



INTERFACE Power Supply

Power supply units

QUINT POWER

For the highest availability in system and special engineering

TRIO POWER

Basic functionality at the highest level for standard machine production

MINI POWER

Modular electronic housings for MCR technology

STEP POWER

Maximum energy efficiency for building automation

QUINT POWER SFB	TRIO POWER	MINI POWER	STEP POWER	Select your power supply unit here
✓	✓	✓	✓	 Worldwide application thanks to wide-range input and international approval package
✓	✓	✓	✓	 High operational reliability due to high MTBF > 500,000 hrs
✓	✓	✓	✓	 Parallel connection possible for increased performance and redundancy
✓	✓	✓	✓	 Simplified commissioning due to LED function monitoring
✓	✓	✓	✓	 Compensation of voltage drops and recharging of batteries due to adjustable output voltage
✓	✓	✓	✓	 High operational reliability due to long mains buffering times > 20 ms
✓	✓	✓	✓	 Outdoor installation permissible thanks to wide temperature range
✓		✓		 Easy-to-maintain connection method thanks to COMBICON connectors (up to and including 10 A)
✓	✓			 Efficient functioning of the 3-phase devices even if one phase fails permanently
✓		✓		 Active function monitoring through switching output for remote diagnostics
✓		✓		 Reliable starting of complex loads with power reserve POWER BOOST
✓				 Preventive function monitoring reports critical operating states before errors occur
✓				 Quick tripping of power circuit breakers through SFB technology

Program overview

Product overview 560

QUINT POWER

- 24 V DC / 1 AC 562
- 24 V DC / 3 AC 564
- 48 V DC / 1 and 3 AC 566
- 12 V DC / 1 AC 568
- For AS-i systems 569

TRIO POWER

- 24 V DC / 1 AC 570
- 24 V DC / 3 AC 572
- 12 V DC / 1 AC 574
- 48 V DC / 1 AC 575

MINI POWER

- 24 V DC / 1 AC 576
- Special voltages 578

STEP POWER

- 24 V DC / 1 AC 580
- 12 V DC / 1 AC 582
- Special voltages 584

QUINT POWER UPS

- Uninterruptible power supply 586
- Battery modules 590

TRIO POWER UPS

- Uninterruptible power supply 588
- Battery modules 590

MINI POWER UPS

- Uninterruptible power supply 589
- Battery modules 592

QUINT and MINI POWER EX

- QUINT 24 V DC / 1 AC EX 594
- MINI 24 V DC / 1 AC EX 349
- Redundancy module 596

QUINT and MINI POWER DC-DC converters

- QUINT 24 V DC/10 A 598
- MINI 24 V DC/1 A 599

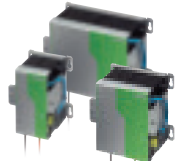
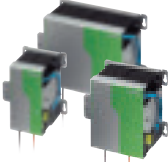
Power supply accessories 600

Rail-mountable sockets

- Germany, France, Belgium and USA versions 602

INTERFACE Power Supply

Product overview

QUINT POWER 1~	24 V / 3.5 A	24 V / 5 A	24 V / 10 A	24 V / 20 A	24 V / 40 A	12 V / 15 A	
Input: 1-phase AC: 85 to 264 V 45-65 Hz DC: 90 to 350 V							
Page	562	562	563	563	563	568	
QUINT POWER 3~	24 V / 5 A	24 V / 10 A	24 V / 20 A	24 V / 40 A	48 V / 10 A	48 V / 20 A	
Input: 3-phase AC: 3x320 to 575 V 45-65 Hz DC: 450 to 800 V							
Page	564	565	565	565	567	567	
QUINT UPS	BUFFER 24 V/20 A	DC-UPS 24 V/10 A	DC-UPS 24 V/20 A	DC-UPS 24 V/40 A	BAT 24 V		
Input: DC: 22.5 to 30 V Output: DC: 24 V							
Page	586	587	587	587	590		
TRIO POWER 1~	24 V / 2.5 A	24 V / 5 A	24 V / 10 A	24 V / 20 A	12 V / 5 A	12 V / 10 A	
Input: 1-phase AC: 85 to 264 V 45-65 Hz							
Page	570	571	571	571	574	575	
TRIO UPS	DC-UPS 24 V/5 A	BAT 24 V / 1.3 AH	BAT 24 V	MINI UPS	DC-UPS 24 V/2 A	BAT 24 V/0.8 AH	
DC-UPS input: 1-phase: AC: 85 to 264 V 45-65 Hz Output: DC: 24 V				DC-UPS input: 1-phase: AC: 85 to 264 V 45-65 Hz DC: 110 to 350 V Output: DC: 24 V			
Page	588	592	590	Page	589	592	
MINI POWER	24 V / 1.3 A	24 V / 1.5 A	24 V / 2 A	24 V / 100 W	24 V / 4 A	5 V / 3 A	
Input: 1-phase AC: 85 to 264 V 45-65 Hz DC: 90 to 350 V				 NEC Class 2			
Page	576	576	577	577	577	578	
STEP POWER	24 V / 0.75 A	24 V / 1.75 A	24 V / 2.5 A	24 V / 100 W	24 V / 4.2 A	12 V / 1.5 A	
Input: 1-phase AC: 85 to 264 V 45-65 Hz DC: 95 to 250 V				 NEC Class 2			
Page	580	580	581	581	581	582	

12 V / 20 A  569	48 V / 5 A  566	48 V / 10 A  566	48 V / 20 A  567	ASI QUINT Input: 1-phase AC: 85 to 264 V 45-65 Hz DC: 90 to 350 V Page	ASI 2.4 A  569	ASI 4.8 A  569
POWER-EX Input: 1-phase AC: 85 to 264 V 45-65 Hz DC: 90 to 350 V Page	24 V / 5 A  594	24 V / 10 A  595	24 V / 1.5 A  349	QUINT DIODE Input: DC: 24 V Output: DC: 24 V 2 x 20 A / 1 x 40 A Page	QUINT-DIODE/40A  596	
DC/DC converter Input: QUINT-PS-24-24DC DC: 18-32 V MINI-PS-12-24DC DC: 10-32 V MINI-PS-48-60DC DC: 36-75 V Page	24 V / 24 V / 10 A  598	24 V / 24 V / 1 A  599	48 V / 24 V / 1 A  599			
48 V / 5 A  575	48 V / 10 A  575	TRIO POWER 3~ Input: 3-phase AC: 3x320 to 575 V 45-65 Hz Page	24 V / 5 A  572	24 V / 10 A  573	24 V / 20 A  573	24 V / 40 A  573
BAT 24 V / 1.3 AH  592	MINI UPS DC-UPS input: 1-phase AC: 85 to 264 V 45-65 Hz DC: 110 to 250 V Output: DC: 12 V Page	DC-UPS 12 V/4 A  589	BAT 12 V / 1.6 AH  592	BAT 12 V / 2.6 AH  592		
10-15 V / 2 A  579	10-15 V / 8 A  579	± 15 V / 1 A  579				
12 V / 3 A  583	12 V / 5 A  583	24 V / 0.75 A FL  584	5 V / 6.5 A  585	15 V / 4 A  585	48 V / 2 A  585	

INTERFACE Power Supply

QUINT POWER

Primary switched-mode power supply units

The field of plant and special engineering offers tailor-made solutions for special application purposes. There are frequent system expansions during the course of the project in cooperation with the end customer. Of course the construction follows the specifications, but the customer calls for a high degree of flexibility in the project planning phase to be able to adapt the application ideally to his requirements. QUINT POWER with its comprehensive range of products is ideal as a universal power supply unit.



QUINT 24 V DC/3.5 A

1 AC



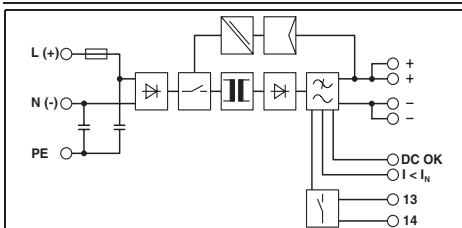
QUINT 24 V DC/5 A

1 AC

QUINT POWER SFB 1~

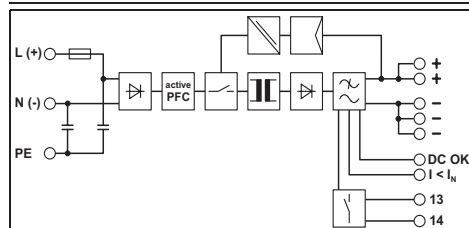
Make use of the functional advantages of the especially slim and narrow QUINT POWER SFB power supply units. The unique SFB technology and the preventive function monitoring increase the availability of your application.

Width 32 mm Applied for: UL-EX US / CUL-EX US / NW



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	20-12	M3
Output	0.2-2.5	0.2-2.5	20-12	M3
Signal	0.2-2.5	0.2-2.5	20-12	M3

Width 40 mm Applied for: UL-EX US / CUL-EX US / NW



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	20-12	M3
Output	0.2-2.5	0.2-2.5	20-12	M3
Signal	0.2-2.5	0.2-2.5	20-12	M3

Description
Power supply unit, primary switched-mode

Technical data

Input data

Input nominal voltage range
Input voltage range AC/DC
Frequency range
Current consumption (nominal load)
Inrush current limitation at 25°C (typ.) / I_{lt}
Mains buffering (I_N, typ.)
Input fuse
Recommended backup fuse, LS switch

Output data

Nominal output voltage
Setting range of the output voltage

Output current / POWER BOOST / SFB (12 ms)
Magnetic fuse tripping

Can be connected in parallel / series
Max. power dissipation (idling/nominal load)
Efficiency (typ.)
Residual ripple

Signaling

Signaling DC OK
Boost signaling
LED, active switching output, relay contact
LED, active switching output

General data

Weight / Dimensions W x H x D
Installation position
Distance during assembly
Type of connection
Degree of protection / Class of protection
MTBF (at nominal load, 40°C)
Ambient temperature (operation)
Standards/regulations
Insulation voltage input/output
Electromagnetic compatibility

Electrical safety, safety transformer
Electronic equipm. for electrical power installations
Safe isolation
UL approvals

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/ 3.5	2866747	1

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/ 5	2866750	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.2 A (120 V AC) / Approx. 0.6 A (230 V AC)
< 15 A / < 1 A²s
> 30 ms (120 V AC) / > 30 ms (230 V AC)
5 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC ±1%
18 V DC ... 29.5 V DC (> 24 V constant capacity)

5 A / 7.5 A / 30 A
Max. 2 A (characteristic C)

Yes / Yes
3 W / 15 W
> 90% (for 230 V AC and nominal values)
< 40 mV_{pp}

LED, active switching output, relay contact
LED, active switching output

0.7 kg / 40 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm
Pluggable screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950



QUINT 24 V DC/10 A

1 AC



QUINT 24 V DC/20 A

1 AC



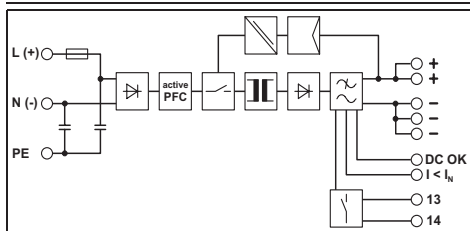
QUINT 24 V DC/40 A

1 AC



Width 60 mm

Applied for: UL-EX US / CUL-EX US / NV



Connection data	solid	stranded	AWG	
	[mm²]			
Input	0.2-2.5	0.2-2.5	16-12	M3
Output	0.2-2.5	0.2-2.5	16-12	M3
Signal	0.2-2.5	0.2-2.5	16-12	M3

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/10	2866763	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 2.8 A (120 V AC) / Approx. 1.2 A (230 V AC)
< 15 A / < 1.5 A's
> 40 ms (120 V AC) / > 40 ms (230 V AC)
6.3 A (slow-blow, internal)
10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
18 V DC ... 29.5 V DC (> 24 V constant capacity)

10 A / 15 A / 60 A
Max. 6 A (characteristic B), max 4 A (characteristic C)

Yes / Yes
7 W / 18 W
> 92.5% (for 230 V AC and nominal values)
< 50 mV_{pp}

LED, active switching output, relay contact
LED, active switching output

1.1 kg / 60 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 mm
Pluggable screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

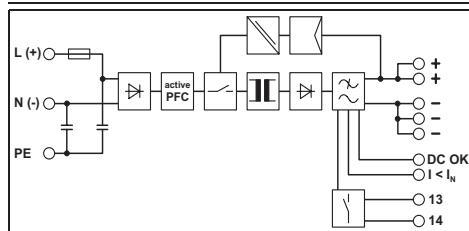
2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2



Width 90 mm

Applied for: UL-EX US / CUL-EX US / NV



Connection data	solid	stranded	AWG	
	[mm²]			
Input	0.2-6	0.2-4	18-10	M4
Output	0.2-6	0.2-4	12-10	M4
Signal	0.2-6	0.2-4	18-10	M4

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/24DC/20	2866776	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 5.1 A (120 V AC) / Approx. 2.3 A (230 V AC)
< 20 A / < 3.2 A's
> 20 ms (120 V AC) / > 20 ms (230 V AC)
12 A (slow-blow, internal)
10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
18 V DC ... 29.5 V DC (> 24 V constant capacity)

20 A / 26 A / 120 A
Max. 16 A (characteristic B), max 6 A (characteristic C)

Yes / Yes
8 W / 40 W
> 93% (for 230 V AC and nominal values)
< 30 mV_{pp}

LED, active switching output, relay contact
LED, active switching output

1.7 kg / 90 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 mm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

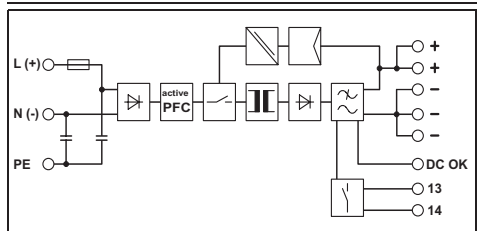
2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2



Width 240 mm

EX:



Connection data	solid	stranded	AWG	
	[mm²]			
Input	0.2-6	0.2-4	24-10	M3
Output	0.5-16	0.5-10	20-6	M4
Signal	0.2-6	0.2-4	24-10	M3

Type	Order No.	Pcs. / Pkt.
QUINT-PS-100-240AC/24DC/40	2938879	1

110 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 11 A (120 V AC) / Approx. 4.5 A (230 V AC)
< 15 A / < 3.2 A's
> 20 ms (120 V AC) / > 20 ms (230 V AC)
20 A (fast blow, internal)
16 A, 25 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

40 A / 45 A
-

Yes / Yes
28 W / 80 W
> 92% (for 230 V AC and nominal values)
< 30 mV_{pp}

LED, active switching output, relay contact
-

3.5 kg / 240 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 3 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

INTERFACE Power Supply QUINT POWER

Primary switched-mode power supply units

QUINT POWER SFB 3~

High system availability of all 3-phase devices, even if one phase fails permanently:

If the input of the current supply is provided with only two phases, QUINT POWER power supply units provide the entire output power permanently.

High surge resistance:

The three-phase power supply units have an integrated gas arrester with a high surge voltage strength of up to 6 kV (surge current loads as per EN 61000-4-5, input asymmetric).

QUINT POWER SFB has the following advantages:

Quick tripping of standard circuit breakers thanks to the dynamic power reserve SFB technology (selective fuse breaking technology) with up to 6x the nominal current for 12 ms:

In order to be able to trigger standard power circuit-breakers magnetically and therefore quickly, power supply units must be able to supply multiple nominal current for a short period. For the first time, the SFB technology is providing this reserve.

Reliable starting of heavy loads with the static POWER BOOST power reserve with permanently up to 1.5 times the nominal current:

The loads to be supplied are not always known during project planning. As this may concern capacitive loads with high inrush currents, the power reserve of the power supply units is advantageous. This starts consumers with high inrush currents without a voltage dip and is available permanently at an ambient temperature of up to 40°C and for approx. 10 minutes at 60°C.

Preventive function monitoring warns against critical operating states before errors occur:

Critical operating states are visualized and reported to the control system thanks to the permanent monitoring of the output voltage and current. Remote monitoring is provided by an active switching output and a floating relay contact.

