4

Surge protection, power supplies, and device circuit breakers

2019 / 2020

PHOENIX CONTACT
INSPIRING INNOVATIONS

Terminal blocks

- Terminal blocks

Interface technology and switching devices

- Electronic switching devices and motor control
- Measurement and control technology
- Monitoring
- Relay modules
- System cabling for controllers

Sensor/actuator cabling and connectors

- Sensor/actuator cabling
- Cables and lines
- Connectors

Automation

- PLCnext Technology
- Industrial cloud computing
- Software
- PLCs and I/O systems
- Functional safety
- Industrial communication technology
- HMIs and industrial PCs
- Lighting and signaling

Marking systems, tools, and mounting material

- Marking and labeling
- Tools
- Installation and mounting material

Charging technology for electromobility

- Charging technology for electromobility

Surge protection, power supplies, and device circuit breakers

- Surge protection and interference suppression filters
- Power supplies and UPS
- Protective devices

PCB terminal blocks and PCB connectors

Use our E-paper for quick product selection.

Web code: #1517

Find out more with the web code

For detailed information, use the web codes provided in this brochure. Simply enter # and the four-digit number in the search field on our website.

Web code: #1234 (example)

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QUINT POWER Ord.No.2904601
2.1 2.2 2.3 2.4 2.5
+ + − − −
Output DC 24V 10A
Signal
Rem
SGnd
Out 1
Out 2
24V
> 100%
> 75%
> 50%
DC OK
Boost
Input AC 100-240V
N/− L/+
1.1 1.2 1.3
QUINT DC-UPS Ord.No.2907068
1.1 1.2 2.1 2.2
Input Output
DC 24V 10A
24V 20mA
Alarm
Bat.-Mode
Ready
Remote
PS Boost
Bat.-Start
SGnd
Alarm
Bat.-Mode
DC OK
SOC
BF
SF
LNK 1
LNK 2
Custom
PC-Mode
Service
Press
> 6 sec
Battery DC 24V
4.1 4.2 4.3
UPS BATTERY VRLA 1.3 AH Ord.No.2320296
T 15A
32V
Battery DC 24V
4.1 4.2 4.3

Power supplies and UPS

For superior system availability

The product ranges differ with regard to their design, performance, and functionality. Select the ideal solution based on your requirements:

– QUINT POWER – maximum functionality
– TRIO POWER – robust standard functionality
– UNO POWER – compact basic functionality

The product range is supplemented with designs tailor-made for specific applications:

– MINI POWER for measurement and control technology
– STEP POWER for distribution boards and flat control panels

Power supplies

Thanks to high-quality products featuring leading technology, our QUINT, TRIO, UNO, MINI and STEP POWER product ranges optimally equip you for international competition.

DC/DC converters

Change the voltage level, regenerate the voltage at the end of long cables or enable the creation of independent supply systems with the QUINT and MINI DC/DC converters.

Redundancy modules

A redundant power supply system is the result of the parallel connection of two power supply units. Optimize this solution with the QUINT ORING and QUINT-S-ORING redundancy modules and the QUINT, TRIO, UNO, and STEP diodes for superior system availability.

Uninterruptible power supplies (UPS) for the control cabinet

IQ Technology is the key to an intelligent energy supply solution. The UPS monitors and optimizes the energy storage device. Avoid interruptions when working with the intelligent UPS for non-stop energy.

Your web code: #0150

Power supplies and UPS

Product range overview

QUINT POWER, with SFB Technology, 1~





24 DC / 5 A Page 234	**24 DC / 10 A** Page 235	**24 DC / 20 A** Page 235	**24 DC / 20 A +** Page 238	**24 DC / 40 A** Page 235
	48 DC / 5 A Page 241	**48 DC / 10 A** Page 241		
	12 DC / 15 A Page 240			

QUINT POWER, with SFB Technology, 3~




24 DC / 5 A Page 236	**24 DC / 10 A** Page 237	**24 DC / 20 A** Page 237	**24 DC / 40 A** Page 237

QUINT POWER, with SFB Technology




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		1~ / 48 DC / 20 A Page 243	**3~ / 48 DC / 20 A** Page 244
	1~ / 12 DC / 20 A Page 243		

QUINT POWER, with SFB Technology, with protective coating, 1~




1~ / 24 DC / 5 A CO Page 246	**1~ / 24 DC / 10 A CO** Page 247	**1~ / 24 DC / 20 A CO** Page 247	**3~ / 24 DC / 20 A CO** Page 247

QUINT POWER, with Push-in connection, < 100 W, 1~



24 DC / 1.3 A Page 248	**24 DC / 2.5 A** Page 249	**24 DC / 3.8 A** Page 249
12 DC / 2.5 A Page 252		**12 DC / 7.5 A** Page 253
5 DC / 5 A Page 253		

QUINT POWER, with screw connection, < 100 W, 1~



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TRIO POWER 1~

24 DC / 3 A
Page 254

12 DC / 5 A
Page 260

24 DC / 5 A
Page 255

12 DC / 10 A
Page 261

24 DC / 5 A B+D
Page 255

24 DC / 10 A
Page 256

48 DC / 5 A
Page 261

24 DC / 10 A B+D
Page 257

24 DC / 20 A
Page 257

48 DC / 10 A
Page 261

TRIO POWER 3~

24 DC / 5 A
Page 258

24 DC / 10 A
Page 258

24 DC / 20 A
Page 259

24 DC / 40 A
Page 259

TRIO CrossPower

~3 / 24 DC / 5 A
Page 262

TRIO POWER, IP67, 1~

24 DC / 20 A
Page 264

TRIO POWER, IP67, 3~

24 DC / 20 A
Page 265

UNO POWER 1~

24 DC / 30 W
Page 266

15 DC / 30 W
Page 272

12 DC / 30 W
Page 270

5 DC / 25 W
Page 271

24 DC / 60 W
Page 266

48 DC / 60 W
Page 273

15 DC / 55 W
Page 272

12 DC / 55 W
Page 270

5 DC / 40 W
Page 271

24 DC / 100 W
Page 267

48 DC / 100 W
Page 273

15 DC / 100 W
Page 273

12 DC / 100 W
Page 271

24 DC / 480 W
Page 268

24 DC / 150 W
Page 267

24 DC / 240 W
Page 267

C2LPS

1~ / 24 DC / 90 W
Page 269

2~ / 24 DC / 90 W
Page 269

MINI POWER 1~

5 DC / 3 A
Page 277

24 DC / 1.5 A
Page 276

±15 DC / 1 A Ex
Page 277

24 DC / 1.5 A Ex
Page 277

Product range overview

STEP POWER 1~

24 DC / 0.5 A
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48 AC / 24 DC / 0.5 A
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12 DC / 1 A
Page 284
5 DC / 2 A
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24 DC / 0.75 A / FL
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12 DC / 1.5 A / FL
Page 284

24 DC / 0.75 A
Page 279
12 DC / 1.5 A
Page 285

24 DC / 1.75 A
Page 280
12 DC / 3 A
Page 285

24 DC / 2.5 A
Page 280
5 DC / 6.5 A
Page 283
12 DC / 5 A
Page 285
15 DC / 4 A
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24 DC / 4.2 A
Page 281
24 DC / 100 W
Page 281
48 DC / 2 A
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277 AC/24 DC / 3.5 A
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QUINT DC/DC converters, Push-in connection

24 DC / 24 DC / 5 A
Page 288
24 DC / 12 DC / 8 A
Page 289
24 DC / 48 DC / 5 A
Page 289

24 DC / 24 DC / 10 A
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QUINT DC/DC converters, screw connection

24 DC / 24 DC / 5 A
Page 290

24 DC / 24 DC / 10 A
Page 291

QUINT DC/DC converters

48 DC / 48 DC / 5 A
Page 293
12 DC / 24 DC / 5 A
Page 293
12 DC / 12 DC / 8 A
Page 293
60-72 DC / 24 DC / 10 A
Page 294
96-110 DC / 24 DC / 10 A
Page 295

24 DC / 24 DC / 20 A
Page 292

QUINT DC/DC converters, with protective coating

24 DC / 24 DC / 5 A / CO
Page 296

24 DC / 24 DC / 10 A / CO
Page 296

24 DC / 24 DC / 20 A / CO
Page 297

60-72DC / 24DC / 10 A / CO
Page 297
96-110DC / 24DC / 10 A / CO
Page 297

UNO DC/DC converters

350-900 DC / 24 DC / 60 W
Page 274

MINI DC/DC converters

12-24 DC / 24 DC / 1 A
Page 298
48-60 DC / 24 DC / 1 A
Page 299
12-24 DC / 5-15 DC / 2 A
Page 298
12-24 DC / 48 DC / 0.7 A
Page 299

AC power module
Page 299

For frequency converters

2 AC / 1 DC / 24 DC / 20 A
Page 245

600 DC / 24 DC / 20 A
Page 245

Redundancy modules – QUINT

24 DC / 2x10 A
Page 302

24 DC / 2x20 A
Page 303

24 DC / 2x40
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12-24 DC / 1x40 A
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12-24 DC / 1x40 A/VP
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12-24 DC / 1x40 A/+
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12-24 DC / 2x20 A
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48 DC / 2x20 A
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Redundancy modules – TRIO

12-24 DC / 2x10 A
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12-24 DC / 2x20 A
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- UNO

5-24 DC / 2x10 A
Page 309

- STEP

5-24 DC / 2x5 A
Page 309

Product range overview

QUINT DC UPS

24 DC / 5 A / PN
Page 316
24 DC / 5 A / EIP
Page 318
24 DC / 5 A / EC
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24 DC / 5 A / USB
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24 DC / 5 A
Page 324

24 DC / 10 A / PN
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24 DC / 10 A / EIP
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24 DC / 10 A / EC
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24 DC / 10 A / USB
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24 DC / 10 A
Page 325

24 DC / 20 A / PN
Page 317
24 DC / 20 A / EIP
Page 319
24 DC / 20 A / EC
Page 321
24 DC / 20 A / USB
Page 323
24 DC / 20 A
Page 325

24 DC / 40 A / PN
Page 317
24 DC / 40 A / EIP
Page 319
24 DC / 40 A / EC
Page 321
24 DC / 40 A / USB
Page 323
24 DC / 40 A
Page 325

12 DC / 5 A / 24 DC / 10 A
Page 326

QUINT AC UPS

1~ / 1 AC / 500 VA
Page 330

1~ / 1 AC / 1 kVA
Page 331

TRIO AC UPS

1~ / 1 AC / 750 VA
Page 332

UPS-CAP for QUINT UPS

24 DC / 10 A / 10 KJ
Page 334

24 DC / 20 A / 20 KJ
Page 334

UPS-BAT/LI-ION for QUINT UPS

24 DC / 120 WH
Page 335

24 DC / 925 WH
Page 335

UPS-BAT/VRLA-WTR for QUINT UPS

24 DC / 13 Ah
Page 338

24 DC / 26 Ah
Page 338

UPS-BAT/VRLA for QUINT UPS

24 DC / 1.3 Ah
Page 336

24 DC / 3.4 Ah
Page 336

24 DC / 7.2 Ah
Page 337

24 DC / 12 Ah
Page 337

24 DC / 38 Ah
Page 337

UPS with integrated QUINT, UNO, STEP energy storage

24 DC / 5 A / 1.3 Ah
Page 344

24 DC /10 A / 3.4 Ah
Page 344

24 DC / 60 W
Page 349

24 DC / 3 A
Page 348
12 DC / 4 A
Page 348

QUINT BUFFER

24 DC / 20 A
Page 345

24 DC / 40 A
Page 345

QUINT CAP

24 DC / 5 A / 4 KJ
Page 346

24 DC / 5 A / 8 KJ
Page 347

MINI UPS with integrated power supply and energy storage

1~ / 24 DC / 2 A
Page 350
1~ / 12 DC / 4 A
Page 350

24 DC / 1.3 Ah
Page 353
12 DC / 2.6 Ah
Page 353

24 DC / 0.8 Ah
Page 352
12 DC / 1.6 Ah
Page 353

TRIO UPS with integrated power supply and energy storage

1~ / 24 DC / 5 A
Page 354

1~ / 24 DC / 10 A
Page 354

3~ / 24 DC / 20 A
Page 355

UPS-BAT/VRLA for TRIO DC UPS

24 DC / 1.3 Ah
Page 356

24 DC / 3.4 Ah
Page 356

24 DC / 7.2 Ah
Page 356

24 DC / 12 Ah
Page 356

24 DC / 38 Ah
Page 356

Leading technology and high quality – Power supplies for superior system availability

Thanks to high-quality products featuring leading technology, with our power supply solutions from the QUINT, TRIO, UNO, MINI, and STEP POWER product ranges, you are optimally equipped to handle competitors on an international scale.

Functionality, performance class, and design are tailored to the demands of various different industries and always offer the ideal solution.

QUINT POWER – Maximum functionality

Cost-effective selective fuse protection with SFB Technology:

In order to trip miniature circuit breakers magnetically and quickly, power supplies must be able to supply several times the nominal current for a short period. SFB (Selective Fuse Breaking) Technology supplies six times the nominal current for 15 ms. Faulty current paths are switched off selectively, the fault is located, and important system parts remain in operation.

Preventive function monitoring:

Comprehensive diagnostics are provided through constant monitoring of all relevant parameters (including the output voltage and output current). This preventive function monitoring visualizes critical operating states, before errors can occur. Remote monitoring is performed by means of active switching outputs and floating relay contacts.

Power reserves:

– Easy system extension with static boost with sustained power of up to 125%
– Start heavy loads with dynamic boost, providing up to 200% power for 5 s

Adaptable:

– Signaling thresholds and characteristic curves can be individually adjusted via NFC

Connection technology:

– Free choice between Push-in connection and screw connection for devices up to 100 W

TRIO POWER – Robust standard functionality

The reliable supply of the loads under challenging ambient conditions is ensured by the power supply units, which feature an extremely robust electrical and mechanical design. TRIO POWER supplies up to 1.5 times the nominal current for five seconds with the dynamic boost. Loads with high starting currents can therefore be started without other loads being affected by voltage dips.

UNO POWER – Compact basic functionality

UNO POWER offers maximum energy efficiency thanks to its high efficiency of up to 94% and low idling losses below 0.3 W. The extremely high power density of up to 500 W/dm³ enables a very compact design. Thanks to the wide range of products and the temperature range from -25°C to +70°C, the devices support flexible use.

Your web code: #0151

Power supplies - A comparison of the advantages

– QUINT POWER – maximum flexibility up to 1000 W
– TRIO POWER – standard functionality up to 1000 W
– UNO POWER – compact basic functionality up to 480 W

QUINT POWER

High-performance QUINT POWER power supplies with SFB Technology ensure maximum system availability.

The new QUINT POWER power supplies < 100 W are the first to offer maximum system availability in the smallest size.

All the devices in this range feature preventative function monitoring and exceptional power reserves.

TRIO POWER

The TRIO POWER power supplies represent standard functionality, high quality, and reliability. They are therefore perfect for use in machine building.

– Robust design
– Reliable supply of loads with high switch-on currents, thanks to the dynamic boost
– Time savings during installation, thanks to Push-in connection technology

UNO POWER

The UNO POWER power supplies offer extremely compact basic functionality.

– The wide range of products covers all common voltage levels
– Save energy, thanks to high efficiency and low idling losses
– Compact design saves space in the control cabinet

MINI POWER

MINI POWER power supplies in the electronics housing for measurement and control technology.

– Maintenance-friendly connection technology: coded COMBICON connectors
– Active function monitoring with switching output for remote monitoring of the output voltage

STEP POWER

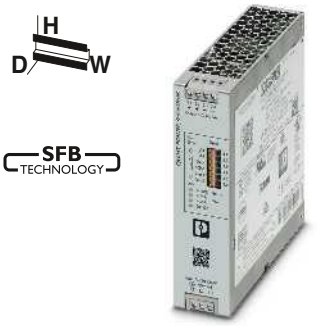
The STEP POWER power supplies are particularly suited to distribution boards and flat control panels.

– Maximum energy efficiency, thanks to incredibly low idling losses and a high degree of efficiency
– Flexible: snap onto the DIN rail or screw onto a level surface

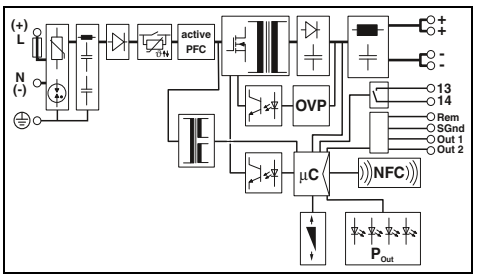
QUINT POWER power supplies – Maximum functionality

QUINT POWER, 1 AC, 24 V DC

– Easy system extension with static boost
– Starting of heavy loads with dynamic boost
– SFB Technology selectively trips standard circuit breakers; consumers connected in parallel continue working
– High noise immunity, thanks to integrated gas-filled surge arrester and a mains failure buffer time of more than 20 ms
– Comprehensive signaling with preventive function monitoring
– Signaling thresholds and characteristic curves can be set via NFC, available pre-configured from a batch quantity of 1



Power supply, 1 AC, 24 V DC, 5 A



Technical data

Input data	
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -18% ... +40%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Typical current consumption (in static boost)	1.7 A (100 V AC) / 1.5 A (120 V AC) 0.9 A (230 V AC) / 0.8 A (240 V AC) 1.6 A (110 V DC) / 0.7 A (250 V DC)
Inrush current limitation at 25°C / I^2t	typ. 14 A / < 0.3 A^2s
Mains buffering (I_N)	typ. 28 ms (120 V AC) / typ. 38 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Magnetic circuit breaker tripping	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 3 W (230 V AC) / < 16 W (230 V AC)
Efficiency	typ. 88.8% (120 V AC) / typ. 89.2% (230 V AC)
Residual ripple	< 30 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Configurable signal output	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
Signal options	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP
General data	
Weight / Dimensions W x H x D	0.7 kg / 36 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 930000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1, EN 61010-1, EN 60950-1	III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

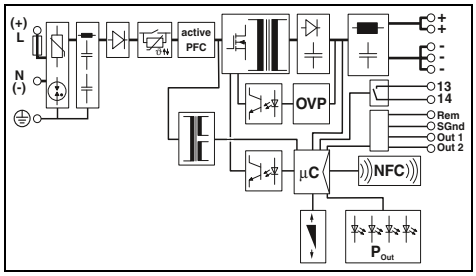
Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/1AC/24DC/5**	**2904600**	1

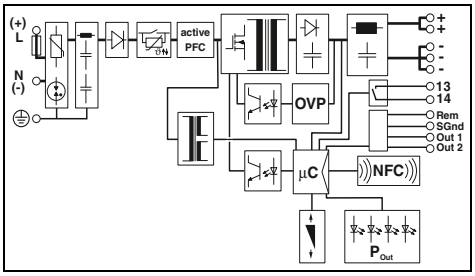
new

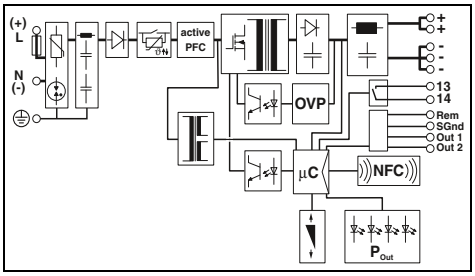
Power supply,
1 AC, 24 V DC, 10 A

Power supply,
1 AC, 24 V DC, 20 A

Power supply,
1 AC, 24 V DC, 40 A







Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -18% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
3.4 A (100 V AC) / 2.8 A (120 V AC)	
1.5 A (230 V AC) / 1.5 A (240 V AC)	
3 A (110 V DC) / 1.3 A (250 V DC)	
typ. 18 A / < 0.7 A^2s	
typ. 42 ms (120 V AC) / typ. 44 ms (230 V AC)	
24 V DC	
10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)	
A1...A6 / B2...B6 / C1...C3 / Z1...Z6	
Yes / yes	
< 3 W (230 V AC) / < 17 W (230 V AC)	
typ. 92.5% (120 V AC) / typ. 93.4% (230 V AC)	
< 80 mV_{PP}	
DC OK, utilization indicator	
Relay contact 13/14, Out 1 digital, Out 2 digital/analog	
I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP	
0.9 kg / 50 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Screw connection	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	
0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16	
IP20 / I	
> 783000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
2 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 61558-2-16	
III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/10	2904601	1

Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -18% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
6.8 A (100 V AC) / 5.5 A (120 V AC)	
2.8 A (230 V AC) / 2.7 A (240 V AC)	
6 A (110 V DC) / 2.5 A (250 V DC)	
typ. 11 A / < 0.4 A^2s	
typ. 28 ms (120 V AC) / typ. 29 ms (230 V AC)	
24 V DC	
20 A / 25 A / 30 A (5 s) / 120 A (15 ms)	
A1...A16 / B2...B13 / C1...C6 / Z1...Z16	
Yes / yes	
< 5 W (230 V AC) / < 32 W (230 V AC)	
typ. 92.4% (120 V AC) / typ. 94% (230 V AC)	
< 50 mV_{PP}	
DC OK, utilization indicator	
Relay contact 13/14, Out 1 digital, Out 2 digital/analog	
I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP	
1.3 kg / 70 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Screw connection	
0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10	
0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10	
0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16	
IP20 / I	
> 673000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
2 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 61558-2-16	
III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/20	2904602	1

Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -18% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
10.6 A (100 V AC) / 10 A (120 V AC)	
5.2 A (230 V AC) / 5.7 A (240 V AC)	
10.2 A (110 V DC) / 5.6 A (250 V DC)	
typ. 11 A / < 0.5 A^2s	
typ. 24 ms (120 V AC) / typ. 25 ms (230 V AC)	
24 V DC	
40 A / 45 A / 60 A (5 s) / 215 A (15 ms)	
A1 … A16 / B2 … B25 / C1 … C13 / Z1 … Z16	
Yes / yes	
< 4 W (230 V AC) / < 56 W (230 V AC)	
typ. 95% (120 V AC) / typ. 96% (230 V AC)	
< 50 mV_{PP}	
DC OK, utilization indicator	
Relay contact 13/14, Out 1 digital, Out 2 digital/analog	
I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP	
2.6 kg / 120 x 130 x 141 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Screw connection	
0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10	
0.5 - 16 mm^2 / 0.5 - 16 mm^2 / 8 - 6	
0.2 - 1.5 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16	
IP20 / I	
> 500000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
2 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 61558-2-16	
III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/40	2904603	1

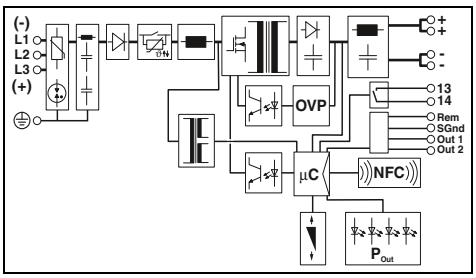
QUINT POWER power supplies – Maximum functionality

QUINT POWER, 3 AC, 24 V DC

– Easy system extension with static boost
– Starting of heavy loads with dynamic boost
– SFB Technology selectively trips standard circuit breakers; consumers connected in parallel continue working
– High noise immunity, thanks to integrated gas-filled surge arrester and a mains failure buffer time of more than 20 ms
– Comprehensive signaling with preventive function monitoring
– Signaling thresholds and characteristic curves can be set via NFC, available pre-configured from a batch quantity of 1

Power supply, 3 AC, 24 V DC, 5 A

Ex:



Technical data

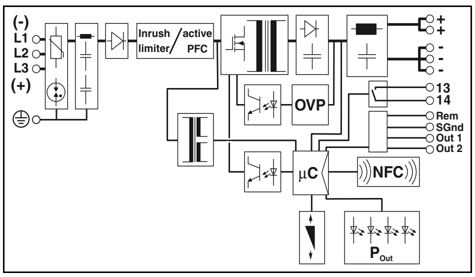
Input data	
Input voltage range	3x 400 V AC ... 500 V AC -20% ... +10% 2x 400 V AC ... 500 V AC -10% ... +10% ± 300 V DC -25% ... +30%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Typical current consumption (in static boost)	3x 0.53 A (400 V AC) / 3x 0.44 A (480 V AC) 2x 0.9 A (400 V AC) / 2x 0.66 A (480 V AC) 0.3 A (± 300 V DC)
Inrush current limitation at 25°C / I^2t	typ. 11 A / < 0.2 A^2s
Mains buffering (I_N)	typ. 34 ms (3x 400 V AC) / typ. 50 ms (3x 480 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Magnetic circuit breaker tripping	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 4 W (480 V AC) / < 17 W (480 V AC)
Efficiency	typ. 89% (400 V AC) / typ. 87.5% (480 V AC)
Residual ripple	< 30 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Configurable signal output	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
Signal options	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP
General data	
Weight / Dimensions W x H x D	0.6 kg / 36 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 914000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	2.4 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1, EN 61010-1, EN 60950-1	III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

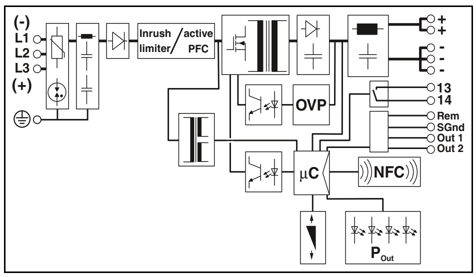
Ordering data

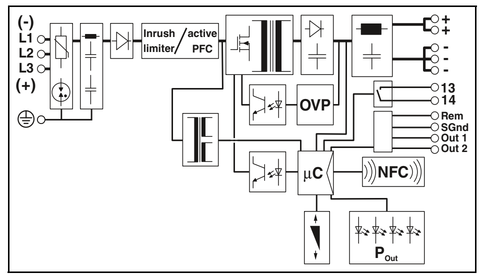
Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/3AC/24DC/5**	2904620	1

new

		
Power supply, 3 AC, 24 V DC, 10 A	**Power supply, 3 AC, 24 V DC, 20 A**	**Power supply, 3 AC, 24 V DC, 40 A**







Technical data

QUINT4-PS/3AC/24DC/10	QUINT4-PS/3AC/24DC/20	QUINT4-PS/3AC/24DC/40
3x 400 V AC ... 500 V AC -20% ... +10%	3x 400 V AC ... 500 V AC -20% ... +10%	3x 400 V AC ... 500 V AC -20% ... +10%
2x 400 V AC ... 500 V AC -10% ... +10%	2x 400 V AC ... 500 V AC -10% ... +10%	2x 400 V AC ... 500 V AC -10% ... +10%
± 260 V DC ... 300 V DC -13% ... +30%	± 260 V DC ... 300 V DC -13% ... +30%	± 260 V DC ... 300 V DC -13% ... +30%
50 Hz ... 60 Hz -10% ... +10%	50 Hz ... 60 Hz -10% ... +10%	50 Hz ... 60 Hz -10% ... +10%
3x 0.5 A (400 V AC) / 3x 0.41 A (480 V AC)	3x 0.99 A (400 V AC) / 3x 0.81 A (480 V AC)	3x 3 A (400 V AC) / 2x 3 A (400 V AC)
2x 1.1 A (400 V AC) / 2x 0.91 A (480 V AC)	2x 1.62 A (400 V AC) / 2x 1.37 A (480 V AC)	3x 2.6 A (480 V AC) / 2x 2.5 A (480 V AC)
0.7 A (± 260 V DC) / 0.6 A (± 300 V DC)	1.23 A (± 260 V DC) / 1.06 A (± 300 V DC)	2.5 A (± 260 V DC) / 2.2 A (± 300 V DC)
typ. 3 A / < 0.1 A²s	typ. 2 A / < 0.1 A²s	typ. 0 A / < 0 A²s
typ. 29 ms (3x 400 V AC) / typ. 26 ms (3x 480 V AC)	typ. 33 ms (3x 400 V AC) / typ. 33 ms (3x 480 V AC)	typ. 24 ms (3x 400 V AC) / typ. 25 ms (3x 480 V AC)
24 V DC	24 V DC	24 V DC
10 A / 12.5 A / 20 A / 60 A (15 ms)	20 A / 25 A / 30 A / 120 A (15 ms)	40 A / 45 A / 60 A (5 s) / 215 A (15 ms)
A1...A6 / B2...B6 / C1...C3 / Z1...Z6	A1...A16 / B2...B13 / C1...C6 / Z1...Z16	A1 … A16 / B2 … B25 / C1 … C13 / Z1 … Z16
Yes / yes	Yes / yes	Yes / yes
< 5 W (480 V AC) / < 20 W (480 V AC)	< 7 W (480 V AC) / < 33 W (480 V AC)	< 5 W (480 V AC) / < 45 W (480 V AC)
typ. 93% (400 V AC) / typ. 92.6% (480 V AC)	typ. 93.9% (400 V AC) / typ. 93.8% (480 V AC)	typ. 95% (400 V AC) / typ. 96% (480 V AC)
< 75 mV_{PP}	< 60 mV_{PP}	< 50 mV_{PP}
DC OK, utilization indicator	DC OK, utilization indicator	DC OK, utilization indicator
Relay contact 13/14, Out 1 digital, Out 2 digital/analog	Relay contact 13/14, Out 1 digital, Out 2 digital/analog	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
I_{Out}, U_{Out}, P_{Out}, U_{In} OK, operating hours, Temp. OK, OVP, 3AC OK	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, operating hours, Temp. OK, OVP, 3AC OK	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, operating hours, Temp. OK, OVP, 3AC OK
0.9 kg / 50 x 130 x 125 mm	1.1 kg / 70 x 130 x 125 mm	2.6 kg / 120 x 130 x 125 mm
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Screw connection	Screw connection	Screw connection
0.2 - 6 mm² / 0.2 - 4 mm² / 24 - 10	0.2 - 6 mm² / 0.2 - 4 mm² / 24 - 10	0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	0.2 - 6 mm² / 0.2 - 4 mm² / 24 - 10	0.5 - 16 mm² / 0.5 - 16 mm² / 8 - 6
0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16	0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
IP20 / I	IP20 / I	IP20 / I
> 654000 h (40°C)	> 638000 h (40°C)	> 500000 h (40°C)
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
-40°C	-40°C	-40°C
2.4 kV AC (routine test) / 4 kV AC (type test)	2.4 kV AC (routine test) / 4 kV AC (type test)	2.4 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
EN 61558-2-16	EN 61558-2-16	EN 61558-2-16
III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)
UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
EN 61000-3-2	EN 61000-3-2	EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/3AC/24DC/10	2904621	1
QUINT4-PS/3AC/24DC/20	2904622	1
QUINT4-PS/3AC/24DC/40	2904623	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER with protective coating

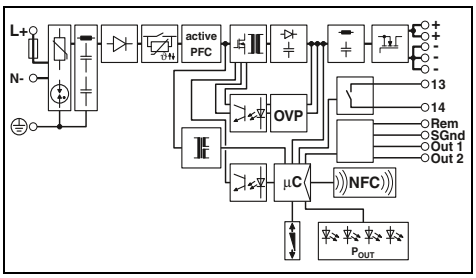
The protective coating protects against extreme ambient conditions, such as dust, pollution, corrosive gases, and 100% humidity.

