

# TRIO-UPS/1AC/24DC/ 5


Order No.: 2866611



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Uninterruptible power supply with integrated power supply unit, 5A, in combination with MINI-BAT/24/DC/1.3 AH, QUINT-BAT/24DC 3,4AH, 7,2AH or 12 AH



Commercial data	
EAN	4  046356 311809
Pack	1
Customs tariff	85044081
Country of Origin	CN
Catalog page information	Page 621 (IF-2011)

**Product notes**

WEEE/RoHS-compliant since:  
03/09/2007



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## Technical data

Input data	
Nominal input voltage	100 V AC ... 240 V AC
AC input voltage range	85 V AC ... 264 V AC (Derating < 90 V AC: 2.5%V)
DC input voltage range	100 V DC ... 350 V DC (UL508: 100 ... 250 V)
AC frequency range	45 Hz ... 65 Hz

DC frequency range	0 Hz
Current consumption	Approx. 0.95 A
	1.1 A (230 V AC)
	Approx. 1.7 A
	1.8 A (120 V AC)
Inrush surge current	< 44 A (< 1.3 A <sup>2</sup> s)
Power failure bypass	(refer to the diagram)
Buffer period	20 min (5 A)
Input fuse	6.3 A (slow-blow, internal)
Permissible backup fuse	B6
	B10
	B16
Power factor (cos phi)	Approx. 0.5
Type of protection	Transient surge protection
Protective circuit/component	Varistor

#### Output data

Nominal output voltage	24 V DC
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (Network operation; in the buffer mode, dependent on the battery voltage of 27.9 V DC ... 19.2 V DC)
Output current	5 A (-25 °C to +55 °C)
Derating	55 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, 2
Connection in series	No
Control deviation	< 1 % (change in load, static 10% ... 90%)
Residual ripple	< 10 mV <sub>PP</sub>
Peak switching voltages nominal load	< 25 mV <sub>PP</sub>

#### General data

Width	60 mm
Height	130 mm
Depth	118 mm
Net weight	1.1 kg
Memory medium	External, battery 1.3 Ah / 3.4 Ah / 7.2 Ah / 12 Ah
Efficiency	> 88 % (230 V AC, network operation)
	> 86 % (120 V AC, network operation)
	> 86 % (Battery operation)

Insulation voltage input/output	2 kV (routine test)
	4 kV (type test)
Degree of protection	IP20
Protection class	I
MTBF (IEC 61709, SN 29500)	> 500000 h
Ambient temperature (operation)	-25 °C ... 70 °C (> 55° C derating)
Ambient temperature (storage/transport)	-40 °C ... 80 °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 0 mm, vertically 50 mm
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 - Safety of transformers	EN 61558-2-17
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV)
Shipbuilding approval	Germanischer Lloyd (EMC 1)
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
UL approvals	UL/C-UL listed UL 508
	UL/C-UL Recognized UL 60950

**Connection data, input**

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>

Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Screw thread	M3

#### Connection data, output

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	8 mm

#### Signaling

Output voltage	+ 24 V
Status display	Green LED
Note on status display	Mains voltage OK: Green LED, static at
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3
Output name	Alarm
Output description	Transistorschaltausgang
Maximum switching voltage	≤ 24 V
Output voltage	24 V
Continuous load current	≤ 200 mA
Status display	Alarm
Note on status display	Red LED, static at

Output name	Battery charge
Output description	Transistorschaltausgang
Maximum switching voltage	≤ 24 V
Output voltage	24 V
Continuous load current	≤ 200 mA
Status display	Battery (battery charge) is being charged
Note on status display	Yellow LED, flashing
Output name	Battery mode
Output description	Transistorschaltausgang
Type of signaling	LED, active switching output
Maximum switching voltage	≤ 24 V
Output voltage	24 V
Continuous load current	≤ 200 mA
Status display	Battery operation (Battery Mode)
Note on status display	LED yellow, static at

#### Charging process

Charge characteristic curve	I/U characteristic curve
Battery presence check/time interval	60 s
Charge current	0.2 A ... 1.5 A (Default 1.0 A)
End-of-charge voltage	25 V DC ... 30 V DC (Default 27.6 V DC)
Temperature compensation	0 mV/K ... 200 mV/K (42 mV/K by default)
Quality check of battery	4 h ... 200 h (Default 12 h)
Deep discharge protection	18 V DC ... 21 V DC (Default 19.2 V DC)
Alarm signaling threshold	18 V DC ... 30 V DC (Default 20.4 V DC)

