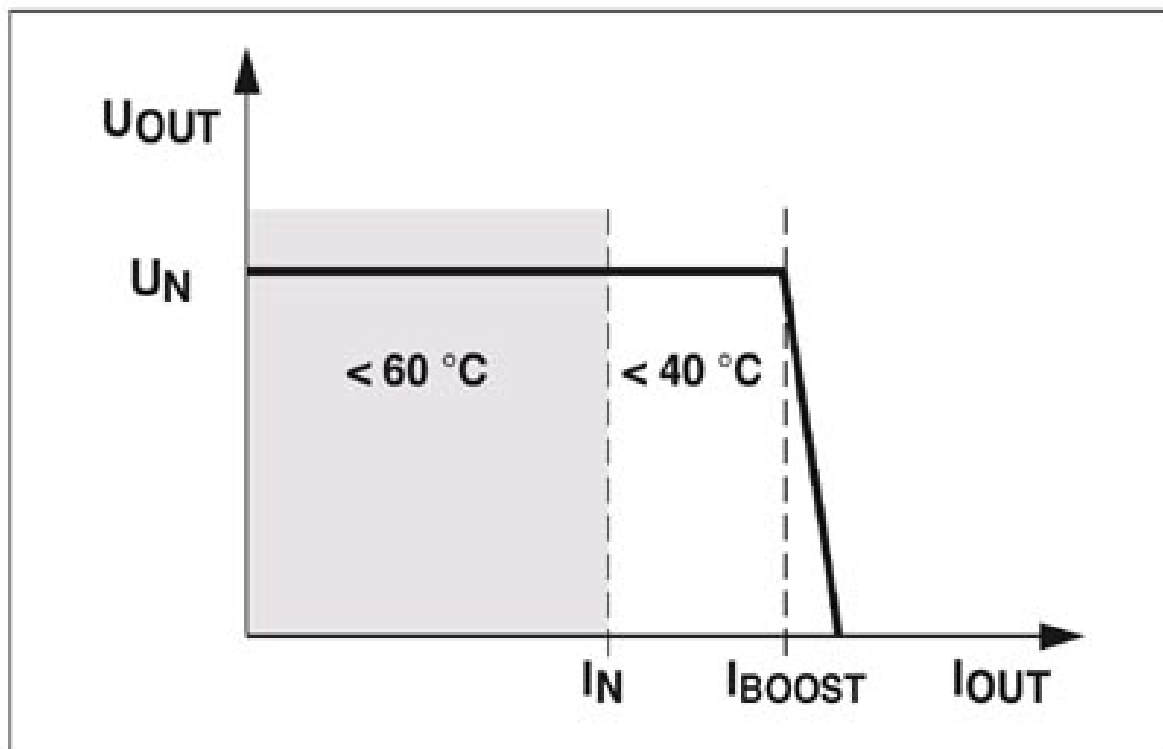
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011 (EN 55022)

Drawings

Block diagram



Diagram



POWER BOOST

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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



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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
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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Accessories

UWA 182/52 - Mounting adapter

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.

UTA 107 - DIN rail adapter

2853983

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



Universal DIN rail adapter, for screwing on switchgear

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PLT-SEC-T3-3S-230-FM - Type 3 surge protection device

2905230

<https://www.phoenixcontact.com/us/products/2905230>



Plug-in device protection, according to type 3/class III, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with integrated surge-proof fuse and remote indication contact.

PLT-SEC-T3-60-FM-UT - Type 3 surge protection device

2907917

<https://www.phoenixcontact.com/us/products/2907917>



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage: 60 V AC/DC

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