- Integrated decoupling MOSFET for 1+1 and n+1 redundancy
- Devices with protective coating and IECEx approvals compliant with standards IEC 60079-0, IEC 60079-7, IEC 60079-11, and IEC 60079-15 may be installed in a potentially explosive area (zone 2)
- They are suitable for use in Class I, Division 2, Groups A, B, C, D
- OVP (overvoltage protection) with SIL3 certification in accordance with IEC 61508 limits surge voltages to 30 V
- Wide temperature range from -40°C to +75°C
- Easy system extension, thanks to static boost; starting of heavy loads, thanks to dynamic boost
- SFB Technology selectively trips standard circuit breakers; consumers connected in parallel continue working
- High noise immunity, thanks to integrated gas-filled surge arrester and a mains failure buffer time of more than 20 ms
- Comprehensive signaling with preventive function monitoring
- Signaling thresholds and characteristic curves can be set via NFC, available pre-configured from a batch quantity of 1

new

Power supply, 1 AC, 24 V DC, 20 A, plus version

Ex:



Technical data

Input data	
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -18% ... +40%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Typical current consumption (in static boost)	6.8 A (100 V AC) / 5.5 A (120 V AC) 2.8 A (230 V AC) / 2.7 A (240 V AC) 6 A (110 V DC) / 2.5 A (250 V DC)
Inrush current limitation at 25°C / I^2t	typ. 10 A / < 0.3 A^2s
Mains buffering (I_N)	typ. 36 ms (120 V AC) / typ. 36 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	20 A / 25 A / 30 A (5 s) / 120 A (15 ms)
Magnetic circuit breaker tripping	A1...A16 / B2...B13 / C1...C6 / Z1...Z16
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 5 W (230 V AC) / < 30 W (230 V AC)
Efficiency	typ. 92.7% (120 V AC) / typ. 94.2% (230 V AC)
Residual ripple	< 30 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Configurable signal output	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
Signal options	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP
General data	
Weight / Dimensions W x H x D	1.3 kg / 70 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 30 - 10
Output connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 30 - 10
Signal connection data rigid / flexible / AWG	0.2 - 1.5 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 524000 h (40°C)
Ambient temperature (operation)	-40°C ... 75°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1, EN 61010-1, EN 60950-1	III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/1AC/24DC/20/+**	2904617	1

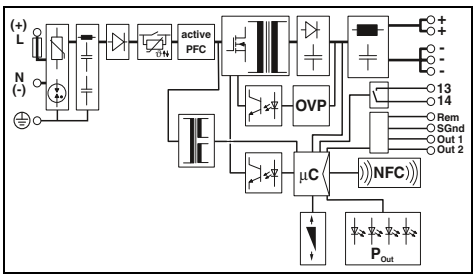
QUINT POWER power supplies – Maximum functionality

QUINT POWER, 1 AC, 12 V DC and 48 V DC

– Easy system extension with static boost
– Starting of heavy loads with dynamic boost
– SFB Technology selectively trips standard circuit breakers; consumers connected in parallel continue working
– High noise immunity, thanks to integrated gas-filled surge arrester and a mains failure buffer time of more than 20 ms
– Comprehensive signaling with preventive function monitoring
– Signaling thresholds and characteristic curves can be set via NFC, available pre-configured from a batch quantity of 1

new

Power supply, 1 AC, 12 V DC, 15 A



Technical data

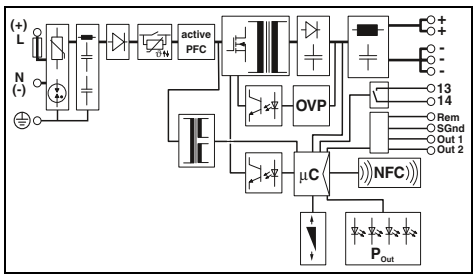
Input data	
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -18% ... +40%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Typical current consumption (in static boost)	2.4 A (100 V AC) / 1.9 A (120 V AC) 1.1 A (230 V AC) / 1.1 A (240 V AC) 2.2 A (110 V DC) / 1 A (250 V DC)
Inrush current limitation at 25°C / I^2t	typ. 15 A / < 0.6 A^2s
Mains buffering (I_N)	typ. 55 ms (120 V AC) / typ. 56 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	12 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	15 A / 17.5 A / 20 A (5 s) / 60 A (15 ms)
Magnetic circuit breaker tripping	A1...A6 / B2...B6 / C1...C2 / Z1...Z6
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 4 W (230 V AC) / < 16 W (230 V AC)
Efficiency	typ. 91.2% (120 V AC) / typ. 92% (230 V AC)
Residual ripple	< 70 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Configurable signal output	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
Signal options	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP
General data	
Weight / Dimensions W x H x D	1 kg / 50 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 749000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1, EN 61010-1, EN 60950-1	III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/1AC/12DC/15**	2904608	1

new

Power supply,
1 AC, 48 V DC, 5 A



Technical data

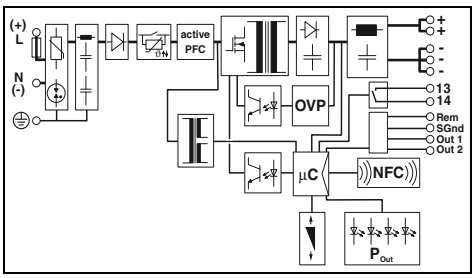
100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -18% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
3.4 A (100 V AC) / 2.8 A (120 V AC)	
1.5 A (230 V AC) / 1.5 A (240 V AC)	
3 A (110 V DC) / 1.3 A (250 V DC)	
typ. 16 A / < 0.5 A²s	
typ. 43 ms (120 V AC) / typ. 43 ms (230 V AC)	
48 V DC	
5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)	
A1...A6 / B2 / C1...C2 / Z1...Z6	
Yes / yes	
< 3 W (230 V AC) / < 16 W (230 V AC)	
typ. 92.3% (120 V AC) / typ. 93.5% (230 V AC)	
< 70 mV_{PP}	
DC OK, utilization indicator	
Relay contact 13/14, Out 1 digital, Out 2 digital/analog	
I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP	
1 kg / 50 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Screw connection	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16	
IP20 / I	
> 784000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
2 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 61558-2-16	
III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/48DC/5	2904610	1

new

Power supply,
1 AC, 48 V DC, 10 A



Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -18% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
6.8 A (100 V AC) / 5.5 A (120 V AC)	
2.8 A (230 V AC) / 2.7 A (240 V AC)	
6 A (110 V DC) / 2.5 A (250 V DC)	
typ. 11 A / < 0.4 A²s	
typ. 32 ms (120 V AC) / typ. 32 ms (230 V AC)	
48 V DC	
10 A / 12.5 A / 15 A (5 s) / 60 A (15 ms)	
A1...A13 / B2...B6 / C1...C3 / Z1...Z10	
Yes / yes	
< 5 W (230 V AC) / < 28 W (230 V AC)	
typ. 94% (120 V AC) / typ. 95% (230 V AC)	
< 70 mV_{PP}	
DC OK, utilization indicator	
Relay contact 13/14, Out 1 digital, Out 2 digital/analog	
I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP	
1.3 kg / 70 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Screw connection	
0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 10	
0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16	
IP20 / I	
> 676000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
2 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 61558-2-16	
III (≤ 2000 m), II (≤ 5000 m), II (≤ 5000 m)	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/48DC/10	2904611	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER, 1 AC, 24 V DC

– Fast tripping of standard miniature circuit breakers with dynamic power reserve SFB (Selective Fuse Breaking) Technology with up to 6 times the nominal current for 12 ms
– Reliable starting of heavy loads with the static Power Boost power reserve with up to 1.5 times the nominal current
– Preventive function monitoring
– Flexible, thanks to input voltage ranges for AC and DC voltages
– Approved for semiconductor production in accordance with SEMI F47-0706

Power supply, 1 AC, 24 V DC, 3.5 A

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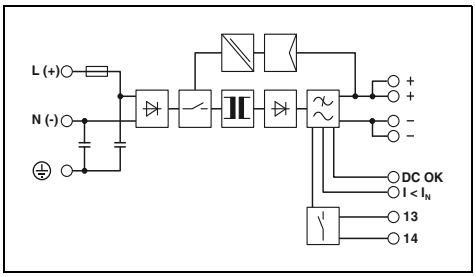

Technical data

Input data	
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC 90 V DC ... 350 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	1.4 A (120 V AC) / 0.8 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 20 A / < 2 A^2s
Mains buffering (I_N)	typ. 20 ms (120 V AC) / typ. 80 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Setting range of the output voltage (U_{Set})	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	3.5 A / 4 A / 15 A
Magnetic circuit breaker tripping	B2
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	3.5 W / 11 W
Efficiency	> 88% (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	0.5 kg / 32 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 20 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 20 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 20 - 12
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 820000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
Medical standard	IEC 60601-1, 2 x MOOP
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT-PS/1AC/24DC/ 3.5**	2866747	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER, 1 AC, 12 V DC and 48 V DC

- Fast tripping of standard miniature circuit breakers
- Reliable starting of heavy loads
- Preventive function monitoring
- Flexible, thanks to input voltage ranges for AC and DC voltages
- Approved for semiconductor production in accordance with SEMI F47-0706: 12 V DC and 48 V DC, 5 A and 10 A
- Adjustable output voltage of 5 to 18 V DC, or 30 to 56 V DC

Power supply, 1 AC, 12 V DC, 20 A

Power supply, 1 AC, 48 V DC, 20 A

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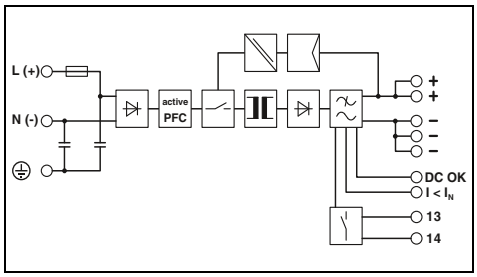

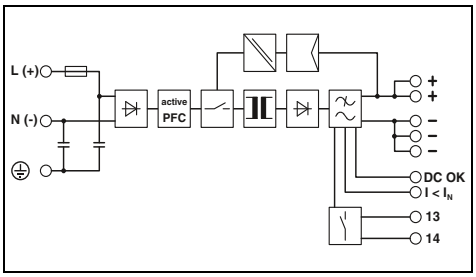

	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC 120 V DC ... 300 V DC
Input voltage range	85 V AC ... 264 V AC 90 V DC ... 350 V DC	85 V AC ... 264 V AC 90 V DC ... 300 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	2.4 A (120 V AC) / 1.4 A (230 V AC)	8.7 A (120 V AC) / 4.5 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 20 A / < 3.2 A^2s	< 15 A / < 1.6 A^2s
Mains buffering (I_N)	typ. 40 ms (120 V AC) / typ. 40 ms (230 V AC)	typ. 20 ms (120 V AC) / typ. 22 ms (230 V AC)
Output data		
Nominal output voltage (U_N)	12 V DC ±1%	48 V DC ±1%
Setting range of the output voltage (U_{Set})	5 V DC ... 18 V DC (> 12 V DC, constant capacity restricted)	30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	20 A / 26 A / -	20 A / 22.5 A / 100 A
Magnetic circuit breaker tripping	B2 / B4 / B6 / B10 / C2 / C4 / C6	B2 / B4 / B6 / B10 / C2 / C4 / C6
Can be connected in parallel/series	Yes / yes	Yes / yes
Max. power dissipation (no load/nominal load)	6 W / 29 W	12 W / 74 W
Efficiency	> 90% (for 230 V AC and nominal values)	> 93% (for 230 V AC and nominal values)
Residual ripple	< 50 mV_{PP}	< 50 mV_{PP}
Signaling		
Signaling DC OK	LED, active switching output, relay contact	LED, active switching output, relay contact
Boost signaling	LED, active switching output	LED, active switching output
General data		
Weight / Dimensions W x H x D	1.5 kg / 90 x 130 x 125 mm	3.3 kg / 180 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 14 - 10
Output connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 12 - 10	0.5 - 16 mm^2 / 0.5 - 16 mm^2 / 8 - 6
Signal connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10
Degree of protection / Protection class	IP20 / I	IP20 / I
MTBF (IEC 61709, SN 29500)	> 600000 h (40°C)	> 523000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
Medical standard	IEC 60601-1, 2 x MOOP	-
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	QUINT-PS/1AC/12DC/20	2866721	1	**QUINT-PS/1AC/48DC/20**	2866695	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER, 3 AC, 48 V DC

- High system availability even in the event of a permanent phase failure
- High surge strength of up to 6 kV, thanks to integrated gas-filled surge arresters
- Fast tripping of standard miniature circuit breakers with dynamic power reserve SFB (Selective Fuse Breaking) Technology with up to 6 times the nominal current for 12 ms
- Reliable starting of heavy loads with the static Power Boost power reserve with up to 1.5 times the nominal current
- Preventive function monitoring
- Flexible, thanks to input voltage ranges for AC and DC voltages
- Adjustable output voltage of 30 to 56 V DC

Power supply, 3 AC, 48 V DC, 20 A

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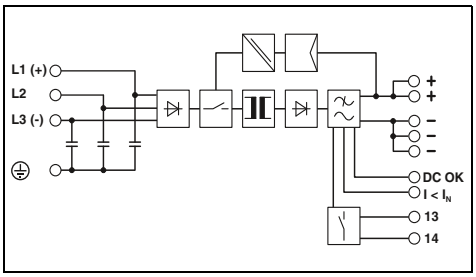


Technical data

Input data	
Nominal input voltage range	3x 400 V AC ... 500 V AC
Input voltage range	3x 320 V AC ... 575 V AC 2x 360 V AC ... 575 V AC 450 V DC ... 800 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	3x 2.1 A (400 V AC) / 3x 1.7 A (500 V AC)
Inrush current limitation at 25°C / I^2t	< 20 A / < 1 A^2s
Mains buffering (I_N)	typ. 25 ms (400 V AC) / typ. 35 ms (500 V AC)
Output data	
Nominal output voltage (U_N)	48 V DC ±1%
Setting range of the output voltage (U_{Set})	30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	20 A / 22.5 A / 100 A
Magnetic circuit breaker tripping	B2 / B4 / B6 / B10 / C2 / C4 / C6
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	24 W / 70 W
Efficiency	> 93% (at 400 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	2.5 kg / 96 x 130 x 179 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10
Output connection data rigid / flexible / AWG	0.5 - 16 mm^2 / 0.5 - 16 mm^2 / 8 - 6
Signal connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 509000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1 (3-wire + PE, star net), UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT-PS/3AC/48DC/20**	2320827	1

Power supplies for frequency inverters

QUINT POWER and TRIO POWER for frequency inverters

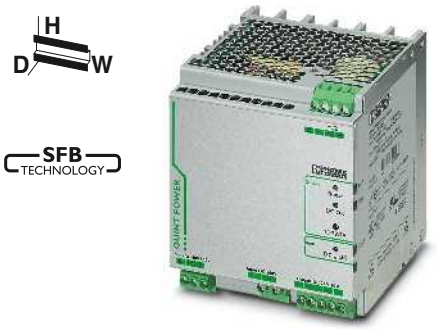
– In the event of mains failure, the DC intermediate circuit voltage of the inverter continues to supply all connected 24 V loads without interruption
– Maintenance-free buffer solution: controlled machine stop in the event of mains failure by using the existing capacity in the frequency inverter or by using the kinetic energy of motors

QUINT POWER

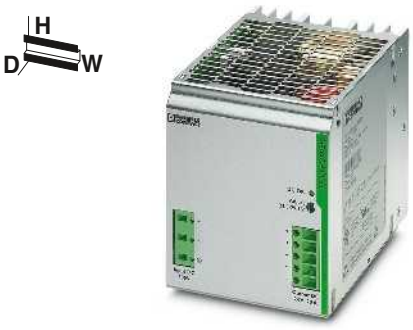
– Combined solution with a QUINT POWER power supply

TRIO POWER

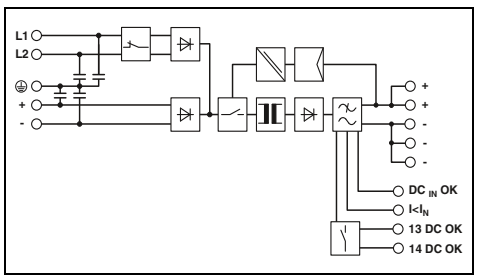
– Standard solution with two TRIO POWER power supplies

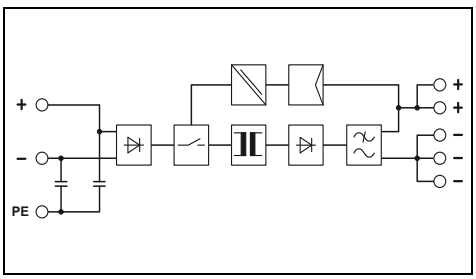


Power supply with two separate input circuits for frequency inverters 2 AC, 1 DC/24 V DC, 20 A



Power supply, 600 V DC, 24 V DC, 20 A





	Technical data	Technical data
Input data		
Nominal input voltage range	2x 400 V AC ... 500 V AC 600 V DC	600 V DC
Input voltage range	2x 360 V AC ... 575 V AC 450 V DC ... 840 V DC	450 V DC ... 840 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz	- / 0 Hz
Current consumption (nominal load)	2.5 A (400 V AC) / 2.1 A (500 V AC) 0.9 A (600 V DC)	0.9 A (600 V DC)
Inrush current limitation at 25°C / I^2t	< 85 A / < 1.5 A^2s	< 26 A / 0.8 A^2s
Mains buffering (I_N)	typ. 20 ms (400 V AC)	typ. 15 ms (600 V DC)
Output data		
Nominal output voltage (U_N)	24 V DC ±1%	24 V DC ±1%
Setting range of the output voltage (U_{Set})	18 V DC ... 29.5 V DC (U_{IN} ≥ 360 V AC / 480 V DC) 18 V DC ... 26 V DC (< 480 V DC)	22.5 V DC ... 29.5 V DC (U_{IN} > 475 V DC) 22.5 V DC ... 28 V DC (U_{IN} ≤ 475 V DC)
Output current / Power Boost / SFB (20 ms)	20 A / 26 A / 120 A	20 A / - / -
Magnetic circuit breaker tripping	C6 / B16	-
Max. power dissipation (no load/nominal load)	11 W / 51 W	3.8 W / 45 W
Efficiency	> 92% (600 V DC) / > 90.5% (400 V AC)	> 91% (With 600 V DC and nominal values)
Residual ripple	< 50 mV_{PP}	< 40 mV_{PP}
Signaling		
Signaling DC OK	LED, relay contact	LED
Boost signaling	LED, active switching output	-
Signaling DC_{IN} OK	LED, active switching output	-
General data		
Weight / Dimensions W x H x D	2 kg / 120 x 130 x 125 mm	2 kg / 115 x 130 x 152.5 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Screw connection	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 12 - 10	0.5 - 6 mm^2 / 0.5 - 4 mm^2 / 12 - 10
Signal connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10	- mm^2 / - mm^2 / -
Degree of protection / Protection class	IP20 / I	IP20 / I
MTBF (IEC 61709, SN 29500)	> 860000 h (40°C)	> 701000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 55°C derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	2 kV AC (routine test) / 1.5 kV AC (type test)	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	QUINT-PS/2AC/1DC/24DC/20	2320830	1	**TRIO-PS/600DC/24DC/20**	2866530	1

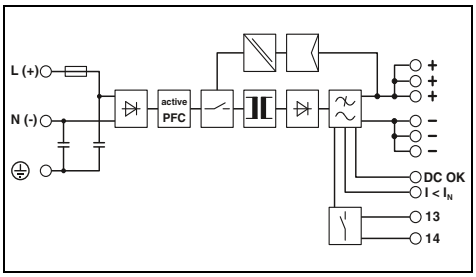
Power supplies for extreme requirements

QUINT POWER with protective coating

The protective coating protects against extreme ambient conditions, such as dust, pollution, corrosive gases, and 100% humidity.

- Devices with ATEX approval conform to standard EN 60079-15 and EN 60079-0 and may be installed in a potentially explosive area (zone 2)
- They are suitable for use in Class I, Division 2, Groups A, B, C, D
- Conformance with railway standard EN 50155
- OVP (overvoltage protection) limits surge voltages to 32 V
- Wide temperature range from -40°C to +70°C
- Fast tripping of standard miniature circuit breakers with dynamic power reserve SFB (Selective Fuse Breaking) Technology with up to 6 times the nominal current for 12 ms
- Reliable starting of heavy loads with the static Power Boost power reserve with up to 1.5 times the nominal current
- Preventive function monitoring
- Flexible, thanks to input voltage ranges for AC and DC voltages

Power supply, with protective coating, 1 AC, 24 V DC, 5 A



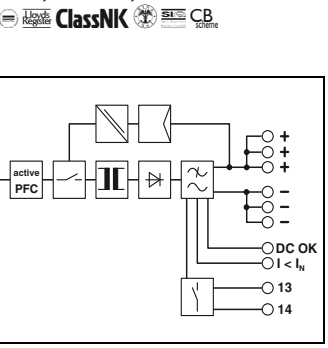
Technical data

Input data	
Nominal input voltage range	100 V AC ... 240 V AC 110 V DC ... 250 V DC
Input voltage range	85 V AC ... 264 V AC 90 V DC ... 410 V DC +5%
Frequency range	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	1.2 A (120 V AC) / 0.6 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 15 A / < 1 A^2s
Mains buffering (I_N)	typ. 55 ms (120 V AC) / typ. 55 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Setting range of the output voltage (U_{Set})	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	5 A / 7.5 A / 30 A
Magnetic circuit breaker tripping	B2 / B4 / C2
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	3 W / 15 W
Efficiency	> 90% (for 230 V AC and nominal values)
Residual ripple	< 40 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
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 20 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 20 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 20 - 12
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 635000 h (40°C)
Ambient temperature (operation)	-40°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
Rail applications	EN 50121-4 / EN 50155
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT-PS/1AC/24DC/ 5/CO**	2320908	1

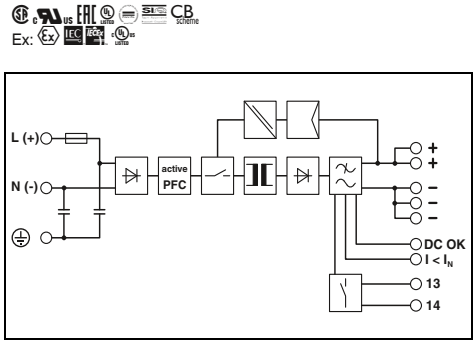
Power supply, with protective coating, 1 AC, 24 V DC, 10 A



Technical data	
100 V AC ... 240 V AC 110 V DC ... 250 V DC 85 V AC ... 264 V AC 90 V DC ... 410 V DC +5%	
45 Hz ... 65 Hz / 0 Hz 2.2 A (120 V AC) / 1.3 A (230 V AC) < 15 A / < 1.5 A^2s typ. 36 ms (120 V AC) / typ. 36 ms (230 V AC)	
24 V DC ±1% 18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	
10 A / 15 A / 60 A B2 / B4 / B6 / C2 / C4 Yes / yes 9.1 W / 22 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 alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically Plug-in screw connection 0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 16 - 12 0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 16 - 12 0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 16 - 12 IP20 / I > 530000 h (40°C) -40°C ... 70°C (> 60°C Derating: 2.5%/K)	
2 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 EN 50121-4 / EN 50155 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) EN 61000-3-2	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
QUINT-PS/1AC/24DC/10/CO	2320911	1

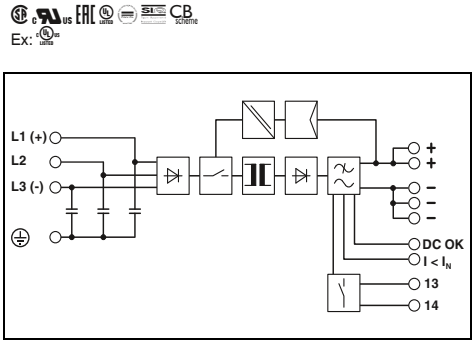
Power supply, with protective coating, 1 AC, 24 V DC, 20 A



Technical data	
100 V AC ... 240 V AC 110 V DC ... 250 V DC 85 V AC ... 264 V AC 90 V DC ... 410 V DC +5%	
45 Hz ... 65 Hz / 0 Hz 5.1 A (120 V AC) / 2.3 A (230 V AC) < 20 A / < 3.2 A^2s typ. 32 ms (120 V AC) / typ. 32 ms (230 V AC)	
24 V DC ±1% 18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	
20 A / 26 A / 120 A B2 / B4 / B6 / B10 / B16 / C2 / C4 / C6 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 alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically Screw connection 0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10 0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 12 - 10 0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10 IP20 / I > 520000 h (40°C) -40°C ... 70°C (> 60°C Derating: 2.5%/K)	
2 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 EN 50121-4 / EN 50155 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) EN 61000-3-2	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
QUINT-PS/1AC/24DC/20/CO	2320898	1

Power supply, with protective coating, 3 AC, 24 V DC, 20 A



Technical data	
3x 400 V AC ... 500 V AC 3x 320 V AC ... 575 V AC 2x 360 V AC ... 575 V AC 450 V DC ... 800 V DC	
45 Hz ... 65 Hz / 0 Hz 3x 1.6 A (400 V AC) / 3x 1.3 A (500 V AC) < 20 A / < 3.2 A^2s typ. 28 ms (400 V AC) / typ. 43 ms (500 V AC)	
24 V DC ±1% 18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	
20 A / 26 A / 120 A B2 / B4 / B6 / B10 / B16 / C2 / C4 / C6 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 alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically Screw connection 0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10 0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 12 - 10 0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 18 - 10 IP20 / I > 534000 h (40°C) -40°C ... 70°C (> 60°C Derating: 2.5%/K)	
2 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 EN 50121-4 / EN 50155 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1 (3-wire + PE, star net), UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) EN 61000-3-2	

Ordering data		
Type	**Order No.**	Pcs./Pkt.
QUINT-PS/3AC/24DC/20/CO	2320924	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER < 100 W
with Push-in connection, 1 AC, 24 V DC

– Preventive function monitoring indicates critical operating states before errors occur
– Starting of heavy loads with dynamic boost
– High efficiency of up to 93.7% and long service life, with low power dissipation and low heat generation
– Space savings in the control cabinet, thanks to a narrow, slim-line design
– Easy tool-free wiring using Push-in connection technology

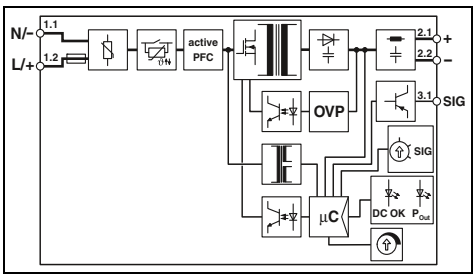
QUINT POWER, NEC Class 2
Output power limited to 100 W

– Specifically for applications that require certification in accordance with UL 1310 “Class 2 outputs”

new

Power supply,
1 AC, 24 V DC, 1.3 A, PT
NEC Class 2

Ex:



Technical data

Input data	
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -20% ... +40%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Current consumption (nominal load)	0.46 A (100 V AC) / 0.37 A (120 V AC) 0.2 A (230 V AC) / 0.2 A (240 V AC) 0.4 A (110 V DC) / 0.17 A (250 V DC)
Inrush current limitation at 25°C / I^2t	typ. 14 A / < 0.1 A^2s
Mains buffering (I_N)	typ. 43 ms (120 V AC) / typ. 43 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	1.3 A / 1.625 A (≤ 40°C) / 2.6 A (≤ 60°C (5 s)) / -
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.4 W (230 V AC) / < 3.1 W (230 V AC)
Efficiency	typ. 89.2% (120 V AC) / typ. 90.7% (230 V AC)
Residual ripple	< 40 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Adjustable signal output	SIG digital
Signal options	P_{Out} > P_{Thr} (50%, 75%, 100%)
General data	
Weight / Dimensions W x H x D	0.188 kg / 22.5 x 106 x 90 mm
Connection	DIN rail mounting
Connection method	Push-in technology
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1107000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-2-201 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1	III (≤ 2000 m)
UL approvals	UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

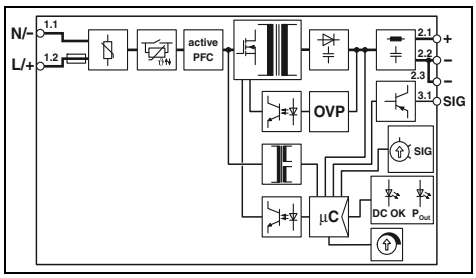
Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/1AC/24DC/1.3/PT**	2909575	1

new

Push-in Technology
Designed by PHOENIX CONTACT

**Power supply,
1 AC, 24 V DC, 2.5 A, PT
NEC Class 2**

Ex:



Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -20% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
0.85 A (100 V AC) / 0.7 A (120 V AC)	
0.39 A (230 V AC) / 0.37 A (240 V AC)	
0.75 A (110 V DC) / 0.33 A (250 V DC)	
typ. 10 A / < 0.1 A²s	
typ. 54 ms (120 V AC) / typ. 54 ms (230 V AC)	
24 V DC	
2.5 A / 3.125 A (≤ 40°C) / 5 A (≤60°C (5 s), Input <150 V AC Derating 0.5%/V) / -	
Yes / yes	
< 1 W (230 V AC) < 1 W (120 V AC) / < 5 W (230 V AC)	
typ. 91.9% (120 V AC) / typ. 92.6% (230 V AC)	
< 40 mV_{PP}	
DC OK, utilization indicator	
SIG digital	
$P_{Out} > P_{Thr}$ (50%, 75%, 100%)	
0.244 kg / 32 x 106 x 90 mm	
DIN rail mounting	
Push-in technology	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
IP20 / II	
> 734000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
3 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 61010-2-201 (SELV)	
EN 61558-2-16	
III (≤ 2000 m)	
UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

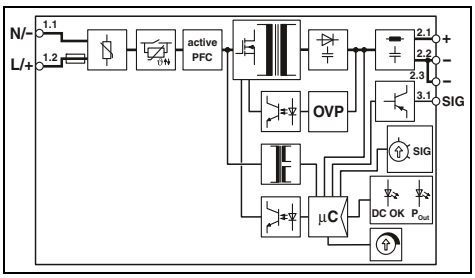
Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/2.5/PT	2909576	1

new

Push-in Technology
Designed by PHOENIX CONTACT

**Power supply,
1 AC, 24 V DC, 3.8 A, PT
NEC Class 2**

Ex:



Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -20% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
1 A (100 V AC) / 0.83 A (120 V AC)	
0.46 A (230 V AC) / 0.44 A (240 V AC)	
0.91 A (110 V DC) / 0.4 A (250 V DC)	
typ. 13 A / < 0.18 A²s	
typ. 35 ms (120 V AC) / typ. 35 ms (230 V AC)	
24 V DC	
3.8 A / - / 7 A (≤ 60°C (5 s)) / -	
Yes / yes	
< 1 W (230 V AC) / < 6 W (230 V AC)	
typ. 92.8% (120 V AC) / typ. 93.7% (230 V AC)	
< 45 mV_{PP}	
DC OK, utilization indicator	
SIG digital	
$P_{Out} > P_{Thr}$ (50%, 75%, 100%)	
0.296 kg / 45 x 106 x 90 mm	
DIN rail mounting	
Push-in technology	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
IP20 / II	
> 690000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
3 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 61010-2-201 (SELV)	
EN 61558-2-16	
III (≤ 2000 m)	
UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/3.8/PT	2909577	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER < 100 W
with screw connection, 1 AC, 24 V DC

– Preventive function monitoring indicates critical operating states before errors occur
– Starting of heavy loads with dynamic boost
– High efficiency of up to 93.7% and long service life, with low power dissipation and low heat generation
– Space savings in the control cabinet, thanks to a narrow, slim-line design

QUINT POWER, NEC Class 2
Output power limited to 100 W

– Specifically for applications that require certification in accordance with UL 1310 “Class 2 outputs”

new

Power supply,
1 AC, 24 V DC, 1.3 A, SC
NEC Class 2

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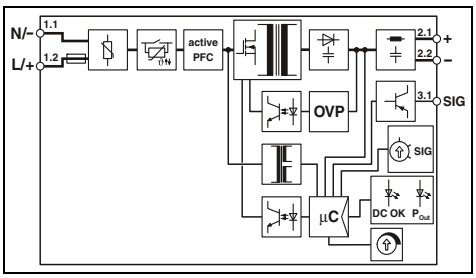

Technical data

Input data	
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -20% ... +40%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Current consumption (nominal load)	0.46 A (100 V AC) / 0.37 A (120 V AC) 0.2 A (230 V AC) / 0.2 A (240 V AC) 0.4 A (110 V DC) / 0.17 A (250 V DC)
Inrush current limitation at 25°C / I^2t	typ. 14 A / < 0.1 A^2s
Mains buffering (I_N)	typ. 43 ms (120 V AC) / typ. 43 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	1.3 A / 1.625 A (≤ 40°C) / 2.6 A (≤ 60°C (5 s)) / -
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.4 W (230 V AC) / < 3.1 W (230 V AC)
Efficiency	typ. 89.2% (120 V AC) / typ. 90.7% (230 V AC)
Residual ripple	< 40 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Adjustable signal output	SIG digital
Signal options	P_{Out} > P_{Thr} (50%, 75%, 100%)
General data	
Weight / Dimensions W x H x D	0.188 kg / 22.5 x 99 x 90 mm
Connection	DIN rail mounting
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.14 - 2.5 mm^2 / 0.14 - 2.5 mm^2 / 26 - 14
Output connection data rigid / flexible / AWG	0.14 - 2.5 mm^2 / 0.14 - 2.5 mm^2 / 26 - 14
Signal connection data rigid / flexible / AWG	0.14 - 2.5 mm^2 / 0.14 - 2.5 mm^2 / 26 - 14
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1107000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-2-201 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1	III (≤ 2000 m)
UL approvals	UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/1AC/24DC/1.3/SC**	2904597	1

new

**Power supply,
1 AC, 24 V DC, 2.5 A, SC
NEC Class 2**

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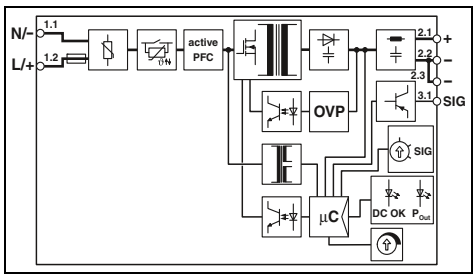

Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -20% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
0.85 A (100 V AC) / 0.7 A (120 V AC)	
0.39 A (230 V AC) / 0.37 A (240 V AC)	
0.75 A (110 V DC) / 0.33 A (250 V DC)	
typ. 10 A / < 0.1 A²s	
typ. 54 ms (120 V AC) / typ. 54 ms (230 V AC)	
24 V DC	
2.5 A / 3.125 A (≤ 40°C) / 5 A (≤60°C (5 s), Input <150 V AC Derating 0.5%/V) / -	
Yes / yes	
< 1 W (230 V AC) / < 5 W (230 V AC)	
typ. 91.9% (120 V AC) / typ. 92.6% (230 V AC)	
< 40 mV_{PP}	
DC OK, utilization indicator	
SIG digital	
P_{Out} > P_{Thr} (50%, 75%, 100%)	
0.244 kg / 32 x 99 x 90 mm	
DIN rail mounting	
Screw connection	
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 14	
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 14	
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 14	
IP20 / II	
> 734000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
3 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 61010-2-201 (SELV)	
EN 61558-2-16	
III (≤ 2000 m)	
UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/2.5/SC	**2904598**	1

new

**Power supply,
1 AC, 24 V DC, 3.8 A, SC
NEC Class 2**

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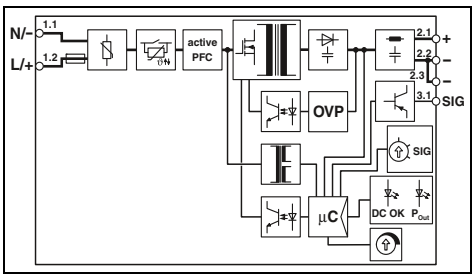


Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -20% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
1 A (100 V AC) / 0.83 A (120 V AC)	
0.46 A (230 V AC) / 0.44 A (240 V AC)	
0.91 A (110 V DC) / 0.4 A (250 V DC)	
typ. 13 A / < 0.18 A²s	
typ. 35 ms (120 V AC) / typ. 35 ms (230 V AC)	
24 V DC	
3.8 A / - / 7 A (≤ 60°C (5 s)) / -	
Yes / yes	
< 1 W (230 V AC) / < 6 W (230 V AC)	
typ. 92.8% (120 V AC) / typ. 93.7% (230 V AC)	
< 45 mV_{PP}	
DC OK, utilization indicator	
SIG digital	
P_{Out} > P_{Thr} (50%, 75%, 100%)	
0.296 kg / 45 x 99 x 90 mm	
DIN rail mounting	
Screw connection	
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 14	
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 14	
0.14 - 2.5 mm² / 0.14 - 2.5 mm² / 26 - 14	
IP20 / II	
> 690000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
3 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 61010-2-201 (SELV)	
EN 61558-2-16	
III (≤ 2000 m)	
UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/24DC/3.8/SC	**2904599**	1

QUINT POWER power supplies – Maximum functionality

QUINT POWER < 100 W with Push-in connection, 1 AC, 12 and 5 V DC

– Preventive function monitoring indicates critical operating states before errors occur
– Starting of heavy loads with dynamic boost
– High efficiency of up to 93.7% and long service life, with low power dissipation and low heat generation
– Space savings in the control cabinet, thanks to a narrow, slim-line design
– Easy tool-free wiring using Push-in connection technology

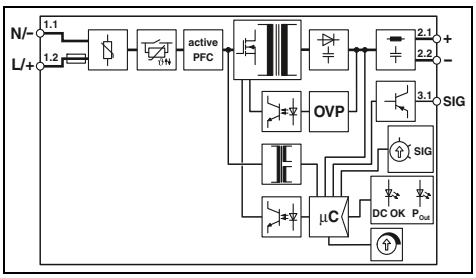
QUINT POWER, NEC Class 2 Output power limited to 100 W

– Specifically for applications that require certification in accordance with UL 1310 "Class 2 outputs"

new

Push-in Technology

Power supply, 1 AC, 12 V DC, 2.5 A, PT NEC Class 2



Technical data

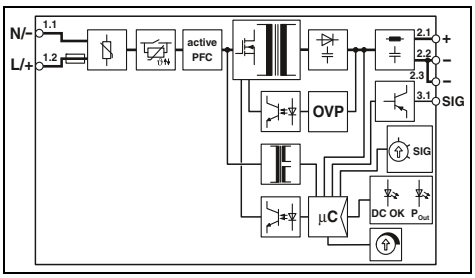
Input data	
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -20% ... +40%
Frequency range (f_N)	50 Hz ... 60 Hz -10% ... +10%
Current consumption (nominal load)	0.44 A (100 V AC) / 0.35 A (120 V AC) 0.19 A (230 V AC) / 0.2 A (240 V AC) 0.4 A (110 V DC) / 0.17 A (250 V DC)
Inrush current limitation at 25°C / I^2t	typ. 11.3 A / < 0.1 A^2s
Mains buffering (I_N)	typ. 54 ms (120 V AC) / typ. 54 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	12 V
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	2.5 A / 3.125 A (≤ 40°C) / 4.5 A (≤ 60°C (5 s)) / -
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.5 W (230 V AC) / < 3 W (230 V AC)
Efficiency	typ. 89.5% (120 V AC) / typ. 90.9% (230 V AC)
Residual ripple	< 30 mV_{PP}
Signaling	
LED signaling	DC OK, utilization indicator
Adjustable signal output	SIG digital
Signal options	P_{Out} > P_{Thr} (50%, 75%, 100%)
General data	
Weight / Dimensions W x H x D	0.181 kg / 22.5 x 106 x 90 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 30 mm vertically
Connection method	Push-in technology
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1060000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-
Standards/regulations	
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-2-201 (SELV)
Safety transformers for switched-mode power supply units	EN 61558-2-16
Overvoltage category in accordance with EN 62477-1	III (≤ 2000 m)
UL approvals	UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**QUINT4-PS/1AC/12DC/2.5/PT**	2904605	1

new

Power supply,
1 AC, 12 V DC, 7.5 A, PT



Technical data

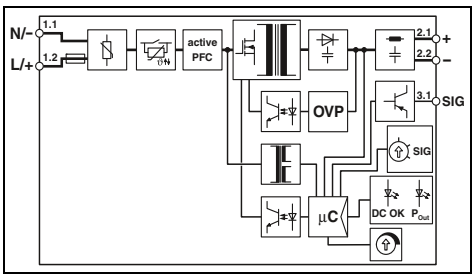
100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -20% ... +40%	
50 Hz ... 60 Hz -10% ... +10%	
1 A (100 V AC) / 0.85 A (120 V AC)	
0.46 A (230 V AC) / 0.44 A (240 V AC)	
0.92 A (110 V DC) / 0.4 A (250 V DC)	
typ. 11.4 A / < 0.2 A²s	
typ. 48 ms (120 V AC) / typ. 48 ms (230 V AC)	
12 V	
7.5 A / - / 12.75 A (≤ 60°C (5 s)) / -	
Yes / yes	
< 0.6 W (230 V AC) / < 7.1 W (230 V AC)	
typ. 91.5% (120 V AC) / typ. 92.5% (230 V AC)	
< 35 mV_{PP}	
DC OK, utilization indicator	
SIG digital	
P_{Out} > P_{Thr} (50%, 75%, 100%)	
0.3 kg / 45 x 106 x 90 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 30 mm vertically	
Push-in technology	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
IP20 / II	
> 671000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C	
3 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 61010-2-201 (SELV)	
EN 61558-2-16	
III (≤ 2000 m)	
UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/12DC/7.5/PT	2904607	1

new

Power supply,
1 AC, 5 V DC, 5 A, PT
NEC Class 2



Technical data

100 V AC ... 240 V AC -15% ... +10%	
110 V DC ... 250 V DC -20% ... +40%	
-	
0.38 A (100 V AC) / 0.32 A (120 V AC)	
0.16 A (230 V AC) / 0.17 A (240 V AC)	
0.35 A (110 V DC) / 0.15 A (250 V DC)	
typ. 11.5 A / < 0.2 A²s	
typ. 43 ms	
5 V	
5 A / 6.25 A / 10 A (≤ 60°C (5 s)) / -	
Yes / yes	
< 0.5 W (230 V AC) / < 2.7 W (230 V AC)	
typ. 89.5% (120 V AC) / typ. 90.8% (230 V AC)	
< 40 mV_{PP}	
DC OK, utilization indicator	
SIG digital	
P_{Out} > P_{Thr} (50%, 75%, 100%)	
- / 22.5 x 106 x 90 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 30 mm vertically	
Push-in technology	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14	
IP20 / -	
> 500000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-	
3 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 61010-2-201 (SELV)	
EN 61558-2-16	
III	
UL Listed UL 61010-1, UL Listed UL 61010-2-201, UL 1310 Class 2 Power Units, ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/1AC/5DC/5/PT	2904595	1

TRIO POWER power supplies – Robust standard functionality

TRIO POWER 1 AC, 24 V DC

– Space savings in the control cabinet, thanks to the narrow design
– Reliable starting of dynamic loads with the dynamic boost, which supplies up to 1.5 times the nominal current for 5 seconds
– High operational reliability, thanks to the robust design
– Wide temperature range from -25°C to +70°C as well as device startup at -40°C (type-tested)
– Maximum availability, thanks to high MTBF (mean time between failure)
– Active function monitoring with DC OK LED and relay contact
– Time savings during installation, thanks to the use of tool-free Push-in connection technology

TRIO POWER, NEC Class 2

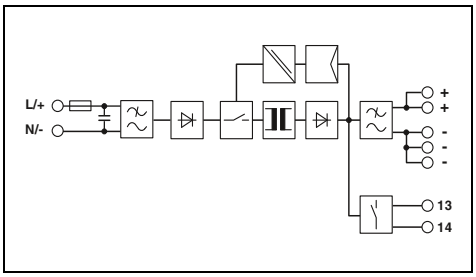
Output power limited to 100 W
– Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2

TRIO POWER, Bridge and Deck

Optimized for use on the ship's bridge

Power supply, 1 AC, 24 V DC, 3 A NEC Class 2

Ex:



Technical data

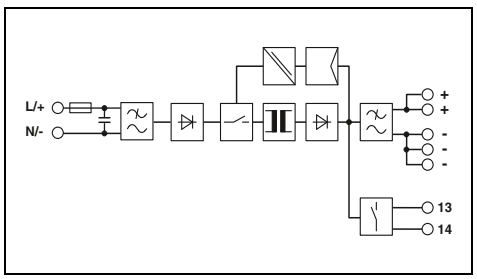
Input data	
Nominal input voltage range	100 V AC ... 240 V AC 110 V DC ... 250 V DC
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 99 V DC ... 275 V DC
Frequency range	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	1.4 A (100 V AC) / 1 A (120 V AC) 0.6 A (230 V AC) / 0.7 A (240 V AC) 0.8 A (110 V DC) / 0.3 A (250 V DC)
Inrush current limitation at 25°C / I^2t	≤ 15 A / < 0.26 A^2s
Mains buffering (I_N)	typ. 10 ms (120 V AC) / typ. 20 ms (230 V AC)
Output data	
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Output current / Dynamic Boost	3 A / 4.5 A (1 s)
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 1 W / < 10 W
Efficiency	> 89% (for 230 V AC and nominal values)
Residual ripple	< 50 mV_{PP}
Signaling	
Signaling DC OK	LED, floating signal contact
General data	
Weight / Dimensions W x H x D	0.35 kg / 30 x 130 x 115 mm
Connection	alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm
Connection method	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 2000000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**TRIO-PS-2G/1AC/24DC/3/C2LPS**	2903147	1

Power supply,
1 AC, 24 V DC, 5 A

Ex:



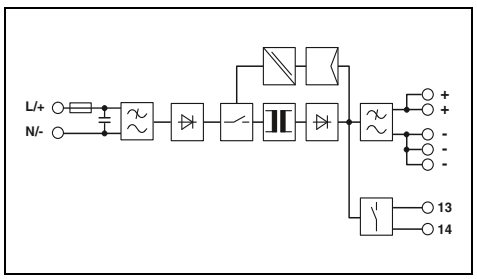
Technical data

100 V AC ... 240 V AC
110 V DC ... 250 V DC
100 V AC ... 240 V AC -15% ... +10%
99 V DC ... 275 V DC
50 Hz ... 60 Hz ±10%
2.2 A (100 V AC) / 1.9 A (120 V AC)
1.1 A (230 V AC) / 1.1 A (240 V AC)
1.4 A (110 V DC) / 0.6 A (250 V DC)
≤ 16 A / < 0.6 A²s
typ. 20 ms (120 V AC) / typ. 100 ms (230 V AC)
24 V DC ±1%
24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
5 A / 7.5 A (5 s)
yes, with redundancy module / yes
< 1 W / < 16 W
> 90% (for 230 V AC and nominal values)
< 50 mV_{PP}
LED, floating signal contact
0.45 kg / 35 x 130 x 115 mm
alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm
Push-in connection
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20 / II
> 1970000 h (40°C)
-25°C ... 70°C (> 60°C Derating: 2.5%/K)
1.5 kV AC (routine test) / 3 kV AC (type test)
Conformance with EMC Directive 2014/30/EU
IEC 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410
UL Listed UL 508, UL/C-UL Recognized UL 60950-1
EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/24DC/5	**2903148**	1

Power supply, Bridge and Deck
1 AC, 24 V DC, 5 A



Technical data

100 V AC ... 240 V AC
110 V DC ... 250 V DC
100 V AC ... 240 V AC -15% ... +10%
99 V DC ... 275 V DC
50 Hz ... 60 Hz ±5 Hz
2.2 A (100 V AC) / 1.9 A (120 V AC)
1.1 A (230 V AC) / 1.1 A (240 V AC)
1.4 A (110 V DC) / 0.6 A (250 V DC)
≤ 16 A / < 0.6 A²s
typ. 20 ms (120 V AC) / typ. 100 ms (230 V AC)
24 V DC ±1%
24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
5 A / 7.5 A (5 s)
yes, with redundancy module / yes
< 1 W / < 16 W
> 89% (for 230 V AC and nominal values)
< 50 mV_{PP}
LED, floating signal contact
0.45 kg / 35 x 130 x 115 mm
alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm
Push-in connection
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20 / II
> 1970000 h (40°C)
-25°C ... 70°C (> 60°C Derating: 2.5%/K)
1.5 kV AC (routine test) / 3 kV AC (type test)
Conformance with EMC Directive 2014/30/EU
IEC 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410
UL Listed UL 508, UL/C-UL Recognized UL 60950-1
EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/24DC/5/B+D	**2903144**	1

TRIO POWER power supplies – Robust standard functionality

TRIO POWER 1 AC, 24 V DC

– Space savings in the control cabinet, thanks to the narrow design
– Reliable starting of dynamic loads with the dynamic boost, which supplies up to 1.5 times the nominal current for 5 seconds
– High operational reliability, thanks to the robust design
– Wide temperature range from -25°C to +70°C as well as device startup at -40°C (type-tested)
– Maximum availability, thanks to high MTBF (mean time between failure)
– Active function monitoring with DC OK LED and relay contact
– Time savings during installation, thanks to the use of tool-free Push-in connection technology

TRIO POWER, NEC Class 2

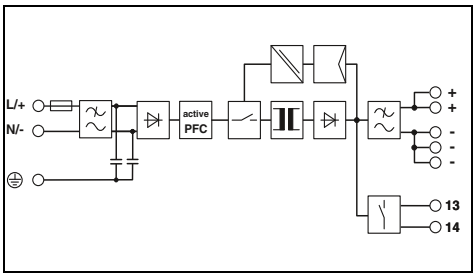
Output power limited to 100 W
– Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2

TRIO POWER, Bridge and Deck

Optimized for use on the ship's bridge

Power supply, 1 AC, 24 V DC, 10 A

Ex:



Technical data

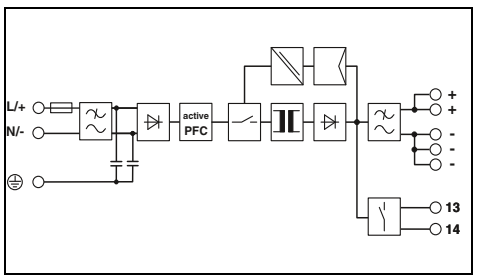
Input data	
Nominal input voltage range	100 V AC ... 240 V AC 110 V DC ... 250 V DC
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -10% ... +10%
Frequency range	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	3.1 A (100 V AC) / 2.4 A (120 V AC)
Inrush current limitation at 25°C / I^2t	≤ 25 A / < 0.5 A^2s
Mains buffering (I_N)	typ. 15 ms (120 V AC) / typ. 20 ms (230 V AC)
Output data	
Nominal output voltage	24 V DC ±1%
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (constant capacity)
Output current / Dynamic Boost	10 A / 15 A (5 s)
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 5.1 W (230 V) / < 25 W
Efficiency	> 91% (for 230 V AC and nominal values)
Residual ripple	< 10 mV_{PP}
Signaling	
Signaling DC OK	LED, floating signal contact
General data	
Weight / Dimensions W x H x D	1 kg / 42 x 130 x 160 mm
Connection	alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm
Connection method	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 1000000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1
Limitation of harmonic line currents	EN 61000-3-2

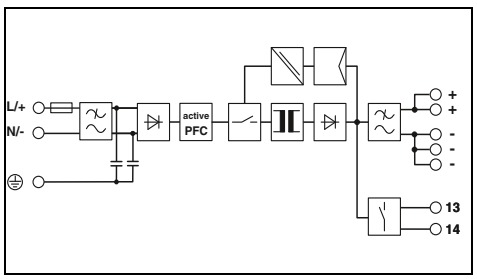
Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**TRIO-PS-2G/1AC/24DC/10**	2903149	1

Power supply, Bridge and Deck
1 AC, 24 V DC, 10 A

Power supply,
1 AC, 24 V DC, 20 A





Technical data

100 V AC ... 240 V AC 110 V DC ... 250 V DC 100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC -10% ... +10% 50 Hz ... 60 Hz ±5 Hz 3.1 A (100 V AC) / 2.4 A (120 V AC) typ. 20 A / < 0.5 A²s typ. 20 ms (120 V AC) / typ. 20 ms (230 V AC)	100 V AC ... 240 V AC 110 V DC ... 250 V DC 100 V AC ... 240 V AC -15% ... +10% 99 V DC ... 275 V DC 50 Hz ... 60 Hz ±10% 5.6 A (100 V AC) / 4.3 A (120 V AC) ≤ 20 A / < 0.9 A²s typ. 10 ms (120 V AC) / typ. 15 ms (230 V AC)
24 V DC ±1% 24 V DC ... 28 V DC (constant capacity)	24 V DC ±1% 24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
10 A / 15 A (5 s) yes, with redundancy module / yes < 5.1 W / < 25 W typ. 90% (120 V AC) / typ. 91.5% (230 V AC) < 20 mV_{PP}	20 A / 30 A (5 s) yes, with redundancy module / yes < 5.7 W / < 44 W > 93% (for 230 V AC and nominal values) < 30 mV_{PP}
LED, floating signal contact	LED, floating signal contact
1 kg / 42 x 130 x 160 mm alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm Push-in connection 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / I > 1000000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)	1.5 kg / 68 x 130 x 160 mm alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm Push-in connection 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 10 mm² / 0.2 - 6 mm² / 24 - 8 IP20 / I > 1000000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)
1.5 kV AC (routine test) / 3 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL Listed UL 508, UL/C-UL Recognized UL 60950-1 EN 61000-3-2	1.5 kV AC (routine test) / 3 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL Listed UL 508, UL/C-UL Recognized UL 60950-1 EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/24DC/10/B+D	2903145	1

Ordering data

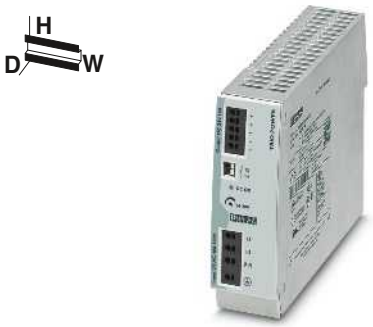
Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/24DC/20	2903151	1

TRIO POWER power supplies – Robust standard functionality

TRIO POWER 3 AC, 24 V DC

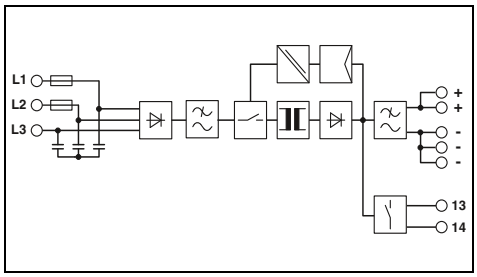
- Space savings in the control cabinet, thanks to the narrow design
- Reliable starting of dynamic loads with the dynamic boost, which supplies up to 1.5 times the nominal current for 5 seconds
- High operational reliability, thanks to the robust design
- Wide temperature range from -25°C to +70°C as well as device startup at -40°C (type-tested)
- Maximum availability, thanks to high MTBF (mean time between failure)
- Active function monitoring with DC OK LED and relay contact
- Time savings during installation, thanks to the use of tool-free Push-in connection technology

Power supply, 3 AC, 24 V DC, 5 A

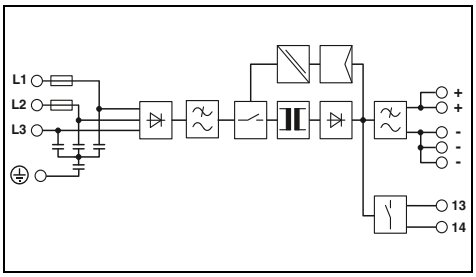


Power supply, 3 AC, 24 V DC, 10 A

Ex:



Ex:

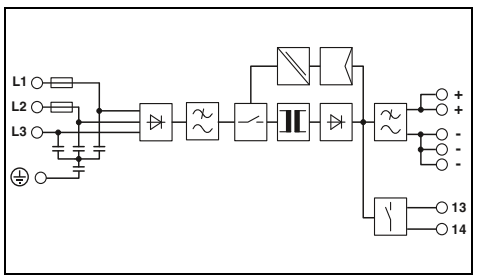


	Technical data	Technical data
Input data		
Nominal input voltage range	3x 400 V AC ... 500 V AC 2x 400 V AC ... 500 V AC	3x 400 V AC ... 500 V AC 2x 400 V AC ... 500 V AC
Input voltage range	3x 400 V AC ... 500 V AC -20% ....+15% 2x 400 V AC ... 500 V AC -10% ... +15%	3x 400 V AC ... 500 V AC -20% ....+15% 2x 400 V AC ... 500 V AC -10% ... +15%
Frequency range	50 Hz ... 60 Hz	50 Hz ... 60 Hz
Current consumption (nominal load)	3x 0.4 A (400 V AC) / 3x 0.3 A (500 V AC) 2x 0.6 A (400 V AC) / 2x 0.5 A (500 V AC)	3x 0.6 A (400 V AC) / 3x 0.6 A (500 V AC) 2x 1.1 A (400 V AC) / 2x 1.1 A (500 V AC)
Inrush current limitation at 25°C / I^2t	≤ 22 A / ≤ 0.25 A^2s	≤ 26 A / ≤ 0.3 A^2s
Mains buffering (I_N)	typ. 20 ms (400 V AC) / typ. 20 ms (500 V AC)	typ. 10 ms (400 V AC) / typ. 20 ms (500 V AC)
Output data		
Nominal output voltage	24 V DC ±1%	24 V DC ±1%
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Output current / Dynamic Boost	5 A / 7.5 A (5 s)	10 A / 15 A (5 s)
Can be connected in parallel/series	yes, with redundancy module / yes	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 1 W (400 V AC) / < 12 W (480 V AC)	< 1.1 W (400 V AC) / < 22 W (480 V AC)
Efficiency	> 91% (at 400 V AC and nominal values)	> 92% (at 400 V AC and nominal values)
Residual ripple	≤ 20 mV_{PP}	≤ 20 mV_{PP}
Signaling		
Signaling DC OK	LED, floating signal contact	LED, floating signal contact
General data		
Weight / Dimensions W x H x D	0.4 kg / 35 x 130 x 115 mm	0.9 kg / 42 x 130 x 160 mm
Connection	alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm	alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm
Connection method	Push-in connection	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II	IP20 / I
MTBF (IEC 61709, SN 29500)	> 1300000 h (40°C)	> 1200000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1	UL Listed UL 508, UL/C-UL Recognized UL 60950-1
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	TRIO-PS-2G/3AC/24DC/5	2903153	1	**TRIO-PS-2G/3AC/24DC/10**	2903154	1