#### Certificates



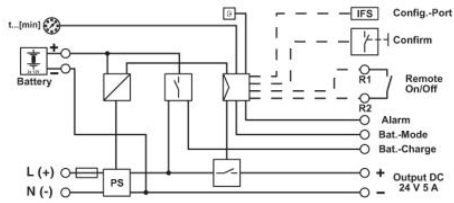
Certification

CUL, CUL Listed, GL, UL, UL Listed

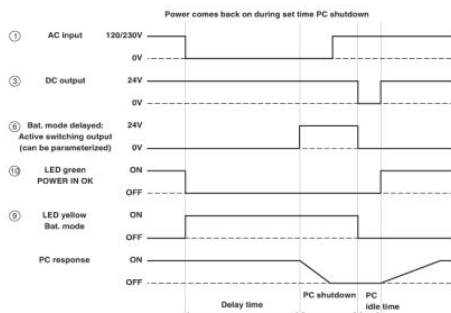
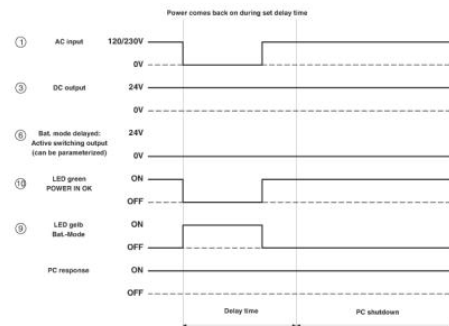
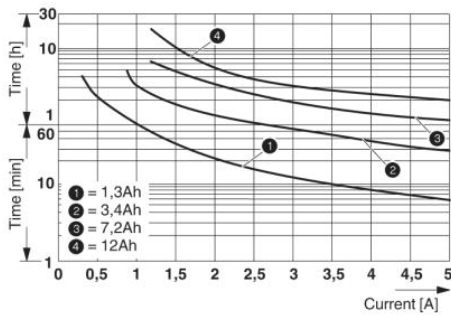
<b>Accessories</b>		
Item	Designation	Description
<b>Cable/conductor</b>		
2811271	IFS-USB-PROG-ADAPTER	Programming adapter with USB interface, for programming with the IFS-CONF, MACX-MCR-CONF and UPS-CONF software
<b>Fuse</b>		
0913676	SI FORM C 15 A DIN 72581	Flat-type plug-in fuse, type C, color code: light blue, nominal current: 15 A
0913757	SI FORM C 25 A DIN 72581	Flat-type plug-in fuse, type C, color code: white, nominal current: 25 A
<b>General</b>		
2986122	IFS-CONFSTICK	Multi-functional memory block for the INTERFACE systemf for easy storage and backup of the configuration.
2866417	MINI-BAT/24DC/1.3AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 1.3 Ah.
2866349	QUINT-BAT/24DC/ 3.4AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 3.4 Ah. Connection via male cable lug, 14 mm.
2866352	QUINT-BAT/24DC/ 7.2AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 7.2 Ah. Connection via male cable lug, 14 mm.
2866365	QUINT-BAT/24DC/12AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 12 Ah. Connection via male cable lug, 14 mm.
2938206	QUINT-PS-ADAPTERS7/2	Assembly adapter for QUINT POWER 10A on S7-300 rail
2320296	UPS-BAT/VRLA/24DC/ 1.3AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 1.3 Ah, tool-free battery replacement, automatic detection and communication with QUINT UPS-IQ
2320306	UPS-BAT/VRLA/24DC/ 3.4AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 3.4 Ah, tool-free battery replacement, automatic detection and communication with QUINT UPS-IQ
2320319	UPS-BAT/VRLA/24DC/ 7.2AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 7.2 Ah, tool-free battery replacement, automatic detection and communication with QUINT UPS-IQ
2320322	UPS-BAT/VRLA/24DC/12AH	Rechargeable battery module, lead AGM, VRLA technology, 24 V DC, 12 Ah, tool-free battery replacement, automatic detection and communication with QUINT UPS-IQ
2853983	UTA 107	Universal DIN rail adapter, for screwing on switchgear
2938235	UWA 182/52	Universal wall adapter

## Drawings

### Block diagram



### Diagram



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