

# Power supply unit - QUINT-PS-100-240AC/24DC/10 - 2938604

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DIN rail power supply unit 24 V DC/10 A, primary switched-mode, 1-phase.

## Product Description

QUINT POWER is the powerful 60 - 960 W DC power supply unit for universal use. With its wide-range input, single and three-phase versions, and international approval package, this solution is unrivalled. QUINT POWER provides reliable power supply: generously dimensioned capacitors ensure mains buffering of over 20 ms at full load. Full output power is provided by all three-phase devices, even in the event of a permanent phase failure. The Power Boost power reserve easily starts loads with high inrush currents and ensures that fuses are reliably tripped. Preventive function monitoring diagnoses impermissible operating states and minimizes downtimes in your system. Remote monitoring is provided by an active transistor switching output and a floating relay contact. All devices are idling-proof and short-circuit-proof, and are available with a regulated and adjustable output voltage of 12, 24, and 48 V DC with output currents of 2.5, 5, 10, 20, 30, and 40 A. Power supply units for use in Ex zone 2, uninterruptible solutions, AS-i power supply units, and a QUINT diode complete this comprehensive product range.



## Key commercial data

package_quantity	1
GTIN	4017918890537

## Technical data

### Dimensions

Width	85 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	88 mm

### Ambient conditions

Degree of protection	IP20
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)
Noise immunity	EN 61000-6-2:2005

### Input data

Nominal input voltage range	100 V AC ... 240 V AC
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## Technical data

### Input data

Input voltage range AC	85 V AC ... 264 V AC
Input voltage range DC	90 V DC ... 350 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	approx. 2.34 A (120 V AC)
Current consumption	approx. 1.2 A (230 V AC)
Nominal power consumption	240 W
Inrush surge current	< 15 A (typical)
Power failure bypass	> 50 ms (120 V AC)
Power failure bypass	> 50 ms (230 V AC)
Input fuse	6.3 A (slow-blow, internal)
Choice of suitable fuses	10 A ... 16 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	22.5 V DC ... 28.5 V DC
Output current	10 A (up to 60°C)
Output current	15 A (with POWER BOOST)
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
Current limitation	ca. $I_{BOOST} = 15$ A (for short-circuit)
Control deviation	< 1 % (change in load, static 10% ... 90%)
Control deviation	< 2 % (change in load, dynamic 10% ... 90%)
Control deviation	< 0.1 % (change in input voltage $\pm$ 10%)
Residual ripple	< 60 mV <sub>PP</sub> (with nominal values)
Peak switching voltages nominal load	< 60 mV <sub>PP</sub> (20 MHz)
Maximum power dissipation NO-Load	< 2 W
Power loss nominal load max.	< 24 W

### General

Net weight	1.3 kg
Operating voltage display	Green LED
Efficiency	> 91 %
Insulation voltage input/output	4 kV AC (type test)
Insulation voltage input/output	2 kV AC (routine test)
Protection class	I, with PE connection
MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	horizontal DIN rail NS 35, EN 60715

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## Technical data

### General

<b>Assembly instructions</b>	Can be aligned: Horizontally 0 mm, vertically 50 mm
<b>Electromagnetic compatibility</b>	Conformance with EMC directive 89/336/EC
<b>Noise emission</b>	EN 50081-2
<b>Standard – Electrical equipment of machines</b>	EN 60204
<b>Standard - Safety of transformers</b>	EN 61558-2-17
<b>Standard - Electrical safety</b>	EN 60950-1/VDE 0805 (SELV)
<b>Shipbuilding approval</b>	Germanischer Lloyd (EMC 2), ABS
<b>Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations</b>	EN 50178/VDE 0160 (PELV)
<b>Standard – Safety extra-low voltage</b>	EN 60950-1 (SELV)
<b>Standard – Safety extra-low voltage</b>	EN 60204 (PELV)
<b>Standard - Safe isolation</b>	DIN VDE 0100-410
<b>Standard - Safe isolation</b>	DIN VDE 0106-1010
<b>Standard – Protection against electric shock</b>	DIN 57100-410
<b>Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment</b>	DIN VDE 0106-101
<b>Standard – Limitation of mains harmonic currents</b>	EN 61000-3-2
<b>Standard - Equipment safety</b>	GS (tested safety)
<b>Information technology equipment - safety (CB scheme)</b>	CB Scheme
<b>UL approvals</b>	UL/C-UL Recognized UL 60950
<b>UL approvals</b>	UL/C-UL listed UL 508
<b>UL approvals</b>	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
<b>Surge voltage category</b>	III

