

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

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DIN rail power supply unit 24 V DC/20 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

Packing unit	1 pc
Weight per Piece (excluding packing)	3060.0 g
Custom tariff number	85044030
Country of origin	Thailand

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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Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

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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)
Noise immunity	EN 61000-6-2:2005

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
Nominal power consumption	480 W
Inrush surge current	< 15 A (typical)
Power failure bypass	> 25 ms (120 V AC)
	> 25 ms (230 V AC)
Input fuse	12 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
Nominal output current	20 A (up to 60°C)
POWER BOOST	26 A
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. $I_{BOOST} = 26$ 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	< 10 mV _{PP} (with nominal values)
Output power	480 W
Typical response time	< 1 s
Peak switching voltages nominal load	< 30 mV _{PP} (20 MHz)
Maximum power dissipation NO-Load	< 3 W

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

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Output data

Power loss nominal load max.	< 44 W
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General

Net weight	2.5 kg
Operating voltage display	Green LED
Efficiency	> 92 %
Insulation voltage input/output	4 kV AC (type test) 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
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm
Electromagnetic compatibility	Conformance with EMC directive 89/336/EC
Noise emission	EN 55011 (EN 55022)
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
Shipbuilding approval	Germanischer Lloyd (EMC 2), ABS
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)
Information technology equipment - safety (CB scheme)	CB Scheme
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)
Overvoltage category	III

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	6 mm ²

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

Technical data

Connection data, input

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	8 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	≤ 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

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

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Signaling

Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A
Continuous load current	≤ 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
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

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

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620


Approvals


Ex Approvals

UL Listed / cUL Listed / cULus Listed


Approvals submitted

Approval details

UL Recognized 

UL Listed 


cUL Recognized 

cUL Listed 

GL

DNV

IECEE CB Scheme 

cUL Recognized 


DNV

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

Approvals

EAC

EAC

cULus Recognized 

cULus Listed 

Accessories

Accessories

Assembly adapter

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter

Mounting rail adapter

Assembly adapters - UTA 107 - 2853983



Universal DIN rail adapter

Drawings

Power supply unit - QUINT-PS-100-240AC/24DC/20 - 2938620

Block diagram