Power supply,
3 AC, 24 V DC, 20 A

Ex:



Technical data

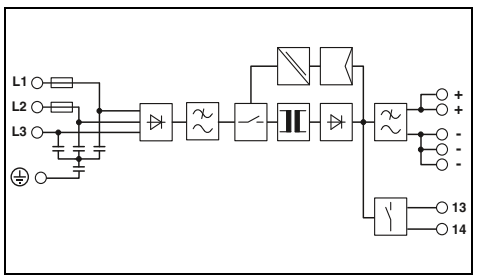
3x 400 V AC ... 500 V AC 2x 400 V AC ... 500 V AC 3x 400 V AC ... 500 V AC -20% ....+15% 2x 400 V AC ... 500 V AC -10% ... +15%	
50 Hz ... 60 Hz	
3x 1.2 A (400 V AC) / 3x 1 A (500 V AC) 2x 2.3 A (400 V AC) / 2x 1.9 A (500 V AC)	
≤ 22 A / ≤ 0.5 A^2s	
typ. 10 ms (400 V AC) / typ. 20 ms (500 V AC)	
24 V DC ±1%	
24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)	
20 A / 30 A (5 s)	
yes, with redundancy module / yes	
< 1.2 W (400 V AC) / < 38 W (480 V AC)	
> 93% (400 V AC) / 500 V AC	
≤ 20 mV_{PP}	
LED, floating signal contact	
1.5 kg / 65 x 130 x 160 mm	
alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm	
Push-in connection	
0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
0.2 - 10 mm^2 / 0.2 - 6 mm^2 / 24 - 8	
IP20 / I	
> 1100000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
1.5 kV AC (routine test) / 3 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/3AC/24DC/20	**2903155**	1

Power supply,
3 AC, 24 V DC, 40 A

Ex:



Technical data

3x 400 V AC ... 500 V AC	
3x 400 V AC ... 500 V AC -20% ....+15%	
50 Hz ... 60 Hz	
3x 1.9 A (400 V AC) / 3x 1.7 A (500 V AC)	
≤ / ≤ 1.1 A^2s	
typ. 10 ms (400 V AC) / typ. 20 ms (500 V AC)	
24 V DC ±1%	
24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)	
40 A / 60 A (5 s)	
yes, with redundancy module / yes	
< 14 W (400 V AC) / < 68 W (480 V AC)	
typ. 93% (400 V AC) / typ. 93.3% (480 V AC)	
≤ 50 mV_{PP}	
LED, floating signal contact	
2.6 kg / 110 x 130 x 160 mm	
alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm	
Push-in connection	
0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
0.75 - 16 mm^2 / 0.75 - 10 mm^2 / 20 - 4	
IP20 / I	
> 1051000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
1.5 kV AC (routine test) / 3 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL Listed UL 508, UL/C-UL Recognized UL 60950-1	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/3AC/24DC/40	**2903156**	1

TRIO POWER power supplies – Robust standard functionality

TRIO POWER 1 AC, 12 and 48 V DC

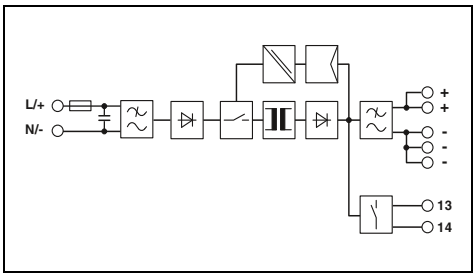
– Space savings in the control cabinet, thanks to the narrow design
– Reliable starting of dynamic loads with the dynamic boost, which supplies up to 1.5 times the nominal current for 5 seconds
– High operational reliability, thanks to the robust design
– Wide temperature range from -25°C to +70°C as well as device startup at -40°C (type-tested)
– Maximum availability, thanks to high MTBF (mean time between failure)
– Active function monitoring with DC OK LED and relay contact
– Time savings during installation, thanks to the use of tool-free Push-in connection technology

TRIO POWER, NEC Class 2

Output power limited to 100 W
– Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2

Power supply, 1 AC, 12 V DC, 5 A NEC Class 2

Ex:



Technical data

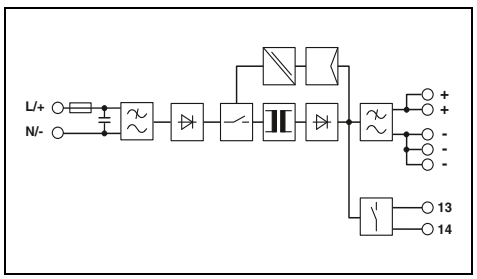
Input data	
Nominal input voltage range	100 V AC ... 240 V AC 110 V DC ... 250 V DC
Input voltage range	100 V AC ... 240 V AC -15% ... +10% 99 V DC ... 275 V DC
Frequency range	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	1.1 A (100 V AC) / 1 A (120 V AC) 0.6 A (230 V AC) / 0.6 A (240 V AC) 0.7 A (110 V DC) / 0.3 A (250 V DC)
Inrush current limitation at 25°C / I^2t	≤ 25 A / < 0.6 A^2s
Mains buffering (I_N)	typ. 20 ms (120 V AC) / typ. 110 ms (230 V AC)
Output data	
Nominal output voltage	12 V DC ±1%
Setting range of the output voltage (U_{Set})	12 V DC ... 18 V DC (> 12 V DC, constant capacity restricted)
Output current / Dynamic Boost	5 A / -
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 1 W (230 V) / < 10 W (230 V)
Efficiency	> 86% (for 230 V AC and nominal values)
Residual ripple	< 50 mV_{PP}
Signaling	
Signaling DC OK	LED, floating signal contact
General data	
Weight / Dimensions W x H x D	0.32 kg / 30 x 130 x 115 mm
Connection	alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm
Connection method	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 2900000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**TRIO-PS-2G/1AC/12DC/5/C2LPS**	2903157	1

Power supply,
1 AC, 12 V DC, 10 A

Ex:



Technical data

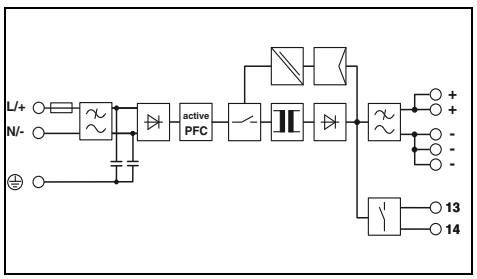
100 V AC ... 240 V AC 110 V DC ... 250 V DC 100 V AC ... 240 V AC -15% ... +10% 99 V DC ... 275 V DC 50 Hz ... 60 Hz ±10%
2.2 A (100 V AC) / 1.9 A (120 V AC) 1.1 A (230 V AC) / 1.1 A (240 V AC) 1.3 A (110 V DC) / 0.6 A (250 V DC) ≤ 30 A / < 1.5 A²s typ. 20 ms (120 V AC) / typ. 20 ms (230 V AC)
12 V DC ±1% 12 V DC ... 18 V DC (> 12 V DC, constant capacity restricted)
10 A / 15 A (5 s) yes, with redundancy module / yes < 1 W (230 V) / < 15 W (230 V) > 89% (for 230 V AC and nominal values) < 50 mV_{PP}
LED, floating signal contact
0.4 kg / 35 x 130 x 115 mm alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm Push-in connection 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1700000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)
1.5 kV AC (routine test) / 3 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL Listed UL 508, UL/C-UL Recognized UL 60950-1 EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/12DC/10	**2903158**	1

Power supply,
1 AC, 48 V DC, 5 A

Ex:



Technical data

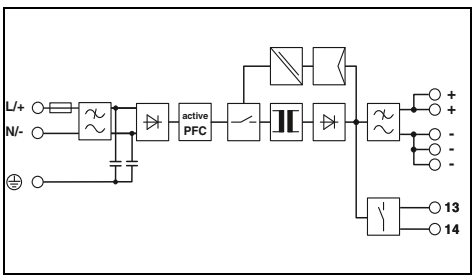
100 V AC ... 240 V AC 110 V DC ... 250 V DC 100 V AC ... 240 V AC -15% ... +10% 110 V DC ... 250 V DC ±10% 50 Hz ... 60 Hz ±10%
2.9 A (100 V AC) / 2.3 A (120 V AC) 1.2 A (230 V AC) / 1.2 A (240 V AC) 2.5 A (110 V DC) / 1.1 A (250 V DC) / < 0.3 A²s typ. 15 ms (120 V AC) / typ. 15 ms (230 V AC)
48 V DC ±1% 36 V DC ... 55 V DC (> 48 V DC, constant capacity restricted)
5 A / 7.5 A (5 s) yes, with redundancy module / yes typ. 4 W (120 V AC) / typ. 24.5 W (120 V AC) typ. 90.5% (120 V AC) / typ. 91% (230 V AC) < 20 mV_{PP}
LED, floating signal contact
0.9 kg / 42 x 130 x 160 mm alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm Push-in connection 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / I > 1200000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)
1.5 kV AC (routine test) / 3 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) - DIN VDE 0100-410 UL Listed UL 508, UL/C-UL Recognized UL 60950-1 EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/48DC/5	**2903159**	1

Power supply,
1 AC, 48 V DC, 10 A

Ex:



Technical data

100 V AC ... 240 V AC 110 V DC ... 250 V DC 100 V AC ... 240 V AC -15% ... +10% 99 V DC ... 275 V DC 50 Hz ... 60 Hz ±10%
5.6 A (100 V AC) / 5.4 A (120 V AC) 2.6 A (230 V AC) / 2.4 A (240 V AC) 5 A (110 V DC) / 2.2 A (250 V DC) 20 A / < 0.7 A²s typ. 10 ms (120 V AC) / typ. 15 ms (230 V AC)
48 V DC ±1% 36 V DC ... 55 V DC (> 48 V DC, constant capacity restricted)
10 A / 15 A (5 s) yes, with redundancy module / yes < 5.7 W (230 V) / < 44 W > 93% (for 230 V AC and nominal values) < 50 mV_{PP}
LED, floating signal contact
1.4 kg / 68 x 130 x 160 mm alignable: horizontally 0 mm (≤ 40°C) 10 mm (≤ 70°C), vertically 50 mm Push-in connection 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 10 mm² / 0.2 - 6 mm² / 24 - 8 IP20 / I > 800000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)
1.5 kV AC / 3 kV AC Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL Listed UL 508, UL/C-UL Recognized UL 60950-1 EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO-PS-2G/1AC/48DC/10	**2903160**	1

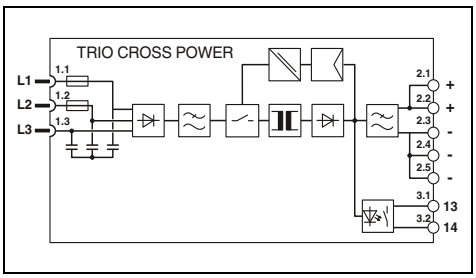
TRIO POWER power supplies – Robust standard functionality

TRIO CrossPowerSystem, 3 AC, 24 V DC

- Fast startup, thanks to tool-free mounting and automatic contacting
- Push-in connection enables quick and easy connection of 24 V DC control voltages
- Reliable starting of heavy loads with dynamic boost
- Electrically robust, thanks to high electric strength
- Wide temperature range from -25°C to +70°C, plus device startup at -40°C

new

Power supply, 3 AC, 24 V DC, 5 A



Technical data

Input data	
Nominal input voltage range	3x 400 V AC ... 500 V AC 2x 400 V AC ... 500 V AC
Input voltage range	3x 400 V AC ... 500 V AC -20% ....+15% 2x 400 V AC ... 500 V AC -10% ... +15%
Frequency range	50 Hz ... 60 Hz
Current consumption (nominal load)	3x 0.4 A (400 V AC) / 3x 0.3 A (500 V AC) 2x 0.6 A (400 V AC) / 2x 0.5 A (500 V AC)
Inrush current limitation at 25°C / I^2t	≤ 22 A / ≤ 0.25 A^2s
Mains buffering (I_N)	typ. 20 ms (400 V AC) / typ. 20 ms (500 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Output current / Dynamic Boost	5 A / 7.5 A (5 s)
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 1 W (400 V AC) / < 12 W (480 V AC)
Efficiency	typ. 91% (400 V AC)
Residual ripple	≤ 20 mV_{PP}
Signaling	
Signaling DC OK	LED, floating signal contact
General data	
Weight / Dimensions W x H x D	0.7 kg / 36 x 160 x 159 mm
Connection	Cross Power System
Connection method	Snap-on connection
Output connection data rigid / flexible / AWG	0.2 - 4 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1300000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-1 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL Listed UL 61010-2-201
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**EM-CPS-PS/3AC/24DC/5**	1064922	1

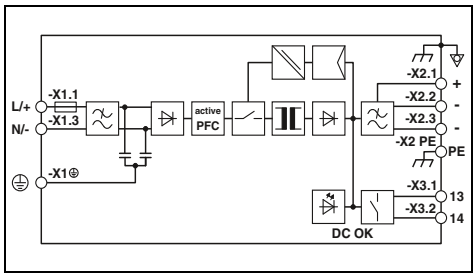
TRIO POWER power supplies – Robust standard functionality

TRIO POWER IP67, 1 AC, 24 V DC

– Direct installation in the field possible
– Installation at the consumer reduces the cable length, saves space in the control cabinet, and results in lower power loss there
– High operational safety, thanks to robust die-cast aluminum housing
– High system availability, thanks to excellent resistance to harmful environmental influences
– Reliable starting of heavy loads with dynamic boost
– Wide temperature range up to +85°C

new

Power supply, 1 AC, 24 V DC, 20 A



Technical data

Input data	
Nominal input voltage range	100 V AC ... 240 V AC 110 V DC ... 250 V DC
Input voltage range	100 V AC ... 240 V AC ±10% 110 V DC ... 250 V DC ±10%
Frequency range	50 Hz ... 60 Hz ± 5 Hz
Current consumption (nominal load)	5.6 A (100 V AC) / 4.3 A (120 V AC) 2.4 A (230 V AC) / 2.4 A (240 V AC) 4.9 A (110 V DC) / 2.1 A (250 V DC)
Inrush current limitation at 25°C / I^2t	≤ 20 A / < 0.9 A^2s
Mains buffering (I_N)	typ. 10 ms (120 V AC) / typ. 15 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Output current / Dynamic Boost	20 A / 30 A (5 s)
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 1.2 W (400 V AC) / < 38 W (480 V AC)
Efficiency	> 91% (100 V AC) / > 93% (230 V AC)
Residual ripple	≤ 20 mV_{PP}
Signaling	
Signal options	DC OK
General data	
Weight / Dimensions W x H x D	3.7 kg / 148 x 304 x 120 mm
Connection	alignable: 20 mm horizontally, 50 mm vertically above, 100 mm vertically below
Connection method	S-coding (plug) M17, 3 pin + PE (socket) A-coding (plug)
Degree of protection / Protection class	IP67 / I
MTBF (IEC 61709, SN 29500)	> (40°C) > 1000000 h (40°C)
Ambient temperature (operation)	-25°C ... 85°C (Derating >60°C: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-1 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	-
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched			
	TRIO-PS-IP67/1AC/24DC/20	1039830	1

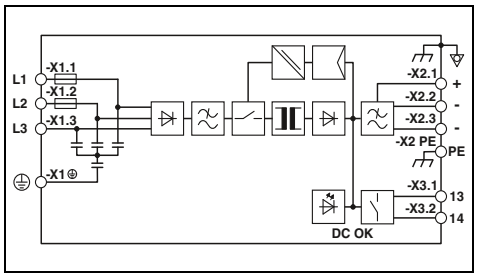
TRIO POWER power supplies – Robust standard functionality

TRIO POWER IP67, 3 AC, 24 V DC

– Direct installation in the field possible
– Installation at the consumer reduces the cable length, saves space in the control cabinet, and results in lower power loss there
– High operational safety, thanks to robust die-cast aluminum housing
– High system availability, thanks to excellent resistance to harmful environmental influences
– Reliable starting of heavy loads with dynamic boost
– Wide temperature range up to +85°C

new

Power supply, 3 AC, 24 V DC, 20 A



Technical data

Input data	
Nominal input voltage range	3x 400 V AC ... 500 V AC 2x 400 V AC ... 500 V AC
Input voltage range	3x 400 V AC ... 500 V AC -20% ....+15% 2x 400 V AC ... 500 V AC -10% ... +15%
Frequency range	50 Hz ... 60 Hz ± 5 Hz
Current consumption (nominal load)	3x 1.2 A (400 V AC) / 3x 1 A (500 V AC) 2x 2.3 A (400 V AC) / 2x 1.9 A (500 V AC) 4.9 A (110 V DC) / 2.1 A (250 V DC)
Inrush current limitation at 25°C / I^2t	≤ 22 A / 0.5 A^2s
Mains buffering (I_N)	typ. 10 ms (400 V AC) / typ. 20 ms (500 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Output current / Dynamic Boost	20 A / 30 A (5 s)
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 1.2 W (400 V AC) / < 38 W (480 V AC)
Efficiency	> 93% (400 V AC) / > 93% (500 V AC)
Residual ripple	≤ 20 mV_{PP}
Signaling	
Signal options	DC OK
General data	
Weight / Dimensions W x H x D	3.7 kg / 148 x 304 x 120 mm
Connection	alignable: 20 mm horizontally, 50 mm vertically above, 100 mm vertically below
Connection method	S-coding (plug) M17, 3 pin + PE (socket) A-coding (plug)
Degree of protection / Protection class	IP67 / I
MTBF (IEC 61709, SN 29500)	> (40°C) > 1100000 h (40°C)
Ambient temperature (operation)	-25°C ... 85°C (Derating > 60°C (3 AC): 2,5%/K / > 50°C (2 AC): 2,5%/K)
Standards/regulations	
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-1 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	-
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**TRIO-PS-IP67/3AC/24DC/20**	1039829	1

UNO POWER power supplies – Compact basic functionality

UNO POWER, 1 AC, 24 V DC

– The wide range of products covers all common voltage levels
– Maximum energy efficiency: save energy, thanks to high efficiency and extremely low idling losses
– Save space in the control cabinet, thanks to extremely high power density
– 84 mm housing depth for devices up to 100 W, tailored to all standard 120 mm control boxes
– Wide temperature range from -25°C to +70°C

Power supply, 1 AC, 24 DC, 30 W NEC Class 2

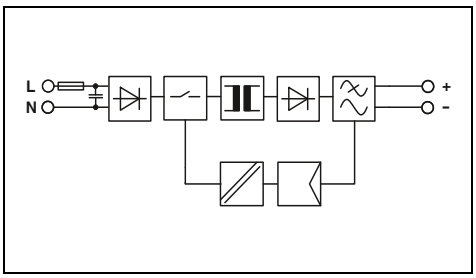
Ex:

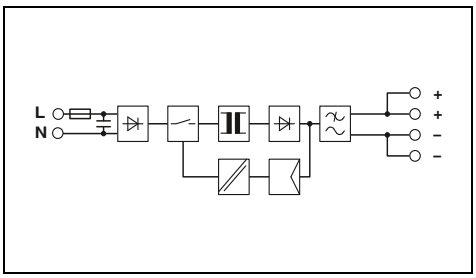
Power supply, 1 AC, 24 DC, 60 W NEC Class 2

Ex:

UNO POWER, NEC Class 2

Output power limited to 100 W
– Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2



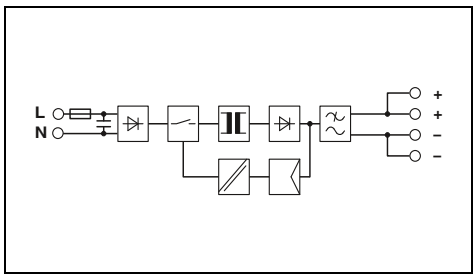


	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC	85 V AC ... 264 V AC
Frequency range (f_N)	50 Hz ... 60 Hz ±10%	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	0.8 A (100 V AC) / 0.4 A (240 V AC)	1.3 A (100 V AC) / 0.6 A (240 V AC)
Inrush current limitation at 25°C / I^2t	< 20 A / < 0.4 A^2s	< 30 A / < 0.5 A^2s
Mains buffering (I_N)	typ. 25 ms (120 V AC) / typ. 115 ms (230 V AC)	typ. 20 ms (120 V AC) / typ. 85 ms (230 V AC)
Output data		
Nominal output voltage (U_N)	24 V DC ±1%	24 V DC ±1%
Output current	1.25 A	2.5 A
Can be connected in parallel/series	yes, with redundancy module / yes	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 0.3 W / < 5 W	< 0.3 W / < 7 W
Efficiency	typ. 87% (120 V AC) / typ. 88% (230 V AC)	typ. 88% (120 V AC) / typ. 90% (230 V AC)
Residual ripple	< 60 mV_{PP}	< 30 mV_{PP}
Signaling		
Signaling DC OK	LED	LED
General data		
Weight / Dimensions W x H x D	0.15 kg / 22.5 x 90 x 84 mm	0.2 kg / 35 x 90 x 84 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1158000 h (40°C)	> 785000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	UNO-PS/1AC/24DC/ 30W	2902991	1	**UNO-PS/1AC/24DC/ 60W**	2902992	1

**Power supply,
1 AC, 24 DC, 100 W**

Ex:



Technical data

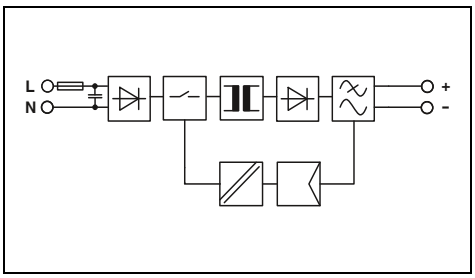
100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±10% 2.1 A (100 V AC) / 0.95 A (240 V AC) < 40 A / < 1.5 A²s typ. 20 ms (120 V AC) / typ. 100 ms (230 V AC)
24 V DC ±1% 4.2 A yes, with redundancy module / yes < 0.5 W / < 11 W typ. 88% (120 V AC) / typ. 89% (230 V AC) < 30 mV_{PP}
LED
0.34 kg / 55 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 738000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/24DC/100W	2902993	1

**Power supply,
1 AC, 24 DC, 150 W**

Ex:



Technical data

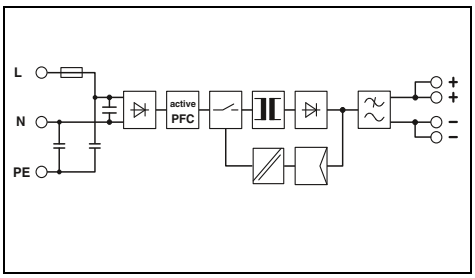
100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±10% 1.66 A (100 V AC) / 0.68 A (240 V AC) < 50 A / < 0.8 A²s typ. 20 ms (120 V AC) / typ. 20 ms (230 V AC)
24 V DC ±1% 6.25 A yes, with redundancy module / No < 1.2 W / < 9.7 W typ. 91% (120 V AC) / typ. 94% (230 V AC) < 40 mV_{PP}
LED
0.5 kg / 37 x 130 x 125 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 868000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/24DC/150W	2904376	1

**Power supply,
1 AC, 24 DC, 240 W**

Ex:



Technical data

100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±5 Hz 2.69 A (100 V AC) / 1.08 A (240 V AC) < 80 A / < 2 A²s typ. 10 ms (120 V AC) / typ. 10 ms (230 V AC)
24 V DC ±1% 10 A yes, with redundancy module / No < 1.1 W / < 18.8 W typ. 90% (120 V AC) / typ. 93% (230 V AC) < 50 mV_{PP}
LED
0.66 kg / 45 x 130 x 125 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / I > 641000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/24DC/240W	2904372	1

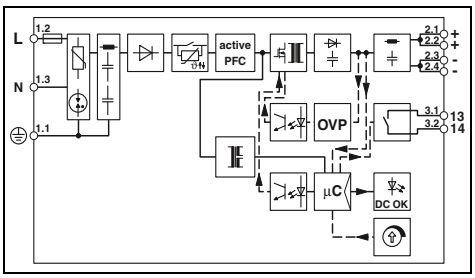
UNO POWER power supplies – Compact basic functionality

new

Power supply, 1 AC, 24 DC, 480 W

UNO POWER, 1 AC, 24 V DC, 480 W

- The wide range of products covers all common voltage levels
- Maximum energy efficiency: save energy, thanks to high efficiency and extremely low idling losses
- Save space in the control cabinet, thanks to extremely high power density
- Wide temperature range from -25°C to +70°C
- Active function monitoring with DC OK LED and relay contact



Technical data

Input data	
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	100 V AC ... 240 V AC -15% ... +10%
Frequency range (f_N)	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	5.4 A (100 V AC) / 4.4 A (120 V AC)
Inrush current limitation at 25°C / I^2t	< 20 A / < 1 A^2s
Mains buffering (I_N)	typ. 20 ms (120 V AC) / typ. 20 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC
Output current	20 A
Can be connected in parallel/series	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 4 W / < 36 W
Efficiency	typ. 93% (120 V AC) / typ. 94.6% (230 V AC)
Residual ripple	< 100 mV_{PP}
Signaling	
Signaling DC OK	LED, floating signal contact
General data	
Weight / Dimensions W x H x D	1 kg / 59 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 30 mm vertically
Connection method	Screw connection
Connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 24 - 10
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 500000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	2.5 kV AC (routine test) / 4.43 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-2-201 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	IEC 61558-2-16, IEC 61010-2-201
UL approvals	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**UNO2-PS/1AC/24DC/480W**	2910105	1

UNO POWER power supplies – Compact basic functionality

UNO POWER, 1 AC and 2 AC, 24 V DC

- The wide range of products covers all common voltage levels
- Maximum energy efficiency: save energy, thanks to high efficiency and extremely low idling losses
- Save space in the control cabinet, thanks to extremely high power density
- Housing depth of 84 mm, tailored to all popular 120 mm control boxes
- Wide temperature range from -25°C to +70°C

UNO POWER, NEC Class 2

Output power limited to 100 W

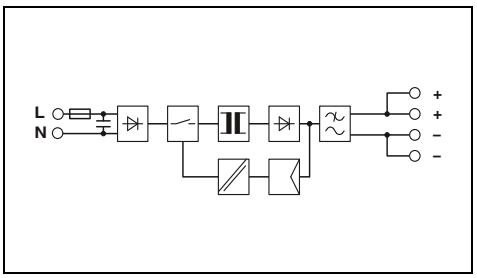
- Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2

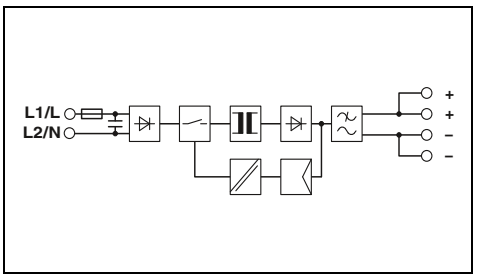
Power supply, 1 AC, 24 DC, 90 W NEC Class 2

Ex:

Power supply, 2 AC, 24 DC, 90 W NEC Class 2

Ex:





	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	2x 400 V AC ... 500 V AC
Input voltage range	85 V AC ... 264 V AC	2x 264 V AC ... 575 V AC
Frequency range (f_N)	50 Hz ... 60 Hz ±10%	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	1.8 A (100 V AC) / 0.8 A (240 V AC)	0.55 A (400 V AC) / 0.48 A (500 V AC)
Inrush current limitation at 25°C / I^2t	< 40 A / < 1.5 A^2s	< 30 A / < 0.5 A^2s
Mains buffering (I_N)	typ. 25 ms (120 V AC) / typ. 100 ms (230 V AC)	typ. 65 ms (400 V AC) / typ. 100 ms (500 V AC)
Output data		
Nominal output voltage (U_N)	24 V DC ±1%	24 V DC ±1%
Output current	3.75 A	3.75 A
Can be connected in parallel/series	No / No	No / No
Max. power dissipation (no load/nominal load)	< 0.5 W / < 12 W	< 0.7 W / < 12 W
Efficiency	typ. 88% (120 V AC) / typ. 88% (230 V AC)	typ. 89% (400 V AC) / typ. 89% (480 V AC)
Residual ripple	< 45 mV_{PP}	< 50 mV_{PP}
Signaling		
Signaling DC OK	LED	LED
General data		
Weight / Dimensions W x H x D	0.34 kg / 55 x 90 x 84 mm	0.32 kg / 55 x 90 x 84 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1159000 h (40°C)	> 828000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	UNO-PS/1AC/24DC/90W/C2LPS	2902994	1	**UNO-PS/2AC/24DC/90W/C2LPS**	2904371	1

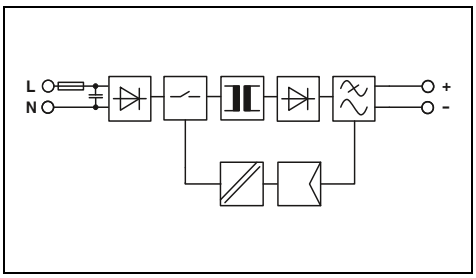
UNO POWER power supplies – Compact basic functionality

