

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



2938222

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



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



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Commercial Data

Item number	2938222
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to Order (non-returnable)
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 \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

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

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
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 solid min.	0.2 mm ²
Conductor cross section solid 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 solid min.	0.5 mm ²
Conductor cross section solid 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 solid min.	0.5 mm ²
Conductor cross section solid 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

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
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
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 instructions	alignable: horizontally 0 mm, vertically 50 mm

Mounting position	horizontal DIN rail NS 35, EN 60715
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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 ... 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

Approval data

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

Conformity/Approvals

SIL in accordance with IEC 61508	0
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EMC data

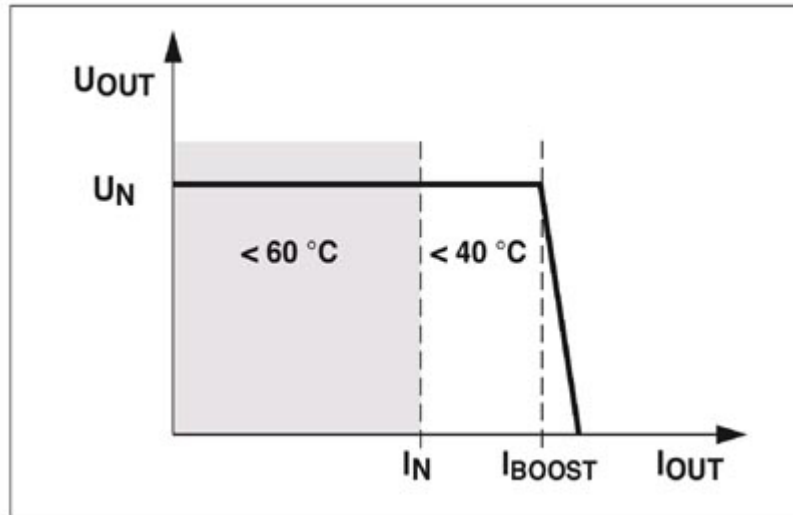
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2
Noise emission	EN 55011 (EN 55022)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

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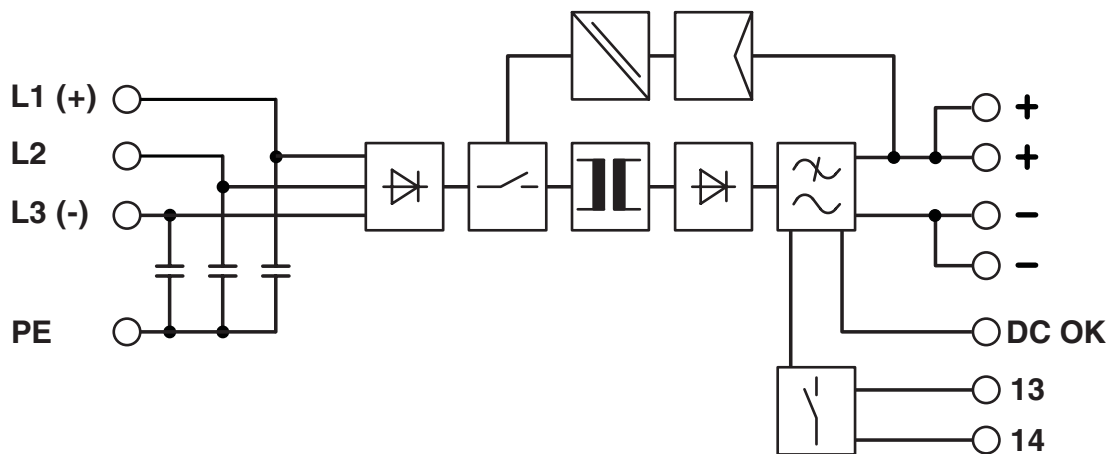
Drawings

Diagram



POWER BOOST

Block diagram




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Approvals

 cUL Recognized

 UL Recognized

 IECEE CB Scheme

 UL Listed

 cUL Listed

cULus Recognized

cULus Listed

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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 = 50 years 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/pc/products/2853983>

Universal DIN rail adapter, for screwing on switchgear

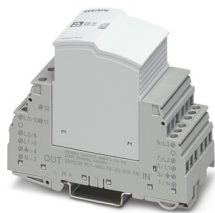


Type 3 surge protection device

Type 3 surge protection device - PLT-SEC-T3-3S-230-FM - 2905230

<https://www.phoenixcontact.com/pc/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.



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Type 3 surge protection device

Type 3 surge protection device - PLT-SEC-T3-60-FM-UT - 2907917

<https://www.phoenixcontact.com/pc/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

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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