

Power supply unit - QUINT-PS-100-240AC/48DC/10 - 2938248

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DIN rail power supply unit, primary-switched mode, 1-phase, output: 48 V DC / 10 A

Product Description

QUINT POWER 48 DC is a universal power supply unit of 240 W ... 960 W. In case of a regulated and adjustable output voltage of 30 V DC ... 56 V DC, output currents of 5 A, 10 A and 20 A are available.

The devices are built as primary switched-mode controllers and have a high degree of efficiency, due to which the heat loss is limited to a minimum.

The high operational safety is guaranteed reliably in unstable global networks as well. QUINT POWER also functions in applications where static voltage dips, transient failures of the supply voltage unit or phase failure are to be expected.


Generously dimensioned capacitors guarantee a mains buffering of more than 20 ms under full load. All three-phase QUINT POWER provide full output power, even in the event of a long-term phase failure.

A reliable starting of complex loads is ensured by a power reserve of up to 50% – the POWER BOOST.

A preventive function monitoring diagnoses improper operating states and minimizes downtimes in your system. For remote monitoring of this state, an active transistor switching output and a floating relay contact are available.



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 013178
GTIN	4046356013178

Technical data

Dimensions

Width	157 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	160 mm

Ambient conditions

Degree of protection	IP20
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Ambient conditions

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)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2

Input data

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
	90 V DC ... 350 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Discharge current to PE	< 3.5 mA
Current consumption	approx. 4.76 A (120 V AC)
	2.3 A (230 V AC)
Nominal power consumption	524 W
Inrush surge current	< 15 A (3.2 A ² s)
Mains buffering	> 30 ms (120 V AC)
	> 35 ms (230 V AC)
Input fuse	12 A (slow-blow, internal)
Choice of suitable circuit breakers	10 A ... 16 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

Output data

Nominal output voltage	48 V DC ±1 %
Setting range of the output voltage (U _{Set})	30 V DC ... 56 V DC
Nominal output current (I _N)	10 A (up to 60°C)
POWER BOOST (I _{Boost})	13 A
Derating	60 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes
Feedback resistance	60 V DC
Protection against surge voltage on the output	yes, limited to approx. 60 V DC
Max. capacitive load	Unlimited
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 5 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 20 mV _{PP} (with nominal values)
Output power	480 W
Typical response time	< 1 s

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Output data

Peak switching voltages nominal load	< 50 mV _{PP}
Maximum power dissipation in no-load condition	< 5 W
Power loss nominal load max.	< 56 W

General

Net weight	2.5 kg
Efficiency	> 90 %
Insulation voltage input/output	4 kV AC (type test) 2 kV AC (routine test)
Insulation voltage input / PE	3.5 kV AC (type test) 2 kV AC (routine test)
Insulation voltage output / PE	500 V DC (routine test)
Protection class	I (with PE connection)
Degree of protection	IP20
MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	alignable: 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	7 mm
Screw thread	M4

Signaling

Output name	DC OK active
Output description	U _{OUT} > 0.9 x U _N : High signal

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Signaling

Maximum switching voltage	≤ 24 V
Output voltage	+ 24 V DC
Maximum inrush current	≤ 40 mA
Continuous load current	≤ 40 mA
Status display	"DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$: LED flashing
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
Tightening torque, min	1.2 Nm
Tightening torque max	1.5 Nm
Screw thread	M4
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
Note on status display	$U_{OUT} < 0.9 \times U_N$: LED flashing

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive 89/336/EC
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	8 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	1 kV (level 2 - asymmetrical: conductor to ground)
Standards/regulations	EN 61000-6-3
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V
Standards/regulations	EN 61000-4-11

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Standards and Regulations

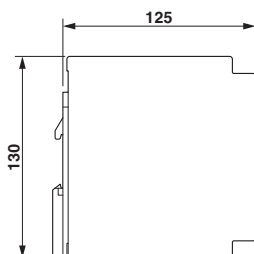
Standard - Safety of transformers	EN 61558-2-17
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
	EN 61558-2-17
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low 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
Standard - Equipment safety	GS (tested safety)
Shipbuilding approval	DNV GL (EMC A), ABS
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.
Information technology equipment - safety (CB scheme)	CB Scheme
Overvoltage category (EN 62477-1)	III

Environmental Product Compliance

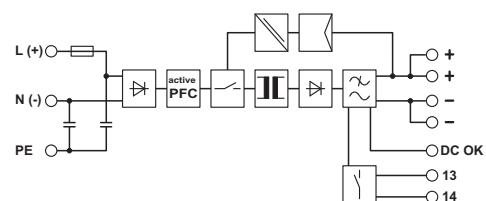
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Dimensional drawing



Block diagram



Approvals

Approvals

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Approvals

Approvals

UL Listed / UL Recognized / cUL Recognized / IECEE CB Scheme / cUL Listed / EAC / EAC / cULus Recognized / cULus Listed

Ex Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
IECEE CB Scheme		http://www.iecee.org/	SI-2245
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
EAC			EAC-Zulassung
EAC			RU C- DE.A*30.B.01082
cULus Recognized			

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Approvals

cULus Listed



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