SFB
TECHNOLOGY



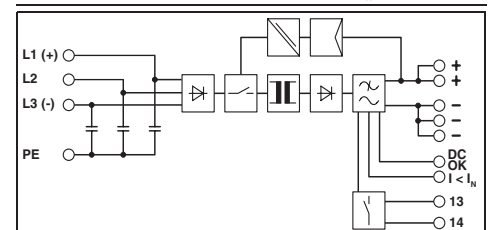
QUINT 24 V DC/5 A

3 AC

UL US CB CE ClassNK ABS

Width 40 mm

Applied for: UL-EX US / CUL-EX US / NW



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	20-12	M3
Output	0.2-2.5	0.2-2.5	20-12	M3
Signal	0.2-2.5	0.2-2.5	20-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	QUINT-PS/ 3AC/24DC/ 5	2866734	1
Technical data			
Input data			
Input nominal voltage range	3x 400 V AC ... 500 V AC		
Input voltage range AC/DC	320 V AC ... 575 V AC / 450 V DC ... 800 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 3x 0.8 A (400 V AC) / Approx. 3x 0.7 A (500 V AC)		
Inrush current limitation at 25°C (typ.) / I _{tt}	< 15 A / < 1 A ² s		
Mains buffering (I _N , typ.)	> 20 ms (400 V AC) / > 30 ms (500 V AC)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
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 / POWER BOOST / SFB (12 ms)	5 A / 7.5 A / 30 A		
Magnetic fuse tripping	Max. 2 A (characteristic C)		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	4 W / 14 W		
Efficiency (typ.)	> 89% (at 400 V AC and nominal values)		
Residual ripple	< 20 mV _{pp}		
Signaling			
Signaling DC OK	LED, active switching output, relay contact		
Boost signaling	LED, active switching output		
General data			
Weight / Dimensions W x H x D	0.7 kg / 40 x 130 x 125 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm		
Type of connection	Pluggable screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950 (3-wire + PE, star net)		
Limitation of harmonic line currents	EN 61000-3-2		

SFB
TECHNOLOGY



QUINT 24 V DC/10 A

3 AC

SFB
TECHNOLOGY



QUINT 24 V DC/20 A

3 AC

SFB
TECHNOLOGY



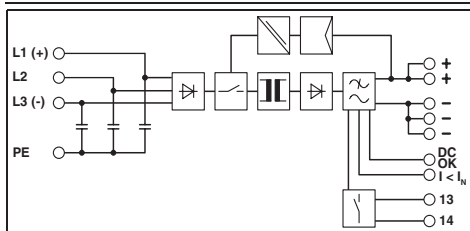
QUINT 24 V DC/40 A

3 AC

UL US CB CE ClassNK ABS

Width 60 mm

Applied for: UL-EX US / CUL-EX US / NV



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	16-12	M3
Output	0.2-2.5	0.2-2.5	16-12	M3
Signal	0.2-2.5	0.2-2.5	16-12	M3

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/10	2866705	1

3x 400 V AC ... 500 V AC
320 V AC ... 575 V AC / 450 V DC ... 800 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 3x 1.2 A (400 V AC) / Approx. 3x 1 A (500 V AC)
< 15 A / < 1.5 A²s
> 20 ms (400 V AC) / > 30 ms (500 V AC)
6 A, 10 A, 16 A (characteristic B)

24 V DC ±1%
18 V DC ... 29.5 V DC (> 24 V constant capacity)

10 A / 15 A / 60 A
Max. 6 A (characteristic B), max 4 A (characteristic C)

Yes / Yes
7 W / 19 W
> 93% (at 400 V AC and nominal values)
< 20 mV_{pp}

LED, active switching output, relay contact
LED, active switching output

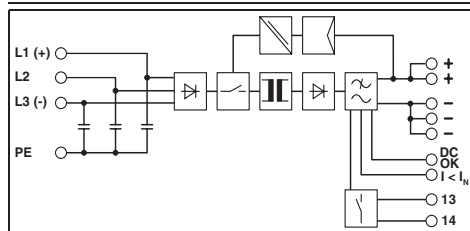
1.1 kg / 60 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm
Pluggable screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950 (3-wire + PE, star net)
EN 61000-3-2

UL US CB CE ClassNK ABS

Width 69 mm

Applied for: UL-EX US / CUL-EX US / NV



Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	18-10	M4
Output	0.2-6	0.2-4	12-10	M4
Signal	0.2-6	0.2-4	18-10	M4

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/20	2866792	1

3x 400 V AC ... 500 V AC
320 V AC ... 575 V AC / 450 V DC ... 800 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 3x 1.6 A (400 V AC) / Approx. 3x 1.3 A (500 V AC)
< 20 A / < 3.2 A²s
> 20 ms (400 V AC) / > 30 ms (500 V AC)
6 A, 10 A, 16 A (characteristic B)

24 V DC ±1%
18 V DC ... 29.5 V DC (> 24 V constant capacity)

20 A / 26 A / 120 A
Max. 16 A (characteristic B), max 6 A (characteristic C)

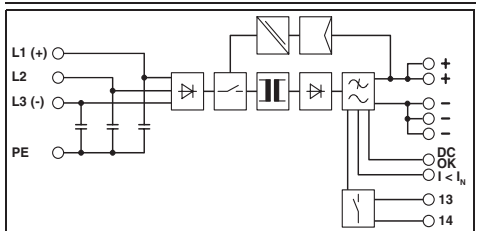
Yes / Yes
11 W / 40 W
> 93% (at 400 V AC and nominal values)
< 40 mV_{pp}

LED, active switching output, relay contact
LED, active switching output

1.5 kg / 69 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950 (3-wire + PE, star net)
EN 61000-3-2

Width 96 mm
UL Listed / CUL Listed / GL / LR / NV / BV / NK / ABS



Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	18-10	
Output	0.2-6	0.2-4	12-10	M3
Signal	0.2-6	0.2-4	18-10	M3

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 3AC/24DC/40	2866802	1

3x 400 V AC ... 500 V AC
320 V AC ... 575 V AC / 450 V DC ... 800 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 3x 3.1 A (400 V AC) / Approx. 3x 2.7 A (500 V AC)
< 20 A / < 1 A²s
> 25 ms (400 V AC) / > 35 ms (500 V AC)
6 A, 10 A, 16 A (characteristic B)

24 V DC ±1%
18 V DC ... 29.5 V DC (> 24 V constant capacity)

40 A / 45 A / 215 A
Max. 25 A (characteristic B), max 13 A (characteristic C)

Yes / Yes
18 W / 63 W
> 94% (at 400 V AC and nominal values)
< 40 mV_{pp}

LED, active switching output, relay contact
LED, active switching output

2.5 kg / 96 x 130 x 176 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL applied for
EN 61000-3-2

INTERFACE Power Supply QUINT POWER

Primary switched-mode power supply units

QUINT POWER, 48 V DC

In the DC drives, long conductor paths lead to a voltage drop. 48 V devices providing high power at half the current as compared to 24 V devices are suitable here.

QUINT POWER SFB has the following advantages:

Rugged design with metal housing and temperature wide-range of -25 to +70 °C.

Compensation of voltage drops through output voltage that can be set on the front side.

A voltage range of 5 to 56 V DC is covered with three power supply units having output voltages of 12, 24 and 48 V DC.

SFB
TECHNOLOGY



QUINT 48 V DC/5 A

1 AC

SFB
TECHNOLOGY

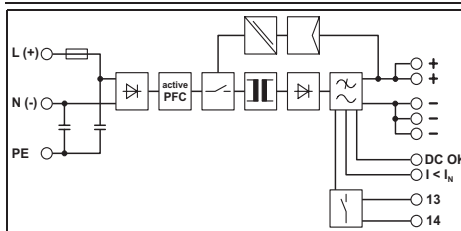


QUINT 48 V DC/10 A

1 AC

Width 60 mm

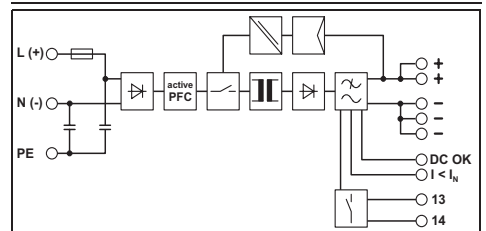
UL US



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	16-12	M3
Output	0.2-2.5	0.2-2.5	16-12	M3
Signal	0.2-2.5	0.2-2.5	16-12	M3

Width 90 mm

Applied for:
UL Listed / UL / CUL



Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	18-10	M3
Output	0.2-6	0.2-4	12-10	M3
Signal	0.2-6	0.2-4	18-10	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	QUINT-PS/ 1AC/48DC/ 5	2866679	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 90 V DC ... 350 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 2.8 A (120 V AC) / Approx. 1.2 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{lt}	< 15 A / < 1.5 A ² s		
Mains buffering (I _N , typ.)	> 40 ms (120 V AC) / > 40 ms (230 V AC)		
Input fuse	6.3 A (slow-blow, internal)		
Recommended backup fuse, LS switch	10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	48 V DC ±1%		
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)		
Output current / POWER BOOST / SFB (12 ms)	5 A / 7.5 A / 30 A		
Magnetic fuse tripping	Max. 2 A (characteristic C)		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	7 W / 21 W		
Efficiency (typ.)	> 92.5% (for 230 V AC and nominal values)		
Residual ripple	< 50 mV _{pp}		
Signaling			
Signaling DC OK	LED, active switching output, relay contact		
Boost signaling	LED, active switching output		
General data			
Weight / Dimensions W x H x D	1.1 kg / 60 x 130 x 125 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm		
Type of connection	Pluggable screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/48DC/10	2866682	1
Technical data		
Input data		
Input nominal voltage range	100 V AC ... 240 V AC	
Input voltage range AC/DC	85 V AC ... 264 V AC / 90 V DC ... 350 V DC	
Frequency range	45 Hz ... 65 Hz / 0 Hz	
Current consumption (nominal load)	Approx. 5.1 A (120 V AC) / Approx. 2.3 A (230 V AC)	
Inrush current limitation at 25°C (typ.) / I _{lt}	< 20 A / < 3.2 A ² s	
Mains buffering (I _N , typ.)	> 20 ms (120 V AC) / > 20 ms (230 V AC)	
Input fuse	12 A (slow-blow, internal)	
Recommended backup fuse, LS switch	10 A, 16 A (characteristic B)	
Output data		
Nominal output voltage	48 V DC ±1%	
Setting range of the output voltage	30 V DC ... 56 V DC (> 48 V constant capacity)	
Output current / POWER BOOST / SFB (12 ms)	10 A / 13 A / 60 A	
Magnetic fuse tripping	Max. 6 A (characteristic B), max 4 A (characteristic C)	
Can be connected in parallel / series	Yes / Yes	
Max. power dissipation (idling/nominal load)	16 W / 41 W	
Efficiency (typ.)	> 93% (for 230 V AC and nominal values)	
Residual ripple	< 80 mV _{pp}	
Signaling		
Signaling DC OK	LED, active switching output, relay contact	
Boost signaling	LED, active switching output	
General data		
Weight / Dimensions W x H x D	1.7 kg / 90 x 130 x 125 mm	
Installation position	Horizontal DIN rail NS 35, EN 60715	
Distance during assembly	Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm	
Type of connection	Screw connection	
Degree of protection / Class of protection	IP20 / I, with PE connection	
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)	
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)	
Standards/regulations		
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)	
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC	
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17	
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010	
UL approvals	UL applied for	
Limitation of harmonic line currents	EN 61000-3-2	



QUINT 48 V DC/20 A

1 AC



QUINT 48 V DC/10 A

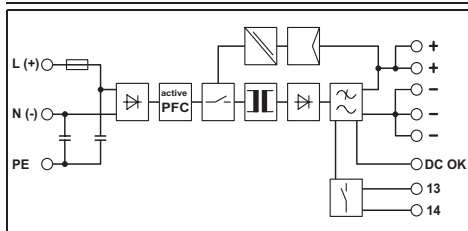
3 AC



QUINT 48 V DC/20 A

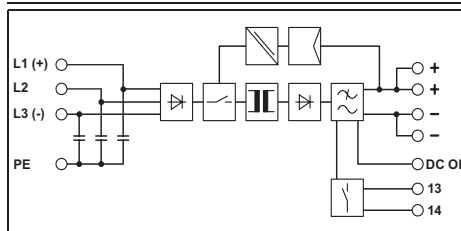
3 AC

Width 240 mm



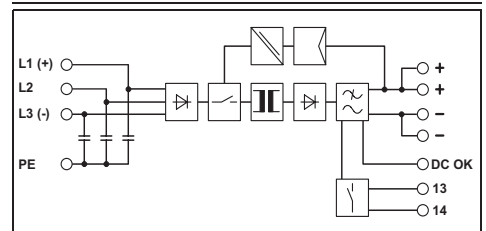
Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	24-10	M3
Output	0.5-16	0.5-10	20-6	M4
Signal	0.2-6	0.2-4	24-10	M3

Width 160 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-10	M3
Output	0.5-16	0.5-10	20-6	M4
Signal	0.5-16	0.5-10	20-6	M4

Width 240 mm



Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	24-10	M3
Output	0.5-16	0.5-10	20-6	M4
Signal	0.5-16	0.5-10	20-6	M4

Type	Order No.	Pcs. / Pkt.
QUINT-PS-100-240AC/48DC/20	2938976	1

110 V AC ... 240 V AC
85 V AC ... 264 V AC / 120 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 11 A (120 V AC) / 4.5 A (230 V AC)
< 15 A / 3.2 A²s
> 20 ms (120 V AC) / > 20 ms (230 V AC)
20 A (fast blow, internal)
16 A, 25 A (characteristic B)

48 V DC $\pm 1\%$
30 V DC ... 56 V DC (> 48 V constant capacity)

20 A / 22.5 A
-

Yes / Yes
28 W / 80 W
> 92% (at 230 V AC and nominal values)
< 25 mV_{pp}

LED, active switching output, relay contact
-

3.5 kg / 240 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm

Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

Type	Order No.	Pcs. / Pkt.
QUINT-PS-3X400-500AC/48DC/10	2938219	1

3 x 400 V AC ... 500 V AC
320 V AC ... 575 V AC / 450 V DC ... 800 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 3x 1.2 A (400 V AC) / 1 A (480 V AC)
< 10 A / 1 A²s
> 25 ms (400 V AC) / > 30 ms (480 V AC)
-
3 x 6 A, 10 A, 16 A (characteristic B)

48 V DC $\pm 1\%$
30 V DC ... 56 V DC (> 48 V constant capacity)

10 A / 13 A
-

Yes / Yes
10 W / 45 W
> 90% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED, active switching output, relay contact
-

2.3 kg / 160 x 130 x 130 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm

Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

1.5 kV (routine test) / 3 kV (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

Type	Order No.	Pcs. / Pkt.
QUINT-PS-3X400-500AC/48DC/20	2938222	1

3 x 400 V AC ... 500 V AC
320 V AC ... 575 V AC / 450 V DC ... 800 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 3x 2.3 A (400 V AC) / 1.9 A (480 V AC)
< 15 A / 2 A²s
> 20 ms (400 V AC) / > 30 ms (480 V AC)
-
3 x 6 A, 10 A, 16 A (characteristic B)

48 V DC $\pm 1\%$
30 V DC ... 56 V DC (> 48 V constant capacity)

20 A / 22 A
-

Yes / Yes
20 W / 90 W
> 90% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED, active switching output, relay contact
-

3.5 kg / 240 x 130 x 130 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm

Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

1.5 kV (routine test) / 3 kV (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

QUINT POWER

Primary switched-mode power supply units

QUINT POWER, 12 V DC

With an adjustable output voltage of 12 V DC devices from 5 to 18 V as well as the permanent current limitation, they are suitable for charging batteries for example.

QUINT POWER SFB has the following advantages:

Saves up to 50% space in the control cabinet due to the narrow design.

Minimize the installation costs and use the third minus terminal as grounding terminal block.

Semi F47-200 fulfills the requirements of the semiconductor industry with reference to the mains voltage dips.

QUINT POWER, AS.i

Quint Power power supply units for all AS-i systems.

The integrated filter ensures that the modulated data stream is not affected.

The integrated earth fault monitoring signals short circuits on the secondary side.

