

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
GTIN	
GTIN	4017918987091

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

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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
Current consumption	approx. 12.5 A (120 V AC)
	approx. 4.5 A (230 V AC)
Nominal power consumption	1051 W
Inrush surge current	< 15 A (typical)
Mains buffering	> 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
Feedback resistance	35 V DC
Protection against surge voltage on the output	Yes, limited to approx. 35 V DC
Max. capacitive load	Unlimited
Active 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 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
Operating voltage display	Green LED

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General

Efficiency	> 92 % (for 230 V AC and nominal values)
Insulation voltage input/output	3 kV AC (type test)
	2 kV AC (routine test)
Insulation voltage input / PE	3 kV AC (type test)
	1.5 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	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 2014/30/EU
Noise emission	EN 55011 (EN 55022)
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
Frequency range	1.4 GHz ... 2 GHz
Test field strength	10 V/m
Standards/regulations	EN 61000-4-4
	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
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Standard - Safety of transformers	EN 61558-2-17
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
	EN 61558-2-17

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Standards and Regulations

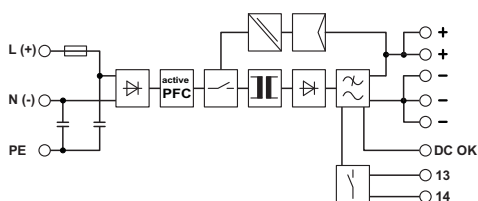
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV)
	EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard – Protection against shock 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
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
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

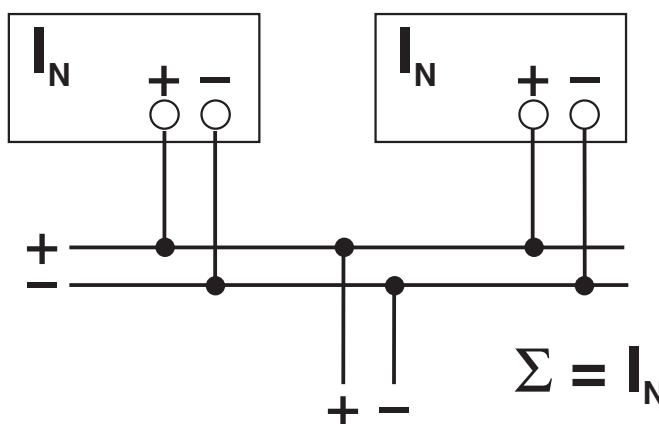
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Block diagram