### Connection data, input

<b>Connection method</b>	Pluggable screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	12
<b>Stripping length</b>	7 mm
<b>Screw thread</b>	M3

### Connection data, output

<b>Connection method</b>	Pluggable screw connection
<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	2.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24

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## Technical data

### Connection data, output

Conductor cross section AWG/kcmil max	12
Stripping length	7 mm

### Signaling

Output name	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 (Signal)
Maximum inrush current	$\leq 40$ mA
Continuous load current	$\leq 40$ 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.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
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	$\leq 30$ V AC/DC
Maximum inrush current	$\leq 1$ A
Continuous load current	$\leq 1$ A
Status display	"DC OK" LED green

## classifications

### eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27242213
eCl@ss 5.1	27242213
eCl@ss 6.0	27049005
eCl@ss 7.0	27049002
eCl@ss 8.0	27049002

### ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039

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## classifications

### ETIM

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

UL Listed / cUL Listed / cULus Listed / UL Recognized / UL Listed / cUL Recognized / GOST / cUL Listed / GL / DNV / IECCE CB Scheme / cULus Recognized / cULus Listed /

### Approval details

UL Listed

cUL Listed

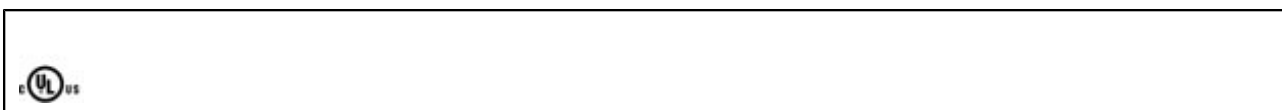
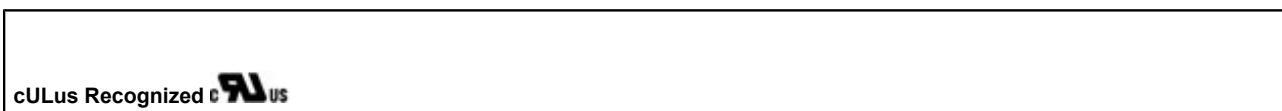
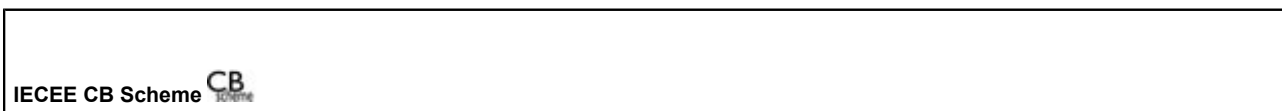
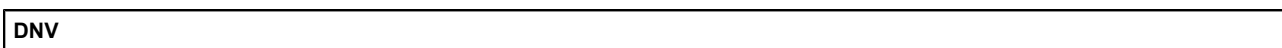
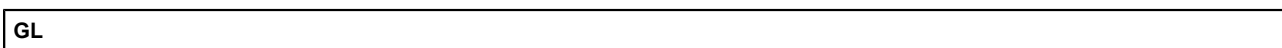
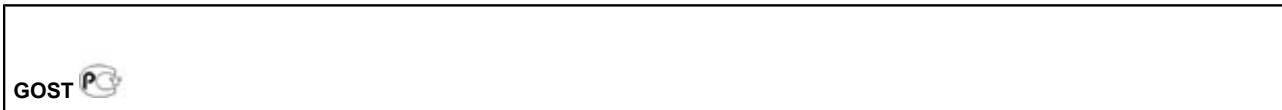
cULus Listed