SFB
TECHNOLOGY

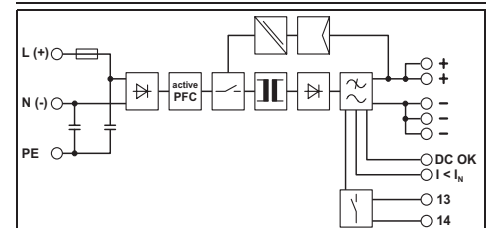


QUINT 12 V DC/15 A

1 AC

Width 60 mm

UL US



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	16-12	M3
Output	0.2-2.5	0.2-2.5	16-12	M3
Signal	0.2-2.5	0.2-2.5	16-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	QUINT-PS/ 1AC/12DC/15	2866718	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 90 V DC ... 350 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 1.9 A (120 V AC) / Approx. 0.9 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{2t}	< 15 A / < 1.5 A ² s		
Mains buffering (I _N , typ.)	> 65 ms (120 V AC) / > 65 ms (230 V AC)		
Input fuse	6.3 A (slow-blow, internal)		
Recommended backup fuse, LS switch	10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	12 V DC ±1%		
Setting range of the output voltage	5 V DC ... 18 V DC (> 12 V constant capacity)		
Output current / POWER BOOST / SFB (12 ms)	15 A / 16 A / 60 A		
Magnetic fuse tripping	Max. 6 A (characteristic B), max 4 A (characteristic C)		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	5 W / 21 W		
Efficiency (typ.)	> 89% (for 230 V AC and nominal values)		
Residual ripple	< 10 mV _{pp}		
Signaling			
Signaling DC OK	LED, active switching output, relay contact		
Boost signaling	LED, active switching output		
Signaling EFD	-		
General data			
Weight / Dimensions W x H x D	1.1 kg / 60 x 130 x 125 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 cm		
Type of connection	Pluggable screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		



QUINT 12 V DC/20 A

1 AC



ASI QUINT 30 V DC/2.4 A

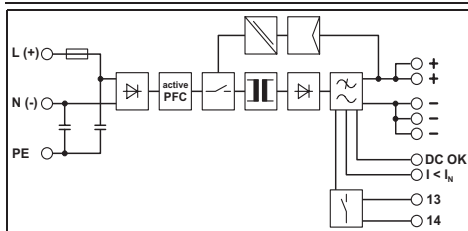
1 AC



ASI QUINT 30 V DC/4.8 A

1 AC

Width 90 mm



Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	18-10	M3
Output	0.2-6	0.2-4	12-10	M3
Signal	0.2-6	0.2-4	18-10	M3

Type	Order No.	Pcs. / Pkt.
QUINT-PS/ 1AC/12DC/20	2866721	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 2.4 A (120 V AC) / Approx. 1.4 A (230 V AC)
< 20 A / < 3.2 A²s
> 40 ms (120 V AC) / > 40 ms (230 V AC)
12 A (slow-blow, internal)
10 A, 16 A (characteristic B)

12 V DC $\pm 1\%$
5 V DC ... 18 V DC (> 12 V constant capacity)
20 A / 26 A / 120 A
Max. 16 A (characteristic B), max 6 A (characteristic C)

Yes / Yes
6 W / 29 W
> 90% (for 230 V AC and nominal values)
< 50 mV_{pp}

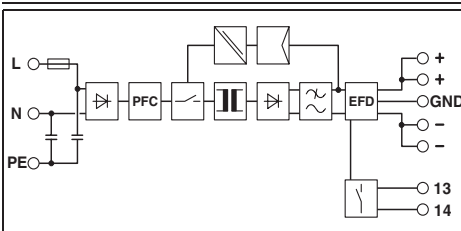
LED, active switching output, relay contact
LED, active switching output
-

1.5 kg / 90 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: horizontally 5 mm, in addition to active components of 15 mm, vertically 5 mm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

Width 55 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
ASI QUINT 100-240/2.4 EFD	2736686	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1 A (120 V AC) / 0.5 A (230 V AC)
< 15 A / 2.2 A²s
> 20 ms (120 V AC) / > 80 ms (230 V AC)
5 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

30.1 V DC $\pm 1.5\%$
-
2.4 A / 3 A
-

No / Yes
3 W / 11 W
> 86% (at 230 V AC and nominal values)
< 30 mV_{pp}

LED
-
LED, relay contact

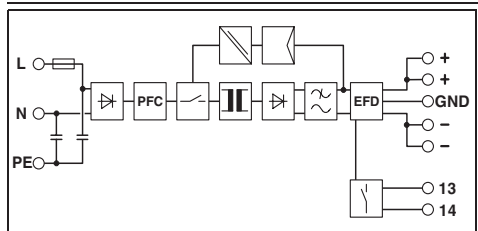
0.75 kg / 55 x 145 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm

Pluggable spring-cage connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

Width 70 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
ASI QUINT 100-240/4.8 EFD	2736699	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.8 A (120 V AC) / 1 A (230 V AC)
< 15 A / 2.2 A²s
> 60 ms (120 V AC) / > 100 ms (230 V AC)
5 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

30.1 V DC $\pm 1.5\%$
-
4.8 A / 6 A
-

No / Yes
4 W / 16 W
> 89% (at 230 V AC and nominal values)
< 30 mV_{pp}

LED
-
LED, relay contact

0.9 kg / 70 x 145 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm

Pluggable spring-cage connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

TRIO POWER

Primary switched-mode power supply units

In standard machine production, the requirements for a power supply unit are mostly specified in advance. Here, the TRIO POWER power supply units are suitable which provide basic functions at a very high level.

TRIO POWER 1~

High operational reliability of one-phase devices due to the high dielectric strength of up to 300 VAC.

TRIP POWER has the following advantages:

High operational reliability due to the high MTBF (Mean Time Between Failure) more than 500,000 h.

Rugged design with metal housing and temperature wide range of -25 to +70°C.

Compensation of voltage drops through output voltage that can be set on the front side.

Minimizing the installation costs

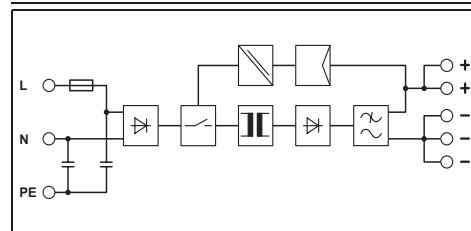
A third negative terminal is available for the secondary-side grounding. An additional potential distributor or double assignment of a terminal block is not required. This saves time and subsequently costs for the secondary-side grounding.



TRIO 24 V DC/2.5 A

1 AC

Width 32 mm



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	24-14	M2,5

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	TRIO-PS/1AC/24DC/ 2.5	2866268	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC		
Frequency range	45 Hz ... 65 Hz		
Current consumption (nominal load)	0.95 A (120 V AC) / 0.5 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I ² t	< 15 A / 0.5 A ² s		
Mains buffering (I _N , typ.)	> 20 ms (120 V AC) / > 100 ms (230 V AC)		
Input fuse	2 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)		
Output current	2.5 A		
Can be connected in parallel / series	Yes / No		
Max. power dissipation (idling/nominal load)	0.8 W / 10 W		
Efficiency (typ.)	> 86% (at 230 V AC and nominal values)		
Residual ripple	< 30 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.5 kg / 32 x 130 x 115 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating)		
Ambient temperature (storage/transport)	-40°C ... 85°C		
Max. permissible relative humidity (operation)	95% (at 25°C, no condensation)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		



TRIO 24 V DC/5 A

1 AC



TRIO 24 V DC/10 A

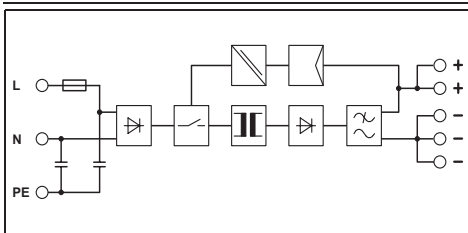
1 AC



TRIO 24 V DC/20 A

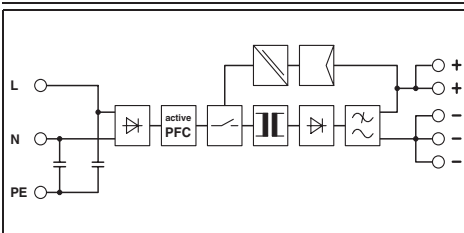
1 AC

Width 40 mm



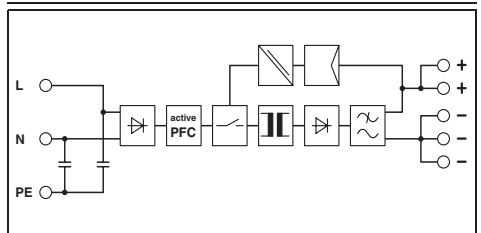
Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	24-14	M2,5

Width 60 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	24-14	M2,5

Width 115 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.5-6	0.5-4	20-10	M3

Type	Order No.	Pcs. / Pkt.
TRIO-PS/1AC/24DC/ 5	2866310	1

Type	Order No.	Pcs. / Pkt.
TRIO-PS/1AC/24DC/10	2866323	1

Type	Order No.	Pcs. / Pkt.
TRIO-PS/1AC/24DC/20	2866381	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
1.65 A (120 V AC) / 0.9 A (230 V AC)
< 15 A / 1.1 A²s
> 20 ms (120 V AC) / > 110 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

5 A
Yes / No
1.1 W / 18 W
> 89% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED

0.6 kg / 40 x 130 x 115 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
2.5 A (120 V AC) / 1.3 A (230 V AC)
< 15 A / 0.7 A²s
> 24 ms (120 V AC) / > 24 ms (230 V AC)
6.3 A (slow-blow, internal)
10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

10 A
Yes / No
6.7 W / 30 W
> 89% (at 230 V AC and nominal values)
< 10 mV_{pp}

LED

1.4 kg / 60 x 130 x 152.5 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-25°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
4.6 A (120 V AC) / 2.4 A (230 V AC)
< 15 A / 1.4 A²s
> 13 ms (120 V AC) / > 13 ms (230 V AC)
10 A (slow-blow, internal)
16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

20 A
Yes / No
4 W / 46 W
> 91% (at 230 V AC and nominal values)
< 10 mV_{pp}

LED

2.2 kg / 115 x 130 x 152.5 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

TRIO POWER

Primary switched-mode power supply units

TRIO POWER 3~

High system availability of all 3-phase devices, even if one phase fails permanently:

If the input of the current supply is provided with only two phases, TRIO POWER power supply units provide the entire output power permanently.

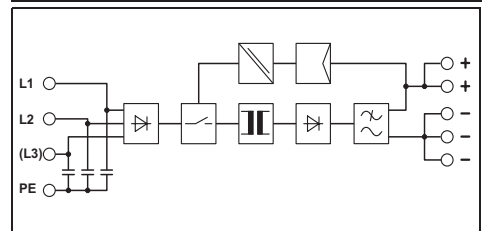
Here, the 5 A and 10 A devices are suitable for constant operation in two phases without modifying the technical data devices of the power supply unit.



TRIO 24 V DC/5 A

3 AC

Width 40 mm



Connection data	solid [mm ²]	stranded [mm ²]	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	16-12	M2,5

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	TRIO-PS/3AC/24DC/ 5	2866462	1
Technical data			
Input data			
Input nominal voltage range	2x / 3x 400 V AC ... 500 V AC		
Input voltage range AC/DC	320 V AC ... 575 V AC		
Frequency range	45 Hz ... 65 Hz		
Current consumption (nominal load)	Approx. 3x 0.3 A (400 V AC) / Approx. 3x 0.3 A (500 V AC)		
Inrush current limitation at 25°C (typ.) / I _{2t}	< 15 A / 0.2 A ² s		
Mains buffering (I _N , typ.)	> 20 ms (400 V AC) / > 30 ms (480 V AC)		
Input fuse	-		
Recommended backup fuse, LS switch	3x 6 A, 3x 10 A, 3x 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)		
Output current	5 A		
Can be connected in parallel / series	Yes / No		
Max. power dissipation (idling/nominal load)	4 W / 15 W		
Efficiency (typ.)	> 89% (at 400 V AC and nominal values)		
Residual ripple	< 30 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.6 kg / 40 x 130 x 115 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating)		
Ambient temperature (storage/transport)	-40°C ... 85°C		
Max. permissible relative humidity (operation)	95% (at 25°C, no condensation)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		



TRIO 24 V DC/10 A

3 AC



TRIO 24 V DC/20 A

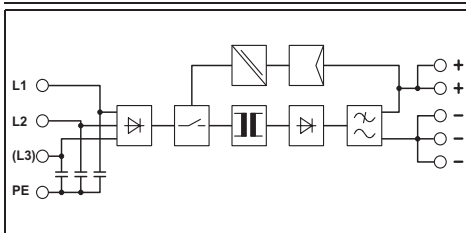
3 AC



TRIO 24 V DC/40 A

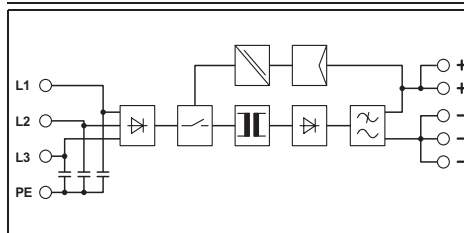
3 AC

Width 60 mm



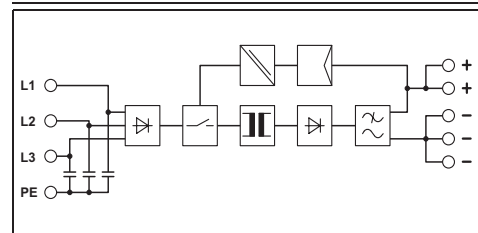
Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	16-12	M2,5

Width 115 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.5-6	0.5-4	12-10	M3

Width 139 mm



Connection data	solid	stranded	AWG	
Input	0.2-6	0.2-4	22-10	M3
Output	0.5-16	0.5-10	8-6	M4

Type	Order No.	Pcs. / Pkt.
TRIO-PS/3AC/24DC/10	2866459	1

Type	Order No.	Pcs. / Pkt.
TRIO-PS/3AC/24DC/20	2866394	1

Type	Order No.	Pcs. / Pkt.
TRIO-PS/3AC/24DC/40	2866404	1

2x / 3x 400 V AC ... 500 V AC
320 V AC ... 575 V AC
45 Hz ... 65 Hz
Approx. 3x 0.6 A (400 V AC) / 3x 0.5 A (480 V AC)
< 15 A / 0.2 A²s
> 20 ms (400 V AC) / > 25 ms (480 V AC)
-
3x 6 A, 3x 10 A, 3x 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

10 A
Yes / No
6 W / 28 W
> 89% (at 400 V AC and nominal values)
< 10 mV_{pp}

LED

1.3 kg / 60 x 130 x 152.5 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

3x 400 V AC ... 500 V AC
320 V AC ... 575 V AC
45 Hz ... 65 Hz
Approx. 3x 1.1 A (400 V AC) / 3x 0.8 A (480 V AC)
< 15 A / 0.5 A²s
> 17 ms (400 V AC) / > 20 ms (480 V AC)
-
3x 6 A, 3x 10 A, 3x 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

20 A
Yes / No
6 W / 48 W
> 91% (at 400 V AC and nominal values)
< 10 mV_{pp}

LED

2 kg / 115 x 130 x 152.5 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

3x 400 V AC ... 500 V AC
320 V AC ... 575 V AC
45 Hz ... 65 Hz
Approx. 3x 2 A (400 V AC) / 3x 1.6 A (480 V AC)
< 20 A / 1.3 A²s
> 16 ms (400 V AC) / > 20 ms (480 V AC)
-
3x 10 A, 3x 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

40 A
Yes / No
16 W / 91 W
> 91.5% (at 400 V AC and nominal values)
< 20 mV_{pp}

LED

2.9 kg / 139 x 130 x 190 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

TRIO POWER

Primary switched-mode power supply units

TRIO POWER 1~, 12 V DC, 48 V DC

With an adjustable output voltage of 12 V DC devices as well as the permanent current limitation, they are suitable for charging batteries for example.

In the DC drives, long conductor paths lead to a voltage drop. 48 V devices providing high power at half the current as compared to 24 V devices are suitable here.

TRIP POWER has the following advantages:

High operational reliability due to the high MTBF (Mean Time Between Failure) more than 500,000 h.

Rugged design with metal housing and temperature wide range of -25 to +70°C.

Compensation of voltage drops through output voltage that can be set on the front side.

