

QUINT-PS/ 1AC/24DC/10/CO

Order No.: 2320911



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DIN rail power supply unit 24 V DC/10 A/CO, dip-coated circuit board, primary-switched, 1-phase. For the first time, SFB (selective fuse breaking) technology can also be used to trigger standard circuit breakers quickly and reliably.



Commercial data

EAN	4 046356 520027
Pack	1
Customs tariff	85044082
Country of Origin	TH
Catalog page information	Page 624 (IF-2011)

Product notes

WEEE/RoHS-compliant since:
16/07/2009



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Product description

QUINT POWER power supply units – Maximum system availability with SFB technology

Compact power supply units of the new QUINT POWER generation maximize the availability of your system. With the SFB technology (Selective Fuse Breaking Technology), six times the nominal current for 12 ms, even the standard power circuit-breakers can now also be triggered reliably and quickly. Faulty current paths are switched off selectively, the fault is located and important system parts continue to operate. Comprehensive diagnostics are provided through constant monitoring of output voltage and current. This preventive function monitoring visualizes critical operating modes and reports them to the control unit before an error can occur.

Technical data

Input data

Nominal input voltage	100 V AC ... 240 V AC
	110 V DC ... 250 V DC
AC input voltage range	85 V AC ... 264 V AC
DC input voltage range	90 V DC ... 350 V DC (UL 508: ≤ 300 V DC)
Short-term input voltage	300 V AC
AC frequency range	45 Hz ... 65 Hz
DC frequency range	0 Hz
Current consumption	Approx. 2.24 A (120 V AC)
	Approx. 1.33 A (230 V AC)
	Approx. 2.45 A (110 V DC)
	Approx. 1.05 A (250 V DC)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 32 ms (120 V AC)
	> 36 ms (230 V AC)
Input fuse	6.3 A (slow-blow, internal)
Permissible backup fuse	B10
	B16
Additional text	AC: 1 x circuit breaker - recommended fuse
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	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	10 A (-25°C ... 60°C, $U_{OUT} = 24$ V DC)
	15 A (with POWER BOOST, -25°C ... 40°C permanently, $U_{OUT} = 24$ V DC)
	60 A (SFB technology, 12 ms)
	15 A ($U_{in} \geq 100$ V AC, ≥ 110 V DC)
Magnetic fuse tripping	B6
	C4
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes

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	< 50 mV _{PP} (with nominal values)
Maximum power dissipation idling	9.1 W
Power loss nominal load max.	22 W

General data

Width	60 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
	63 mm
Net weight	1.1 kg
Efficiency	> 92.5 % (for 230 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
	2 kV AC (routine test)
Degree of protection	IP20
Protection class	I
MTBF (IEC 61709, SN 29500)	> 500000 h (According to IEC 61709)
Ambient temperature (operation)	-25 °C ... 70 °C (ATEX / IECEx < 60 °C)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	100 % (at 25 °C, no condensation)
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: 5 mm horizontally, 15 mm next to active components, 5 cm vertically
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
ATEX	Ex II 3 G Ex nA nC IIC T4 Gc
	TÜV 11 ATEX 079480 X
IECEx	Ex nA nC IIC T4 Gc
	IECEx TUN 11.0007X
Standard – Electrical equipment of machines	EN 60204
Standard - Safety of transformers	IEC 61558-2-17
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 1), ABS, LR, RINA, NK, DNV, BV

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	IEC 60950-1 (SELV) and 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	BG (design tested)
Standard - Approval for medical use	IEC 60601
Approval - requirement of the semiconductor industry with regard to mains voltage dips	SEMI F47-0706 Compliance Certificate
Certificate	CB Scheme
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950
Surge voltage category	III
DeviceNet approval	DeviceNet™ Power Supply Conformance Tested

Connection data, input

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	16
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3

Connection data, output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²

Conductor cross section AWG/kcmil min.	16
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 inrush current	min. 20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	$U_{OUT} > 0.9 \times U_N$: "DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$: Flashing "DC OK" LED
	$I_{OUT} < I_N$: LED ON
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	2.5 mm ²
Conductor cross section AWG/kcmil min.	16
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	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A (ATEX/IECEX: Ohmic loads only)
Continuous load current	≤ 1 A
Status display	$U_{OUT} > 0.9 \times U_N$: "DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$: Flashing "DC OK" LED
Output name	POWER BOOST, active
Output description	$I_{OUT} < I_N$: High signal
Output voltage	+ 24 V DC
Maximum inrush current	min. 20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	$I_{OUT} > I_N$: LED "BOOST" yellow

Certificates



Certification

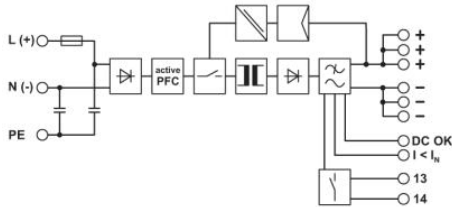
CB, CSA, CUL, GOST, UL, UL Listed

Accessories

Item	Designation	Description
General		
2320076	QUINT-PS/FAN/4	The fan for QUINT-PS/1AC and .../3AC power supply units can be mounted without the need for tools or other accessories. By using the fan, optimum cooling is ensured at high ambient temperatures or if the mounting position is rotated.
2938235	UWA 182/52	Universal wall adapter

Drawings

Block diagram



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