

Power supply unit - QUINT-PS-3X400-500AC/24DC/40 - 2938646

Technical data

Ambient conditions

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, non-condensing)
Noise immunity	EN 61000-6-2:2005

Input data

Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 320 V AC ... 575 V AC (for all three phases)
	450 V DC ... 800 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	approx. 3x 2.8 A (400 V AC)
	approx. 3x 2.2 A (480 V AC)
Nominal power consumption	960 W
Inrush surge current	< 15 A (typical)
Power failure bypass	> 20 ms (400 V AC)
	> 20 ms (480 V AC)
Choice of suitable fuses	3x 6 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 ± 1 %
Setting range of the output voltage	22.5 V ... 28.5 V (> 24 V constant capacity)
Output current	40 A (-25°C ... 70°C)
	45 A (with POWER BOOST, -25°C ... 40°C permanent)
Derating	60 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Max. capacitive load	Unlimited
Current limitation	Approx. $I_{BOOST} = 45$ 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 ± 10 %)
Residual ripple	< 10 mV _{PP} (with nominal values)
Peak switching voltages nominal load	< 60 mV _{PP} (20 MHz)
Maximum power dissipation NO-Load	< 14 W
Power loss nominal load max.	< 80 W

Power supply unit - QUINT-PS-3X400-500AC/24DC/40 - 2938646

Technical data

General

Net weight	3.5 kg
Operating voltage display	Green LED
Efficiency	> 91 % (for 230 V AC and nominal values)
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 50081-2
Standard – Electrical equipment of machines	EN 60204
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
	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)
Information technology equipment - safety (CB scheme)	CB Scheme
UL approvals	UL/C-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
Surge voltage 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
Conductor cross section stranded min.	0.2 mm ²

Power supply unit - QUINT-PS-3X400-500AC/24DC/40 - 2938646

Technical data

Connection data, input

Conductor cross section stranded max.	4 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil 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 stranded min.	0.5 mm ²
Conductor cross section stranded max.	10 mm ²
Conductor cross section AWG/kcmil min.	20
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
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 stranded min.	0.5 mm ²
Conductor cross section stranded max.	10 mm ²
Conductor cross section AWG/kcmil min.	20
Conductor cross section AWG/kcmil 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
Maximum switching voltage	≤ 30 V AC/DC
Maximum inrush current	≤ 1 A

Power supply unit - QUINT-PS-3X400-500AC/24DC/40 - 2938646

Accessories

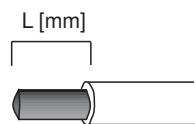
Assembly adapters - UTA 107 - 2853983

Universal DIN rail adapter

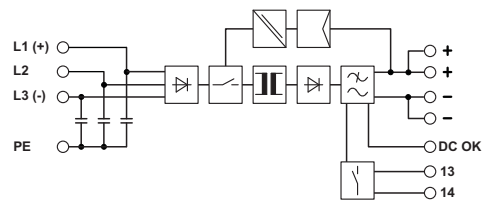


Drawings

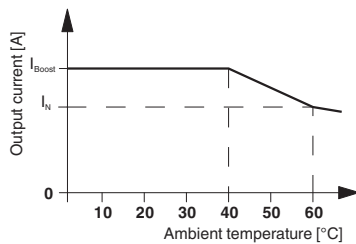
Dimensioned drawing



Block diagram



Diagram



Circuit diagram