Minimizing the installation costs

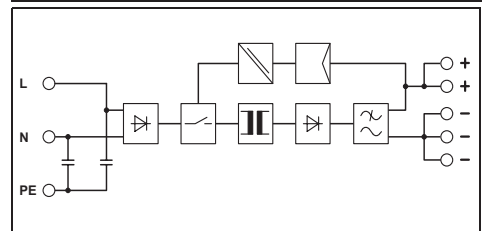
A third negative terminal is available for the secondary-side grounding. An additional potential distributor or double assignment of a terminal block is not required. This saves time and subsequently costs for the secondary-side grounding.



TRIO 12 V DC/5 A

1 AC

Width 32 mm



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	24-14	M2,5

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	TRIO-PS/1AC/12DC/ 5	2866475	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC		
Frequency range	45 Hz ... 65 Hz		
Current consumption (nominal load)	Approx. 1 A (120 V AC) / Approx. 0.5 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{2t}	< 15 A / < 0.5 A ² s		
Mains buffering (I _N , typ.)	> 26 ms (120 V AC) / > 100 ms (230 V AC)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	12 V DC ±1%		
Setting range of the output voltage	10 V DC ... 18 V DC (> 12 V constant capacity)		
Output current	5 A		
Can be connected in parallel / series	Yes / No		
Max. power dissipation (idling/nominal load)	0.9 W / 11 W		
Efficiency (typ.)	> 83% (at 230 V AC and nominal values)		
Residual ripple	< 20 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.5 kg / 32 x 130 x 115 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating)		
Ambient temperature (storage/transport)	-40°C ... 85°C		
Max. permissible relative humidity (operation)	95% (at 25°C, no condensation)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		



TRIO 12 V DC/10 A

1 AC



TRIO 48 V DC/5 A

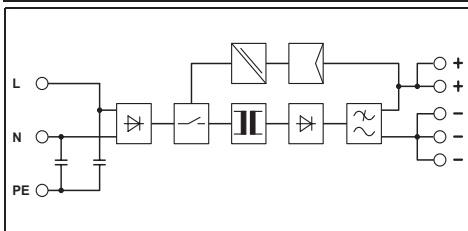
1 AC



TRIO 48 V DC/10 A

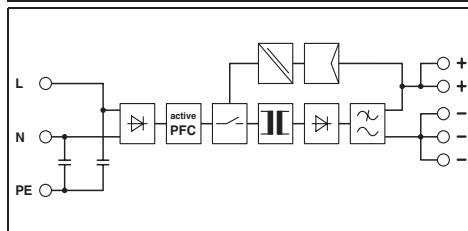
1 AC

Width 40 mm



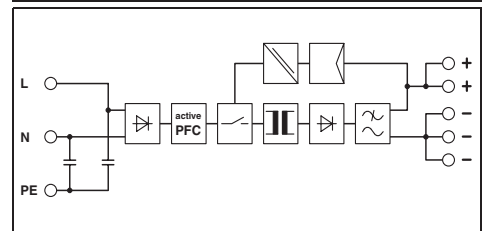
Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	24-14	M2,5

Width 60 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.2-2.5	0.2-2.5	24-14	M2,5

Width 115 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-14	M2,5
Output	0.5-0.6	0.5-4	20-10	M3

Type	Order No.	Pcs. / Pkt.
TRIO-PS/1AC/12DC/10	2866488	1

Type	Order No.	Pcs. / Pkt.
TRIO-PS/1AC/48DC/ 5	2866491	1

Type	Order No.	Pcs. / Pkt.
TRIO-PS/1AC/48DC/10	2866501	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
Approx. 1.7 A (120 V AC) / Approx. 0.9 A (230 V AC)
< 15 A / < 1.1 A²s
> 20 ms (120 V AC) / > 86 ms (230 V AC)
6 A, 10 A, 16 A (characteristic B)

12 V DC ±1%
10 V DC ... 18 V DC (> 12 V constant capacity)

10 A
Yes / No
1.1 W / 18 W
> 86% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED

0.6 kg / 40 x 130 x 115 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
Approx. 2.5 A (120 V AC) / Approx. 1.3 A (230 V AC)
< 15 A / < 0.7 A²s
> 15 ms (120 V AC) / > 16 ms (230 V AC)
10 A, 16 A (characteristic B)

48 V DC ±1%
30 V DC ... 56 V DC (> 48 V constant capacity)

5 A
Yes / No
7 W / 28 W
> 89% (at 230 V AC and nominal values)
< 50 mV_{pp}

LED

1.4 kg / 60 x 130 x 152.5 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
Approx. 4.6 A (120 V AC) / Approx. 2.4 A (230 V AC)
< 15 A / < 1.4 A²s
> 13 ms (120 V AC) / > 18 ms (230 V AC)
16 A (characteristic B)

48 V DC ±1%
30 V DC ... 56 V DC (> 48 V constant capacity)

10 A
Yes / No
8 W / 49 W
> 91% (at 230 V AC and nominal values)
< 50 mV_{pp}

LED

1.9 kg / 115 x 130 x 152.5 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL Listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply MINI POWER

Primary switched-mode power supply units

MINI 24 V DC/1.5 A

With this especially flat 95 mm power supply unit, an optional DIN rail connector enables supply of several modules with 24 V DC (per power supply unit 2x ME 17,5 TBUS 1,5/5-ST-3,81 GN, 2709561).

MINI 24 V DC/100 W

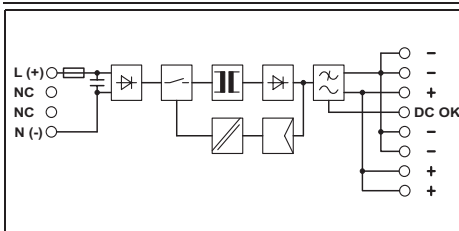
This power supply unit is suitable for applications that require a certification as per UL 1310/508 Listed Class 2. The basic definition of the American safety regulation NEC Class 2 requires a current source with a maximum of 100 W output power. In applications without secondary-side fuses, the limitation to 100 W ensures safety in daily production.



MINI 24 V DC/1.3 A

1 AC

Width 22.5 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3



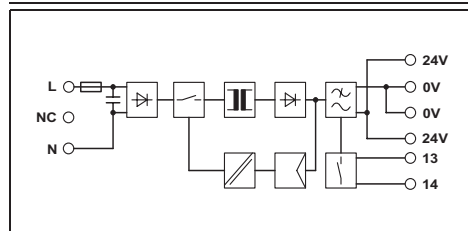
Ex:



MINI 24 V DC/1.5 A

1 AC

Width 35 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3



Ex:

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	MINI-PS-100-240AC/24DC/1.3	2866446	1	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1
Technical data						
Input data						
Input nominal voltage range	100 V AC ... 240 V AC			100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 90 V DC ... 350 V DC			85 V AC ... 264 V AC		
Frequency range	45 Hz ... 65 Hz / 0 Hz			45 Hz ... 65 Hz		
Current consumption (nominal load)	Approx. 0.6 A (120 V AC) / 0.4 A (230 V AC)			Approx. 0.75 A (120 V AC) / 0.45 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{lt}	< 15 A / 0.6 A²s			< 15 A / 0.6 A²s		
Mains buffering (I _N , typ.)	> 40 ms (120 V AC) / > 100 ms (230 V AC)			> 35 ms (120 V AC) / > 150 ms (230 V AC)		
Input fuse	1.25 A (slow-blow, internal)			3.15 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)			6 A, 10 A, 16 A (characteristic B)		
Output data						
Nominal output voltage	24 V DC ±1%			24 V DC ±1%		
Setting range of the output voltage	22.5 V DC ... 28.5 V DC (> 24 V constant capacity)			22.5 V DC ... 28.5 V DC (> 24 V constant capacity)		
Output current / POWER BOOST	1.3 A / 1.6 A			1.5 A / 2 A		
Can be connected in parallel / series	Yes / No			Yes / No		
Max. power dissipation (idling/nominal load)	1.5 W / 6.5 W			1.5 W / 6.5 W		
Efficiency (typ.)	> 85% (at 230 V AC and nominal values)			> 84% (at 230 V AC and nominal values)		
Residual ripple	< 20 mV _{pp}			< 40 mV _{pp}		
Signaling						
Signaling DC OK	LED, active switching output			LED, relay contact		
General data						
Weight / Dimensions W x H x D	0.2 kg / 22.5 x 99 x 107 mm			0.25 kg / 35 x 99 x 95 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715			Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm			Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Pluggable screw connection			Pluggable screw connection		
Degree of protection / Class of protection	IP20 / II (in an enclosed control cabinet)			IP20 / II (in an enclosed control cabinet)		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)			> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)			-25°C ... 70°C (> 60°C derating)		
Ambient temperature (storage/transport)	-40°C ... 85°C			-40°C ... 85°C		
Max. permissible relative humidity (operation)	95% (at 25°C, no condensation)			95% (at 25°C, no condensation)		
Standards/regulations						
Insulation voltage input/output	4 kV (type test) / 3 kV (routine test)			4 kV (type test) / 3 kV (routine test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC			Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17			EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)			EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010			DIN VDE 0100-410, DIN VDE 0106-1010		
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			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		

1 AC



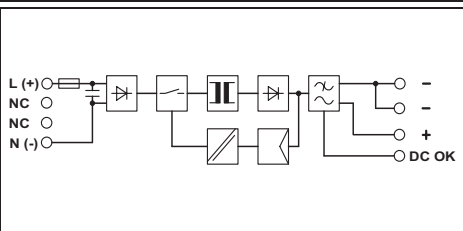
1 AC, NEC Class 2



1 AC




 Ex: 



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/24DC/2	2938730	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.7 A (120 V AC) / 0.4 A (230 V AC)
< 15 A / 4.1 A²s
> 35 ms (120 V AC) / > 170 ms (230 V AC)
2.5 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 28.5 V DC (> 24 V constant capacity)

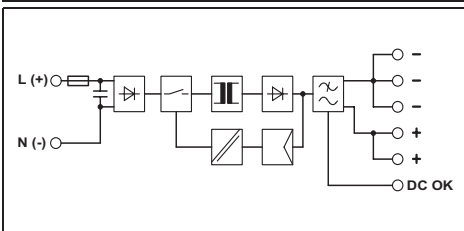
2 A / 2.9 A
Yes / No
2 W / 7 W
> 88% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED, active switching output

0.25 kg / 45 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

4 kV (type test) / 3 kV (routine test)
 Conformance with EMC guideline 2004/108/EC and for low-voltage
 guideline 2006/95/EC
 EN 60950/VDE 0805 (SELV), EN 61558-2-17
 EN 50178/VDE 0160 (PELV)
 DIN VDE 0100-410, DIN VDE 0106-1010
 UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950, UL/C-UL
 Listed UL 1604 Class 1, Division 2, Groups A, B, C, D

EN 61000-3-2



Connection data	solid	stranded		
	[mm²]		AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/24DC/C2LPS	2866336	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.3 A (120 V AC) / 0.8 A (230 V AC)
< 15 A / 2.1 A²s
> 20 ms (120 V AC) / > 100 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 26 V DC (> 24 V constant capacity)

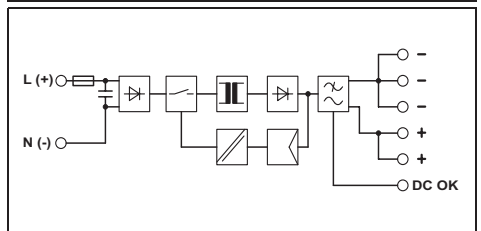
3.8 A
Yes / No
2.5 W / 12 W
> 88% (at 230 V AC and nominal values)
< 40 mV_{pp}

LED, active switching output

0.4 kg / 67.5 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

3 kV (type test) / 3 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage
guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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, NEC Class 2
as per UL 1310

EN 61000-3-2



Connection data	solid	stranded		
	[mm ²]		AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/24DC/4	2938837	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.3 A (120 V AC) / 0.8 A (230 V AC)
< 15 A / 2.1 A²s
> 20 ms (120 V AC) / > 100 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 28.5 V DC (> 24 V constant capacity)

4 A / 5 A
Yes / No
2.5 W / 12 W
> 88% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED, active switching output

0.4 kg / 67.5 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

3 kV (type test) / 3 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage
guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

INTERFACE Power Supply
MINI POWER

Primary switched-mode power supply units

MINI POWER, special voltages
In MCR technology, the modular electronics housing has become standard. MINI POWER is the matching power supply unit.

Easy-to-maintain connection method thanks to the COMBICON connectors.

Wide-range Input:
In case of power supply units with a wide-range input, the input voltage should not be selected. The loadable components are designed for an expanded input voltage range that covers the most important supply networks worldwide. Compared to power supply units with fixed voltage input, power supply units with wide-range input continue to function even in case of intense voltage fluctuations due to unstable supply networks.



MINI 5 V DC/3 A
1 AC

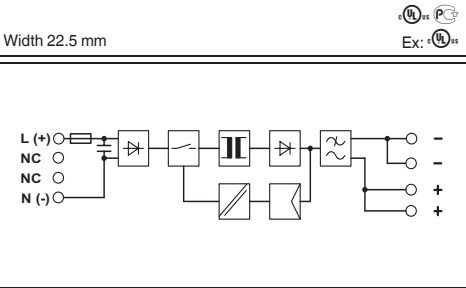


Table with 4 columns: Connection data, solid [mm²], stranded [mm²], and AWG. It lists input and output specifications for the power supply unit.

Main technical specification table with columns: Description, Type, Order No., and Pcs. / Pkt. It contains detailed data for the MINI-PS-100-240AC/ 5DC/3 power supply unit, including technical data, general data, and standards/regulations.



MINI 10-15 V DC/2 A

1 AC



MINI 10-15 V DC/8 A

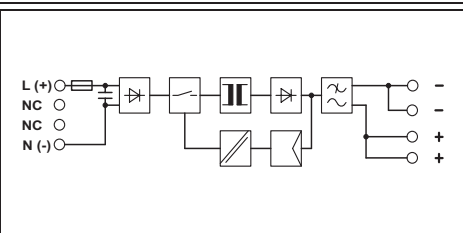
1 AC



MINI ±15 V DC/1 A

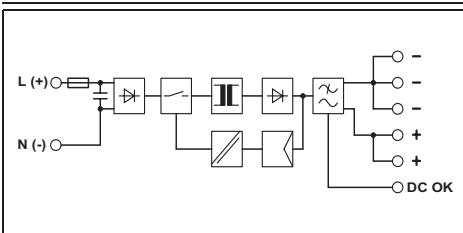
1 AC

Width 45 mm



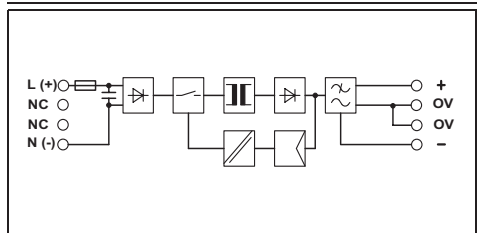
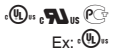
Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Width 67.5 mm



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Width 45 mm



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/10-15DC/2	2938756	1

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/10-15DC/8	2866297	1

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/2X15DC/1	2938743	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.4 A (120 V AC) / 0.2 A (230 V AC)
< 15 A / 1.7 A²s
> 20 ms (120 V AC) / > 20 ms (230 V AC)
2 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

12 V DC ±1%
10 V DC ... 15 V DC (> 12 V constant capacity)

2 A / 2.3 A
Yes / No
1 W / 7 W
> 85% (at 230 V AC and nominal values)
< 20 mV_{pp}

LED

0.25 kg / 45 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

4 kV (type test) / 3 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.3 A (120 V AC) / 0.8 A (230 V AC)
< 15 A / 2.1 A²s
> 20 ms (120 V AC) / > 20 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

12 V DC ±1%
10 V DC ... 15 V DC (> 12 V constant capacity)

8 A / 6.6 A
Yes / No
2.5 W / 12 W
> 88% (at 230 V AC and nominal values)
< 40 mV_{pp}

LED, active switching output

0.4 kg / 67.5 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

3 kV (type test) / 3 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.5 A (120 V AC) / 0.3 A (230 V AC)
< 15 A / 4 A²s
> 45 ms (120 V AC) / > 150 ms (230 V AC)
2.5 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

± 15 V DC ±1%
2x 15 V DC (> 15 V constant capacity)

1 A / 1.6 A
Yes / No
2 W / 8 W
> 80% (at 230 V AC and nominal values)
< 30 mV_{pp}

LED

0.25 kg / 45 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)
-40°C ... 85°C
95% (at 25°C, no condensation)

4 kV (type test) / 3 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

INTERFACE Power Supply

STEP POWER

Primary switched-mode power supply units

For installation distributors and flat control panels, STEP POWER, the family of power supply units, is the ideal choice. The low standby losses and high degree of efficiency make for maximum power efficiency in their class.