UL Recognized

cUL Recognized

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approvals



accessories

## Assembly adapter

QUINT-PS-ADAPTERS7/2 - 2938206



UWA 182/52 - 2938235

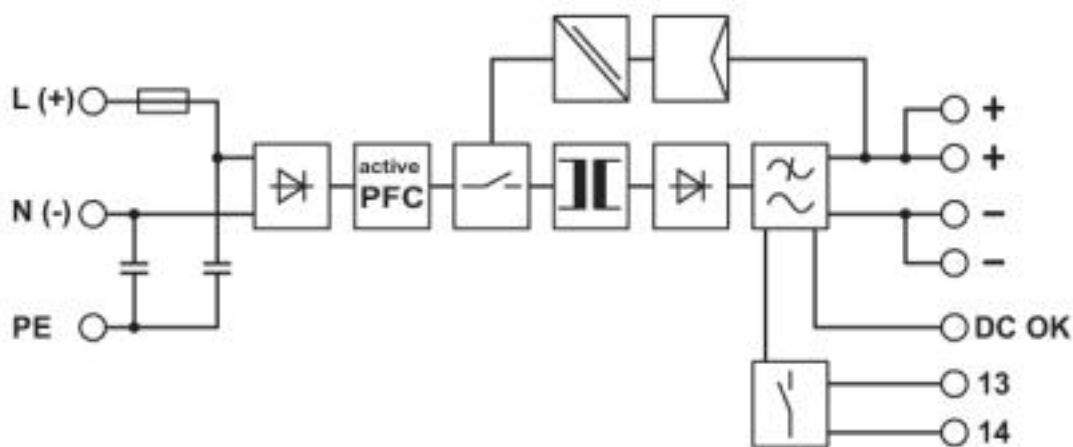
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## Drawings

Connection diagram

Connection diagram

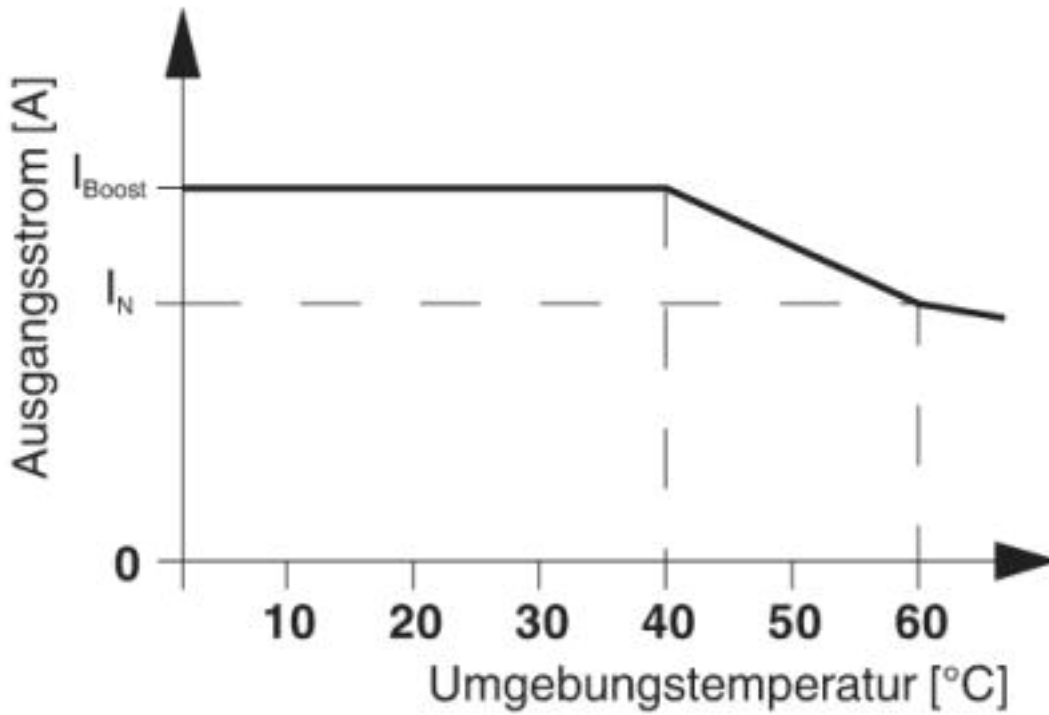
Block diagram



Diagram

# Power supply unit - QUINT-PS-100-240AC/24DC/10 - 2938604

Diagram



Dimensioned drawing

Dimensioned drawing

Product drawing

Product drawing

Product drawing

Circuit diagram



## Power supply unit - QUINT-PS-100-240AC/24DC/10 - 2938604

Circuit diagram

Circuit diagram

Circuit diagram

Circuit diagram

Schematic diagram

Schematic diagram

Schematic diagram