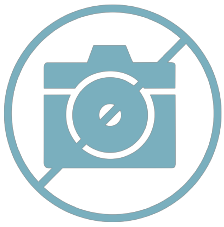
Power supply, with protective coating - QUINT-PS/3AC/24DC/20/CO - 2320924

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Primary-switched power supply unit, QUINT POWER, Screw connection, SFB Technology (Selective Fuse Breaking), input:3-phase, output: 24 VDC / 20 A

Product Description

QUINT POWER power supplies with maximum functionality
QUINT POWER circuit breakers magnetically and therefore quickly trip at six times the nominal current, for selective and therefore cost-effective system protection. In addition, the high system availability is ensured by preventive function monitoring which reports critical operating states before errors can occur.
Reliable starting of heavy loads takes place via the static power reserve POWER BOOST. Thanks to the adjustable voltage, all ranges between 18 V DC ... 29.5 V DC are covered.

Your advantages

- For superior system availability
- Reliable starting of difficult loads with the static POWER BOOST power reserve with up to 1.5 times the nominal current permanently
- Fast tripping of standard circuit breakers with dynamic power reserve SFB (selective fuse breaking) technology with up to 6 times the nominal current for 12 ms
- Preventive function monitoring
- Optimum protection with dip coating for 100 % humidity

RoHS SFB Technology EN 50 155 C1 D2

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 605601
GTIN	4046356605601
Weight per Piece (excluding packing)	1,860.000 g
Custom tariff number	85044030
Country of origin	Thailand

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Technical data

Dimensions

Width	69 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	125 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	72 mm
Installation distance right/left	5 mm / 5 mm
Installation distance top/bottom	50 mm / 50 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 60 °C Derating: 2.5 %/K)
Ambient temperature (start-up type tested)	-40 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	100 % (at 25 °C, non-condensing)
Climatic class	3K3 (in acc. with EN 60721)
Degree of pollution	2
Installation height	5000 m

Input data

Nominal input voltage range	3x 400 VAC ... 500 VAC
Input voltage range	3x 320 VAC ... 575 VAC
	2x 360 VAC ... 575 VAC
	450 VDC ... 800 VDC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Discharge current to PE	< 3.5 mA
Current consumption	3x 1.6 A (400VAC)
	3x 1.3 A (500 VAC)
	0.9 A (600 VDC)
Nominal power consumption	783 VA
Inrush current	< 20 A (typical)
Mains buffering time	typ. 28 ms (400VAC)
	typ. 43 ms (500 VAC)
Recommended breaker for input protection	6 A ... 16 A (AC: Characteristics B, C, D, K)
Type of protection	Transient surge protection

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Technical data

Input data

Protective circuit/component	Varistor, gas-filled surge arrester

Output data

Nominal output voltage	24 VDC ±1%
Setting range of the output voltage (U_{Set})	18 VDC ... 29.5 VDC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	20 A (-25°C...60°C, U_{OUT} =24VDC)
POWER BOOST (I_{Boost})	26 A (-25°C ... 40°C permanent, U_{OUT} = 24 V DC)
Selective Fuse Breaking (I_{SFB})	120 A (12 ms)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes
Feedback voltage resistance	max. 32 VDC
Protection against overvoltage at the output (OVP)	< 32 VDC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 3 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 40 mV_{PP} (with nominal values)
Output power	480 W
Typical response time	< 0.16 s
Peak switching voltages nominal load	< 40 mV_{PP} (at nominal values, 20 MHz)
Maximum power dissipation in no-load condition	11 W
Power loss nominal load max.	40 W

General

Net weight	1.5 kg
Efficiency	> 93 % (at 400 V AC and nominal values)
MTBF (IEC 61709, SN 29500)	> 900000 h (25°C)
	> 534000 h (40°C)
Insulation voltage input/output	4 kV AC (type test)
	2 kV AC (routine test)
Insulation voltage input / PE	3.5 kV AC (type test)
	2 kV AC (routine test)
Insulation voltage output / PE	500 VDC (routine test)
Degree of protection	IP20
Protection class	I
Housing material	Steel sheet, zinc-plated
Mounting position	horizontal DIN rail NS 35, EN 60715