STEP 24 V DC/100 W

This power supply unit is suitable for applications that require a certification as per UL 1310/508 Listed Class 2. The basic definition of the American safety regulation NEC Class 2 requires a current source with a maximum of 100 W output power. In applications without secondary-side fuses, the limitation to 100 W ensures safety in daily production.



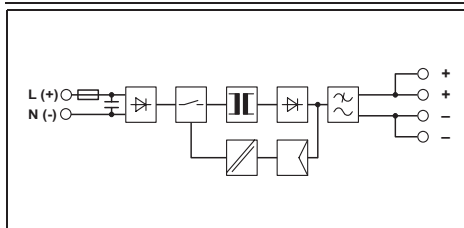
STEP 24 V DC/0.75 A

1 AC



Width 36 mm

Applied for: CB / NV



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3



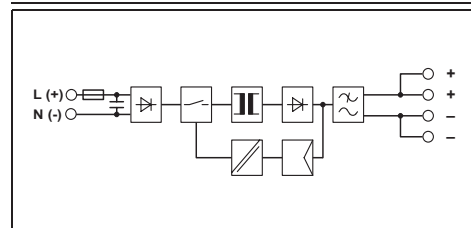
STEP 24 V DC/1.75 A

1 AC



Width 54 mm

Applied for: GL



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	STEP-PS/1AC/24DC/0.75	2868635	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 95 V DC ... 250 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 0.3 A (120 V AC) / Approx. 0.2 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{lt}	< 15 A / < 0.1 A ² s		
Mains buffering (I _N , typ.)	> 15 ms (120 V AC) / > 70 ms (230 V AC)		
Input fuse	1.25 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	-		
Output current	0.75 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	0.5 W / 3.6 W		
Efficiency (typ.)	> 84% (for 230 V AC and nominal values)		
Residual ripple	< 75 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.1 kg / 36 x 90 x 61 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 3 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / II		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55° C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950, NEC Class 2 as per UL 1310		
Limitation of harmonic line currents	EN 61000-3-2		
Type	STEP-PS/1AC/24DC/1.75	2868648	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 95 V DC ... 250 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 0.6 A (120 V AC) / Approx. 0.3 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{lt}	< 15 A / < 0.6 A ² s		
Mains buffering (I _N , typ.)	> 25 ms (120 V AC) / > 150 ms (230 V AC)		
Input fuse	3.15 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	22.5 V DC ... 29.5 V DC (> 24 V constant capacity)		
Output current	1.75 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	0.7 W / 5 W		
Efficiency (typ.)	> 89% (for 230 V AC and nominal values)		
Residual ripple	< 35 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.2 kg / 54 x 90 x 61 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 3 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / II		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55° C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		



STEP 24 V DC/2.5 A

1 AC



STEP 24 V DC / 100 W

1 AC, NEC Class 2



STEP 24 V DC/4.2 A

1 AC



Width 72 mm

Applied for: NV

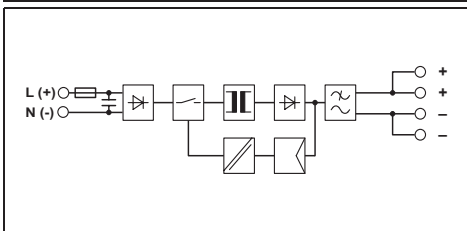
Width 90 mm

Applied for: UL Listed

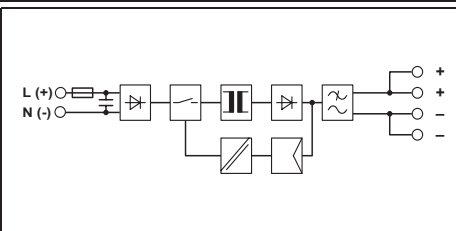


Width 90 mm

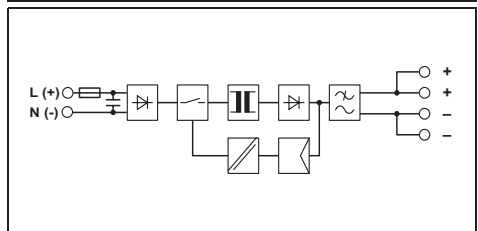
Applied for: GL



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/24DC/2.5	2868651	1

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/24DC/3.8/C2LPS	2868677	1

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/24DC/4.2	2868664	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.8 A (120 V AC) / Approx. 0.4 A (230 V AC)
< 15 A / < 0.6 A²s
> 20 ms (120 V AC) / > 100 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

2.5 A
Yes / Yes
0.7 W / 9.9 W
> 86% (for 230 V AC and nominal values)
< 50 mV_{pp}

LED

0.3 kg / 72 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.3 A (120 V AC) / Approx. 0.8 A (230 V AC)
< 15 A / < 1 A²s
> 25 ms (120 V AC) / > 120 ms (230 V AC)
4 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 25 V DC (> 24 V constant capacity)

3.8 A
Yes / Yes
0.7 W / 11.8 W
> 88% (for 230 V AC and nominal values)
< 25 mV_{pp}

LED

0.4 kg / 90 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL applied for, NEC Class 2 as per UL 1310

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.3 A (120 V AC) / Approx. 0.8 A (230 V AC)
< 15 A / < 1 A²s
> 20 ms (120 V AC) / > 100 ms (230 V AC)
4 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 29.5 V DC (> 24 V constant capacity)

4.2 A
Yes / Yes
0.7 W / 13.2 W
> 88% (for 230 V AC and nominal values)
< 25 mV_{pp}

LED

0.4 kg / 90 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

STEP POWER

Primary switched-mode power supply units

STEP POWER, 12 V DC

With an adjustable output voltage of 12 V DC devices as well as the permanent current limitation, they are suitable for charging batteries for example.

STEP POWER has the following advantages:

Saving energy: The newly developed ASIC (application specific integrated circuit) enables maximum energy efficiency and uniquely low standby losses

Flexible mounting on the DIN rail and on even surfaces:

The base latch can be used to snap the STEP POWER power supply units onto the DIN rail. Direct mounting on the wall is also possible.

The output voltage can be set on the front side:

With the easy-to-operate potentiometer the output voltage can be set flexibly.

Wide temperature range from -25 to +70°C:

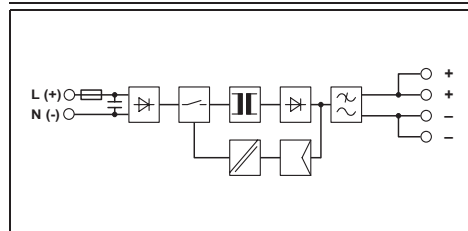
Due to their wide temperature range, the STEP POWER power supply units are also suitable for outdoor applications.



STEP 12 V DC/1.5 A

1 AC

Width 36 mm Applied for: CB / GL



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	STEP-PS/1AC/12DC/1.5	2868567	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 95 V DC ... 250 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 0.3 A (120 V AC) / Approx. 0.2 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{2t}	< 15 A / < 0.1 A ² s		
Mains buffering (I _N , typ.)	> 15 ms (120 V AC) / > 70 ms (230 V AC)		
Input fuse	1.25 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	12 V DC ±1%		
Setting range of the output voltage	-		
Output current	1.5 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	0.4 W / 3.2 W		
Efficiency (typ.)	> 84% (for 230 V AC and nominal values)		
Residual ripple	< 75 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.1 kg / 36 x 90 x 61 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 3 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / II		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950		
Limitation of harmonic line currents	EN 61000-3-2		



STEP 12 V DC/3 A

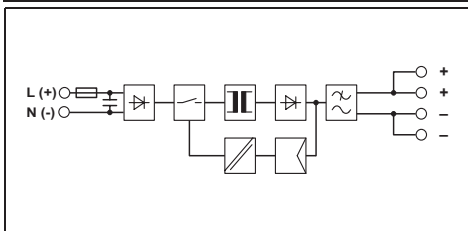
1 AC



STEP 12 V DC/5 A

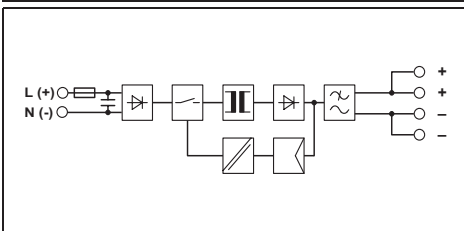
1 AC

Width 54 mm
Applied for: GL



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Width 72 mm
Applied for: GL



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/12DC/3	2868570	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.6 A (120 V AC) / Approx. 0.3 A (230 V AC)
< 15 A / < 0.6 A²s
> 26 ms (120 V AC) / > 160 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

12 V DC $\pm 1\%$
10 V DC ... 16.5 V DC (> 12 V constant capacity)

3 A
Yes / Yes
0.5 W / 6.4 W
> 85% (for 230 V AC and nominal values)
< 40 mV_{pp}

LED

0.2 kg / 54 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55° C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/12DC/5	2868583	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.8 A (120 V AC) / Approx. 0.5 A (230 V AC)
< 15 A / < 0.6 A²s
> 27 ms (120 V AC) / > 120 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

12 V DC $\pm 1\%$
10 V DC ... 16.5 V DC (> 12 V constant capacity)

5 A
Yes / Yes
0.5 W / 8.6 W
> 87% (for 230 V AC and nominal values)
< 55 mV_{pp}

LED

0.3 kg / 72 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55° C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

STEP POWER

Primary switched-mode power supply units

STEP POWER, special voltages and extra flat 24 V variant

STEP 24 V DC/0.75 A/FL

This especially flat STEP POWER power supply unit is ideal for applications requiring a horizontal mounting position. The nominal power without derating is available during installation on the DIN rail as well as in the horizontal position (vents upwards).

STEP POWER has the following advantages:

Worldwide use thanks to wide-range input:

Due to the wide-range input, power supply units can be used widely and function reliably even in case of intense voltage fluctuations due to unstable supply networks.

U/I characteristic curve for the supply of capacitive loads:

In the case of a short-circuit or overload, the power supply does not switch off but continues to supply the maximum short-circuit current. Capacitive loads as well as loads with DC/DC converters in the input circuit are thus supplied reliably.

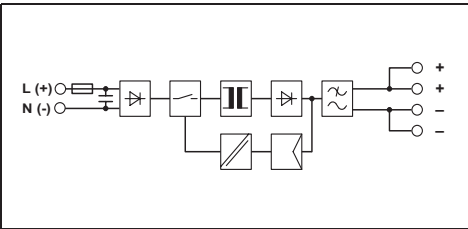


STEP 24 V DC/0.75 A/FL

1 AC, flat type

Width 36 mm

Applied for:
UL Listed / CB



Connection data	solid	stranded	AWG	
	[mm ²]			
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	STEP-PS/1AC/24DC/0.75/FL	2868622	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 95 V DC ... 250 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 0.37 A (120 V AC) / Approx. 0.25 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I ² t	< 15 A / < 0.1 A ² s		
Mains buffering (I _N , typ.)	> 15 ms (120 V AC) / > 70 ms (230 V AC)		
Input fuse	1.25 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	-		
Output current	0.75 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	0.5 W / 3.6 W		
Efficiency (typ.)	> 84% (for 230 V AC and nominal values)		
Residual ripple	< 75 mV _{pp}		
Signaling			
Signaling DC OK	LED		
General data			
Weight / Dimensions W x H x D	0.1 kg / 36 x 90 x 43 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 3 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / II		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating)		
Standards/regulations			
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	IEC 60950/VDE 0805 (SELV), IEC 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
UL approvals	UL applied for		
Limitation of harmonic line currents	EN 61000-3-2		

1 AC



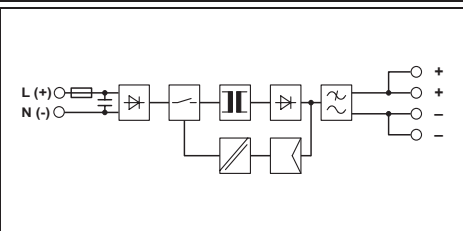
1 AC



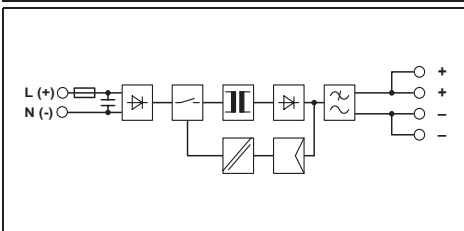
1 AC



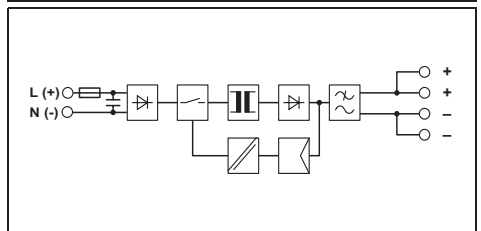
 Applied for: GL



Connection data	solid	stranded		
	[mm ²]		AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3



Connection data	solid	stranded		
	[mm ²]		AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3



Connection data	solid	stranded		
	[mm²]		AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/ 5DC/6.5	2868541	1

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/15DC/4	2868619	1

Type	Order No.	Pcs. / Pkt.
STEP-PS/1AC/48DC/2	2868680	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.5 A (120 V AC) / Approx. 0.3 A (230 V AC)
 $< 15 \text{ A} / < 0.63 \text{ A}^2\text{s}$
 $> 25 \text{ ms (120 V AC)} / > 140 \text{ ms (230 V AC)}$
 3.15 A (slow-blow, internal)
 6 A, 10 A, 16 A (characteristic B)

5 V DC $\pm 1\%$
4 V DC ... 6.5 V DC (> 5 V constant capacity)

6.5 A
Yes / Yes
0.4 W / 8.1 W
> 80% (for 230 V AC and nominal values)
< 41 mV_{pp}

LED

0.3 kg / 72 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage
guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 0.8 A (120 V AC) / Approx. 0.5 A (230 V AC)
 $< 15 \text{ A} < 0.6 \text{ A}^2\text{s}$
 $> 27 \text{ ms (120 V AC)} / > 120 \text{ ms (230 V AC)}$
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

15 V DC $\pm 1\%$
10 V DC ... 16.5 V DC (> 15 V constant capacity)

4 A
Yes / Yes
0.5 W / 8.6 W
> 87% (for 230 V AC and nominal values)
< 55 mV_{pp}

LED

0.3 kg / 72 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage
guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 1.3 A (120 V AC) / Approx. 0.8 A (230 V AC)
< 15 A / < 1.4 A²s
> 20 ms (120 V AC) / > 120 ms (230 V AC)
4 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

48 V DC $\pm 1\%$
30 V DC ... 56 V DC (> 48 V constant capacity)

2 A
Yes / Yes
0.9 W / 9.6 W
> 90% (for 230 V AC and nominal values)
< 25 mV_{pp}

LED

0.4 kg / 90 x 90 x 61 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 3 cm
Screw connection
IP20 / II
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 55°C derating)

2 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC guideline 2004/108/EC and for low-voltage
guideline 2006/95/EC
IEC 60950/VDE 0805 (SELV), IEC 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

EN 61000-3-2

INTERFACE Power Supply

QUINT POWER UPS

Uninterruptible Primary Switched-Mode Power Supply Units

QUINT UPS

Uninterruptible power supply units provide power even when the mains is down. An uninterruptible solution consists of three function units:

- Power supply unit
- Electronic switchover unit
- Power storage device

Maintenance-free:

QUINT BUFFER buffer module with energy storage unit on condenser base for short-time failures.

Retrofitting made easy:

QUINT DC-UPS 10 A electronic switchover unit with integrated rechargeable battery as energy storage unit in the same housing.

Stranded:

Modular combination of electronic switchover unit and energy storage unit: QUINT DC-UPS 20 A or 40 A with 3.4, 7.2 or 12 Ah rechargeable battery.

Note:

The buffer time of your solution depends on the load current. Accurate specifications about every uninterruptible power supply unit are given on page 593.