UNO POWER, 1 AC, 5 to 12 V DC

– The wide range of products covers all common voltage levels
– Maximum energy efficiency: save energy, thanks to high efficiency and extremely low idling losses
– Save space in the control cabinet, thanks to extremely high power density
– Housing depth of 84 mm, tailored to all popular 120 mm control boxes
– Wide temperature range from -25°C to +70°C

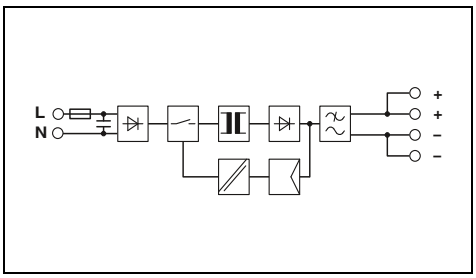
Power supply, 1 AC, 12 DC, 30 W

Ex:



Power supply, 1 AC, 12 DC, 55 W

Ex:

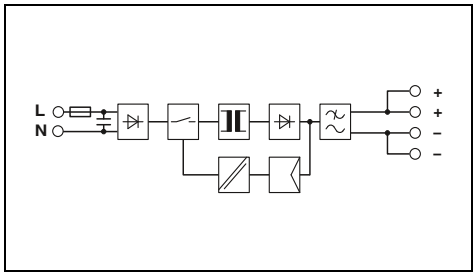


	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC	85 V AC ... 264 V AC
Frequency range (f_N)	50 Hz ... 60 Hz ±5 Hz	50 Hz ... 60 Hz ±5 Hz
Current consumption (nominal load)	0.8 A (100 V AC) / 0.4 A (240 V AC)	1.3 A (100 V AC) / 0.6 A (240 V AC)
Inrush current limitation at 25°C / I^2t	< 25 A / < 0.3 A^2s	< 30 A / < 0.5 A^2s
Mains buffering (I_N)	typ. 20 ms (120 V AC) / typ. 110 ms (230 V AC)	typ. 20 ms (120 V AC) / typ. 90 ms (230 V AC)
Output data		
Nominal output voltage (U_N)	12 V DC ±1%	12 V DC ±1%
Output current	2.5 A	4.6 A
Can be connected in parallel/series	yes, with redundancy module / yes	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 0.3 W / < 4.6 W	< 0.3 W / < 8 W
Efficiency	typ. 86% (120 V AC) / typ. 87% (230 V AC)	typ. 87% (120 V AC) / typ. 88% (230 V AC)
Residual ripple	< 30 mV_{PP}	< 30 mV_{PP}
Signaling		
Signaling DC OK	LED	LED
General data		
Weight / Dimensions W x H x D	0.15 kg / 22.5 x 90 x 84 mm	0.2 kg / 35 x 90 x 84 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 953000 h (40°C)	> 865000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched, 1-phase						
	UNO-PS/1AC/12DC/ 30W	2902998	1	**UNO-PS/1AC/12DC/ 55W**	2902999	1

Power supply,
1 AC, 12 DC, 100 W

Ex:



Technical data

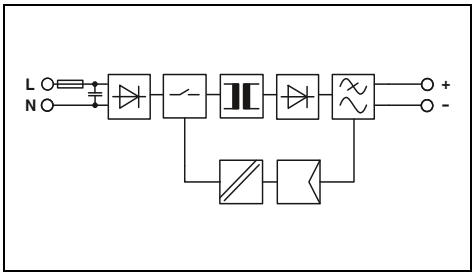
100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±5 Hz 2.19 A (100 V AC) / 1.13 A (240 V AC) < 30 A / < 1.5 A²s typ. 20 ms (120 V AC) / typ. 85 ms (230 V AC)	
12 V DC ±1% 8.3 A yes, with redundancy module / yes < 0.4 W / < 12 W typ. 88% (120 V AC) / typ. 89% (230 V AC) < 75 mV_{PP}	
LED	
0.34 kg / 55 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 500000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)	
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/12DC/100W	2902997	1

Power supply,
1 AC, 5 DC, 25 W

Ex:



Technical data

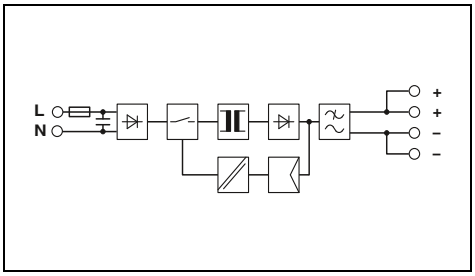
100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±10% 0.53 A (100 V AC) / 0.28 A (240 V AC) < 30 A / < 0.5 A²s typ. 35 ms (120 V AC) / typ. 135 ms (230 V AC)	
5 V DC ±1% 5 A yes, with redundancy module / yes < 0.3 W / < 4.5 W typ. 85% (120 V AC) / typ. 86% (230 V AC) < 40 mV_{PP}	
LED	
0.15 kg / 22.5 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 2174000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)	
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/ 5DC/ 25W	2904374	1

Power supply,
1 AC, 5 DC, 40 W

Ex:



Technical data

100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±5 Hz 0.8 A (100 V AC) / 0.4 A (240 V AC) < 30 A / < 0.5 A²s typ. 30 ms (120 V AC) / typ. 120 ms (230 V AC)	
5 V DC ±1% 8 A yes, with redundancy module / yes < 0.3 W / < 7.5 W typ. 84% (120 V AC) / typ. 85% (230 V AC) < 100 mV_{PP}	
LED	
0.21 kg / 35 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 1201000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)	
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location) EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/ 5DC/ 40W	2904375	1

UNO POWER power supplies – Compact basic functionality

UNO POWER, 1 AC, 15 to 48 V DC

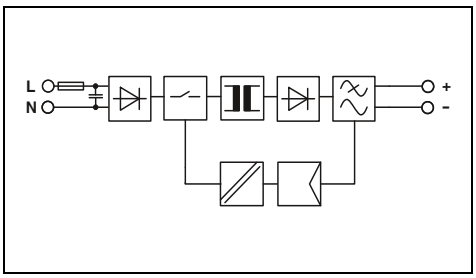
– The wide range of products covers all common voltage levels
– Maximum energy efficiency: save energy, thanks to high efficiency and extremely low idling losses
– Save space in the control cabinet, thanks to extremely high power density
– Housing depth of 84 mm, tailored to all popular 120 mm control boxes
– Wide temperature range from -25°C to +70°C

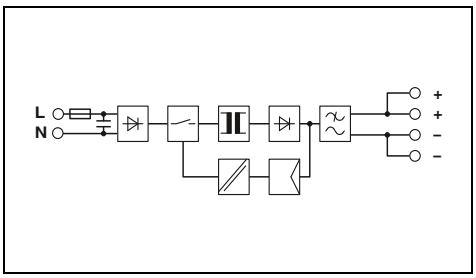
Power supply, 1 AC, 15 DC, 30 W

Ex:

Power supply, 1 AC, 15 DC, 55 W

Ex:



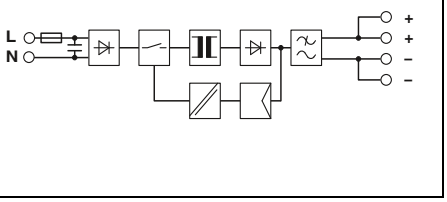


	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC	85 V AC ... 264 V AC
Frequency range (f_N)	50 Hz ... 60 Hz ±10%	50 Hz ... 60 Hz ±10%
Current consumption (nominal load)	0.8 A (100 V AC) / 0.4 A (240 V AC)	1.3 A (100 V AC) / 0.6 A (240 V AC)
Inrush current limitation at 25°C / I^2t	< 30 A / < 0.3 A^2s	< 25 A / < 0.5 A^2s
Mains buffering (I_N)	typ. 20 ms (120 V AC) / typ. 115 ms (230 V AC)	typ. 25 ms (120 V AC) / typ. 90 ms (230 V AC)
Output data		
Nominal output voltage (U_N)	15 V DC ±1%	15 V DC ±1%
Output current	2 A	3.7 A
Can be connected in parallel/series	yes, with redundancy module / yes	yes, with redundancy module / yes
Max. power dissipation (no load/nominal load)	< 0.3 W / < 4.6 W	< 0.3 W / < 7 W
Efficiency	typ. 85% (120 V AC) / typ. 86% (230 V AC)	typ. 87% (120 V AC) / typ. 88% (230 V AC)
Residual ripple	< 40 mV_{PP}	< 50 mV_{PP}
Signaling		
Signaling DC OK	LED	LED
General data		
Weight / Dimensions W x H x D	0.15 kg / 22.5 x 90 x 84 mm	0.21 kg / 35 x 90 x 84 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 911000 h (40°C)	> 647000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)	-25°C ... 70°C (> 55°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	3 kV AC (routine test) / 4 kV AC (type test)	3 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched, 1-phase						
	UNO-PS/1AC/15DC/30W	2903000	1	**UNO-PS/1AC/15DC/ 55W**	2903001	1

Power supply,
1 AC, 15 DC, 100 W

Ex:



Technical data

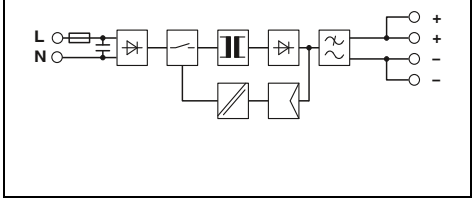
100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±10% 2.19 A (100 V AC) / 1.13 A (240 V AC) < 30 A / < 1.5 A²s typ. 20 ms (120 V AC) / typ. 85 ms (230 V AC)
15 V DC ±1% 6.67 A yes, with redundancy module / yes < 0.4 W / < 12 W typ. 89% (120 V AC) / typ. 89% (230 V AC) < 75 mV_{PP}
LED
0.34 kg / 55 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 727000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location) EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/15DC/100W	2903002	1

Power supply,
1 AC, 48 DC, 60 W

Ex:



Technical data

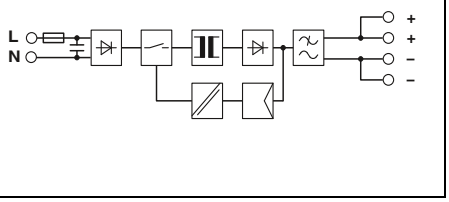
100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±10% 1.3 A (100 V AC) / 0.6 A (240 V AC) < 30 A / < 0.5 A²s typ. 20 ms (120 V AC) / typ. 90 ms (230 V AC)
48 V DC ±1% 1.25 A yes, with redundancy module / yes < 0.4 W / < 7 W typ. 89% (120 V AC) / typ. 89% (230 V AC) < 35 mV_{PP}
LED
0.21 kg / 35 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 1138000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location) EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/48DC/ 60W	2902995	1

Power supply,
1 AC, 48 DC, 100 W

Ex:



Technical data

100 V AC ... 240 V AC 85 V AC ... 264 V AC 50 Hz ... 60 Hz ±10% 2.2 A (100 V AC) / 1.1 A (240 V AC) < 40 A / < 1.4 A²s typ. 25 ms (120 V AC) / typ. 90 ms (230 V AC)
48 V DC ±1% 2.1 A yes, with redundancy module / yes < 0.4 W / < 11 W typ. 88% (120 V AC) / typ. 90% (230 V AC) < 40 mV_{PP}
LED
0.34 kg / 55 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / II > 1010000 h (40°C) -25°C ... 70°C (> 55°C Derating: 2.5%/K)
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location) EN 61000-3-2

Ordering data

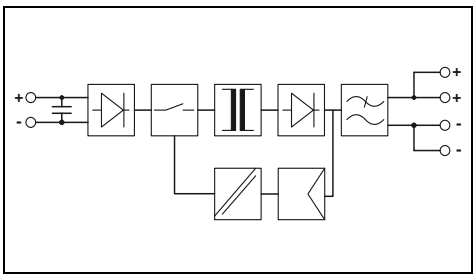
Type	Order No.	Pcs./Pkt.
UNO-PS/1AC/48DC/100W	2902996	1

UNO POWER power supplies – DC/DC converters

UNO POWER, input up to 1000 V

– Connect directly to the PV string: no need to supply an AC connection
– Robust and reliable at temperatures from -25°C to +70°C
– Can also be used in small control boxes, thanks to the compact design and high degree of efficiency
– Simplified startup, thanks to LED function monitoring

DC/DC converter, 350 - 900 V DC, 24 V DC, 60 W



Technical data

Input data	
Nominal input voltage range	350 V DC ... 900 V DC
Input voltage range	300 V DC ... 1000 V DC
Current consumption (nominal load)	0.19 A (350 V DC) / 0.07 A (1000 V DC)
Inrush current limitation at 25°C / I^2t	< 1 A / < 0.38 A^2s
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Output current	2.5 A
Can be connected in parallel/series	yes, with redundancy module / No
Max. power dissipation (no load/nominal load)	< 0.5 W / < 6.5 W
Efficiency	> 90%
Residual ripple	< 20 mV_{PP}
Signaling	
Signaling DC OK	LED
General data	
Weight / Dimensions W x H x D	0.3 kg / 55 x 90 x 84 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1160000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	3 kV DC (routine test) / 8 kV DC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electronic equipm. for electrical power installations	-
Safe isolation	DIN VDE 0100-410
UL approvals	UL 1741
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched	**UNO-PS/350-900DC/24DC/60W**	2906300	1

MINI POWER power supplies – For measurement and control technology

MINI POWER, 1 AC, 5 to 24 V DC

– Easy-to-maintain connection technology, thanks to coded COMBICON connectors
– Remote monitoring of output voltage via switching output

MINI POWER, 1 AC, ±15 V DC

– For supplying operational amplifiers

MINI POWER EX

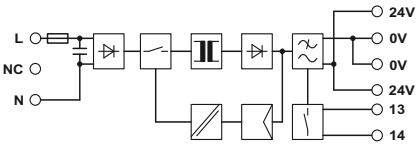
Corresponds to standard EN 60079-15
– Mounting in a potentially explosive area in which category 3G equipment is required (zone 2).

MINI POWER, NEC Class 2

– Output power limited to 100 W: Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2

Power supply, 1 AC, 24 V DC, 1.5 A, DIN rail connector optional

Ex:



Technical data

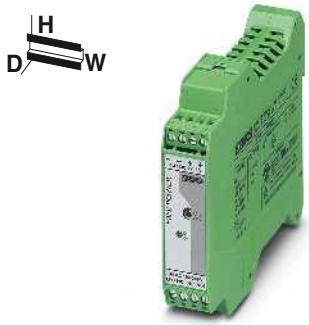
Input data	
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
Frequency range	45 Hz ... 65 Hz
Current consumption (nominal load)	0.75 A (120 V AC) / 0.45 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 15 A / 0.6 A^2s
Mains buffering (I_N)	typ. 35 ms (120 V AC) / typ. 150 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Setting range of the output voltage (U_{Set})	-
Output current / Power Boost	1.5 A / 2 A
Can be connected in parallel/series	Yes / No
Max. power dissipation (no load/nominal load)	1.5 W / 6.5 W
Efficiency	> 84% (for 230 V AC and nominal values)
Residual ripple	< 40 mV_{PP}
Signaling	
Signaling DC OK	LED, relay contact
General data	
Weight / Dimensions W x H x D	0.25 kg / 35 x 99 x 95 mm
Connection	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Plug-in screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 2789000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	3 kV (routine test) / 4 kV (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

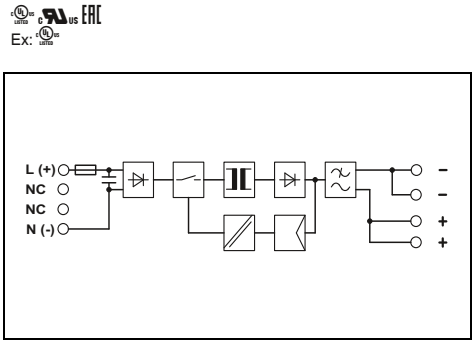
Description	Type	Order No.	Pcs./Pkt.
System power supply, primary-switched	**MINI-SYS-PS-100-240AC/24DC/1.5**	2866983	1

Accessories

DIN rail connector (optional), for routing through the supply voltage and data signal, two pieces are required per device Color: green	**ME 17,5 TBUS 1,5/ 5-ST-3,81 GN**	2709561	10



**Power supply,
1 AC, 5 V DC, 3 A**



Technical data

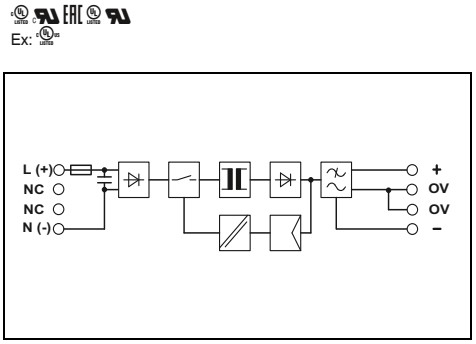
100 V AC ... 240 V AC 85 V AC ... 264 V AC 90 V DC ... 350 V DC 45 Hz ... 65 Hz 0.4 A (120 V AC) / 0.2 A (230 V AC) < 15 A / 1.5 A²s typ. 30 ms (120 V AC) / typ. 140 ms (230 V AC)	
5 V DC ±1% 4.5 V DC ... 5.5 V DC (> 5 V DC, constant capacity restricted)	
3 A / 5 A Yes / yes 1 W / 5 W > 73% (for 230 V AC and nominal values) < 40 mV_{PP}	
LED	
0.17 kg / 22.5 x 99 x 107 mm alignable: horizontally 0 mm, vertically 50 mm Plug-in screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 766000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)	
3 kV (routine test) / 4 kV (type test) Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location) EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
MINI-PS-100-240AC/ 5DC/3	2938714	1

Accessories

**Power supply,
1 AC, ±15 V DC, 1 A
NEC Class 2**



Technical data

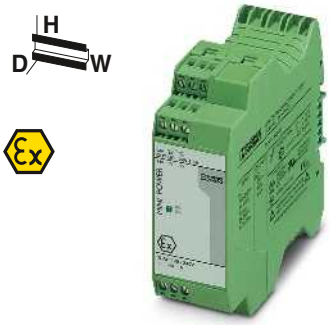
100 V AC ... 240 V AC 85 V AC ... 264 V AC 90 V DC ... 350 V DC 45 Hz ... 65 Hz 0.6 A (120 V AC) / 0.4 A (230 V AC) < 35 A / 4 A²s typ. 30 ms (120 V AC) / typ. 150 ms (230 V AC)	
± 15 V DC ±1% -	
1 A / 1.5 A Yes / yes 2 W / 8 W > 80% (for 230 V AC and nominal values) < 30 mV_{PP}	
LED	
0.25 kg / 45 x 99 x 107 mm alignable: horizontally 0 mm, vertically 50 mm Plug-in screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 500000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)	
3 kV (routine test) / 4 kV (type test) Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location), NEC Class 2 as per UL 1310 EN 61000-3-2	

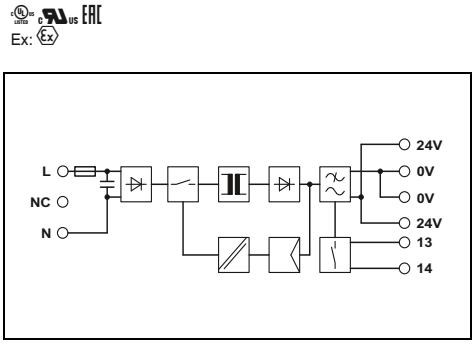
Ordering data

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

Accessories

**Power supply
1 AC, 24 DC, 1.5 A
DIN rail connector optional**





Technical data

100 V AC ... 240 V AC 85 V AC ... 264 V AC 45 Hz ... 65 Hz 0.75 A (120 V AC) / 0.45 A (230 V AC) < 15 A / 0.6 A²s typ. 35 ms (120 V AC) / typ. 150 ms (230 V AC)	
24 V DC ±1% -	
1.5 A / 2 A Yes / yes 1.5 W / 6.5 W > 84% (for 230 V AC and nominal values) < 40 mV_{PP}	
LED, relay contact	
0.25 kg / 35 x 99 x 95 mm alignable: horizontally 0 mm, vertically 50 mm Plug-in screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 2789000 h (40°C) -25°C ... 70°C (> 60°C Derating: 2.5%/K)	
3 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1 EN 61000-3-2	

Ordering data

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

Accessories

STEP POWER power supplies – For distribution boards and flat control panels

STEP POWER, 1 AC, 24 V DC

– Flexible assembly by simply snapping the product onto the DIN rail or screwing it onto an even surface
– Energy savings, thanks to maximum energy efficiency and incredibly low no-load losses
– Wide temperature range from -25°C to +70°C
– Reliable supply, thanks to the high MTBF (mean time between failure)

STEP POWER, 24 V DC, 0.5 A

– Slim design with an overall width of just 18 mm (1 pitch)

STEP POWER, 24 V DC, 0.75 A

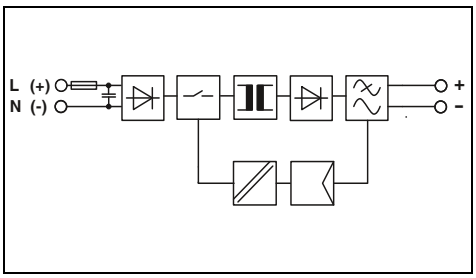
– Meets standard EN 60335-1 for household appliances, suitable for installation in ventilation systems, for example
– Flat design with a depth of just 43 mm

STEP POWER, 48 V AC, 0.5 A

– Connection to 48 V AC operating networks
– Slim design with an overall width of just 18 mm (1 pitch)

Power supply, 1 AC, 24 V DC, 0.5 A NEC Class 2

Ex:



Technical data

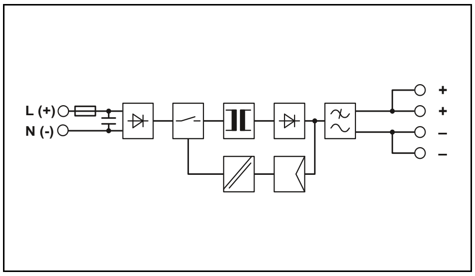
Input data	
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC 95 V DC ... 250 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	0.28 A (120 V AC) / 0.13 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 15 A / < 0.1 A^2s
Mains buffering (I_N)	typ. 15 ms (120 V AC) / typ. 90 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Output current	0.5 A
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.3 W / < 2.2 W
Efficiency	> 84% (for 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	0.07 kg / 18 x 90 x 61 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1567000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	3.75 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
Budgetary standard	-
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched	**STEP-PS/ 1AC/24DC/0.5**	2868596	1

Power supply, 1 AC, 24 V DC, 0.75 A flat design, NEC Class 2

Ex:



Technical data

100 V AC ... 240 V AC
85 V AC ... 264 V AC
95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
0.3 A (120 V AC) / 0.25 A (230 V AC)
< 15 A / < 0.1 A²s
typ. 15 ms (120 V AC) / typ. 70 ms (230 V AC)

24 V DC ±1%
0.75 A
Yes / yes
< 0.5 W / < 3.6 W
> 84% (for 230 V AC and nominal values)
< 75 mV_{PP}

LED

0.11 kg / 36 x 90 x 43 mm
alignable: 0 mm horizontally, 30 mm vertically
Screw connection
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20 / II
> 926000 h (40°C)
-25°C ... 70°C (> 55°C derating: 2.5%/K)

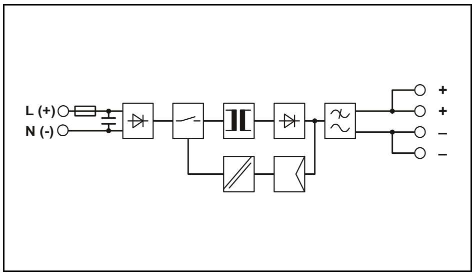
3.75 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC Directive 2014/30/EU
IEC 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410
IEC 60335-1
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310
EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
STEP-PS/ 1AC/24DC/0.75/FL	2868622	1

Power supply, 1 AC, 24 V DC, 0.75 A NEC Class 2

Ex:



Technical data

100 V AC ... 240 V AC
85 V AC ... 264 V AC
95 V DC ... 250 V DC
45 Hz ... 65 Hz / 0 Hz
0.3 A (120 V AC) / 0.2 A (230 V AC)
< 15 A / < 0.1 A²s
typ. 15 ms (120 V AC) / typ. 70 ms (230 V AC)

24 V DC ±1%
0.75 A
Yes / yes
0.5 W / 3.6 W
> 84% (for 230 V AC and nominal values)
< 75 mV_{PP}

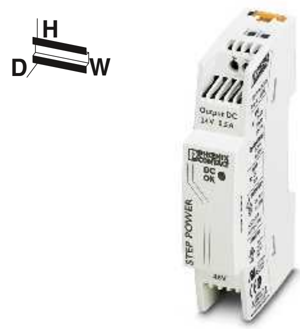
LED

0.11 kg / 36 x 90 x 61 mm
alignable: 0 mm horizontally, 30 mm vertically
Screw connection
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20 / II
> 926000 h (40°C)
-25°C ... 70°C (> 55°C derating: 2.5%/K)

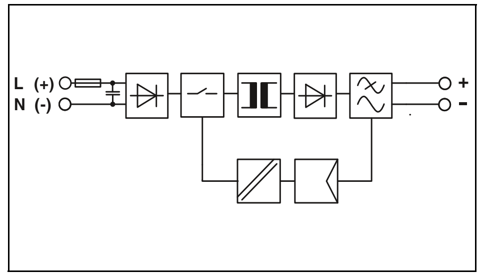
3.75 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC Directive 2014/30/EU
IEC 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410
IEC 60335-1
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310
EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
STEP-PS/ 1AC/24DC/0.75	2868635	1



Power supply, 48 V AC, 24 V DC, 0.5 A NEC Class 2



Technical data

48 V AC
43 V AC ... 52 V AC
60 V DC ... 80 V DC
45 Hz ... 65 Hz / 0 Hz
0.5 A (43 V AC) / 0.45 A (48 V AC)
< 10 A / < 0.1 A²s
typ. 15 ms (48 V AC) / typ. 20 ms (52 V AC)

24 V DC ±1%
0.5 A
Yes / yes
< 0.3 W / < 3.4 W
> 81% (for 48 V AC and nominal values)
< 30 mV_{PP}

LED

0.07 kg / 18 x 90 x 61 mm
alignable: 0 mm horizontally, 30 mm vertically
Screw connection
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20 / II
> 1860000 h (40°C)
-25°C ... 70°C (> 55°C Derating: 2.5%/K)

3.75 kV AC (routine test) / 4 kV AC (type test)
Conformance with EMC Directive 2014/30/EU
IEC 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410
-
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310

EN 61000-3-2

Ordering data

Type	Order No.	Pcs./Pkt.
STEP-PS/48AC/24DC/0.5	2868716	1

STEP POWER power supplies – For distribution boards and flat control panels

STEP POWER, 1 AC, 24 V DC

– Flexible assembly by simply snapping the product onto the DIN rail or screwing it onto an even surface
– Energy savings, thanks to maximum energy efficiency and incredibly low no-load losses
– Wide temperature range from -25°C to +70°C
– Reliable supply, thanks to the high MTBF (mean time between failure)

STEP POWER, NEC Class 2

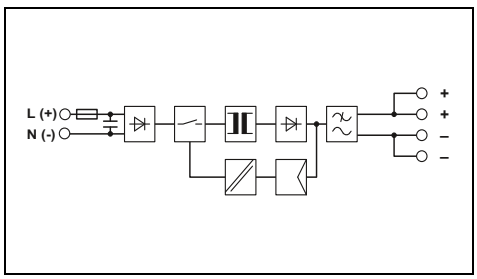
– Output power limited to 100 W: Specifically for applications that require certification in accordance with UL 1310/508 Listed Class 2

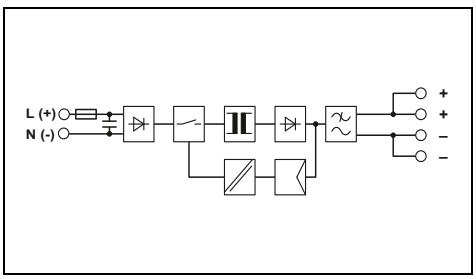
Power supply, 1 AC, 24 V DC, 1.75 A NEC Class 2

Ex:

Power supply, 1 AC, 24 V DC, 2.5 A NEC Class 2

Ex:





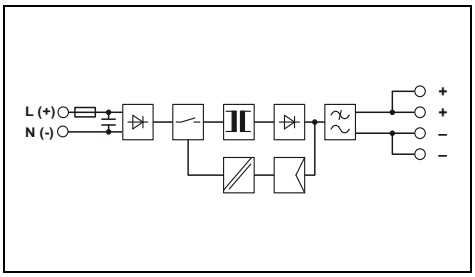
	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC 95 V DC ... 250 V DC	85 V AC ... 264 V AC 95 V DC ... 250 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	0.6 A (120 V AC) / 0.3 A (230 V AC)	0.8 A (120 V AC) / 0.4 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 15 A / < 0.6 A^2s	< 15 A / < 0.6 A^2s
Mains buffering (I_N)	typ. 25 ms (120 V AC) / typ. 150 ms (230 V AC)	typ. 20 ms (120 V AC) / typ. 100 ms (230 V AC)
Output data		
Nominal output voltage (U_N)	24 V DC ±1%	24 V DC ±1%
Setting range of the output voltage (U_{Set})	22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Output current	1.75 A	2.5 A
Can be connected in parallel/series	Yes / yes	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.7 W / 5 W	< 0.7 W / 9.9 W
Efficiency	> 89% (for 230 V AC and nominal values)	> 86% (for 230 V AC and nominal values)
Residual ripple	< 60 mV_{PP}	< 80 mV_{PP}
Signaling		
Signaling DC OK	LED	LED
General data		
Weight / Dimensions W x H x D	0.19 kg / 54 x 90 x 61 mm	0.27 kg / 72 x 90 x 61 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1569000 h (40°C)	> 1061000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating: 2.5%/K)	-25°C ... 70°C (> 55°C derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	3.75 kV AC (routine test) / 4 kV AC (type test)	3.75 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location), NEC Class 2 as per UL 1310	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T3C (Hazardous Location), NEC Class 2 as per UL 1310
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	STEP-PS/ 1AC/24DC/1.75	2868648	1	**STEP-PS/ 1AC/24DC/2.5**	2868651	1

