

Power supply unit - QUINT-PS-100-240AC/24DC/40 - 2938879

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DIN rail power supply unit 24 V DC/40 A, primary switched-mode, 1-phase.

Product Description

QUINT POWER power supply units for plant and special engineering reliably start heavy loads with high inrush currents using the POWER BOOST. Thanks to the wide-range input and extensive package of approvals, they can be used in all sectors of industry the world over. The switching output or floating relay contact are used for remote diagnostics.



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	3820.0 g
Custom tariff number	85044030
Country of origin	China

Technical data

Dimensions

Width	240 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	243 mm

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)

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Ambient conditions

Noise immunity	EN 61000-6-2:2005
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Input data

Nominal input voltage range	110 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC (Derating < 100 V DC: 2.5%/V)
	90 V DC ... 350 V DC (Derating < 110 V DC: 2.5%/V)
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Nominal power consumption	960 W
Inrush surge current	< 15 A (typical)
Power failure bypass	> 20 ms (120 V AC)
	> 20 ms (230 V AC)
Input fuse	20 A (fast blow, internal)
Choice of suitable circuit breakers	16 A ... 20 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	24 V DC $\pm 1\%$
Setting range of the output voltage (U_{Set})	22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	40 A (-25 °C ... 60 °C)
POWER BOOST (I_{Boost})	45 A (-25°C ... 40°C permanent)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Max. capacitive load	Unlimited
Active current limitation	Approx. $I_{BOOST} = 45\text{ A}$ (for short-circuit)
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage $\pm 10\%$)
Residual ripple	< 30 mV _{PP} (with nominal values)
Output power	960 W
Typical response time	< 1 s
Peak switching voltages nominal load	< 50 mV _{PP} (20 MHz)
Maximum power dissipation in no-load condition	28 W
Power loss nominal load max.	80 W

General

Net weight	3.5 kg
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General

Operating voltage display	Green LED
Efficiency	> 92 % (for 230 V AC and nominal values)
Insulation voltage input/output	3 kV AC (type test) 2 kV AC (routine test)
Protection class	I (with PE connection)
MTTF/ MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm

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	7 mm
Screw thread	M3

Connection data, 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

Signaling

Output name	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	≤ 20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	"DC OK" LED green

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Signaling

Note on status display	$U_{OUT} < 0.9 \times U_N$: LED flashing
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
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3
Output name	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	≤ 1 A
Continuous load current	≤ 1 A
Status display	"DC OK" LED green

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Shock	30g in each direction, according to IEC 60068-2-27
Noise emission	EN 55011 (EN 55022)
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-6
Standard – Electrical equipment of machines	EN 60204-1
Standard - Safety of transformers	EN 61558-2-17
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
	EN 61558-2-17
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN 50178
Standard – Limitation of mains harmonic currents	EN 61000-3-2

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Standards and Regulations

Standard - Equipment safety	GS (tested safety)
Shipbuilding approval	Germanischer Lloyd (EMC 2), ABS, DNV
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Vibration (operation)	< 15 Hz, amplitude ± 2.5 mm (according to IEC 60068-2-6)
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Information technology equipment - safety (CB scheme)	CB Scheme

Classifications

eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27049002
eCl@ss 5.1	27049002
eCl@ss 6.0	27049002
eCl@ss 7.0	27049002
eCl@ss 8.0	27049002
eCl@ss 9.0	27040701

ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540

UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

Approvals

Approvals

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Approvals

Approvals


UL Recognized / UL Listed / cUL Recognized / cUL Listed / GL / DNV / EAC / EAC / cULus Recognized / cULus Listed