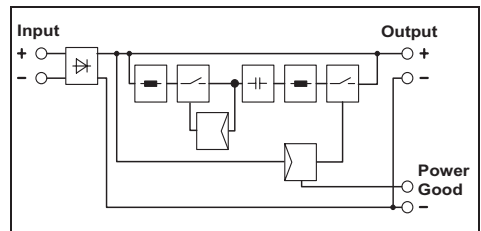


QUINT BUFFER/24 V DC/20 A

Buffer module, with maintenance-free capacitor-based power storage device



Width 64 mm



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.5-16	0.5-10	20-6	M4
Output	0.5-16	0.5-10	20-6	M4
Signal	0.2-2.5	0.2-2.5	24-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply, uninterruptible	QUINT-BUFFER/24DC/20	2866213	1
Technical data			
Input data			
Nominal input voltage	24 V DC		
Current consumption (idling/charging process/max.)	Approx. 0.1 A / 0.6 A / 20.6 A		
Connect threshold (fixed, variable)	< 22 V DC, (U _{IN} - 1 V)/0.1 s		
Buffer period	0.2 s (20 A) / 4 s (1 A)		
Input fuse	-		
Output data			
Nominal output voltage	24 V DC (depending on the input voltage)		
Output current	20 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (normal mode / buffer mode)	2.5 W / 9.8 W		
Efficiency (typ.)	> 95%		
Signaling			
Signaling DC OK	LED, active switching output		
Signaling alarm	-		
Signaling battery charge	-		
Signaling battery mode	-		
General data			
Storage medium	Internal, capacity		
Weight / Dimensions W x H x D	1 kg / 64 x 130 x 125 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / III, without PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C		
Standards/regulations			
Insulation voltage input/output	1 kV (type test) / 1 kV (routine test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
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		



QUINT DC-UPS/24 V DC/10 A

DC-UPS module, with integrated 1.3 Ah rechargeable battery module



QUINT DC-UPS/24 V DC/20 A

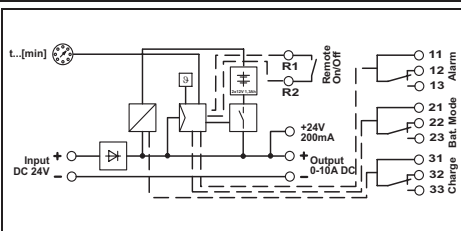
DC-UPS module, external rechargeable battery module
QUINT-BAT
24 V DC / 3.4 Ah, 7.2 Ah, 12 Ah



QUINT DC-UPS/24 V DC/40 A

DC-UPS module, external rechargeable battery module
QUINT-BAT
24 V DC / 3.4 Ah, 7.2 Ah, 12 Ah

Width 100 mm
EX:



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
QUINT-DC-UPS/24DC/10	2866226	1

24 V DC
Approx. 0.1 A / 0.5 A / 10.5 A
< 22 V DC, ($U_{IN} - 1$ V)/0.1 s
1.5 min (10 A) / 20 min (2 A)

15 A (slow-blow, internal)

24 V DC (normal operation: $U_{IN} - 0.5$ V DC, buffer mode: 27.9 to 19.2 V DC)
10 A
No / Yes
20 W / 8 W

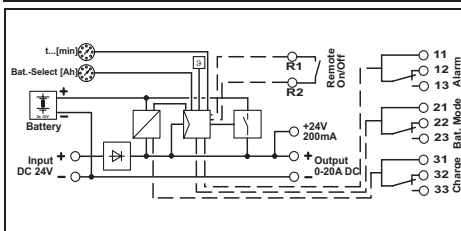
> 91%

-
LED, relay contact
LED, relay contact
LED, relay contact

Internal, battery 1.3 Ah
1.8 kg / 100 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
0°C ... 50°C

4 kV (type test) / 2 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
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

Width 66 mm
EX:



Connection data	solid	stranded	AWG	
Input	0.5-16	0.5-10	20-6	M4
Output	0.5-16	0.5-10	20-6	M4
Signal	0.2-4	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
QUINT-DC-UPS/24DC/20	2866239	1

24 V DC
Approx. 0.1 A / 2 A / 22 A
< 22 V DC, ($U_{IN} - 1$ V)/0.1 s
(depends on the storage medium, e.g. 45 min / 20 A)

25 A (slow-blow, internal)

24 V DC (normal operation: $U_{IN} - 0.5$ V DC, buffer mode: 27.9 to 19.2 V DC)
20 A
No / Yes
15 W / 20 W

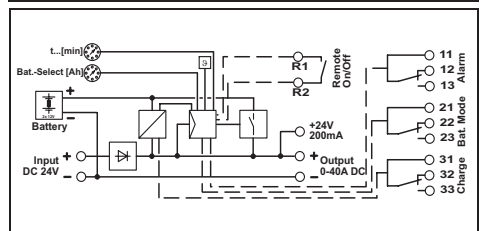
> 95%

-
LED, relay contact
LED, relay contact
LED, relay contact

External, battery 3.4 Ah/7.2 Ah/12 Ah
0.8 kg / 66 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C

4 kV (type test) / 2 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
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

Width 66 mm
EX:



Connection data	solid	stranded	AWG	
Input	0.5-16	0.5-10	20-6	M4
Output	0.5-16	0.5-10	20-6	M4
Signal	0.2-4	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
QUINT-DC-UPS/24DC/40	2866242	1

24 V DC
Approx. 0.1 A / 2.5 A / 42.5 A
< 22 V DC, ($U_{IN} - 1$ V)/0.1 s
(depends on the storage medium, e.g. 10 min / 40 A)

50 A (slow-blow, internal)

24 V DC (normal operation: $U_{IN} - 0.5$ V DC, buffer mode: 27.9 to 19.2 V DC)
40 A
No / Yes
20 W / 30 W

> 98%

-
LED, relay contact
LED, relay contact
LED, relay contact

External, battery 3.4 Ah/7.2 Ah/12 Ah
0.9 kg / 66 x 130 x 125 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C

4 kV (type test) / 2 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
UL/C-UL listed UL 508, UL/C-UL Recognized UL 60950

INTERFACE Power Supply

TRIO and MINI POWER UPS

Uninterruptible primary switched-mode power supply units

TRIO and MINI UPS

Uninterruptible power supply units provide power even when the mains is down.

Extremely space-saving:

TRIO and MINI UPS combine the power supply unit and the electronic switchover unit in one housing.

TRIO UPS

The uninterruptible power supply unit TRIO UPS has been specially developed for the supply of industrial PCs. In case of mains failures, the IPC continues to function with a 12 Ah rechargeable battery for 3 h, for example.

Configuration port: Freely parameterizable with the PC.

Configuration stick: Parameterize stick 1x and transfer it to any number of TRIO UPS.

In case of mains failure, the IPC is shut down in a controlled manner before the rechargeable battery module has insufficient capacity. As soon as the AC voltage returns, there is an automatic restart which saves time as compared to a manual restart.

MINI UPS

High operational reliability:

Comprehensive signaling and optimized battery management.

Quickly installed:

Minimum wiring cost for easy connection.

Note:

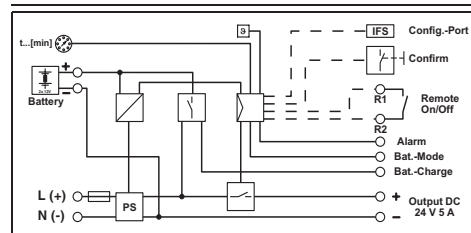
The buffer time of your solution depends on the load current. Accurate specifications about every uninterruptible power supply unit are given on page 593.



TRIO DC-UPS/24 V DC/5 A

DC-UPS module with integrated power supply unit, external rechargeable battery module MINI-BAT 24 V DC / 1.3 Ah, QUINT-BAT 24 V DC / 3.4, 7.2, 12 Ah

Width 60 mm



Connection data	solid	stranded	AWG
Input	0.2-2.5	0.2-2.5	24-12
Output	0.2-2.5	0.2-2.5	24-12
Signal	0.2-2.5	0.2-2.5	24-12

Description	Type	Order No.	Pcs. / Pkt.
Power supply, uninterruptible	TRIO-UPS/1AC/24DC/ 5	2866611	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC		
Max. current consumption in normal mode	Approx. 1.15 A / 1.35 A (230 V AC), Approx. 2.7 A / 3.1 A (120 V AC)		
Buffer period	(Depends on the storage medium, e.g. 20 min / 5 A)		
Input fuse	6.3 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC (normal operation: 22.5 to 29.5 V DC, buffer mode: 27.9 to 19.2 V DC)		
Output current	5 A		
Can be connected in parallel / series	No / Yes		
Max. power dissipation (idling / normal mode / buffer mode)	4 W / 20 W / 4 W		
Efficiency (typ.)	> 86%		
Signaling			
Signaling power OK	LED		
Signaling alarm	LED, active relay output		
Signaling battery charge	LED, active switching output		
Signaling battery mode	LED, active relay output		
General data			
Storage medium	External, battery 1.3 Ah / 3.4 Ah / 7.2 Ah / 12 Ah		
Weight / Dimensions W x H x D	1.1 kg / 60 x 30 x 152.5 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / II (in an enclosed control cabinet)		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)		
Standards/regulations			
Insulation voltage input/output	4 kV (type test) / 2 kV (routine test)		
Electromagnetic compatibility	Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), -		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950		



MINI DC-UPS/24 V DC/2 A

DC-UPS module with integrated power supply unit,
external rechargeable battery module MINI-BAT
24 V DC / 0.8 Ah, 1.3 Ah

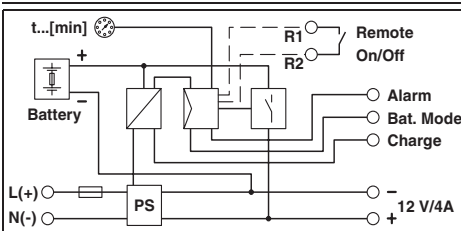
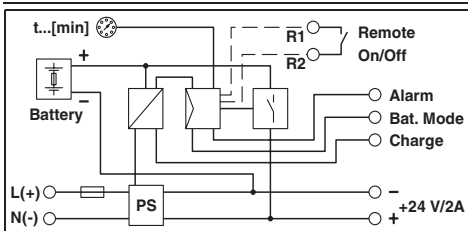


MINI DC-UPS/12 V DC/4 A

DC-UPS module with integrated power supply unit,
external rechargeable battery module MINI-BAT
12 V DC / 1.6 Ah, 2.6 Ah

Width 67.5 mm Applied for: UL-EX LIS / CUL-EX LIS

Width 67.5 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-DC-UPS/24DC/2	2866640	1

Type	Order No.	Pcs. / Pkt.
MINI-DC-UPS/12DC/4	2866598	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 110 V DC ... 350 V DC
Approx. 0.6 A / 0.85 A (230 V AC), Approx. 1.1 A / 1.5 A (120 V AC)

(depends on the storage medium, e.g. 20 min / 2 A)

3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC (normal operation: 22.5 to 29.5 V DC, buffer mode: 27.9 to 19.2 V DC)
2 A
No / Yes
3.8 W / 10.1 W / 2.1 W

> 83%

LED
LED, active switching output
LED, active switching output
LED, active switching output

External, battery 0.8 Ah / 1.3 Ah
0.45 kg / 67.5 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

4 kV (type test) / 2 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
UL Listed UL 508, UL/C-UL Recognized UL 60950

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 100 V DC ... 350 V DC
Approx. 0.5 A / 0.65 A (230 V AC), Approx. 1.15 A / 1.35 A (120 V AC)

(Depending on the storage medium, e.g. 20 min / 4 A)

3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

12 V DC (normal mode: 10 to 16 V DC, buffer mode: 9.6 to 13.6 V DC)
4 A
No / Yes
1.6 W / 10.5 W / 2.6 W

> 82%

LED
LED, active switching output
LED, active switching output
LED, active switching output

External, rechargeable battery 1.6 Ah / 2.6 Ah
0.45 kg / 67.5 x 99 x 107 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

4 kV (type test) / 2 kV (routine test)
Conformance with EMC guideline 2004/108/EC and for low-voltage guideline 2006/95/EC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
UL Listed UL 508, UL/C-UL Recognized UL 60950

INTERFACE Power Supply

Battery modules

Rechargeable battery modules for uninterrupted power supplies

QUINT and TRIO UPS

The maintenance-free lead-gel rechargeable batteries guarantee a long service life of 9 years at 20°C and a high degree of quality and reliability. The low inner resistance ensures low self-discharge.

Accessories for BATTERY/24 DC

– DIN rail adapter

Type: QUINT-ADAPTER/4

Order No.: 2866857

In case of the 3.4 Ah batteries, the DIN rail adapter is already inclusive.

The use is optional for the 7.2 and 12 Ah rechargeable batteries. For these batteries, mounting using the DIN rail adapters is possible only in low-vibration areas.

– Flat-type fuse inserts

Type: SI FORM C 25 A DIN 72 581

Order No.: 0913757

Note:

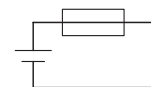
The buffer time of your solution depends on the load current. Accurate specifications about every uninterruptible power supply unit are given on page 593.



QUINT-BAT/24DC/3.4AH

Battery module, 24 V DC, 3.4 Ah
For DC-UPS/20 A, 40 A, TRIO DC-UPS 5 A

Width 112 mm



Description	Type	Order No.	Pcs. / Pkt.
Battery module	QUINT-BAT/24DC/ 3.4AH	2866349	1
Technical data			
Input data			
Nominal input voltage	24 V DC		
Nominal capacity	3.4 Ah		
Output data			
Nominal output voltage	24 V DC		
Output current	25 A		
Output fuse	25 A		
Can be connected in parallel / series	Yes / No		
General data			
Weight / Dimensions W x H x D	3.5 kg / 112 x 145 x 123 mm		
Degree of protection / Class of protection	IP20 / III		
Ambient temperature (operation)	0°C ... 40°C		
Service life of the rechargeable battery (Eurobat)	6-9 years at 20°C		
Latest startup date (battery only)	9 months at 20-30°C, 6 months at 30-40°C		



QUINT-BAT/24DC/7.2AH

Battery module, 24 V DC, 7.2 Ah
For DC-UPS/20 A, 40 A, TRIO DC-UPS 5 A



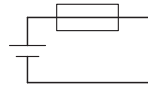
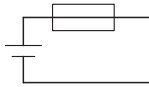
QUINT-BAT/24DC/12AH

Battery module, 24 V DC, 12 Ah
For DC-UPS/20 A, 40 A, TRIO DC-UPS 5 A

Width 164 mm



Width 231 mm



Type	Order No.	Pcs. / Pkt.
QUINT-BAT/24DC/ 7.2AH	2866352	1

24 V DC
7.2 Ah

24 V DC
50 A
2x 25 A
Yes / No

6 kg / 164 x 156 x 123 mm
IP20 / III
0°C ... 40°C
6-9 years at 20°C
9 months at 20-30°C, 6 months at 30-40°C

Type	Order No.	Pcs. / Pkt.
QUINT-BAT/24DC/12AH	2866365	1

24 V DC
12 Ah

24 V DC
50 A
2x 25 A
Yes / No

9 kg / 231 x 156 x 123 mm
IP20 / III
0°C ... 40°C
6-9 years at 20°C
9 months at 20-30°C, 6 months at 30-40°C

INTERFACE Power Supply

Battery modules

Rechargeable battery modules for uninterrupted power supplies MINI and TRIO UPS

The maintenance-free lead-gel rechargeable batteries guarantee a long service life and a high degree of quality and reliability.

Note:

The buffer time of your solution depends on the load current. Accurate specifications about every uninterruptible power supply unit are given on page 593.



MINI-BAT/24DC/0.8AH



MINI-BAT/24DC/1.3AH

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Battery module 24 V DC, 0.8 Ah for MINI DC-UPS/2A 24 V DC, 1.3 Ah for MINI DC-UPS/2A and TRIO DC-UPS	MINI-BAT/24DC/0.8AH	2866666	1	MINI-BAT/24DC/1.3AH	2866417	1
Technical data						
Input data						
Nominal input voltage	24 V DC			24 V DC		
Nominal capacity	0.8 Ah			1.3 Ah		
Output data						
Nominal output voltage	24 V DC			24 V DC		
Output current	5 A			15 A		
Output fuse	5 A			15 A		
Can be connected in parallel / series	Yes / No			Yes / No		
General data						
Weight / Dimensions W x H x D	0.9 kg / 67.5 x 99 x 107 mm			1.7 kg / 52 x 130 x 110 mm		
Degree of protection / Class of protection	IP20 / III			IP20 / III		
Ambient temperature (operation)	0°C ... 40°C			0°C ... 40°C		
Service life of the rechargeable battery (Eurobat)	4 years at 20°C			6-9 years at 20°C		
Latest startup date (battery only)	9 months at 20-30°C, 6 months at 30-40°C			9 months at 20-30°C, 6 months at 30-40°C		

Rechargeable battery modules for uninterrupted power supplies MINI UPS

The maintenance-free lead-gel rechargeable batteries guarantee a long service life and a high degree of quality and reliability.