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General

Assembly instructions	alignable: $P_N \geq 50\%$, 5mm horizontally, 15mm next to active components, 50mm vertically alignable: $P_N < 50\%$, 0mm horizontally, 40mm vertically top, 20 mm vertically bottom

Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	6 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	4 mm²
Conductor cross section AWG min.	18
Conductor cross section AWG max.	10
Stripping length	7 mm
Screw thread	M4

Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	6 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	4 mm²
Conductor cross section AWG min.	12
Conductor cross section AWG max.	10
Stripping length	7 mm
Screw thread	M4

Connection data for signaling

Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	6 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	4 mm²
Conductor cross section AWG min.	18
Conductor cross section AWG max.	10
Screw thread	M4

Standards

EMC requirements for noise immunity	EN61000-6-1
	EN61000-6-2

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Technical data

Standards

EMC requirements for noise emission	EN61000-6-3
	EN61000-6-4
Standard - Electrical safety	IEC60950-1/VDE0805 (SELV)
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN50178/VDE0160 (PELV)
Standard – Safety extra-low voltage	IEC 60950-1 (SELV) and EN 60204-1 (PELV)
Standard - Safe isolation	DINVDE0100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	EN50178
Standard – Limitation of mains harmonic currents	EN61000-3-2
Standard - Equipment safety	BG (design tested)
Mains variation/undervoltage	SEMI F47-0706 Compliance Certificate
Rail applications	EN50121-4
	EN50155

Conformance/approvals

UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950-1 (3-wire + PE, star net)
	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
CSA	CAN/CSA-C22.2 No. 60950-1-07
	CSA-C22.2 No.107.1-01
Shipbuilding approval	DNVGL(EMCB),ABS, LR, RINA, NK, BV

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Electrostatic discharge	EN 61000-4-2
Contact discharge	8 kV (Test Level 4)
Discharge in air	15 kV (Test Level 4)
Electromagnetic HF field	EN61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	20 V/m (Test Level 3)
Frequency range	1 GHz ... 2 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	2 GHz ... 3 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A

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Technical data

EMC data

Fast transients (burst)	EN61000-4-4
Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Signal	2 kV (Test Level 4 - asymmetrical)
Comments	Criterion B
Surge voltage load (surge)	EN61000-4-5
Input	3 kV (Test Level 3 - symmetrical)
	6 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Signal	1 kV (Test Level 2 - asymmetrical)
Comments	Criterion A
Conducted interference	EN61000-4-6
I/O/S	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Voltage	10 V (Test Level 3)
Comments	Criterion A
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

Environmental Product Compliance

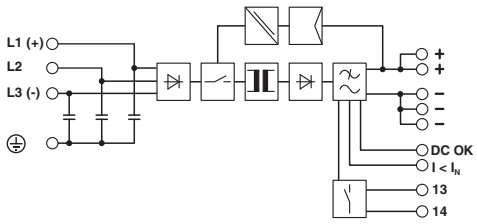
REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration”

Drawings

Pictogram



Block diagram



Power supply, with protective coating - QUINT-PS/3AC/24DC/20/CO - 2320924

Classifications

eCl@ss

eCl@ss 10.0.1	27040701
eCl@ss 11.0	27040701
eCl@ss 4.0	27040700
eCl@ss 4.1	27040700
eCl@ss 5.0	27049000
eCl@ss 5.1	27049000
eCl@ss 6.0	27049000
eCl@ss 7.0	27049002
eCl@ss 8.0	27049002
eCl@ss 9.0	27040701

ETIM

ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540
ETIM 6.0	EC002540
ETIM 7.0	EC002540

UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004
UNSPSC 18.0	39121004
UNSPSC 19.0	39121004
UNSPSC 20.0	39121004
UNSPSC 21.0	39121004

Approvals

Approvals

Approvals

DNV GL / CSA / UL Listed / UL Recognized / cUL Recognized / IECEE CB Scheme / EAC / Type approved / EAC / UL Recognized / IECEE CB Scheme / CSA / UL Listed / cUL Recognized / EAC / DNV GL / EAC / Type approved

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Approvals

Ex Approvals

UL Listed / cUL Listed / UL Listed / cUL Listed

Approval details

DNV GL	https://approvalfinder.dnvgl.com/	TAE000014W
CSA	http://www.csagroup.org/services-industries/product-listing/	1925529
UL Listed	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
UL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
cUL Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
IECEE CB Scheme	http://www.iecee.org/	SI-2794
EAC		EAC-Zulassung
Type approved		SI-SIQ BG 005/002

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Approvals

EAC			EAC-Zulassung
UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
IECEE CB Scheme		http://www.iecee.org/	SI-2794
CSA		http://www.csagroup.org/services-industries/product-listing/	1925529
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 211944
EAC			RU*DE*08.B.01873/19
DNV GL		https://approvalfinder.dnvgl.com/	TAE000014W
EAC			RU*DE*08.B.01873/19

Power supply, with protective coating - QUINT-PS/3AC/24DC/20/CO - 2320924

Approvals

Type approved		SI-SIQ BG 005/002

Accessories

Accessories

Assembly adapter

Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

Assembly adapters - QUINT-PS-ADAPTERS7/2 - 2938206



Assembly adapter for QUINT POWER 10A on S7-300 rail

Device protection

Type 3 surge protection device - PLT-SEC-T3-3S-230-FM - 2905230



Plug-in device protection, according to type 3/class III, for 3-phase power supply networks with separate N and PE (5-conductor system: L1, L2, L3, N, PE), with integrated surge-proof fuse and remote indication contact.

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Accessories

Type 3 surge protection device - PLT-SEC-T3-24-FM-UT - 2907916



Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage 24 V AC/DC.

Fan

Fan - QUINT-PS/FAN/4 - 2320076



The fan for QUINT-PS/1AC and .../3AC 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.

Mounting rail adapter

DIN rail adapter - UTA 107 - 2853983

Universal DIN rail adapter, for screwing on switchgear



Redundancy module

Diode - QUINT-DIODE/12-24DC/2X20/1X40 - 2320157



DIN rail diode module 12-24 V DC/2x20 A or 1x40 A. Uniform redundancy up to the consumer.

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Accessories

Redundancy module - TRIO-DIODE/12-24DC/2X10/1X20 - 2866514



Redundancy module with function monitoring, 12 ... 24 V DC, 2x 10 A, 1x 20 A

Redundancy module, with protective coating - QUINT-ORING/24DC/2X20/1X40 - 2320186



Active QUINT redundancy module for DIN rail mounting with ACB (Auto Current Balancing) Technology and monitoring functions, input: 24 V DC/2x 20 A, output: 24 V DC/1 x 40 A, including mounted UTA 107/30 universal DIN rail adapter

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Thermomagnetic device circuit breakers

Thermomagnetic device circuit breaker - CB TM1 1A SFB P - 2800836



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 2A SFB P - 2800837



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 3A SFB P - 2800838



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

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Accessories

Thermomagnetic device circuit breaker - CB TM1 4A SFB P - 2800839



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 5A SFB P - 2800840



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 6A SFB P - 2800841



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 8A SFB P - 2800842



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 10A SFB P - 2800843



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

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Accessories

Thermomagnetic device circuit breaker - CB TM1 12A SFB P - 2800844



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

Thermomagnetic device circuit breaker - CB TM1 16A SFB P - 2800845



Thermomagnetic device circuit breaker, 1-pos., tripping characteristic SFB, 1 PDT contact, plug for base element.

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