DeviceNet

Power supply,
1 AC, 24 V DC, 100 W
NEC Class 2

Ex:



Technical data

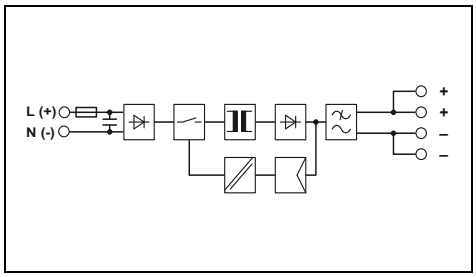
100 V AC ... 240 V AC	
85 V AC ... 264 V AC	
95 V DC ... 250 V DC	
45 Hz ... 65 Hz	
1.3 A (120 V AC) / 0.8 A (230 V AC)	
< 15 A / < 1 A²s	
typ. 25 ms (120 V AC) / typ. 120 ms (230 V AC)	
24 V DC ±1%	
22.5 V DC ... 25 V DC (> 24 V DC, constant capacity restricted)	
3.8 A	
No / No	
< 0.7 W / 11.8 W	
> 88% (for 230 V AC and nominal values)	
< 80 mV_{PP}	
LED	
0.33 kg / 90 x 90 x 61 mm	
alignable: 0 mm horizontally, 30 mm vertically	
Screw connection	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20 / II	
> 897000 h (40°C)	
-25°C ... 70°C (> 55°C derating: 2.5%/K)	
3.75 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location), NEC Class 2 as per UL 1310	
EN 61000-3-2	

Ordering data

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

Power supply,
1 AC, 24 V DC, 4.2 A

Ex:



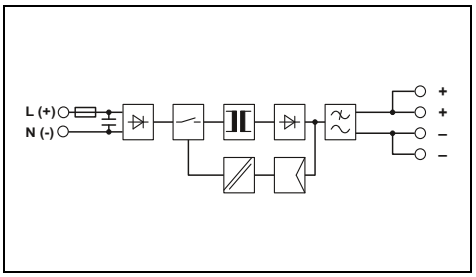
Technical data

100 V AC ... 240 V AC	
85 V AC ... 264 V AC	
95 V DC ... 250 V DC	
45 Hz ... 65 Hz / 0 Hz	
1.3 A (120 V AC) / 0.8 A (230 V AC)	
< 15 A / < 1 A²s	
typ. 20 ms (120 V AC) / typ. 100 ms (230 V AC)	
24 V DC ±1%	
22.5 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	
4.2 A	
Yes / yes	
< 0.7 W / 13.2 W	
> 88% (for 230 V AC and nominal values)	
< 40 mV_{PP}	
LED	
0.33 kg / 90 x 90 x 61 mm	
alignable: 0 mm horizontally, 30 mm vertically	
Screw connection	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20 / II	
> 897000 h (40°C)	
-25°C ... 70°C (> 55°C derating: 2.5%/K)	
3.75 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location)	
EN 61000-3-2	

Ordering data

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

Power supply,
1 AC, 24 V DC, 3.5 A
Input up to 277 V AC, NEC Class 2



Technical data

100 V AC ... 277 V AC	
85 V AC ... 305 V AC	
95 V DC ... 250 V DC	
45 Hz ... 65 Hz / 0 Hz	
1.43 A (120 V AC) / 0.75 A (277 V AC)	
< 40 A / < 2.8 A²s	
typ. 25 ms (120 V AC) / typ. 160 ms (277 V AC)	
24 V DC ±1%	
22.5 V DC ... 25 V DC (> 24 V DC, constant capacity restricted)	
3.5 A	
Yes / yes	
< 0.6 W / 11.5 W	
> 88% (for 277 V AC and nominal values)	
< 10 mV_{PP}	
LED	
0.3 kg / 90 x 90 x 61 mm	
alignable: 0 mm horizontally, 30 mm vertically	
Screw connection	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	
IP20 / II	
> 1094000 h (40°C)	
-25°C ... 70°C (> 55°C derating: 2.5%/K)	
3.75 kV AC (routine test) / 4 kV AC (type test)	
Conformance with EMC Directive 2014/30/EU	
IEC 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310	
EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
STEP-PS/277AC/24DC/3.5	2904945	1

STEP POWER power supplies – For distribution boards and flat control panels

STEP POWER, 1 AC, 5 to 48 V DC

– Flexible assembly by simply snapping the product onto the DIN rail or screwing it onto an even surface
– Energy savings, thanks to maximum energy efficiency and incredibly low no-load losses
– Wide temperature range from -25°C to +70°C
– Reliable supply, thanks to the high MTBF (mean time between failure)

STEP POWER, 5 V DC, 2 A

– Slim design with an overall width of just 18 mm (1 pitch)

STEP POWER, 5 V DC, 6.5 A

– Adjustable output voltage of 4 to 6.5 V DC

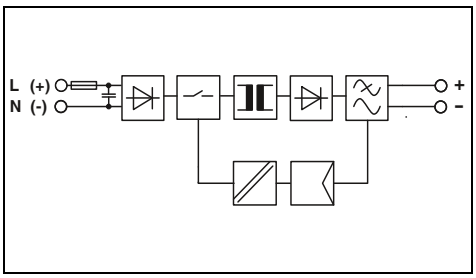
STEP POWER, 15 V DC, 4 A

– Adjustable output voltage of 10 to 16.5 V DC

STEP POWER, 48 V DC, 2 A

– Adjustable output voltage of 30 to 56 V DC

Power supply, 1 AC, 5 V DC, 2 A NEC Class 2



Technical data

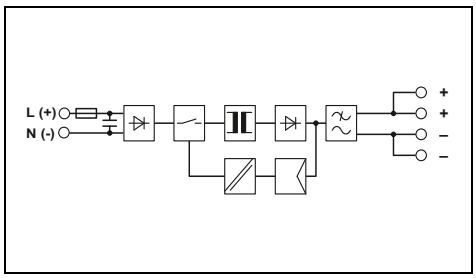
Input data	
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC 95 V DC ... 250 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	0.2 A (120 V AC) / 0.13 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 15 A / < 0.1 A^2s
Mains buffering (I_N)	typ. 25 ms (120 V AC) / typ. 110 ms (230 V AC)
Output data	
Nominal output voltage (U_N)	5 V DC ±1%
Setting range of the output voltage (U_{Set})	-
Output current	2 A
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.4 W / < 2.6 W
Efficiency	> 81% (for 230 V AC and nominal values)
Residual ripple	< 50 mV_{PP}
Signaling	
Signaling DC OK	LED
General data	
Weight / Dimensions W x H x D	0.1 kg / 18 x 90 x 61 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1812000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	3.75 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, NEC Class 2 as per UL 1310
Limitation of harmonic line currents	EN 61000-3-2

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched, 1-phase			
	STEP-PS/ 1AC/ 5DC/2	2320513	1

Power supply,
1 AC, 5 V DC, 6.5 A

Ex:



Technical data

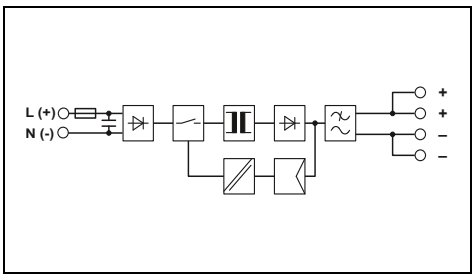
100 V AC ... 240 V AC 85 V AC ... 264 V AC 95 V DC ... 250 V DC 45 Hz ... 65 Hz / 0 Hz 0.5 A (120 V AC) / 0.3 A (230 V AC) < 15 A / < 0.6 A²s typ. 25 ms (120 V AC) / typ. 140 ms (230 V AC)
5 V DC ±1% 4 V DC ... 6.5 V DC (> 5 V DC, constant capacity restricted)
6.5 A Yes / yes < 0.4 W / 8.1 W > 80% (for 230 V AC and nominal values) < 50 mV_{PP}
LED
0.27 kg / 72 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1111000 h (40°C) -25°C ... 70°C (> 55°C derating: 2.5%/K)
3.75 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location) EN 61000-3-2

Ordering data

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

Power supply,
1 AC, 15 V DC, 4 A

Ex:



Technical data

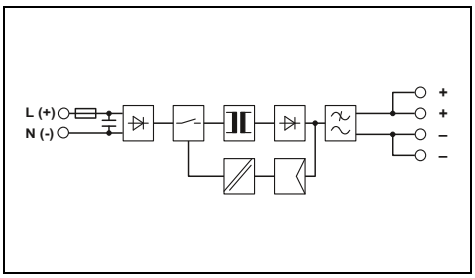
100 V AC ... 240 V AC 85 V AC ... 264 V AC 95 V DC ... 250 V DC 45 Hz ... 65 Hz / 0 Hz 0.8 A (120 V AC) / 0.5 A (230 V AC) < 15 A / < 0.6 A²s typ. 27 ms (120 V AC) / typ. 120 ms (230 V AC)
15 V DC ±1% 10 V DC ... 16.5 V DC (> 15 V DC, constant capacity restricted)
4 A Yes / yes < 0.5 W / 8.6 W > 87% (for 230 V AC and nominal values) < 55 mV_{PP}
LED
0.27 kg / 72 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1134000 h (40°C) -25°C ... 70°C (> 55°C derating: 2.5%/K)
3.75 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T3C (Hazardous Location) EN 61000-3-2

Ordering data

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

Power supply,
1 AC, 48 V DC, 2 A

Ex:



Technical data

100 V AC ... 240 V AC 85 V AC ... 264 V AC 95 V DC ... 250 V DC 45 Hz ... 65 Hz / 0 Hz 1.3 A (120 V AC) / 0.8 A (230 V AC) < 15 A / < 1.4 A²s typ. 20 ms (120 V AC) / typ. 120 ms (230 V AC)
48 V DC ±1% 30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
2 A Yes / yes < 0.9 W / 9.6 W > 90% (for 230 V AC and nominal values) < 30 mV_{PP}
LED
0.33 kg / 90 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1048000 h (40°C) -25°C ... 70°C (> 55°C derating: 2.5%/K)
3.75 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T3C (Hazardous Location) EN 61000-3-2

Ordering data

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

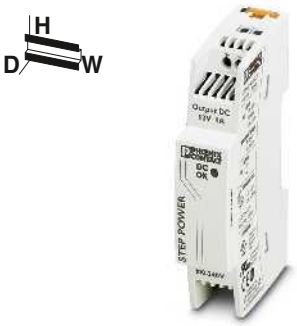
STEP POWER power supplies – For distribution boards and flat control panels

STEP POWER, 1 AC, 12 V DC

– Flexible assembly by simply snapping the product onto the DIN rail or screwing it onto an even surface
– Energy savings, thanks to maximum energy efficiency and incredibly low no-load losses
– Wide temperature range from -25°C to +70°C
– Reliable supply, thanks to the high MTBF (mean time between failure)

STEP POWER, 12 V DC, 1.5 A

– Meets standard EN 60335-1 for household appliances, suitable for installation in ventilation systems, for example

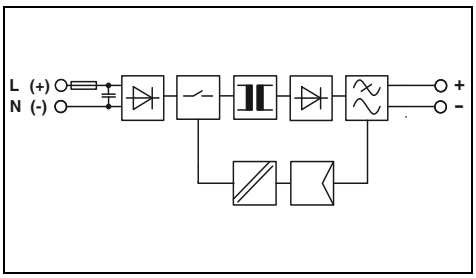


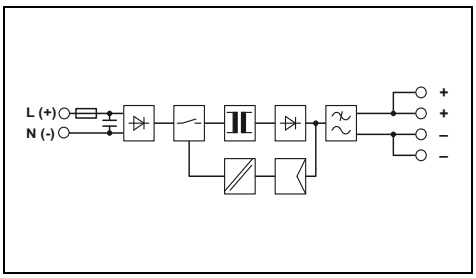
Power supply, 1 AC, 12 V DC, 1 A NEC Class 2

Ex:

Power supply, 1 AC, 12 V DC, 1.5 A Flat design, NEC Class 2

Ex:



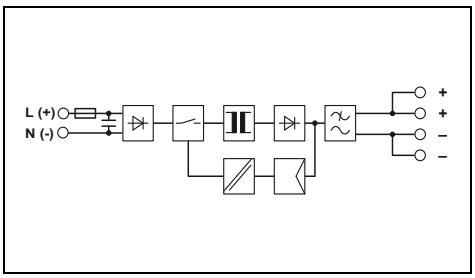


	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC 95 V DC ... 250 V DC	85 V AC ... 264 V AC 95 V DC ... 250 V DC
Frequency range	45 Hz ... 65 Hz / 0 Hz	45 Hz ... 65 Hz / 0 Hz
Current consumption (nominal load)	0.26 A (120 V AC) / 0.13 A (230 V AC)	0.33 A (120 V AC) / 0.18 A (230 V AC)
Inrush current limitation at 25°C / I^2t	< 15 A / < 0.1 A^2s	< 15 A / < 0.1 A^2s
Mains buffering (I_N)	typ. 15 ms (120 V AC) / typ. 90 ms (230 V AC)	typ. 15 ms (120 V AC) / typ. 70 ms (230 V AC)
Output data		
Nominal output voltage (U_N)	12 V DC ±1%	12 V DC ±1%
Setting range of the output voltage (U_{Set})	-	-
Output current	1 A	1.5 A
Can be connected in parallel/series	Yes / yes	Yes / yes
Max. power dissipation (no load/nominal load)	< 0.4 W / < 2.8 W	< 0.4 W / < 3.2 W
Efficiency	> 83% (for 230 V AC and nominal values)	> 84% (for 230 V AC and nominal values)
Residual ripple	< 20 mV_{PP}	< 75 mV_{PP}
Signaling		
Signaling DC OK	LED	LED
General data		
Weight / Dimensions W x H x D	0.07 kg / 18 x 90 x 61 mm	0.07 kg / 36 x 90 x 43 mm
Connection	alignable: 0 mm horizontally, 30 mm vertically	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection	Screw connection
Connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 1478000 h (40°C)	> 1800000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 55°C derating: 2.5%/K)	-25°C ... 70°C (> 55°C derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	3.75 kV AC (routine test) / 4 kV AC (type test)	3.75 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
Budgetary standard	-	IEC 60335-1
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310
Limitation of harmonic line currents	EN 61000-3-2	EN 61000-3-2

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, primary-switched						
	STEP-PS/ 1AC/12DC/1	2868538	1	**STEP-PS/ 1AC/12DC/1.5/FL**	2868554	1

Power supply, 1 AC, 12 V DC, 1.5 A NEC Class 2

Ex:



Technical data

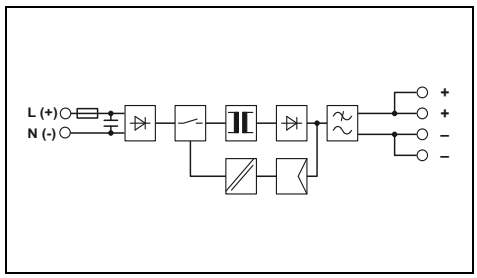
100 V AC ... 240 V AC 85 V AC ... 264 V AC 95 V DC ... 250 V DC 45 Hz ... 65 Hz / 0 Hz 0.3 A (120 V AC) / 0.2 A (230 V AC) < 15 A / < 0.1 A²s typ. 15 ms (120 V AC) / typ. 70 ms (230 V AC)	
12 V DC ±1% -	
1.5 A Yes / yes < 0.4 W / < 3.2 W > 84% (for 230 V AC and nominal values) < 75 mV_{PP}	
LED	
0.11 kg / 36 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1800000 h (40°C) -25°C ... 70°C (> 55°C derating: 2.5%/K)	
3.75 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 IEC 60335-1 UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310 EN 61000-3-2	

Ordering data

Type	Order No.	Pcs./Pkt.
STEP-PS/ 1AC/12DC/1.5	**2868567**	1

Power supply, 1 AC, 12 V DC, 3 A NEC Class 2

Ex:



Technical data

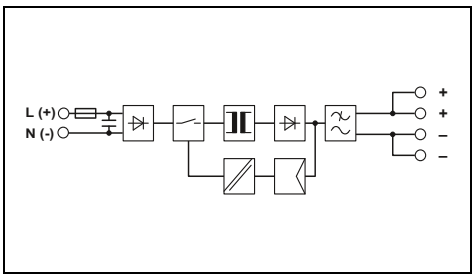
100 V AC ... 240 V AC 85 V AC ... 264 V AC 95 V DC ... 250 V DC 45 Hz ... 65 Hz / 0 Hz 0.6 A (120 V AC) / 0.3 A (230 V AC) < 15 A / < 0.6 A²s typ. 26 ms (120 V AC) / typ. 160 ms (230 V AC)	
12 V DC ±1% 10 V DC ... 16.5 V DC (> 12 V DC, constant capacity restricted)	
3 A Yes / yes < 0.5 W / 6.4 W > 85% (for 230 V AC and nominal values) < 40 mV_{PP}	
LED	
0.19 kg / 54 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1689000 h (40°C) -25°C ... 70°C (> 55°C derating: 2.5%/K)	
3.75 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 - UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location), NEC Class 2 as per UL 1310 EN 61000-3-2	

Ordering data

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

Power supply, 1 AC, 12 V DC, 5 A

Ex:



Technical data

100 V AC ... 240 V AC 85 V AC ... 264 V AC 95 V DC ... 250 V DC 45 Hz ... 65 Hz / 0 Hz 0.8 A (120 V AC) / 0.5 A (230 V AC) < 15 A / < 0.6 A²s typ. 27 ms (120 V AC) / typ. 120 ms (230 V AC)	
12 V DC ±1% 10 V DC ... 16.5 V DC (> 12 V DC, constant capacity restricted)	
5 A Yes / yes < 0.5 W / 8.6 W > 87% (for 230 V AC and nominal values) < 55 mV_{PP}	
LED	
0.27 kg / 72 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / II > 1134000 h (40°C) -25°C ... 70°C (> 55°C derating: 2.5%/K)	
3.75 kV AC (routine test) / 4 kV AC (type test) Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) DIN VDE 0100-410 - UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T3C (Hazardous Location) EN 61000-3-2	

Ordering data

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

QUINT and MINI DC/DC converters alter the voltage level, regenerate the voltage, or enable the creation of independent supply systems by means of electrical isolation.

There are numerous fields of application for DC/DC converters. On long supply lines, they raise the voltage to compensate for voltage drops. In addition, they can convert the DC voltage level present at the input into a different voltage level at the output. This enables various voltage levels to be matched to one another.

DC/DC converters separate circuits from each other by means of electrical isolation and protect sensitive consumers by decoupling them. Furthermore, grounded circuits are isolated from non-grounded circuits.

Thanks to their wide input voltage range, DC/DC converters provide a regulated and stable output voltage even in battery-backed and unregulated supply networks.

QUINT POWER – Maximum functionality

Cost-effective selective fuse protection with SFB Technology:

SFB (Selective Fuse Breaking) Technology trips standard circuit breakers reliably and quickly with up to six times the nominal current for 15 ms. Faulty current paths are switched off selectively, the fault is located, and important system parts remain in operation.

Preventive function monitoring:

Comprehensive diagnostics are provided through constant monitoring of all relevant parameters, such as the input voltage, output voltage, and output current. This preventive monitoring visualizes critical operating states, before errors can occur. Remote monitoring is performed by means of active switching outputs and floating relay contacts.

Power reserves:

- Easy system extension with static boost, providing sustained power of 125%
- Start heavy loads with dynamic boost, providing up to 200% power for 5 s

Adaptable:

Signaling thresholds and characteristic curves can be individually adjusted via NFC.

Connection technology:

Free choice between Push-in connection and screw connection for the new generation of QUINT DC/DC converters.

Your web code: #0152

QUINT POWER

The DC/DC converters with SFB Technology and preventive function monitoring ensure maximum system availability.

– Suitable for high power ratings with currents up to 20 A
– They provide constant voltages as the output voltage is regenerated even at the end of long cables
– They support conversion to various voltage levels

QUINT POWER CO with protective coating for extreme requirements

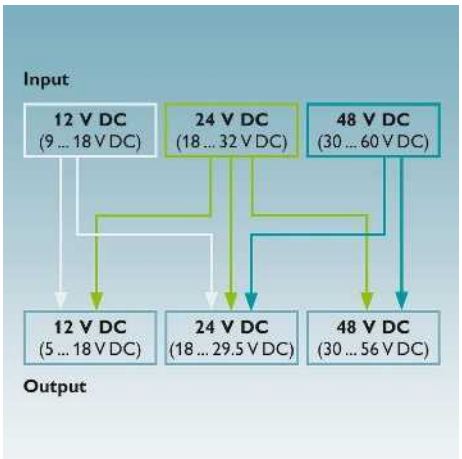
The protective coating on these DC/DC converters protects against dust, corrosive gases, and 100% humidity as well as failure caused by corrosion-related creepage currents and electrochemical migration.

– OVP (overvoltage protection) limits surge voltages to 32 V
– Wide temperature range from -40°C to +70°C

MINI DC/DC converters – For control technology

MINI DC/DC converters come into their own in fields where modular electronics housing has become the standard.

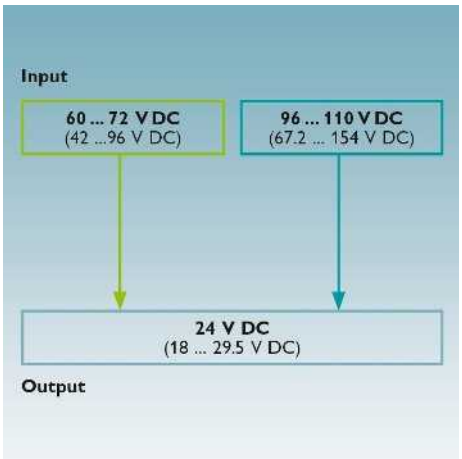
– Maintenance-friendly connection technology with COMBICON coded connectors
– Active function monitoring with switching output for remote monitoring of the output voltage



Voltage levels of QUINT DC/DC converters with 12 to 48 V DC

The QUINT DC/DC converters alter the voltage level:

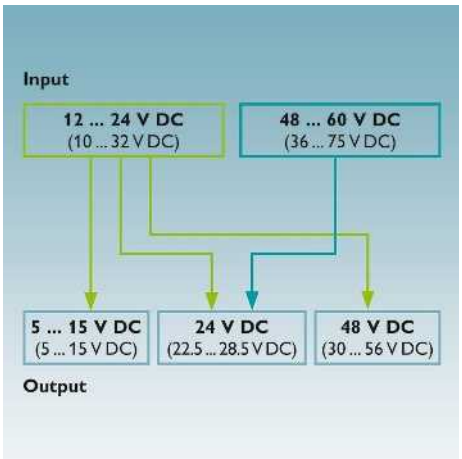
– Input voltages:
  12 V DC (9 ... 18 V DC),
  24 V DC (18 ... 32 V DC),
  48 V DC (30 ... 60 V DC)
– Output voltages:
  12 V DC (5 ... 18 V DC),
  24 V DC (18 ... 29.5 V DC),
  48 V DC (30 ... 56 V DC)



Voltage levels of QUINT DC/DC converters with 60 to 110 V DC

The QUINT DC/DC converters alter the voltage level:

– Input voltages:
  60 to 72 V DC (42 ... 96 V DC),
  96 to 110 V DC (67 ... 154 V DC)
– Output voltages:
  24 V DC (18 ... 29.5 V DC)



Voltage levels of MINI DC/DC converters

The MINI DC/DC converters alter the voltage level:

– Input voltages:
  12 to 24 V DC (10 ... 32 V DC),
  48 to 60 V DC (36 ... 75 V DC)
– Output voltages:
  5 to 15 V DC (5 ...15 V DC),
  24 V DC (22.5 ... 28.5 V DC),
  48 V DC (30 ... 56 V DC)

QUINT DC/DC converters, with Push-in connection

QUINT POWER, 24 V DC to 48 V DC input

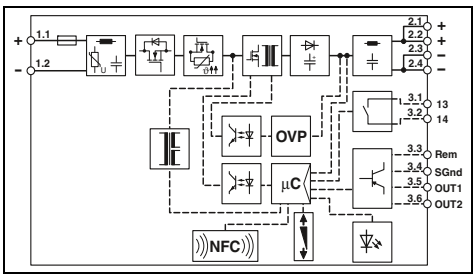
– Electrical isolation: for setting up independent supply systems
– Easy system extension with static boost
– Starting of heavy loads with dynamic boost
– SFB Technology selectively trips standard circuit breakers; consumers connected in parallel continue working
– Comprehensive signaling with preventive function monitoring
– Signaling thresholds and characteristic curves can be set via NFC, available pre-configured from a batch quantity of 1
– Free choice between Push-in connection and screw connection

QUINT POWER with IECEx approval

– Devices compliant with standards IEC 60079-0, IEC 60079-7, IEC 60079-11, and IEC 60079-15 may be installed in a potentially explosive area
– Suitable for use in Class I, Division 2
– OVP (overvoltage protection) limits surge voltages to 32 V

new

DC/DC converter
24 V DC / 24 V DC, 5 A, PT



Technical data

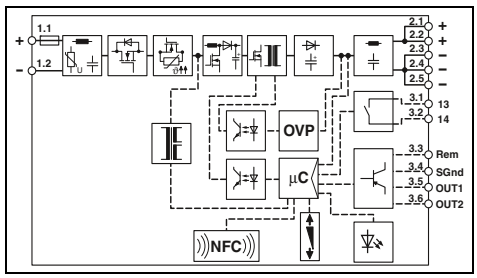
Input data	
Nominal input voltage range	24 V DC -25% ... +40%
Typical current consumption (in static boost)	6.9 A (24 V)
Inrush current limitation at 25°C / I^2t	typ. 1 A / < 0.05 A^2s
Mains buffering (I_N)	typ. 14 ms (24 V DC)
Output data	
Nominal output voltage (U_N)	24 V DC
Setting range of the output voltage (U_{Set})	24 V DC ... 29.5 V DC (> 24 V DC, constant capacity)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Magnetic circuit breaker tripping	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 2 W / < 10 W
Efficiency	typ. 92.2% (24 V DC)
Residual ripple	< 10 mV_{PP}
Signaling	
LED signaling	Utilization indicator, DC OK, U_{IN} OK
Configurable signal output	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
Signal options	I_{Out}, U_{Out}, P_{Out}, DC OK, U_{in} OK, Operating hours, Temp. OK, OVP
General data	
Weight / Dimensions W x H x D	0.6 kg / 36 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 6 mm^2 / 24 - 10
Output connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 6 mm^2 / 24 - 10
Signal connection data rigid / flexible / AWG	0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16
Degree of protection / Protection class	IP20 / Special with SELV input and output
MTBF (IEC 61709, SN 29500)	> 500000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	1.5 kV DC (routine test) / 2 kV DC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
Overvoltage category in accordance with EN 62477-1, EN 61010-1	III (≤ 2000 m), II (≤ 5000 m)
Explosive atmospheres	IEC 60079-0 / IEC 60079-7 / IEC 60079-11 / IEC 60079-15
UL approvals	UL applied for, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched	**QUINT4-PS/24DC/24DC/5/PT**	2910119	1

new

DC/DC converter
24 V DC / 24 V DC, 10 A, PT



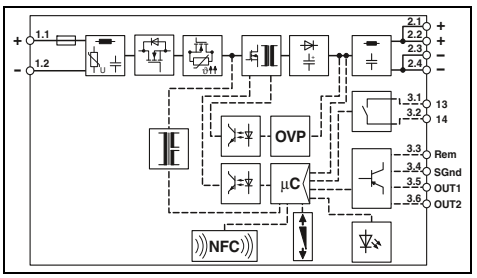
Technical data	
	24 V DC -25% ... +40%
	14.5 A (24 V)
	typ. 1.5 A / < 0.02 A²s
	typ. 11 ms (24 V DC)
	24 V DC
	24 V DC ... 29.5 V DC (> 24 V DC, constant capacity)
	10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)
	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
	Yes / yes
	< 5 W / < 18 W
	typ. 93.3% (24 V DC)
	< 10 mV_{PP}
	Utilization indicator, DC OK, U_{IN} OK
	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
	I_{Out}, U_{Out}, P_{Out}, DC OK, U_{In} OK, Operating hours, Temp. OK, OVP
	0.8 kg / 50 x 130 x 125 mm
	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
	Push-in connection
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16
	IP20 / Special with SELV input and output
	> 813000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C
	1.5 kV DC (routine test) / 2 kV DC (type test)
	Conformance with EMC Directive 2014/30/EU
	IEC 60950-1/VDE 0805 (SELV)
	III (≤ 2000 m), II (≤ 5000 m)
	IEC 60079-0 / IEC 60079-7 / IEC 60079-11 / IEC 60079-15
	UL applied for, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/24DC/24DC/10/PT	2910120	1

new

DC/DC converter
24 V DC / 12 V DC, 8 A, PT



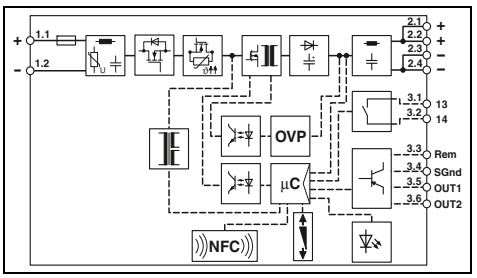
Technical data	
	24 V DC -25% ... +40%
	5.5 A (24 V)
	typ. 3 A / < 0.02 A²s
	typ. 17 ms (24 V DC)
	12 V DC
	12 V DC ... 15 V DC (> 12 V DC, constant capacity)
	8 A / 10 A / 16 A (5 s) / 48 A (15 ms)
	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
	Yes / yes
	< 2 W / < 10 W
	typ. 91% (12 V DC)
	< 13 mV_{PP}
	Utilization indicator, DC OK, U_{IN} OK
	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
	I_{Out}, U_{Out}, P_{Out}, DC OK, U_{In} OK, Operating hours, Temp. OK, OVP
	0.6 kg / 36 x 130 x 125 mm
	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
	Push-in connection
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16
	IP20 / Special with SELV input and output
	> 500000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C
	2 kV DC (routine test) / 4 kV DC (type test)
	Conformance with EMC Directive 2014/30/EU
	IEC 61010-2-201 (SELV)
	III, II
	IEC 60079-0 / IEC 60079-7 / IEC 60079-11 / IEC 60079-15
	UL 61010-2-201, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/24DC/12DC/8/PT	2910122	1

new

DC/DC converter
48 V DC / 24 V DC, 5 A, PT



Technical data	
	48 V DC -40% ... +25%
	3.3 A (24 V)
	typ. 2.5 A / < 0.2 A²s
	typ. 18 ms (48 V DC)
	24 V DC
	24 V DC ... 29.5 V DC (> 24 V DC, constant capacity)
	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
	Yes / yes
	< 2 W / < 8 W
	typ. 94% (24 V DC)
	< 15 mV_{PP}
	Utilization indicator, DC OK, U_{IN} OK
	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
	I_{Out}, U_{Out}, P_{Out}, DC OK, U_{In} OK, Operating hours, Temp. OK, OVP
	0.6 kg / 36 x 130 x 125 mm
	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
	Push-in connection
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16
	IP20 / Special with SELV input and output
	> 500000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C
	2 kV DC (routine test) / 4 kV DC (type test)
	Conformance with EMC Directive 2014/30/EU
	IEC 61010-2-201 (SELV)
	III, II
	IEC 60079-0 / IEC 60079-7 / IEC 60079-11 / IEC 60079-15
	UL 61010-2-201, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/48DC/24DC/5/PT	2910125	1