Note:

The buffer time of your solution depends on the load current. Accurate specifications about every uninterruptible power supply unit is given on page 593.



MINI-BAT/12DC/1.6AH



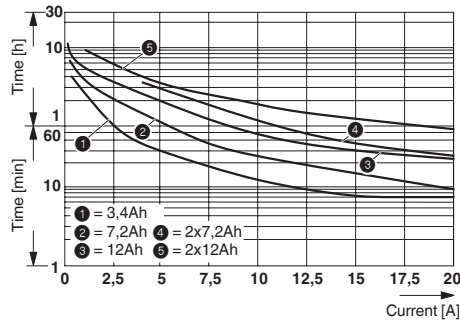
MINI-BAT/12DC/2.6AH

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Battery module 12 V DC, 1.6 Ah for MINI DC-UPS/4A 12 V DC, 2.6 Ah for MINI DC-UPS/4A	MINI-BAT/12DC/1.6AH	2866572	1	MINI-BAT/12DC/2.6AH	2866569	1
Technical data						
Input data						
Nominal input voltage	12 V DC			12 V DC		
Nominal capacity	1.6 Ah			2.6 Ah		
Output data						
Nominal output voltage	12 V DC			12 V DC		
Output current	10 A			15 A		
Output fuse	10 A			25 A		
Can be connected in parallel / series	Yes / No			Yes / No		
General data						
Weight / Dimensions W x H x D	0.9 kg / 67.5 x 99 x 107 mm			1.7 kg / 52 x 130 x 110 mm		
Degree of protection / Class of protection	IP20 / III			IP20 / III		
Ambient temperature (operation)	0°C ... 40°C			0°C ... 40°C		
Service life of the rechargeable battery (Eurobat)	4 years at 20°C			6-9 years at 20°C		
Latest startup date (battery only)	9 months at 20-30°C, 6 months at 30-40°C			9 months at 20-30°C, 6 months at 30-40°C		

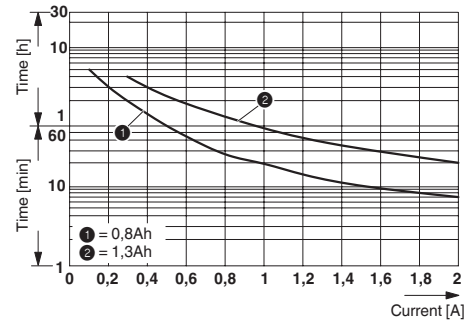
Selection of the uninterruptible power supply UPS

In order to select the optimum UPS, the current requirement of the load to be buffered and the desired buffer duration must be known. With the help of the diagrams, find the dependence between the current and the buffer time of the relevant UPS solution.

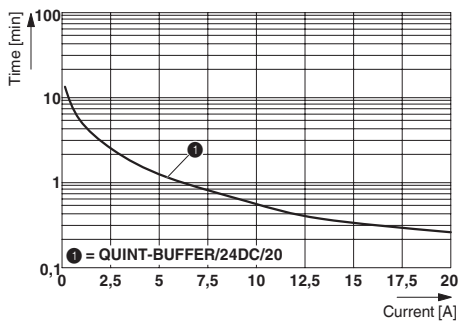
QUINT-DC-UPS/24DC/20



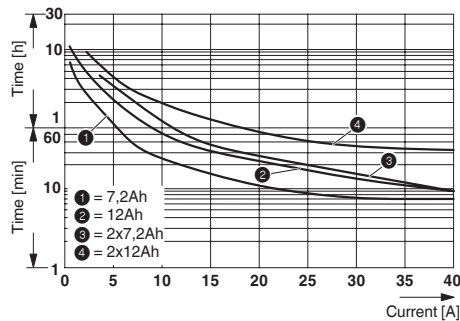
MINI-DC-UPS/24DC/2



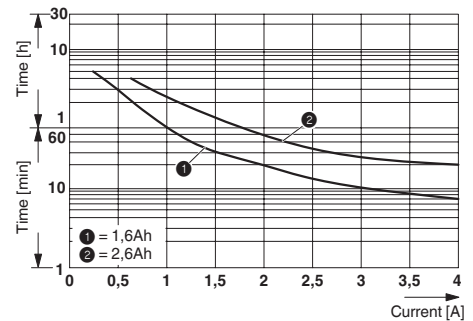
QUINT-BUFFER/24DC/20



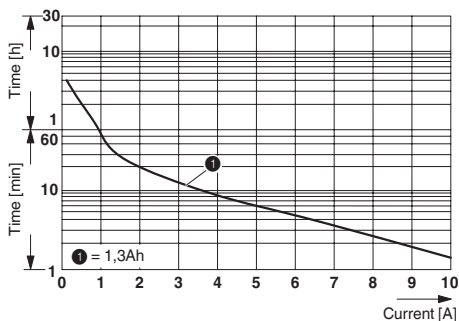
QUINT-DC-UPS/24DC/40



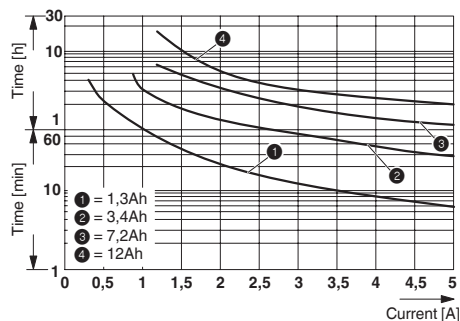
MINI-DC-UPS/12DC/4



QUINT-DC-UPS/24DC/10



TRIO-UPS/1AC/24DC/5



INTERFACE Power Supply QUINT and MINI POWER EX

Primary switched-mode power supply units for the explosive area

QUINT POWER EX

The power supply units comply with the EN 60079-15 standard and may be installed within the potentially hazardous area in which category 3 items are necessary (Ex II 3G). They are also suitable for use in Class I, Division 2, Groups A, B, C, D.

- Universal power supply with extensive product range, including special variants and accessories
- Starting heavy loads with high inrush currents reliably using POWER BOOST power reserve
- Can be used worldwide in all industrial sectors thanks to a large approval package
- Active function monitoring through switching output and floating relay contact for remote diagnosis

MINI POWER EX

The power supply unit complies with standard EN 60079-15 and may be installed within the potentially explosive area in which category 3G items are necessary.

DIN rail connector (optional), for routing through of supply voltage and data signal, two pieces are required per device (ME 17,5 TBUS 1,5/5-ST-3,81 GN, 2709561).

Note:

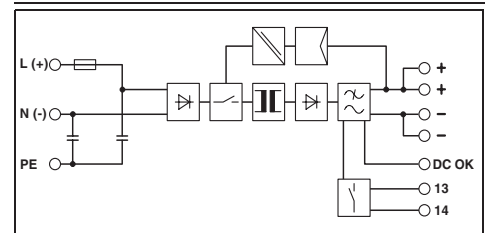
For details about explosion protection, see page 424.



QUINT 24 V DC/5 A/EX

1 AC

Width 55 mm



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Description	Type	Order No.	Pcs. / Pkt.
Power supply unit, primary switched-mode	QUINT-PS-100-240AC/24DC/ 5/EX	2938853	1
Technical data			
Input data			
Input nominal voltage range	100 V AC ... 240 V AC		
Input voltage range AC/DC	85 V AC ... 264 V AC / 90 V DC ... 350 V DC		
Frequency range	45 Hz ... 65 Hz / 0 Hz		
Current consumption (nominal load)	Approx. 1.6 A (120 V AC) / 0.8 A (230 V AC)		
Inrush current limitation at 25°C (typ.) / I _{st}	< 20 A / 2.5 A ² s		
Mains buffering (I _N , typ.)	> 20 ms (120 V AC) / > 120 ms (230 V AC)		
Input fuse	5 A (slow-blow, internal)		
Recommended backup fuse, LS switch	6 A, 10 A, 16 A (characteristic B)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	22.5 V DC ... 28.5 V DC		
Output current / POWER BOOST	5 A / 7.5 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	2.7 W / 18 W		
Efficiency (typ.)	> 87%		
Residual ripple	< 30 mV _{pp}		
Signaling			
Signaling DC OK	LED, active switching output, relay contact		
General data			
Weight / Dimensions W x H x D	1 kg / 55 x 130 x 125 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Pluggable screw connection		
Degree of protection / Class of protection	IP20 / I, with PE connection		
MTBF (at nominal load, 40°C)	> 500 000 h in acc. with IEC 61709 (SN 29500)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating)		
Standards/regulations			
Insulation voltage input/output	4 kV (type test) / 2 kV (routine test)		
Electromagnetic compatibility	Conformance with EMC directive 89/336/EEC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
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		
Limitation of harmonic line currents	EN 61000-3-2		



QUINT 24 V DC/10 A/EX

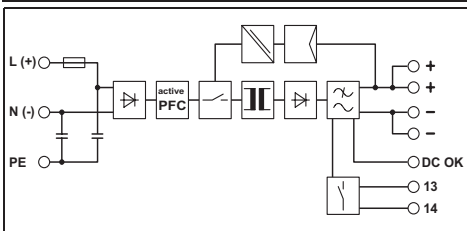
1 AC



MINI 24DC/1.5 A/EX

1 AC

Width 85 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.5-16	0.5-10	20-6	M4
Signal	0.5-16	0.5-10	20-6	M4

Type	Order No.	Pcs. / Pkt.
QUINT-PS-100-240AC/24DC/10/EX	2938866	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC / 90 V DC ... 350 V DC
45 Hz ... 65 Hz / 0 Hz
Approx. 2.4 A (120 V AC) / 1.3 A (230 V AC)
< 15 A / 1.5 A²s
> 50 ms (120 V AC) / > 50 ms (230 V AC)
6.3 A (slow-blow, internal)
10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
22.5 V DC ... 28.5 V DC
10 A / 15 A
Yes / Yes
4 W / 33 W
> 88%
< 30 mV_{pp}

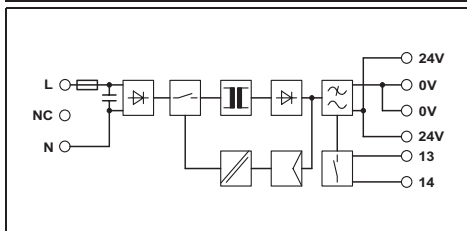
LED, active switching output, relay contact

1.3 kg / 85 x 130 x 130 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / I, with PE connection
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

4 kV (type test) / 2 kV (routine test)
Conformance with EMC directive 89/336/EEC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

Width 35 mm



Connection data	solid	stranded	AWG	
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.5-16	0.5-10	20-6	M4

Type	Order No.	Pcs. / Pkt.
MINI-PS-100-240AC/24DC/1.5/EX	2866653	1

100 V AC ... 240 V AC
85 V AC ... 264 V AC
45 Hz ... 65 Hz
Approx. 0.75 A (120 V AC) / 0.45 A (230 V AC)
< 15 A / 0.6 A²s
> 20 ms (120 V AC) / > 100 ms (230 V AC)
3.15 A (slow-blow, internal)
6 A, 10 A, 16 A (characteristic B)

24 V DC $\pm 1\%$
-
1.5 A / 2 A
Yes / No
2.5 W / 12 W
> 84%
< 40 mV_{pp}

LED, relay contact

0.25 kg / 35 x 99 x 95 mm
Horizontal DIN rail NS 35, EN 60715
Can be aligned: Horizontal 0 cm, vertical 5 cm
Pluggable screw connection
IP20 / II (in an enclosed control cabinet)
> 500 000 h in acc. with IEC 61709 (SN 29500)
-25°C ... 70°C (> 60°C derating)

4 kV AC (type test) / 3 kV AC (routine test)
Conformance with EMC directive 89/336/EEC
EN 60950/VDE 0805 (SELV), EN 61558-2-17
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410, DIN VDE 0106-1010
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

EN 61000-3-2

INTERFACE Power Supply
Redundancy module

Primary switched-mode power supply
units for the explosive area

Redundancy module QUINT DIODE

The redundancy module can be used to decouple two similar type of power supply units from each other on the output side.

The rugged structure as well as the integrated transient surge voltages ensure maximum system availability in case of supply of critical applications.

The redundancy module complies with standard EN 60079-15 and may be installed within the potentially hazardous area in which category 3G items are necessary.

Note:

For details about explosion protection, see page 424.

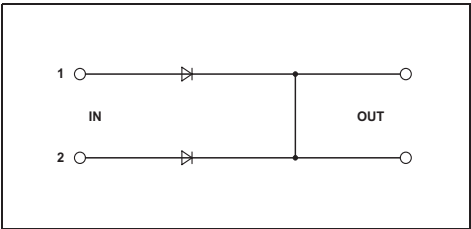


QUINT-DIODE/40 A

Redundancy module



Width 62 mm



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.5-16	0.5-10	20-6	M4
Output	0.5-16	0.5-10	20-6	M4

Description	Type	Order No.	Pcs. / Pkt.
Redundancy module	QUINT-DIODE/40	2938963	1
Technical data			
Input data			
Nominal input voltage	24 V DC		
Input voltage range	0 V DC ... 30 V DC		
Conducting-state current	2x 20 A (Max. 30 A) 1x 40 A (Max. 60 A)		
Transient surge protection	Transil diode		
Voltage drop, input/output	Approx. 0.5 V		
Max. power dissipation (nominal load)	20 W		
General data			
Weight / Dimensions W x H x D	0.7 kg / 62 x 84 x 102 mm		
Installation position	Horizontal and vertical DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 2 cm, vertical 5 cm		
Type of connection	Screw connection		
Degree of protection / Class of protection	IP20 / II (in an enclosed control cabinet)		
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating, Ex) -25 to +60°C		
Ambient temperature (storage/transport)	-40°C ... 85°C		
Max. permissible relative humidity (operation)	95% (at 25°C, no condensation)		
Standards/regulations			
Insulation voltage input/output	- / 1 kV		
Electromagnetic compatibility	Conformance with EMC directive 2004/108/EC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), -		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
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		

INTERFACE Power Supply

QUINT and MINI POWER DC-DC converters

Primary switched-mode power supply units

DC-DC converter

If no regulated and stable 24 V direct voltage is available for supplying a load, the DC-DC converter ensures adaptation of the 24 V load to an unregulated direct voltage or direct voltage of another voltage level.

Due to **electrical isolation**, the DC voltage circuits are electrically isolated from each other in a safe way.

