

QUINT-PS/ 1AC/24DC/ 3.5

Order No.: 2866747

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DIN rail power supply unit 24 V DC/3.5 A, primary switched-mode, 1-phase. The SFB technology (Selective Fuse Breaking Technology) can now also be used to trigger standard power circuit breakers reliably and quickly.



Commercial data	
EAN	4046356113779
Pack	1 pcs.
Customs tariff	85044081
Weight/Piece	0.762 KG
Catalog page information	Page 562 (IF-2009)

Product notes

WEEE/RoHS-compliant since:
03/19/2007



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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
AC input voltage range	85 V AC ... 264 V AC
DC input voltage range	90 V DC ... 350 V DC
Short-term input voltage	300 V AC
AC frequency range	45 Hz ... 65 Hz
DC frequency range	0 Hz
Current consumption	Approx. 1.4 A (120 V AC) Approx. 0.8 A (230 V AC)
Inrush surge current	< 20 A (typical)
Power failure bypass	> 20 ms (120 V AC) > 80 ms (230 V AC)
Input fuse	5 A (slow-blow, internal)
Recommended backup fuse	6 A (characteristic B) 10 A (characteristic B) 16 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	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	3.5 A (-25°C ... 60°C, U _{OUT} = 24 V DC) 4 A (with POWER BOOST, -25°C ... 40°C permanently, U _{OUT} = 24 V DC) 15 A (with SFB technology, 12 ms)
Derating	From +60°C to 70°C: 2.5% per Kelvin
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 mVPP (with nominal values)
Maximum power dissipation idling	3.5 W
Power loss nominal load max.	11 W

General data

Width	32 mm
Height	130 mm
Depth	125 mm
Weight	0.5 kg
Operating voltage display	LED green
Efficiency	> 88 % (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
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: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
Immunity to interference	EN 61000-6-2:2005
Standard – Electrical equipment of machines	EN 60204
Standard - Safety of transformers	IEC 61558-2-17
Standard - Electrical safety	IEC 60950/VDE 0805 (SELV)
Shipbuilding approval	German Lloyd, ABS, LR, RINA, NK, 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 (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	GS (tested safety)
Standard network variation (undervoltage)	Semi F47-0706

Certificate	CB Scheme
UL approvals	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

Connection data, input

Type of connection	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.	20
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3

Connection data, output

Type of connection	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.	20
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
Output voltage	+ 24 V DC
Maximum inrush current	≤ 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.	20
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 x U _N : Contact closed
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A
Continuous load current	≤ 1 A
Status display	U _{OUT} > 0.9 x U _N : "DC OK" LED green
Note on status display	U _{OUT} < 0.9 x 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	≤ 20 mA (short circuit resistant)
Continuous load current	≤ 20 mA
Status display	I _{OUT} > I _N : LED "BOOST" yellow

Certificates / Approvals



Certification ABS, BV, CSA, CUL, GL, LR, NK, UL, UL Listed

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

Certifications applied for: NV

Accessories

Item	Designation	Description
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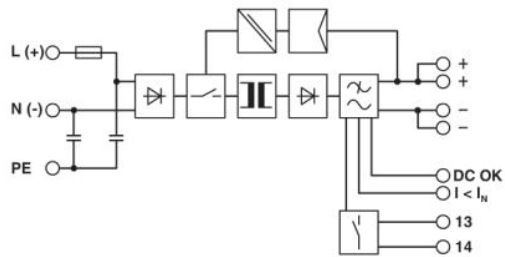
General

2938196	QUINT-PS-ADAPTERS7/1	Assembly adapter for QUINT-PS... power supply on S7-300 rail
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2320076	QUINT-PS/FAN/4	Lüfter für QUINT-PS/1AC und .../3AC Stromversorgungen ist werkzeuglos und ohne weiteres Zubehör zu montieren. Mit dem Einsatz des Lüfters wird bei hohen Umgebungstemperaturen oder gedrehter Einbaulage eine optimale Kühlung gewährleistet.
2938235	UWA 182/52	Universal wall adapter

Diagrams/Drawings

Block diagram



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