QUINT DC/DC converters, with screw connection

new

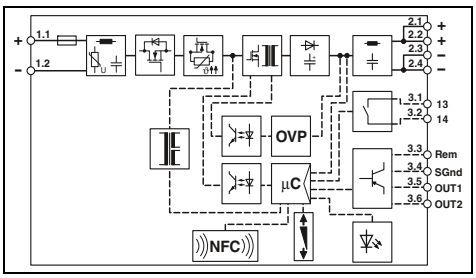
QUINT POWER, 24 V DC input

– Electrical isolation: for setting up independent supply systems
– Easy system extension with static boost
– Starting of heavy loads with dynamic boost
– SFB Technology selectively trips standard circuit breakers; consumers connected in parallel continue working
– Comprehensive signaling with preventive function monitoring
– Signaling thresholds and characteristic curves can be set via NFC, available pre-configured from a batch quantity of 1
– Free choice between Push-in connection and screw connection

QUINT POWER with IECEx approval

– Devices compliant with standards IEC 60079-0, IEC 60079-7, IEC 60079-11, and IEC 60079-15 may be installed in a potentially explosive area
– Suitable for use in Class I, Division 2
– OVP (overvoltage protection) limits surge voltages to 32 V

DC/DC converter
24 V DC / 24 V DC, 5 A, SC



Technical data

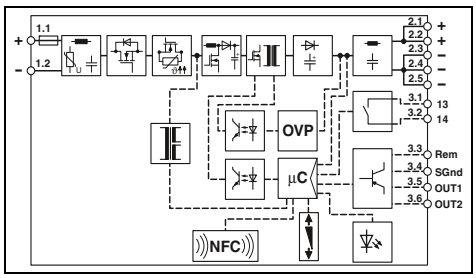
Input data	
Nominal input voltage range	24 V DC -25% ... +40%
Typical current consumption (in static boost)	6.9 A (24 V)
Inrush current limitation at 25°C / I^2t	typ. 1 A / < 0.05 A^2s
Mains buffering (I_N)	typ. 14 ms (24 V DC)
Output data	
Nominal output voltage (U_N)	24 V DC
Setting range of the output voltage (U_{Set})	24 V DC ... 29.5 V DC (> 24 V DC, constant capacity)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Magnetic circuit breaker tripping	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	< 2 W / < 10 W
Efficiency	typ. 92.2% (24 V DC)
Residual ripple	< 10 mV_{PP}
Signaling	
LED signaling	Utilization indicator, DC OK, U_{IN} OK
Configurable signal output	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
Signal options	I_{Out}, U_{Out}, P_{Out}, DC OK, U_{In} OK, Operating hours, Temp. OK, OVP
General data	
Weight / Dimensions W x H x D	0.6 kg / 36 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 6 mm^2 / 24 - 10
Output connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 6 mm^2 / 24 - 10
Signal connection data rigid / flexible / AWG	0.2 - 1 mm^2 / 0.2 - 1.5 mm^2 / 24 - 16
Degree of protection / Protection class	IP20 / Special with SELV input and output
MTBF (IEC 61709, SN 29500)	> 500000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (startup type tested)	-40°C
Standards/regulations	
Insulation voltage input/output	2 kV DC (routine test) / 4 kV DC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 61010-2-201 (SELV)
Overvoltage category in accordance with EN 62477-1, EN 61010-1	III, II
Explosive atmospheres	IEC 60079-0 / IEC 60079-7 / IEC 60079-11 / IEC 60079-15
UL approvals	UL 61010-2-201, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched	**QUINT4-PS/24DC/24DC/5/SC**	1046800	1

new

DC/DC converter
24 V DC / 24 V DC, 10 A, SC



Technical data

	24 V DC -25% ... +40%
	13.8 A (24 V)
	typ. 1.5 A / < 0.02 A²s
	typ. 11 ms (24 V DC)
	24 V DC
	24 V DC ... 29.5 V DC (> 24 V DC, constant capacity)
	10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)
	A1 ... A4 / B2 / C1 ... C2 / Z1 ... Z4
	Yes / yes
	< 5 W / < 18 W
	typ. 93.3% (24 V DC)
	< 10 mV_{PP}
	Utilization indicator, DC OK, U_{IN} OK
	Relay contact 13/14, Out 1 digital, Out 2 digital/analog
	I_{Out}, U_{Out}, P_{Out}, U_{In} OK, Operating hours, Temp. OK, OVP
	0.8 kg / 50 x 130 x 125 mm
	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
	Screw connection
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 6 mm² / 0.2 - 6 mm² / 24 - 10
	0.2 - 1 mm² / 0.2 - 1.5 mm² / 24 - 16
	IP20 / Special with SELV input and output
	> 813000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C
	2 kV DC (routine test) / 4 kV DC (type test)
	Conformance with EMC Directive 2014/30/EU
	IEC 61010-2-201 (SELV)
	III, II
	IEC 60079-0 / IEC 60079-7 / IEC 60079-11 / IEC 60079-15
	UL 61010-2-201, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-PS/24DC/24DC/10/SC	1046803	1

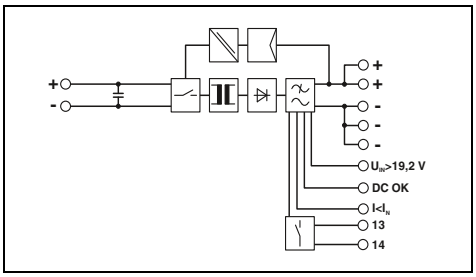
QUINT DC/DC converters

QUINT POWER, 12 to 48 V DC input

– Support conversion to various voltage levels
– Constant voltage: output voltage regenerated even at the end of long cables
– Electrical isolation: for setting up independent supply systems
– SFB Technology: fast tripping of standard circuit breakers, thanks to the dynamic power reserve with up to 6 times the nominal current for 12 ms
– Reliable starting of heavy loads thanks to the static Power Boost power reserve with up to 125% of the nominal current
– Preventive function monitoring

DC/DC converter,
24 V DC / 24 V DC, 20 A

Ex:



Technical data

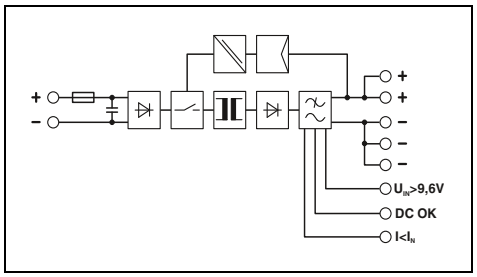
Input data	
Nominal input voltage range	24 V DC
Current consumption (Power Boost)	28 A (24 V, I_{BOOST})
Inrush current limitation at 25°C / I^2t	< 26 A / < 11 A^2s
Mains buffering (I_N)	typ. 10 ms (24 V DC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Setting range of the output voltage (U_{Set})	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	20 A / 25 A / 120 A
Magnetic circuit breaker tripping	B2 / B4 / B6 / B10 / B16 / C2 / C4 / C6
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	2.2 W / 39 W
Efficiency	> 93%
Residual ripple	< 20 mV_{PP}
Signaling	
Signaling DC OK	LED, active switching output, relay contact
Boost signaling	LED, active switching output
U_{IN} signaling	LED, active switching output
General data	
Weight / Dimensions W x H x D	1.7 kg / 82 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.5 - 16 mm^2 / 0.5 - 16 mm^2 / 8 - 6
Output connection data rigid / flexible / AWG	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 12 - 10
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / III
MTBF (IEC 61709, SN 29500)	> 554000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating, 2.5%/K, startup at -40°C type-tested)
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
Insulation voltage input/output	1 kV (routine test) / 1.5 kV (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched	**QUINT-PS/24DC/24DC/20**	2320102	1

DC/DC converter,
12 V DC / 24 V DC, 5 A

Ex:



Technical data

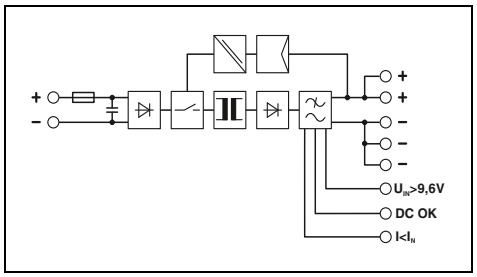
12 V DC	
15 A (12 V, I_{BOOST})	
< 15 A / < 0.3 A^2s	
typ. 3 ms (12 V DC)	
24 V DC ±1%	
18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	
5 A / 6.25 A / 30 A	
B2 / B4 / C2	
Yes / yes	
2 W / 13.5 W	
> 90%	
< 75 mV_{PP}	
LED, active switching output	
LED, active switching output	
LED, active switching output	
0.7 kg / 32 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Plug-in screw connection	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 18 - 12	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 18 - 12	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
IP20 / III	
> 1005000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
≤ 95% (at 25°C, non-condensing)	
1 kV (routine test) / 1.5 kV (type test)	
Conformance with EMC Directive 2014/30/EU	
EN 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-PS/12DC/24DC/ 5	2320131	1

DC/DC converter,
12 V DC/12 V DC, 8 A

Ex:



Technical data

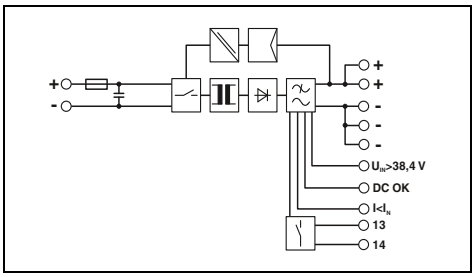
12 V DC	
12 A (12 V, I_{BOOST})	
< 6 A / < 0.6 A^2s	
typ. 3 ms (12 V DC)	
12 V DC ±1%	
5 V DC ... 18 V DC (> 12 V DC, constant capacity restricted)	
8 A / 10 A / 48 A	
B2 / B4 / C2	
Yes / yes	
1.5 W / 11.8 W	
> 89%	
< 20 mV_{PP}	
LED, active switching output	
LED, active switching output	
LED, active switching output	
0.8 kg / 32 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Plug-in screw connection	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
IP20 / III	
> 920000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
≤ 95% (at 25°C, non-condensing)	
1 kV (routine test) / 1.5 kV (type test)	
Conformance with EMC Directive 2014/30/EU	
EN 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-PS/12DC/12DC/8	2905007	1

DC/DC converter,
48 V DC/48 V DC, 5 A

Ex:



Technical data

48 V DC	
7 A (48 V, I_{BOOST})	
< 6 A / 0.3 A^2s	
typ. 10 ms (48 V DC)	
48 V DC ±1%	
30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)	
5 A / 6.25 A / 30 A	
B2 / B4 / C2	
Yes / yes	
2.7 W / 20 W	
> 93%	
< 20 mV_{PP}	
LED, active switching output	
LED, active switching output	
LED, active switching output	
0.9 kg / 48 x 130 x 125 mm	
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	
Plug-in screw connection	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	
IP20 / III	
> 872000 h (40°C)	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
≤ 95% (at 25°C, non-condensing)	
1 kV (routine test) / 1.5 kV (type test)	
Conformance with EMC Directive 2014/30/EU	
EN 60950-1/VDE 0805 (SELV)	
EN 50178/VDE 0160 (PELV)	
DIN VDE 0100-410	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-PS/48DC/48DC/5	2905008	1

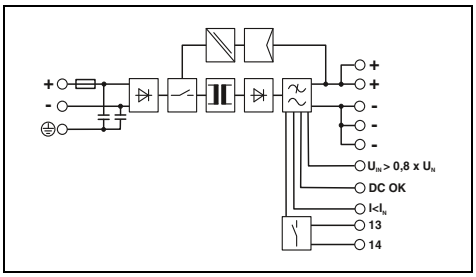
QUINT DC/DC converters

QUINT POWER with wide-range input

- Support conversion to various voltage levels
- Constant voltage: output voltage regenerated even at the end of long cables
- Electrical isolation: for setting up independent supply systems
- SFB Technology: fast tripping of standard circuit breakers, thanks to the dynamic power reserve with up to 6 times the nominal current for 12 ms
- Reliable starting of heavy loads thanks to the static Power Boost power reserve with up to 125% of the nominal current
- Preventive function monitoring

DC/DC converter,
60 - 72 V DC/24 V DC, 10 A

Ex:



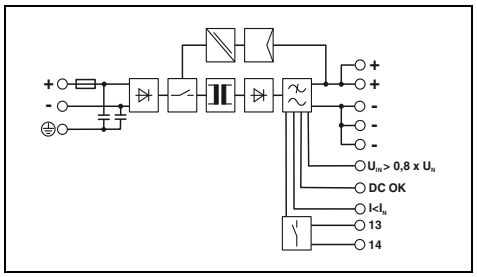
Technical data

Input data	
Nominal input voltage range	60 V DC ... 72 V DC
Current consumption (Power Boost)	5.6 A (60 V DC) / 4.7 A (72 V DC)
Inrush current limitation at 25°C / I^2t	< 9 A / 0.64 A^2s
Mains buffering (I_N)	typ. 10 ms (60 V DC)
Output data	
Nominal output voltage (U_N)	24 V DC ±1%
Setting range of the output voltage (U_{Set})	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	10 A / 12.5 A / 60 A
Magnetic circuit breaker tripping	B2 / B4 / B6
Can be connected in parallel/series	Yes / yes
Max. power dissipation (no load/nominal load)	4 W (U_{IN} 60 V DC) / 24 W (U_{IN} 60 V DC)
Efficiency	> 91% (U_{IN} 60 V DC / U_{OUT} 24 V DC) / > 91% (U_{IN} 72 V DC / U_{OUT} 24 V DC)
Residual ripple	< 20 mV_{PP}
Signaling	
Signaling DC OK	LED, active switching output, relay contact
Boost signaling	LED, active switching output
U_{IN} signaling	LED, active switching output
General data	
Weight / Dimensions W x H x D	1 kg / 48 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 765000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
Insulation voltage input/output	1 kV (routine test) / 1.5 kV (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched, dip-coated	**QUINT-PS/60-72DC/24DC/10**	2905009	1

DC/DC converter,
96 - 110 V DC/24 V DC, 10 A



Technical data

	96 V DC ... 110 V DC
	3.5 A (96 V DC) / 3.1 A (110 V DC)
	< 10 A / 0.37 A^2s
	typ. 10 ms (96 V DC)
	24 V DC ±1%
	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
	10 A / 12.5 A / 60 A
	B2 / B4 / B6
	Yes / yes
	4 W (U_{IN} 110 V DC) / 22 W (U_{IN} 110 V DC)
	> 92% (U_{IN} 96 V DC / U_{OUT} 24 V DC) / > 92% (U_{IN} 110 V DC / U_{OUT} 24 V DC)
	< 20 mV_{PP}
	LED, active switching output, relay contact
	LED, active switching output
	LED, active switching output
	0.9 kg / 48 x 130 x 125 mm
	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
	Plug-in screw connection
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
	IP20 / I
	> 772000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	≤ 95% (at 25°C, non-condensing)
	1 kV (routine test) / 1.5 kV (type test)
	Conformance with EMC Directive 2014/30/EU
	EN 60950-1/VDE 0805 (SELV)
	EN 50178/VDE 0160 (PELV)
	DIN VDE 0100-410
	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-PS/96-110DC/24DC/10	2905010	1

QUINT DC/DC converters for extreme ambient conditions

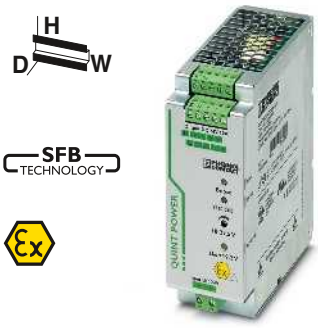
QUINT POWER with protective coating

With ATEX approval for superior system availability under extreme ambient conditions, such as dust, dirt, corrosive gases, and 100% humidity

– Devices compliant with standards EN 60079-15 and EN 60079-0 may be installed in a potentially explosive area
– Suitable for use in Class I, Division 2
– OVP (overvoltage protection) limits surge voltages to 32 V
– Temperature range from -40°C to +70°C, Groups A, B, C, D

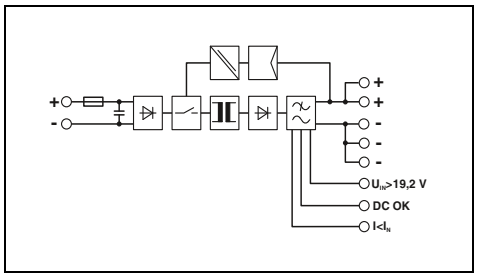
DC/DC converter, with protective coating, 24 V DC/24 V DC, 5 A

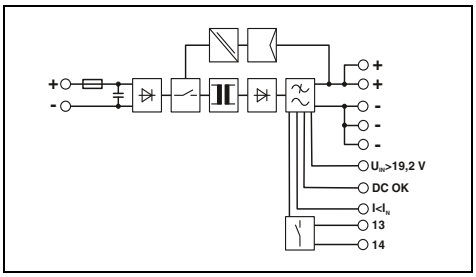
Ex:



DC/DC converter, with protective coating, 24 V DC/24 V DC, 10 A

Ex:





	Technical data	Technical data
Input data		
Nominal input voltage range	24 V DC	24 V DC
Current consumption (Power Boost)	7 A (24 V, I_{BOOST})	14 A (24 V, I_{BOOST})
Inrush current limitation at 25°C / I^2t	typ. 15 A / < 0.5 A^2s	typ. 15 A / < 2.7 A^2s
Mains buffering (I_N)	typ. 10 ms (24 V DC)	typ. 12 ms (24 V DC)
Output data		
Nominal output voltage (U_N)	24 V DC ±1%	24 V DC ±1%
Setting range of the output voltage (U_{Set})	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
Output current / Power Boost / SFB (12 ms)	5 A / 6.25 A / 30 A	10 A / 12.5 A / 60 A
Magnetic circuit breaker tripping	B2 / B4 / C2	B2 / B4 / B6 / C2 / C4
Can be connected in parallel/series	Yes / yes	Yes / yes
Max. power dissipation (no load/nominal load)	2.4 W / 11.4 W	1.6 W / 24 W
Efficiency	> 92%	> 92%
Residual ripple	< 20 mV_{PP}	< 20 mV_{PP}
Signaling		
Signaling DC OK	LED, active switching output	LED, active switching output, relay contact
Boost signaling	LED, active switching output	LED, active switching output
U_{IN} signaling	LED, active switching output	LED, active switching output
General data		
Weight / Dimensions W x H x D	0.7 kg / 32 x 130 x 125 mm	0.9 kg / 48 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Plug-in screw connection	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
Degree of protection / Protection class	IP20 / III	IP20 / III
MTBF (IEC 61709, SN 29500)	> 890000 h (40°C)	> 763000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C derating, 2.5%/K, startup at -40°C type-tested)	-25°C ... 70°C (> 60°C derating, 2.5%/K, startup at -40°C type-tested)
Max. permissible relative humidity (operation)	100% (at 25°C, non-condensing)	100% (at 25°C, non-condensing)
Standards/regulations		
Insulation voltage input/output	1 kV (routine test) / 1.5 kV (type test)	1 kV (routine test) / 1.5 kV (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410	DIN VDE 0100-410
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched, dip-coated						
	QUINT-PS/24DC/24DC/ 5/CO	2320542	1	**QUINT-PS/24DC/24DC/10/CO**	2320555	1

DC/DC converter,
with protective coating,
24 V DC/24 V DC, 20 A

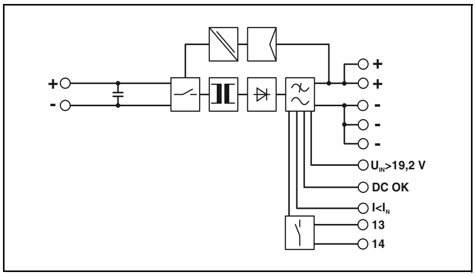
Ex:

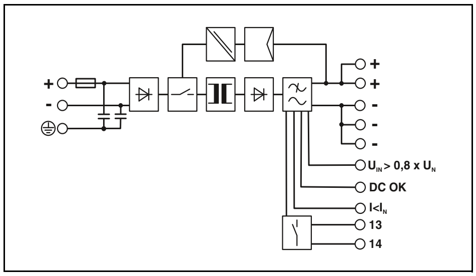
DC/DC converter,
with protective coating,
60 - 72 V DC/24 V DC, 10 A

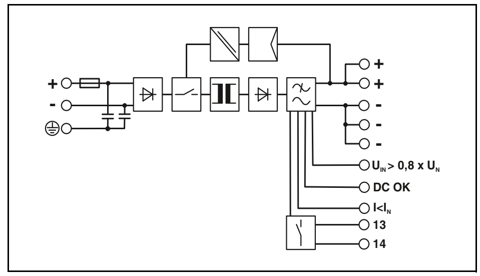
Ex:

DC/DC converter,
with protective coating,
96 - 110 V DC/24 V DC, 10 A

Ex:







Technical data

24 V DC	60 V DC ... 72 V DC	96 V DC ... 110 V DC
28 A (24 V, I_{BOOST})	5.6 A (60 V DC) / 4.7 A (72 V DC)	3.5 A (96 V DC) / 3.1 A (110 V DC)
typ. 26 A / < 11 A²s	< 9 A / 0.64 A²s	< 10 A / 0.37 A²s
typ. 10 ms (24 V DC)	typ. 10 ms (60 V DC)	typ. 10 ms (96 V DC)
24 V DC ±1%	24 V DC ±1%	24 V DC ±1%
18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)	18 V DC ... 29.5 V DC (> 24 V DC, constant capacity restricted)
20 A / 25 A / 120 A	10 A / 12.5 A / 60 A	10 A / 12.5 A / 60 A
B2 / B4 / B6 / B10 / B16 / C2 / C4 / C6	B2 / B4 / B6	B2 / B4 / B6
Yes / yes	Yes / yes	Yes / yes
2.2 W / 39 W	4 W (U_{IN} 60 V DC) / 24 W (U_{IN} 60 V DC)	4 W (U_{IN} 110 V DC) / 22 W (U_{IN} 110 V DC)
> 92%	> 91% (U_{IN} 60 V DC / U_{OUT} 24 V DC) / > 91% (U_{IN} 72 V DC / U_{OUT} 24 V DC)	> 92% (U_{IN} 96 V DC / U_{OUT} 24 V DC) / > 92% (U_{IN} 110 V DC / U_{OUT} 24 V DC)
< 20 mV_{PP}	< 20 mV_{PP}	< 20 mV_{PP}
LED, active switching output, relay contact	LED, active switching output, relay contact	LED, active switching output, relay contact
LED, active switching output	LED, active switching output	LED, active switching output
LED, active switching output	LED, active switching output	LED, active switching output
1.7 kg / 82 x 130 x 125 mm	1 kg / 48 x 130 x 125 mm	0.9 kg / 48 x 130 x 125 mm
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Screw connection	Plug-in screw connection	Plug-in screw connection
0.5 - 16 mm² / 0.5 - 16 mm² / 8 - 6	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
0.2 - 6 mm² / 0.2 - 4 mm² / 12 - 10	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
IP20 / III	IP20 / I	IP20 / I
> 554000 h (40°C)	> 765000 h (40°C)	> 772000 h (40°C)
-25°C ... 70°C (> 60°C derating, 2.5%/K, startup at -40°C type-tested)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
100% (at 25°C, non-condensing)	100% (at 25°C, non-condensing)	100% (at 25°C, non-condensing)
1 kV (routine test) / 1.5 kV (type test)	1 kV (routine test) / 1.5 kV (type test)	1 kV (routine test) / 1.5 kV (type test)
Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
DIN VDE 0100-410	DIN VDE 0100-410	DIN VDE 0100-410
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-PS/24DC/24DC/20/CO	2320568	1
QUINT-PS/60-72DC/24DC/10/CO	2905011	1
QUINT-PS/96-110DC/24DC/10/CO	2905012	1

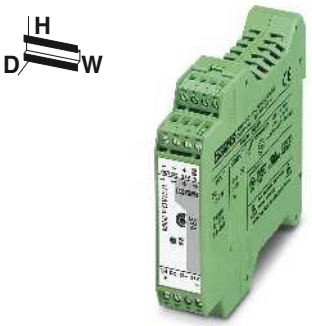
MINI DC/DC converters

MINI POWER, 12 V DC to 60 V DC input

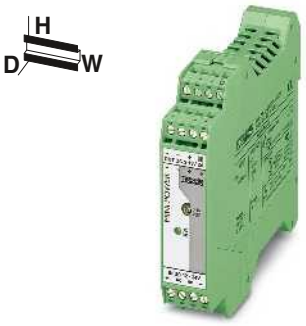
– Support conversion to various voltage levels
– Constant voltage: output voltage regenerated even at the end of long cables
– Electrical isolation: for setting up independent supply systems

MINI AC power module

– For connection upstream of MINI DC/DC converters
– The AC voltage of a transformer is rectified and filtered

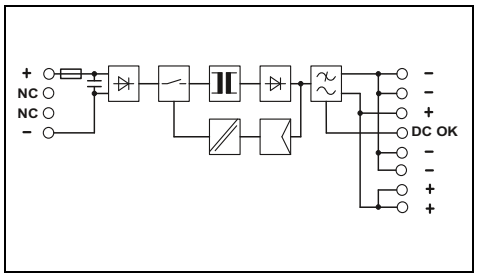


DC/DC converter,
12 - 24 V DC / 24 V DC, 1 A



DC/DC converter,
12 - 24 V DC / 5 - 15 V DC, 2 A

Ex:



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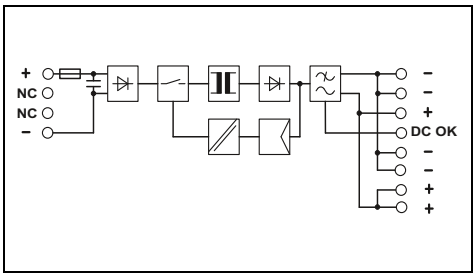
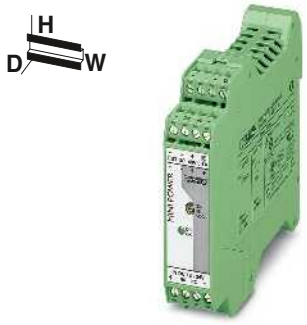


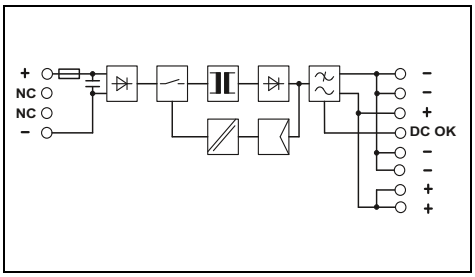
	Technical data	Technical data
Input data		
Nominal input voltage range	12 V DC ... 24 V DC	12 V DC ... 24 V DC
Current consumption (nominal load)	2.6 A (12 V DC) / 1.3 A (24 V DC)	2.3 A (12 V DC) / 1.1 A (24 V DC)
Inrush current limitation at 25°C / I^2t	< 15 A / 1.8 A^2s	< 10 A / 0.2 A^2s
Output data		
Nominal output voltage (U_N)	24 V DC ±1%	12 V DC ±1%
Setting range of the output voltage (U_{Set})	22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted)	5 V DC ... 15 V DC
Output current	1 A	2 A
Can be connected in parallel/series	Yes / yes	Yes / yes
Max. power dissipation (no load/nominal load)	< 1.2 W / < 5 W	< 1 W / < 4.2 W
Efficiency	> 83% (at 24 V DC and nominal values)	> 88% (at 24 V DC and nominal values)
Residual ripple	< 30 mV_{PP}	< 20 mV_{PP}
Signaling		
Signaling DC OK	LED, active switching output	LED, active switching output
General data		
Weight / Dimensions W x H x D	0.2 kg / 22.5 x 99 x 107 mm	0.2 kg / 22.5 x 99 x 107 mm
Connection	alignable: horizontally 0 mm, vertically 50 mm	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Plug-in screw connection	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
Degree of protection / Protection class	IP20 / III	IP20 / III
MTBF (IEC 61709, SN 29500)	> 2569000 h (40°C)	> 2072000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> +60°C derating)
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)	≤ 95% (At +25°C, non-condensing)
Standards/regulations		
Insulation voltage input/output	1 kV (routine test) / 1.5 kV (type test)	1 kV (routine test) / 1.5 kV (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
Safe isolation	DIN VDE 0100-410, DIN VDE 0106-101	DIN VDE 0100-410, DIN VDE 0106-101
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
DC/DC converter, primary-switched	**MINI-PS- 12- 24DC/24DC/1**	2866284	1	**MINI-PS- 12- 24DC/ 5-15DC/2**	2320018	1



