

## Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

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QUINT power supply unit for DIN rail mounting, input: primary-switched, 1-phase, output: 24 V DC/40 A, with integrated SFB (selective fuse breaking) technology including mounted universal DIN rail adapter UTA 107

### 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.

### Product Features

- ✓ For maximum system availability
- ✓ 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
- ✓ Reliable starting of difficult loads with the static POWER BOOST power reserve with up to 1.5 times the nominal current permanently
- ✓ Preventive function monitoring



### Key commercial data

Packing unit	1 PCE
Minimum order quantity	4 PCE
Catalog page	Page 583 (IF-2011)
GTIN	 4 046356 421720
Custom tariff number	85044082
Country of origin	THAILAND

### Technical data

#### Input data

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### Technical data

#### Input data

Nominal input voltage	100 V AC ... 240 V AC
Nominal input voltage	120 V DC ... 300 V DC (UL 508: ≤ 250 V DC)
AC input voltage range	85 V AC ... 264 V AC
DC input voltage range	90 V DC ... 300 V DC (UL 508: ≤ 250 V DC)
Short-term input voltage	max. 300 V AC
AC frequency range	45 Hz ... 65 Hz
DC frequency range	0 Hz
Current consumption	8.8 A (120 V AC)
Current consumption	4.6 A (230 V AC)
Current consumption	8.8 A (120 V DC)
Current consumption	4.2 A (250 V DC)
Inrush surge current	< 15 A (typical)
Power failure bypass	> 20 ms (120 V AC)
Power failure bypass	> 20 ms (230 V AC)
Input fuse	20 A (fast blow, internal)
Choice of suitable fuses	16 A ... 20 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

#### Output data

Nominal output voltage	24 V DC ±1%
Setting range of the output voltage	18 V DC ... 29.5 V DC (> 24 V constant capacity)
Output current	40 A (-25°C ... 60°C, U <sub>OUT</sub> = 24 V DC)
Output current	45 A (with POWER BOOST, -25°C ... 40°C permanently, U <sub>OUT</sub> = 24 V DC)
Output current	215 A (SFB technology, 12 ms)
Output current	215 A (U <sub>in</sub> ≥ 100 V AC, ≥ 120 V DC)
Magnetic fuse tripping	B2
Magnetic fuse tripping	B4
Magnetic fuse tripping	B6
Magnetic fuse tripping	B10
Magnetic fuse tripping	B16
Magnetic fuse tripping	B25
Magnetic fuse tripping	C2
Magnetic fuse tripping	C4
Magnetic fuse tripping	C6
Magnetic fuse tripping	C13
Derating	60 °C ... 70 °C (2.5%/K)

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#### Output data

Connection in parallel	Yes, for redundancy and increased power (see data sheet Section 15/ Parallel operation function)
Connection in series	Yes
Residual ripple	< 30 mV <sub>PP</sub> (with nominal values)
Maximum power dissipation NO-Load	14 W
Power loss nominal load max.	80 W

#### General data

Width	180 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	183 mm
Net weight	3.3 kg
Efficiency	> 92 % (for 230 V AC and nominal values)
Insulation voltage input/output	4 kV AC (type test)
Insulation voltage input/output	2 kV AC (routine test)
Degree of protection	IP20
Protection class	I
MTBF (IEC 61709, SN 29500)	> 530000 h
Ambient temperature (operation)	-25 °C ... 70 °C (> 60°C derating, startup at -40°C type-tested)
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	Alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 50081-2
Noise immunity	EN 61000-6-2:2005
Low Voltage Directive	Conformance with LV directive 2006/95/EC
Standard – Electrical equipment of machines	EN 60204
Standard - Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 2), 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
Standard - Safe isolation	DIN VDE 0106-101

## Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

### Technical data

#### General data

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)
Information technology equipment - safety (CB scheme)	CB Scheme
UL approvals	UL Listed UL 508
UL approvals	UL/C-UL Recognized UL 60950
UL approvals	UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Surge voltage category	III

#### Connection data, input

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	14
Conductor cross section AWG/kcmil max	10
Stripping length	7 mm
Screw thread	M3

#### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.5 mm <sup>2</sup>
Conductor cross section solid max.	16 mm <sup>2</sup>
Conductor cross section stranded min.	0.5 mm <sup>2</sup>
Conductor cross section stranded max.	16 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	8
Conductor cross section AWG/kcmil max	6
Stripping length	10 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

## Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

### Technical data

#### Signaling

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
Note on status display	$I_{OUT} < I_N$ : LED ON
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	6 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	4 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	10
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
Maximum switching voltage	24 V DC
Maximum inrush current	0.5 A
Maximum inrush current	1 A
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	20 mA (short-circuit resistant)
Continuous load current	≤ 20 mA
Status display	$I_{OUT} > I_N$ : LED "BOOST" yellow

### Classifications

#### ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540

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## Classifications

### UNSPSC

UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004
UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004

### 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	27242209
eCl@ss 7.0	27242209

## Approvals

### Approvals

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#### Approvals

CSA / UL Recognized / UL Listed / cUL Recognized / GOST / IECCE CB Scheme / BV-CPS / GL / BV / ABS / RINA / NK / DNV / LR / SEMI F47 / Bauartgeprüft / cULus Recognized

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#### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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#### Approvals submitted

BV





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### Approval details



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### Approvals

UL Listed 
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GOST 
IECEE CB Scheme 
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GL
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ABS
RINA
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SEMI F47
Bauartgeprüft

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### Approvals



### Accessories

#### Accessories

##### Assembly adapters - UTA 107 - 2853983

Universal DIN rail adapter



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##### Assembly adapters - UWA 130 - 2901664

Universal wall adapter



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##### Assembly adapters - UWA 182/52 - 2938235

Universal wall adapter



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##### 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.



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### Accessories

Diode module - 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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Redundancy module - QUINT-ORING/24DC/2X20/1X40 - 2320186



Active QUINT redundancy module for DIN rail mounting with integrated SFB (selective fuse breaking) technology and monitoring functions, input: 24 V DC, output: 24 V DC/2 x 20 A or 1 x 40 A, including mounted universal DIN rail adapter UTA 107

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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.

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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.

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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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## Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

### 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.

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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.

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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.

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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.

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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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## Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

### 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.

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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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### Drawings

# Power supply unit - QUINT-PS/ 1AC/24DC/40 - 2866789

Block diagram

