

Phoenix Quint-Power Supply, 100-240AC/24DC/40

Hardware Module Description

Kongsberg Maritime Part no.316930



Document history

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Comments

To assist us in making improvements to the product and to this manual, we welcome comments and constructive criticism.

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QUINT-PS-100-240AC/24DC/40

Order No.: 2938879



<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2938879>

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

Commercial data

EAN	4017918987091
Pack	1 Pcs.
Customs tariff	85044081
Weight/Piece	3.785 KG
Catalog page information	Page 481 (IF-2007)

Product notes

WEEE/RoHS-compliant since:
09/15/2006



<http://www.download.phoenixcontact.com>
Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation. The General Terms and Conditions of Use apply to Internet downloads.

Product description

QUINT POWER is the high-capacity DC current supply of 60 - 960 watts for universal use worldwide. This is ensured by the wide-range input, one and three-phase versions as well as an international approval package that has yet to be matched. QUINT POWER stands for guaranteed supply: Generously dimensioned capacitors guarantee a mains buffering of more than 20 ms under full load. All three-phase devices provide the full output power, even in the event of a continuous phase failure. The Power Boost power reserve easily starts loads with high inrush currents and ensures that fuses are reliably triggered. A preventive function monitoring diagnoses improper operating states and minimizes downtime in your system. Remote monitoring is provided by an active transistor switching output and a floating relay contact. All devices are protected against idling and short circuits and are available with a regulated and adjustable output voltage of 12, 24 and 48 volts DC with output currents of 2.5, 5, 10, 20, 30 and 40 A. The comprehensive range of

products is rounded off by power supplies for use in the Ex zone 2, uninterruptible solutions, AS-i power supplies and a Quint diode.

Technical data

Input data

Nominal input voltage	110 V AC ... 240 V AC
AC input voltage range	85 V AC ... 264 V AC (Derating < 100 V DC: 2.5%/V)
DC input voltage range	90 V DC ... 350 V DC (Derating < 110 V DC: 2.5%/V)
AC frequency range	45 Hz ... 65 Hz
DC frequency range	0 Hz
Current consumption	Approx. 11 A (120 V AC)
	Approx. 4.5 A (230 V AC)
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)
Recommended backup fuse	16 A
	25 A (characteristic B)
Name 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	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 70°C)
	45 A (with POWER BOOST, -25°C ... 40°C permanent)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Max. capacitive load	Unlimited
Current limitation	Approx. $I_{BOOST} = 45$ 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 mVPP (with nominal values)
Peak switching voltages nominal load	< 50 mVPP (20 MHz)
Maximum power dissipation idling	28 W

Power loss nominal load max.	80 W
General data	
Width	240 mm
Height	130 mm
Depth	125 mm
Weight	3.5 kg
Operating voltage display	LED green
Efficiency	> 92 % (for 230 V AC and nominal values)
Insulation voltage input/output	3 kV AC (type test)
	2 kV AC (routine test)
Degree of protection	IP20
Class of protection	I, with PE connection
MTBF	> 500 000 h in acc. with IEC 61709 (SN 29500)
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25°C, no condensation)
Mounting position	Horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontal 0 cm, vertical 5 cm
Electromagnetic compatibility	Conformance with EMC directive 89/336/EEC
Emitted interference	EN 50081-2
Immunity to interference	EN 61000-6-2
Standard – Electrical equipment of machines	EN 60204
Standard – Safety transformers for switched-mode power supply units	EN 61558-2-17
Standard - Electrical safety	EN 60950/VDE 0805 (SELV)
	EN 61558-2-17
Standard – Shipbuilding	German Lloyd, ABS, DNV
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 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
	DIN VDE 0106-1010
Standard – Protection against electric shock	DIN 57100-410

Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	DIN VDE 0106-101
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard – Equipment safety	GS (tested safety)
Certificate	CB Scheme
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
	UL/C-UL Listed UL 1604 Class I, Division 2, Groups A, B, C, D
Surge voltage category	III

Connection data, input

Type of connection	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	10
Stripping length	8 mm
Screw thread	M3

Connection data, output

Type of connection	Screw connection
Conductor cross section solid min.	0.5 mm ²
Conductor cross section solid max.	16 mm ²
Conductor cross section stranded min.	0.5 mm ²
Conductor cross section stranded max.	10 mm ²
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil max	6
Stripping length	10 mm

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	≤ 40 mA

Continuous load current	≤ 20 mA
Status display	"DC OK" LED green
Note on status display	U _{OUT} < 0.9 x U _N : LED flashing
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil 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 x 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

Certificates / Approvals



Certification ABS, CUL, CUL Listed, DNV, GL, GOST, UL, UL Listed

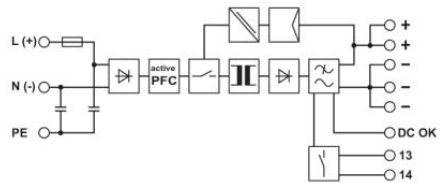
Certification Ex: CUL-EX LIS, UL-EX LIS

Accessories

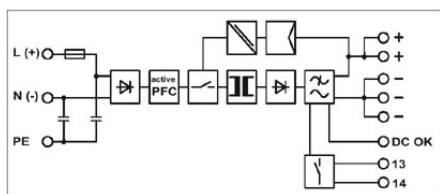
Item	Designation	Description
General		
2938235	UWA 182/52	Universal wall adapter

Drawings

Block diagram



Circuit diagram



QUINT-PS-100-240AC/24DC/40 Order No.: 2938879
<http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2938879>

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