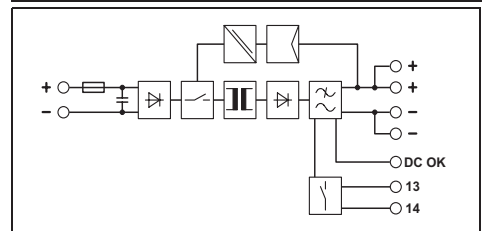


QUINT 24 V DC/24 V DC/10 A

DC-DC converter



Width 80 mm



Connection data	solid	stranded	AWG	
		[mm ²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Description	Type	Order No.	Pcs. / Pkt.
DC-DC converter , primary switched mode	QUINT-PS- 24DC/24DC/10	2866378	1
Technical data			
Input data			
Input nominal voltage range	24 V DC		
Input voltage range AC/DC	- / 18 V DC ... 32 V DC		
Current consumption (nominal load)	Approx. 11.4 A (24 V) / -		
Inrush current limitation at 25°C (typ.) / I ² t	< 20 A / 0.3 A ² s		
Input fuse	25 A (slow-blow, internal)		
Output data			
Nominal output voltage	24 V DC ±1%		
Setting range of the output voltage	22.5 V DC ... 28.5 V DC (> 24 V constant capacity)		
Output current	10 A		
Can be connected in parallel / series	Yes / Yes		
Max. power dissipation (idling/nominal load)	2 W / 28 W		
Efficiency (typ.)	> 88% (at 24 V DC and nominal values)		
Residual ripple	< 30 mV _{pp}		
Signaling			
Signaling DC OK	LED, active switching output, relay contact		
General data			
Weight / Dimensions W x H x D	0.95 kg / 80 x 130 x 125 mm		
Installation position	Horizontal DIN rail NS 35, EN 60715		
Distance during assembly	Can be aligned: Horizontal 0 cm, vertical 5 cm		
Type of connection	Pluggable screw connection		
Degree of protection / Class of protection	IP20 / III		
MTBF (at nominal load, 40°C)	> 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)		
Standards/regulations			
Insulation voltage input/output	1.5 kV (type test) / 1 kV (routine test)		
Electromagnetic compatibility	Conformance with EMC directive 89/336/EEC		
Electrical safety, safety transformer	EN 60950/VDE 0805 (SELV), EN 61558-2-17		
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)		
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-1010		
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		



MINI 12-24 V DC/24 V DC/1 A

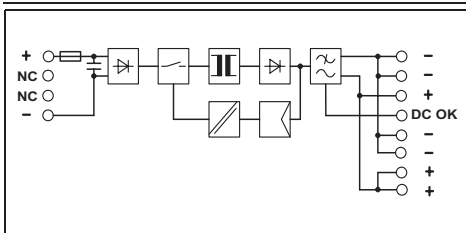
DC-DC converter



MINI 48-60 V DC/24 V DC/1 A

DC-DC converter

Width 22.5 mm



Connection data	solid	stranded	AWG	
		[mm²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-PS- 12- 24DC/24DC/1	2866284	1

12 V DC ... 24 V DC
 - / 10 V DC ... 32 V DC
 Approx. 3.2 A (10 V DC) / 1 A (32 V DC)
 < 15 A / 1.8 A²s
 6.3 A (slow-blow, internal)

24 V DC ±1%
 22.5 V DC ... 28.5 V DC (> 24 V constant capacity)

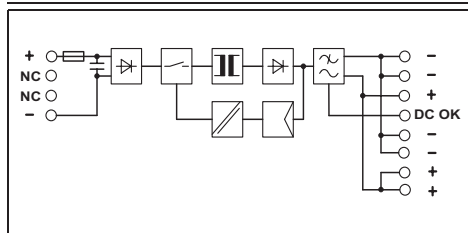
1 A
 Yes / No
 1.2 W / 5 W
 > 83% (at 24 V DC and nominal values)
 < 30 mV_{pp}

LED, active switching output

0.2 kg / 22.5 x 99 x 107 mm
 Horizontal DIN rail NS 35, EN 60715
 Can be aligned: Horizontal 0 cm, vertical 5 cm
 Pluggable screw connection
 IP20 / II
 > 500 000 h in acc. with IEC 61709 (SN 29500)
 -25°C ... 70°C (> 60°C derating)
 -40°C ... 85°C
 95% (at 25°C, no condensation)

1.5 kV (type test) / 1 kV (routine test)
 Conformance with EMC directive 89/336/EEC
 EN 60950/VDE 0805 (SELV), EN 61558-2-17
 EN 50178/VDE 0160 (PELV)
 DIN VDE 0100-410, DIN VDE 0106-1010
 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

Width 22.5 mm



Connection data	solid	stranded	AWG	
		[mm²]		
Input	0.2-2.5	0.2-2.5	24-12	M3
Output	0.2-2.5	0.2-2.5	24-12	M3
Signal	0.2-2.5	0.2-2.5	24-12	M3

Type	Order No.	Pcs. / Pkt.
MINI-PS- 48- 60DC/24DC/1	2866271	1

48 V DC ... 60 V DC
 - / 36 V DC ... 75 V DC
 Approx. 0.8 A (36 V DC) / 0.4 A (75 V DC)
 < 15 A / 1.8 A²s
 3.15 A (slow-blow, internal)

24 V DC ±1%
 22.5 V DC ... 28.5 V DC (> 24 V constant capacity)

1 A
 Yes / No
 1.2 W / 5 W
 > 85% (at 60 V DC and nominal values)
 < 40 mV_{pp}

LED, active switching output

0.2 kg / 22.5 x 99 x 107 mm
 Horizontal DIN rail NS 35, EN 60715
 Can be aligned: Horizontal 0 cm, vertical 5 cm
 Pluggable screw connection
 IP20 / II
 > 500 000 h in acc. with IEC 61709 (SN 29500)
 -25°C ... 70°C (> 60°C derating)
 -40°C ... 85°C
 95% (at 25°C, no condensation)

1.5 kV (type test) / 1 kV (routine test)
 Conformance with EMC directive 89/336/EEC
 EN 60950/VDE 0805 (SELV), EN 61558-2-17
 EN 50178/VDE 0160 (PELV)
 DIN VDE 0100-410, DIN VDE 0106-1010
 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

INTERFACE Power Supply

Power supply accessories

Mounting on S7-300 rail

To supply a SIMATIC® S7-300 control unit, QUINT POWER 2.5 A, 5 A and 10 A are mounted on the S7 rail using a QUINT-PS-ADAPTER-S7.

No further accessories are required for fastening.



ADAPTERS7/1



ADAPTERS7/2

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Adapter for S7-300 rail mounting, for: QUINT-PS/1AC/24DC/3.5 QUINT-PS/1AC/24DC/5 QUINT-PS/3AC/24DC/5	QUINT-PS-ADAPTERS7/1	2938196	1			
Adapter for S7-300 rail mounting, for: QUINT-PS/1AC/24DC/10 QUINT-PS/3AC/24DC/10 QUINT-PS/3AC/24DC/20				QUINT-PS-ADAPTERS7/2	2938206	1
Technical data Dimensions W x H x D Material	74 / 130 / 11 mm Aluminum			104 / 130 / 11 mm Aluminum		

Fan / universal panel adapter

Fan:

If the power supply unit is in the normal mounting position, the temperature range is increased by 10 K and if it is in a rotated mounting position, the position-dependent derating is no longer required.

Adapter:

For maximum vibration requirements.



QUINT-PS/FAN/4



UWA 182/52

Description	Type	Order No.	Pcs. / Pkt.	Type	Order No.	Pcs. / Pkt.
Fan for QUINT POWER SFB, 24 V DC						
Universal panel adapter, for direct panel mounting of the TRIO-PS (from 10 A), QUINT-PS, QUINT-DC-UPS, QUINT-BUFFER power supply units	QUINT-PS/FAN/4	2320076	1			
Technical data Dimensions W x H x D Material	41 / 27 / 42.2 mm V0 (UL 94)			UWA 182/52 52 / 182 / 9 mm Steel	2938235	1

DC protection

Depending on the line length and cross-section, the SFB technology can reach its physical limits and electronic fuses are then used instead of line circuit breakers.

The ECP-E electronic circuit breaker constantly limits the fault current at 1.8-times the protected nominal current.

For more technical data, drawings and accessories, visit www.phoenixcontact.net/eshop.



EC-E1 ...



EC-E4 ...

Description	Nominal current	Type	Order No.	Pcs. / Pkt.	Type	I_{max}	Order No.	Pcs. / Pkt.
Electronic circuit breaker, signal contact: 1 N/O contact	1 A	EC-E1 1A	0903023	6				
	2 A	EC-E1 2A	0903024	6				
	3 A	EC-E1 3A	0903025	6				
	4 A	EC-E1 4A	0903026	6				
	6 A	EC-E1 6A	0903028	6				
	8 A	EC-E1 8A	0903029	6				
	10 A	EC-E1 10A	0903030	6				
Electronic circuit breaker, signal contact: 1 N/C contact	12 A	EC-E1 12A	0903031	6				
	1 A				EC-E4 1A		0903032	6
	2 A				EC-E4 2A		0903033	6
	3 A				EC-E4 3A		0903034	6
	4 A				EC-E4 4A		0903035	6
	6 A				EC-E4 6A		0903036	6
	8 A				EC-E4 8A		0903037	6
	10 A				EC-E4 10A		0903038	6
	12 A				EC-E4 12A		0903039	6

Technical data

Width / length / height

[mm]

12.5 / 80 / 80

12.5 / 80 / 80

VIP - VARIOFACE Professional modules as compact potential distributors

- 2 potential levels
- Separate supply
- Consecutive labeling
- Screw connection

Note:

Type of housing:
Polyamide PA non-reinforced, color: green.

For marking systems and mounting material, see CLIPLINE catalog.



VIP-2/SC/PDM-2/...

Description	No. of pos.	Module width W	Type	Order No.	Pcs. / Pkt.
VARIOFACE module , with two busbars (P1, P2) for potential distribution, per potential:					
2 power terminal blocks/8 distributor terminal blocks		50.00	VIP-2/SC/PDM-2/16	2315256	1
2 power terminal blocks/12 distributor terminal blocks		70.40	VIP-2/SC/PDM-2/24	2315269	1
2 power terminal blocks/16 distributor terminal blocks		90.80	VIP-2/SC/PDM-2/32	2315272	1
Technical data					
Operating voltage			250 V AC/DC		
Max. perm. current (per branch)			15 A		
Total current			30 A (per potential)		
Ambient temperature range			-20°C ... 50°C		
Mounting position			Any		
Standards/regulations			IEC 60664, DIN EN 50178, IEC 62103		
Dimensions		H / D	50 mm / 65.5 mm		

Sockets with 45 mm standard pitch

It is equally important in modern switchgears as in simple distributions: the rail-mountable socket in standard format.

The socket is mounted in an exposed position to allow mounting tools, service devices and other electrical equipment to be installed comfortably.

The mains connecting terminal blocks (L1, N and PE) are arranged on one side of the socket for easy connection. All SD sockets are supplied with equipment marker tags. Additional equipment marker tags are available for the EMG housings.

The 45 mm socket is available with or without a miniature fuse. There is a 6.3 A fine fuse (5 x 20 mm) for protection.

System parts, in which items are still live even after the main switch has been turned off, must be marked in accordance with DIN VDE 0105-1 and IEC 60204-1/EN 60204-1/DIN VDE 0113-1 as well as the Accident Prevention Regulation VBG 4. In this case, a socket version in a yellow housing is available.

The sockets with a 45 mm standard pitch and with 90 mm double housings can be quickly snapped onto the 35 mm DIN rail in accordance with EN 60715.

For the sockets, you can choose between the following versions:

- Screw or Spring-Cage Connection
- With or without light indicator
- Grounding connector; Belgian, French or USA version
- Housing: green, yellow or light gray

Notes:

Type of housing:

SD-... Polyamide non-reinforced PA

EMG-...SD: Polycarbonate fiber reinforced PCF

EM-DUO... PVC 94 V0

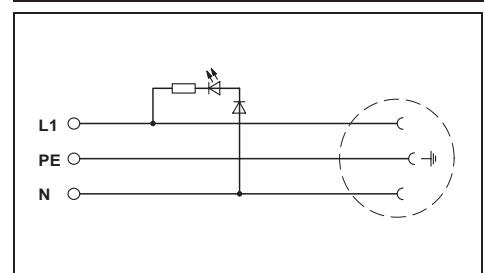
Socket insert Aminoplast type 131



SD-D/...

Germany

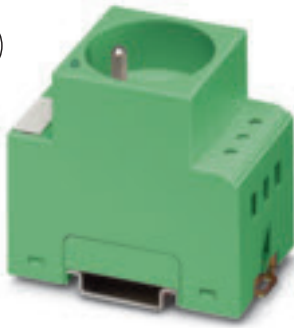
Housing width 45 / 90 mm



	solid	stranded		I	U
	[mm ²]		AWG	[A]	[V]
Connection data					
Screw connection	0.2-4	0.2-2.5	24-12	*	*
Spring-cage connection	0.2-4	0.2-2.5	24-12	*	*

* Electrical data is determined by the module.

Description	Type	Order No.	Pcs. / Pkt.
Socket for the DIN rail			
Screw connection, light indicator, green	SD-D/SC/LA	2964898	5
Screw connection, light indicator, gray	SD-D/SC/LA/GY	2963491	5
Screw connection, light indicator, yellow	SD-D/SC/LA/YE	2963404	5
Screw connection, green	SD-D/SC	2963310	5
Screw connection, gray	SD-D/SC/GY	2963815	5
Screw connection, yellow	SD-D/SC/YE	2963459	5
Spring-cage connection, light indicator, green	SD-D/SP/LA	2963307	5
Spring-cage connection, light indicator, gray	SD-D/SP/LA/GY	2963488	5
Spring-cage connection, light indicator, yellow	SD-D/SP/LA/YE	2963475	5
Spring-cage connection, green	SD-D/SP	2963323	5
Spring-cage connection, gray	SD-D/SP/GY	2963501	5
Spring-cage connection, yellow	SD-D/SP/YE	2963462	5
Socket for the DIN rail with device fuse (5 x 20 mm, 6.3 A)			
Screw connection, light indicator, green	EMG 45-SD-D/LA/SI	2943738	5
Screw connection, light indicator, yellow	EMG 45-SD-D/LA/SI YE	2940825	5
Double socket for the DIN rail			
Screw connection, light indicator, green	EMG 90-2SD-D/LA	2941523	2
Screw connection, gray			
Screw connection, leakage current circuit breaker, gray			
Equipment marker			
	EMG-SGKS 10	2947585	50
	EMG-GKS 12	2947035	50
Technical data			
Nominal voltage	250 V AC		
Max. continuous current	16 A AC		
General data	SD-D... and EMG 45...	EMG 90...	
Dimensions	45 mm / 70.5 mm / 75 mm	90 mm / 70.5 mm / 75 mm	
Standards/regulations	IP20		
Contact material	CuZn37		
Ambient temperature range	-20°C ... 60°C		
Standards/regulations	IEC 83, DIN 49440-1		



SD-F/...
France/Belgium



SD-US/...
USA



EM-DUO 120/15
USA

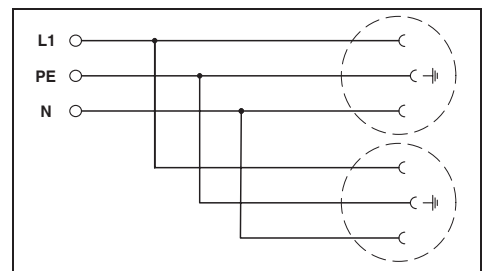
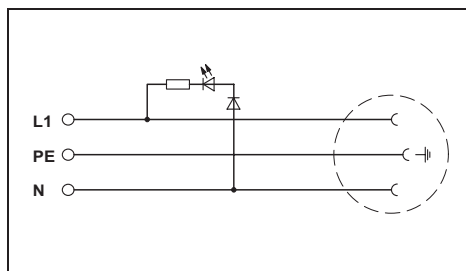
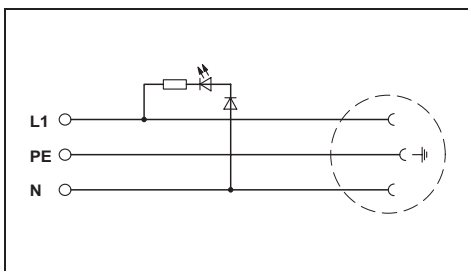
Housing width 45 mm



Housing width 45 mm



Housing width 83 mm



Type	Order No.	Pcs. / Pkt.
SD-F/SC/LA	2963336	5
SD-F/SC/LA/GY	2963844	5
SD-F/SC/LA/YE	2963909	5
SD-F/SC	2963352	5
SD-F/SC/GY	2963828	5
SD-F/SP/LA	2963349	5
SD-F/SP/LA/GY	2963857	5

Type	Order No.	Pcs. / Pkt.
SD-US/SC/LA/GY	2963860	10

Type	Order No.	Pcs. / Pkt.
EM-DUO 120/15	5600461	1
EM-DUO/120/15/GFI	5600462	1

250 V AC
10 A DC
SD-F...
45 mm / 70.5 mm / 75 mm
IP20
CuZn37
-20°C ... 60°C
IEC 83, DIN 49440-1

125 V AC
15 A AC
SD-US...
45 mm / 70.5 mm / 75 mm
IP20
CuZn37
-20°C ... 60°C
IEC 83, DIN 49440-1

120 V AC
15 A
EM-DUO...
83 mm / 49 mm / 134 mm
IP20
-40°C ... 70°C
UL 508

EM-DUO.../GFI
83 mm / 52 mm / 134 mm