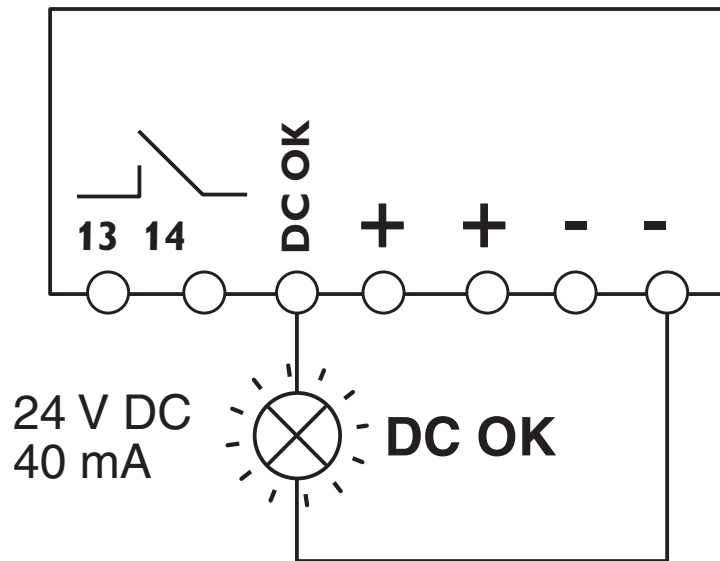


Circuit diagram

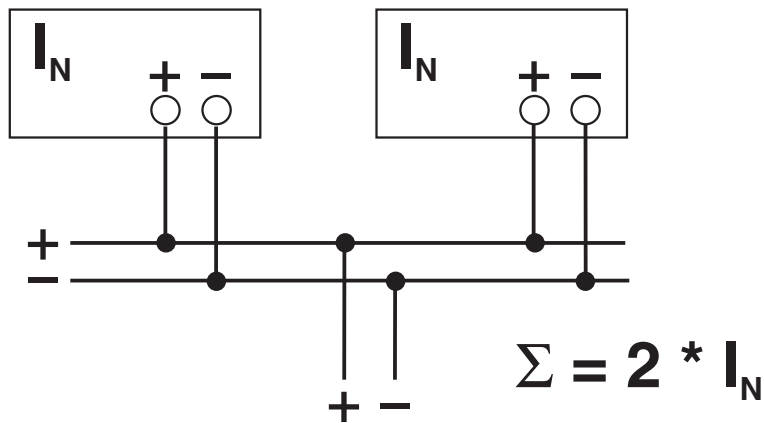


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Circuit diagram

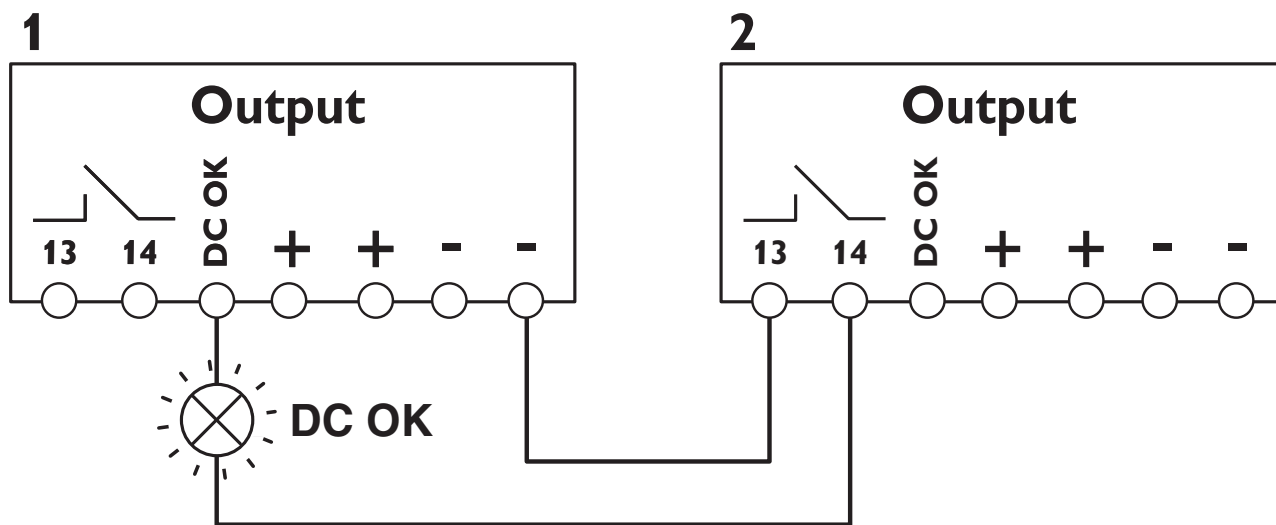


Circuit diagram



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Circuit diagram



Approvals

Approvals

Approvals

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

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

PRS		http://www.prs.pl/	TE/2104/880590/16
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DNV		http://exchange.dnv.com/tari/	E-13904
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GL		http://exchange.dnv.com/tari/	26734-05 HH
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ABS		http://www.eagle.org/eagleExternalPortalWEB/	15-HG1384628-PDA 11/05/2018 Page 7 / 8
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Approvals

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
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UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
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EAC			EAC-Zulassung
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EAC			RU C- DE.A*30.B.01082
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cULus Recognized			
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cULus Listed			
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[DVP08ST11N](#) [DVPACAB530](#) [DVPCOPM-SL](#) [DVPEN01-SL](#) [DVPPF01-S](#) [ADNB008-48-1PM-C](#) [ADNB017-24-1PM-C](#) [ADNB040-24-1PM-C](#) [ADNB034-12-1PM-C](#) [SS14011524](#) [S8TS-06024-E1](#) [PS-UPS40](#) [PSC-6024](#) [PSD-A60W12](#) [96PS-A120WDIN](#) [PSD-A60W48](#) [PSD-A40W12](#) [PSD-A40W24](#) [SMP21-L20-DC24V-5A](#) [PSD-A40W48](#) [S8T-DCBU-02](#) [PS-S4024](#) [NTPS-24-1.3](#) [PST-96024](#) [S82YVSC4P](#) [PS-S4005](#) [PS-10024](#) [PS-S10024](#) [PS-C12024](#) [PSP-480S24](#) [PS-C48024](#) [PSC-2024](#) [PSC-4012](#) [PSC-4048](#) [PSC-9615](#) [PSC-15124](#) [PSC-15148](#)
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