Ex Approvals


UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Recognized 

UL Listed 

cUL Recognized 

cUL Listed 

GL

DNV

EAC

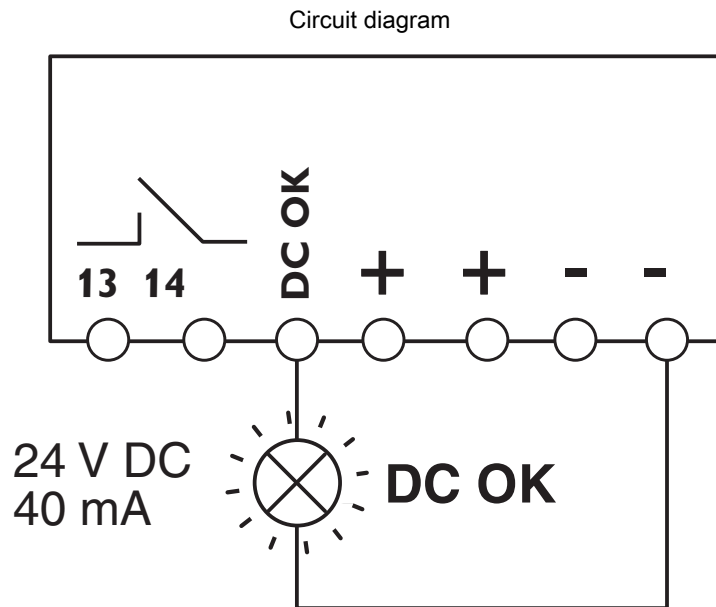
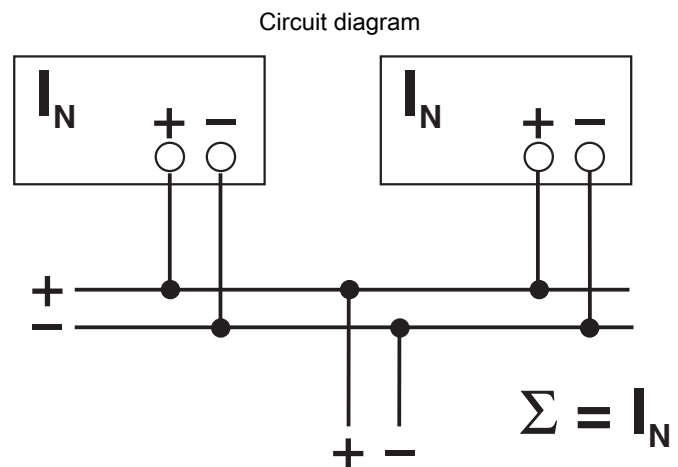
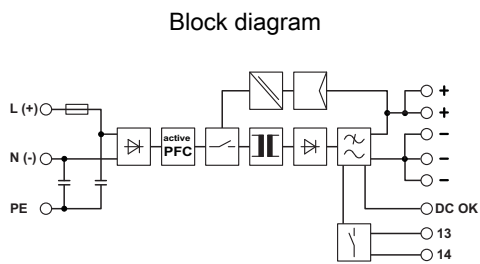
EAC

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Approvals

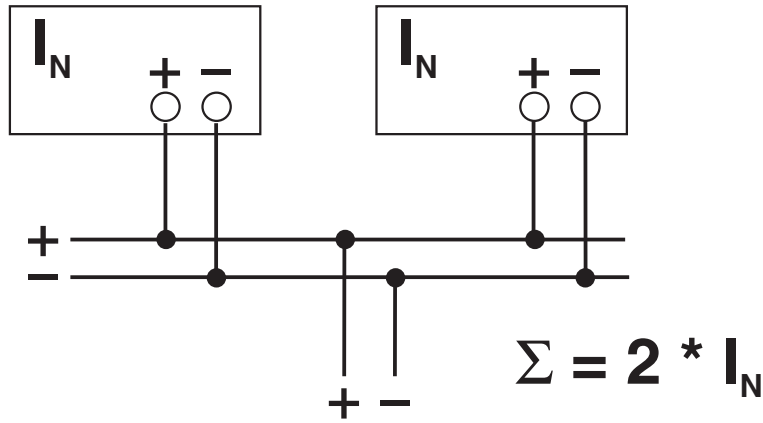


Drawings

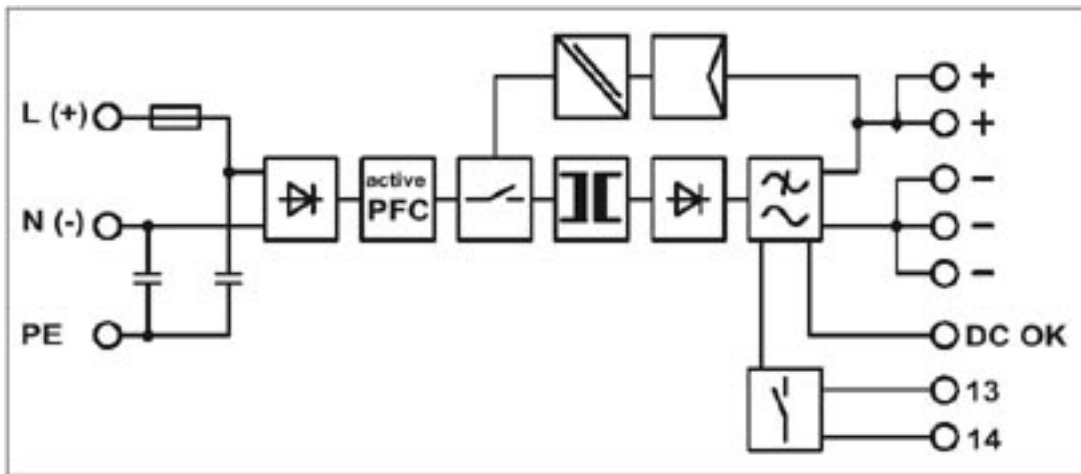


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Circuit diagram



Circuit diagram



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