DC/DC converter,
12 - 24 V DC / 48 V DC, 0.7 A

Ex:



Technical data

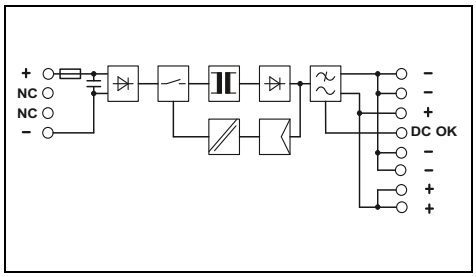
	12 V DC ... 24 V DC
	3.2 A (12 V DC) / 1.6 A (24 V DC)
	< 10 A / 0.3 A²s
	48 V DC ±1%
	30 V DC ... 56 V DC (> 48 V DC, constant capacity restricted)
	0.7 A
	Yes / yes
	< 1.5 W / < 4.5 W
	> 87% (at 24 V DC and nominal values)
	< 20 mV_{PP}
	LED, active switching output
	0.2 kg / 22.5 x 99 x 107 mm
	alignable: horizontally 0 mm, vertically 50 mm
	Plug-in screw connection
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
	IP20 / III
	> 1993000 h (40°C)
	-25°C ... 70°C (> +60°C derating)
	≤ 95% (At +25°C, non-condensing)
	1 kV (routine test) / 1.5 kV (type test)
	Conformance with EMC Directive 2014/30/EU
	EN 60950-1/VDE 0805 (SELV)
	EN 50178/VDE 0160 (PELV)
	DIN VDE 0100-410, DIN VDE 0106-101
	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
MINI-PS- 12- 24DC/48DC/0.7	2320021	1

DC/DC converter,
48 - 60 V DC / 24 V DC, 1 A

Ex:



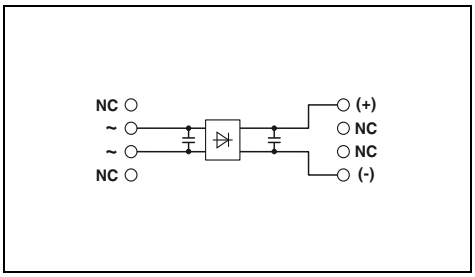
Technical data

	48 V DC ... 60 V DC
	0.6 A (48 V DC) / 0.5 A (60 V DC)
	< 15 A / 1.8 A²s
	24 V DC ±1%
	22.5 V DC ... 28.5 V DC (> 24 V DC, constant capacity restricted)
	1 A
	Yes / yes
	< 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
	alignable: horizontally 0 mm, vertically 50 mm
	Plug-in screw connection
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 14
	IP20 / II
	> 1147000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	≤ 95% (at 25°C, non-condensing)
	1 kV (routine test) / 1.5 kV (type test)
	Conformance with EMC Directive 2014/30/EU
	EN 60950-1/VDE 0805 (SELV)
	EN 50178/VDE 0160 (PELV)
	DIN VDE 0100-410, DIN VDE 0106-101
	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

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

AC power module
for MINI DC/DC converter



Technical data

	10 V AC ... 42 V AC
	6.5 A
	< 45 A / 8 A²s
	28 V DC ±1%
	-
	3 A
	Yes / No
	< 0.04 W / < 6.9 W
	> 95.7% (For 42 V AC and nominal values)
	< 3.6 V_{PP}
	-
	0.16 kg / 22.5 x 99 x 107 mm
	alignable: horizontally 0 mm, vertically 50 mm
	Plug-in screw connection
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 12
	- mm^2 / - mm^2 / -
	IP20 / III
	> 18175000 h (40°C)
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	≤ 95% (at 25°C, non-condensing)
	- / -
	Conformance with EMC Directive 2014/30/EU
	EN 60950-1/VDE 0805 (SELV)
	EN 50178/VDE 0160 (PELV)
	-
	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1

Ordering data

Type	Order No.	Pcs./Pkt.
MINI-PS- 10- 42AC/15-60DC/3	2320199	1

Maximum availability due to redundancy modules

To prevent errors influencing the load in a redundant system and to increase operational reliability, the power supplies must be decoupled from one another using a redundancy module. Phoenix Contact offers various solutions depending on the requirements:

Decoupling with diodes from the QUINT, TRIO, UNO, and STEP ranges

If the power supplies are decoupled, a short circuit at the output of one of the power supplies or in the supply line from the power supply to the diode no longer has any effect on the load.

Decoupling, monitoring, and closed-loop control by means of the QUINT ORING active redundancy modules

The QUINT ORING active redundancy modules monitor the entire redundant solution, i.e., the power supply unit voltages, the wiring, decoupling, and the load current. Critical operating states can therefore be detected at an early stage and redundancy can be restored. E.g., incorrect wiring or faulty cables are indicated.

QUINT ORING with ACB technology doubles the service life of the redundant system:

As a result of asymmetries, the load is often supplied by one power supply unit, while the other runs in no-load operation. This results in a thermal overload of the working power supply unit and thereby rapid aging. If the power supply unit is operated at half the nominal current, it remains significantly cooler.
The ACB technology of the QUINT ORING modules ensures symmetrical loading of the power supplies and thereby up to double the service life of the redundant system.

Decoupling and monitoring by means of the QUINT S-ORING active redundancy modules

The QUINT S-ORING active redundancy modules consistently monitor the redundant system, in combination with the new QUINT POWER power supplies. The QUINT S-ORING modules enable you to guide the cable redundantly and separately to the load.

QUINT S-ORING with protective coating with OVP (overvoltage protection) protects downstream consumers from surge voltages greater than 30 V DC.

The QUINT S-ORING single-channel redundancy module provides maximum operational safety

In combination with the fourth generation of the QUINT POWER power supplies, the input voltage and decoupling section are monitored continuously. The preventive function monitoring feature indicates all critical operating states of the redundant system.

ACB technology doubles the service life

The ACB (Auto Current Balancing) technology ensures symmetrical loading of the power supplies, thereby reducing the operating temperature. This means up to double the service life of the redundant system.

Your web code: #0153

QUINT ORING for maximum system availability

Consistent monitoring of the redundant system, with energy savings of up to 70%.

– ACB technology
– Two positive output terminals
– Voltage limitation to < 32 V DC (+Version)

The QUINT S-ORING single-channel redundancy module provides maximum operational safety

In combination with the fourth generation of the QUINT POWER power supplies, the input voltage and decoupling section are monitored continuously. The preventive function monitoring feature indicates all critical operating states of the redundant system.

– Separate cable guidance up to the load
– Voltage limitation to < 30 V DC/28.8 V DC (VP/plus version)

Redundancy module QUINT DIODE

– High system availability, thanks to the robust design
– Safe decoupling of power supplies connected in parallel
– Flexible: nominal voltages of 12 V DC to 48 V DC

TRIO DIODE redundancy module

– Safe decoupling of power supplies connected in parallel
– Quick and easy installation, thanks to Push-in connection technology
– System compatible with TRIO POWER power supplies

UNO DIODE redundancy module

– Consistent redundancy up to the load
– Flexible: nominal voltages of 5 V DC to 24 V DC

STEP DIODE redundancy module

– Space-saving: overall width of just 18 mm
– Consistent redundancy up to the load
– Flexible: nominal voltages of 5 V DC to 24 V DC

QUINT ORING

QUINT ORING, 24 V DC

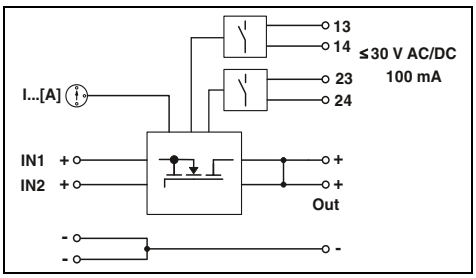
– Preventive function monitoring
– Continuous redundancy right through to the load: the use of two Plus output terminal blocks makes it possible to devise a redundant wiring concept that runs right through to the load
– Double the service life of the redundant solution, thanks to even load distribution: the ACB (Auto Current Balancing) technology automatically and symmetrically distributes the load current to two power supplies operating in parallel
– Save energy: decoupling is achieved with MOSFETs and results in energy savings of up to 70% compared to conventional diodes
– OVP (overvoltage protection): surge voltages are limited to 32 V

QUINT ORING, with protective coating

With ATEX approval for superior system availability under extreme ambient conditions, such as dust, dirt, corrosive gases, and 100% humidity

– Devices compliant with standards EN 60079-15 and EN 60079-0 may be installed in a potentially explosive area
– Suitable for use in Class I, Division 2

Active redundancy module, with protective coating, 24 V DC, 2 x 10 A, 1 x 20 A



Technical data

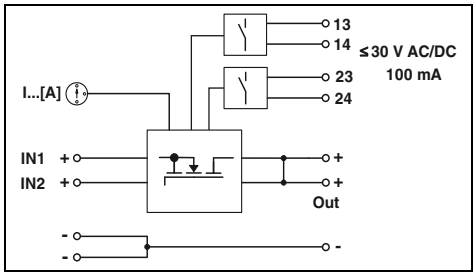
Input data	
Nominal input voltage range	24 V DC
Input voltage range	18 V DC ... 28 V DC
Nominal current	2x 10 A (-25°C ... 60°C) 1x 20 A (-25°C ... 60°C)
Maximum current	2x 15 A (-25°C ... 40°C) 1x 30 A (-25°C ... 40°C)
Transient surge protection	Varistor
Voltage drop, input/output	0.1 V (I_{OUT} = 20 A)
Max. power dissipation (nominal load)	2 W (I_{OUT} = 20 A)
General data	
Weight / Dimensions W x H x D	0.4 kg / 32 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 14 - 12
Output connection data rigid / flexible / AWG	0.2 - 6 mm² / 0.2 - 4 mm² / 10
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage: input, output/housing	500 V
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/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 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

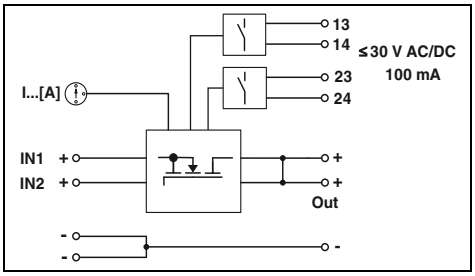
Ordering data

Description	Type	Order No.	Pcs./Pkt.
Active redundancy module	**QUINT-ORING/24DC/2X10/1X20**	2320173	1

Active redundancy module, with protective coating, 24 V DC, 2 x 20 A, 1 x 40 A

Active redundancy module 24 V DC, 2 x 40 A, 1 x 80 A





Technical data

24 V DC	24 V DC
18 V DC ... 28 V DC	18 V DC ... 28 V DC
2x 20 A (-25°C ... 60°C)	2x 40 A (-25°C ... 60°C)
1x 40 A (-25°C ... 60°C)	1x 80 A (-25°C ... 60°C)
2x 26 A (-25°C ... 40°C)	2x 45 A (-25°C ... 40°C)
1x 52 A (-25°C ... 40°C)	1x 90 A (-25°C ... 40°C)
Varistor	Varistor
0.2 V (I_{OUT} = 40 A)	0.2 V (I_{OUT} = 80 A)
8 W (I_{OUT} = 40 A)	16 W (I_{OUT} = 80 A)
0.6 kg / 38 x 130 x 125 mm	0.9 kg / 66 x 130 x 125 mm
alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Screw connection	Screw connection
0.2 - 6 mm² / 0.2 - 4 mm² / 10	0.5 - 16 mm² / 0.5 - 16 mm² / 6
0.5 - 16 mm² / 0.5 - 16 mm² / 6	0.5 - 35 mm² / 0.5 - 35 mm² / 2
IP20 / III	IP20 / III
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
500 V	500 V
Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-ORING/24DC/2X20/1X40	2320186	1

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-ORING/24DC/2X40/1X80	2902879	1

QUINT ORING

QUINT S-ORING, 12 - 24 V DC

– Consistent redundancy: separate cable guidance up to the consumer
– Preventive function monitoring
– Save energy: disconnection is implemented with MOSFETs and therefore has very low power dissipation
– Suitable for use in Class I, Division 2

QUINT S-ORING, VP version and plus version with ATEX approval, with protective coating

With protective coating for superior system availability under extreme ambient conditions, such as dust, dirt, corrosive gases, and 100% humidity

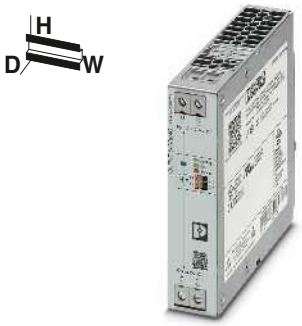
– Devices compliant with standards EN 60079-15 and EN 60079-0 may be installed in a potentially explosive area

QUINT S-ORING, VP version

– OVP (overvoltage protection): surge voltages are limited to 30 V

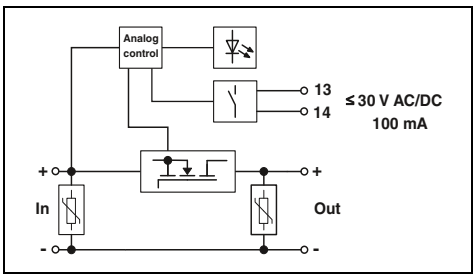
QUINT S-ORING, plus version

– OVP (overvoltage protection): surge voltages are limited to 28.8 V



Active redundancy module
12 - 24 V DC, 1 x 40 A

Ex:



Technical data

Input data	
Nominal input voltage range	12 V DC ... 24 V DC
Input voltage range	8 V DC ... 30 V DC
Nominal current	40 A (-40°C ... 60°C)
Input current $I_{Stat.\ Boost}$ / $I_{Dyn.Boost}$ / I_{SFB}	45 A (40°C) / 60 A (5 s) / 215 A (15 ms)
Transient surge protection	Varistor
Voltage drop, input/output	0.1 V
Max. power dissipation (nominal load)	6.5 W (I_{OUT} = 40 A)
General data	
Weight / Dimensions W x H x D	0.55 kg / 32 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.5 - 16 mm² / 0.5 - 16 mm² / 20 - 6
Output connection data rigid / flexible / AWG	0.5 - 16 mm² / 0.5 - 16 mm² / 20 - 6
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-40°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage: input, output/housing	500 V DC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	EN 60950-1/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 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

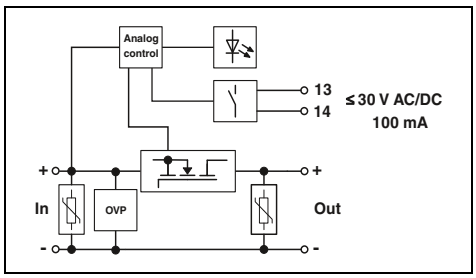
Description	Type	Order No.	Pcs./Pkt.
Active redundancy module	**QUINT4-S-ORING/12-24DC/1X40**	2907752	1

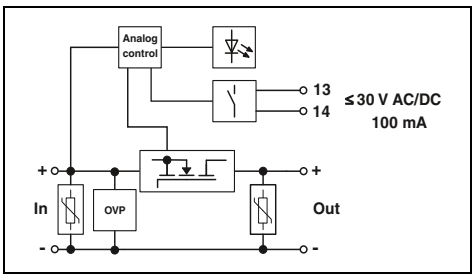
new

Active redundancy module, with protective coating, 12 - 24 V DC, 1x 40 A, VP

Active redundancy module, with protective coating, 12 - 24 V DC, 1x 40 A, plus version

Ex:





Technical data

12 V DC ... 24 V DC 8 V DC ... 27.5 V DC 40 A (-40°C ... 60°C) 45 A (40°C) / 60 A (5 s) / 215 A (15 ms)	12 V DC ... 24 V DC 8 V DC ... 26 V DC 40 A (-40°C ... 60°C) 45 A (40°C) / 60 A (5 s) / 215 A (15 ms)
Varistor 0.1 V DC 6.5 W (I_{OUT} = 40 A)	Varistor 0.1 V DC 6.5 W (I_{OUT} = 40 A)
0.4 kg / 32 x 130 x 125 mm alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically Screw connection 0.5 - 16 mm² / 0.5 - 16 mm² / 20 - 6 0.5 - 16 mm² / 0.5 - 16 mm² / 20 - 6 IP20 / III -40°C ... 70°C (> 60°C Derating: 2.5%/K)	0.4 kg / 32 x 130 x 125 mm alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically Screw connection 0.5 - 16 mm² / 0.5 - 16 mm² / 20 - 6 0.5 - 16 mm² / 0.5 - 16 mm² / 20 - 6 IP20 / III -40°C ... 70°C (> 60°C Derating: 2.5%/K)
500 V DC Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	500 V DC Conformance with EMC Directive 2014/30/EU EN 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-S-ORING/12-24DC/1X40/VP	1043418	1

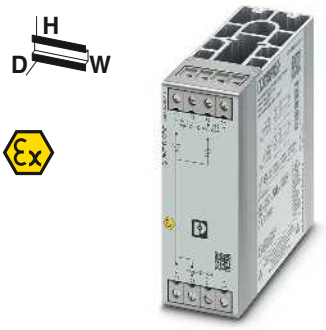
Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-S-ORING/12-24DC/1X40/+	2907753	1

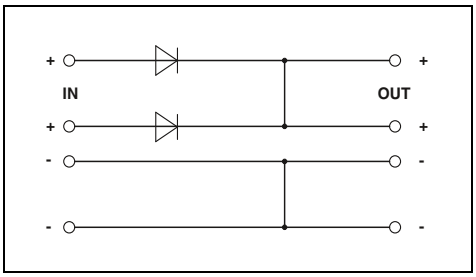
QUINT DIODE diode modules

QUINT DIODE, 12 - 24 V DC and 48 V DC

– Robust design for currents of up to 60 A
– Continuous redundancy right through to the load: the use of two Plus output terminal blocks makes it possible to devise a redundant wiring concept that runs right through to the load.
– Consistent wiring with large conductor cross sections, thanks to same size of input and output terminals
– Flexible: nominal voltages of 12 V DC to 48 V DC
– Devices compliant with standards EN 60079-15 and EN 60079-0 may be installed in a potentially explosive area
– Suitable for use in Class I, Division 2



Diode module,
12 - 24 V DC, 2 x 20 A, 1 x 40 A

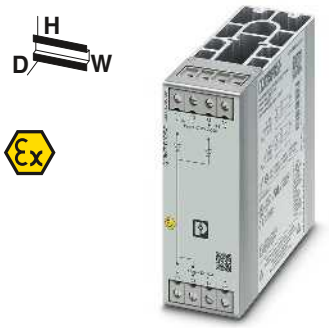


Technical data

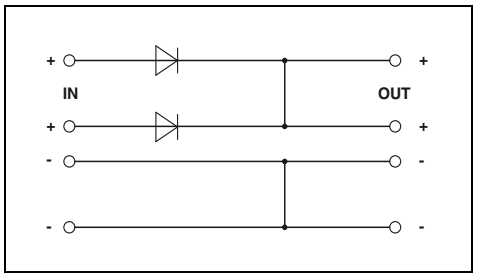
Input data	
Nominal input voltage range	12 V DC ... 24 V DC 12 V DC ... 24 V DC
Input voltage range	10 V DC ... 30 V DC 10 V DC ... 30 V DC
Nominal current	2x 20 A (-40°C ... 60°C) 1x 40 A (-40°C ... 60°C)
Maximum current	2x 30 A (-40°C ... 40°C) 1x 60 A (-40°C ... 40°C)
Transient surge protection	Varistor
Voltage drop, input/output	0.5 V
Max. power dissipation (nominal load)	10 W (I_{OUT} = 20 A)
General data	
Weight / Dimensions W x H x D	0.75 kg / 50 x 130 x 125 mm
Connection	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.5 - 16 mm² / 0.5 - 16 mm² / 10 - 6
Output connection data rigid / flexible / AWG	0.5 - 16 mm² / 0.5 - 16 mm² / 10 - 6
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-40°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage: input, output/housing	500 V
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	EN 60950-1/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 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Diode module			
	QUINT4-DIODE/12-24DC/2X20/1X40	2907719	1



Diode module,
48 V DC, 2x 20 A, 1x 40 A



Technical data

	48 V DC
	48 V DC
	30 V DC ... 56 V DC
	30 V DC ... 56 V DC
	2x 20 A (-40°C ... 60°C)
	1x 40 A (-40°C ... 60°C)
	2x 30 A (-40°C ... 40°C)
	1x 60 A (-40°C ... 40°C)
	Varistor
	0.7 V
	14 W (I_{OUT} = 20 A)
	0.75 kg / 50 x 130 x 125 mm
	alignable: 5 mm horizontally, 15 mm next to active components, 50 mm vertically
	Screw connection
	0.5 - 16 mm² / 0.5 - 16 mm² / 10 - 6
	0.5 - 16 mm² / 0.5 - 16 mm² / 10 - 6
	IP20 / III
	-40°C ... 70°C (> 60°C Derating: 2.5%/K)
	500 V
	Conformance with EMC Directive 2014/30/EU
	EN 60950-1/VDE 0805 (SELV)
	EN 50178/VDE 0160 (PELV)
	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-DIODE/48DC/2X20/1X40	2907720	1

TRIO DIODE, UNO DIODE, and STEP DIODE diode modules

TRIO DIODE

– Space-saving: overall width of just 35 mm and 41 mm
– Safe decoupling of power supplies connected in parallel
– Quick and easy installation, thanks to Push-in connection technology
– System compatible with TRIO POWER power supplies

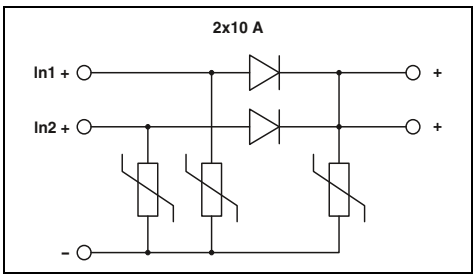
UNO DIODE

– Space-saving: overall width of just 22.5 mm
– Continuous redundancy right through to the load: the use of two Plus output terminal blocks makes it possible to devise a redundant wiring concept that runs right through to the load
– Flexible: nominal voltages of 5 V DC to 24 V DC

STEP DIODE

– Space-saving: overall width of just 18 mm
– Continuous redundancy right through to the load: the use of two Plus output terminal blocks makes it possible to devise a redundant wiring concept that runs right through to the load
– Flexible: nominal voltages of 5 V DC to 24 V DC

Diode module,
12 ... 24 V DC, 2 x 10 A, 1 x 20 A



Technical data

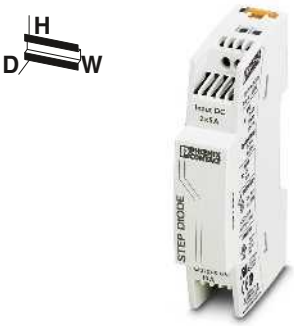
Input data	
Nominal input voltage range	12 V DC ... 24 V DC
Input voltage range	10 V DC ... 30 V DC
Nominal current	2x 10 A (-25°C ... 60°C) 1x 20 A (-25°C ... 60°C)
Maximum current	2x 15 A (-25°C ... 40°C) 1x 30 A (-25°C ... 40°C)
Transient surge protection	Varistor
Voltage drop, input/output	0.5 V
Max. power dissipation (nominal load)	5 W (I_{OUT} = 10 A)
General data	
Weight / Dimensions W x H x D	0.4 kg / 35 x 130 x 115 mm
Connection	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage: input, output/housing	500 V
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	IEC 60950-1/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 60950-1

Ordering data

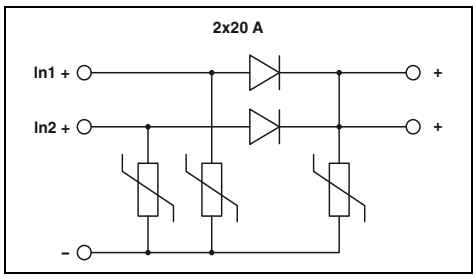
Description	Type	Order No.	Pcs./Pkt.
Redundancy module			
	TRIO2-DIODE/12-24DC/2X10/1X20	2907380	1

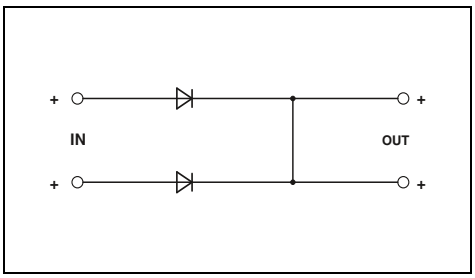
Diode module,
12 ... 24 V DC, 2 x 20 A, 1 x 40 A

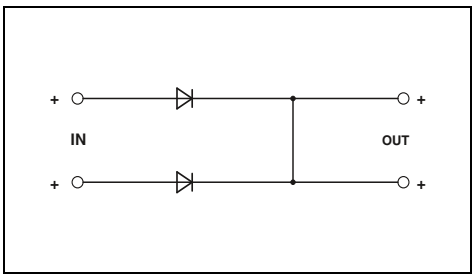
Diode module,
5 ... 24 V DC, 2 x 10 A, 1 x 20 A



Diode module
5 - 24 V DC, 2x 5 A, 1x 10 A







Technical data

Input	12 V DC ... 24 V DC
Output	10 V DC ... 30 V DC
Output current	2x 20 A (-25°C ... 60°C) 1x 40 A (-25°C ... 60°C) 2x 25 A (-25°C ... 40°C) 1x 50 A (-25°C ... 40°C)
Protective circuit	Varistor
Voltage drop	0.5 V
Power loss	10 W (I_{OUT} = 20 A)
Connection data	0.4 kg / 41 x 130 x 115 mm alignable: horizontally 0 mm, vertically 50 mm Push-in connection 0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K)
Insulation voltage	500 V
Standards	Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1

Ordering data

Type	Order No.	Pcs./Pkt.
TRIO2-DIODE/12-24DC/2X20/1X40	2907379	1

Technical data

Input	5 V DC ... 24 V DC
Output	4.5 V DC ... 30 V DC
Output current	2x 10 A (-25°C ... 55°C) 1x 20 A (-25°C ... 55°C)
Protective circuit	-
Voltage drop	-
Protective circuit	Varistor
Voltage drop	0.5 V
Power loss	5 W (I_{OUT} = 10 A)
Connection data	0.2 kg / 22.5 x 90 x 84 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14 IP20 / III -25°C ... 70°C (> 55°C Derating: 2.5%/K)
Insulation voltage	500 V
Standards	Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1

Ordering data

Type	Order No.	Pcs./Pkt.
UNO-DIODE/5-24DC/2X10/1X20	2905489	1

Technical data

Input	5 V DC ... 24 V DC
Output	5 V DC ... 24 V DC
	4.5 V DC ... 30 V DC
Output current	2x 5 A (-25°C ... 55°C) 1x 10 A (-25°C ... 55°C)
Protective circuit	-
Voltage drop	-
Protective circuit	Transil diode
Voltage drop	0.5 V
Power loss	2.5 W (I_{OUT} = 5 A)
Connection data	0.1 kg / 18 x 90 x 61 mm alignable: 0 mm horizontally, 30 mm vertically Screw connection 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12 IP20 / III -25°C ... 70°C (> 55°C derating : 2.5%/K)
Insulation voltage	500 V
Standards	Conformance with EMC Directive 2014/30/EU IEC 60950-1/VDE 0805 (SELV) EN 50178/VDE 0160 (PELV) UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1

Ordering data

Type	Order No.	Pcs./Pkt.
STEP-DIODE/5-24DC/2X5/1X10	2868606	1

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.

	Technical data	Technical data
Dimensions W x H x D	74 / 130 / 11 mm	104 / 130 / 11 mm
Material	Aluminum	Aluminum

	Ordering data			Ordering data		
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

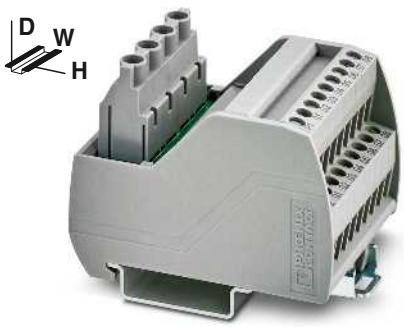
Fan and potential distributor

With the standard power supply mounting position, the temperature range increases by 10 K (max. ambient temperature of 70°C), when the mounting position is rotated, position-dependent derating no longer applies.

– Tool-free mounting

Potential distributor

Further modules can be found in Catalog 5, Interface technology and switching devices



With screw connection and 2 potential levels

	Technical data	Technical data
Dimensions W x H x D	41 / 27 / 42.2 mm	50 / 65.5 / 50 mm

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Fan for QUINT POWER SFB, 24 V DC	**QUINT-PS/FAN/4**	2320076	1			
VARIOFACE module, with two busbars (P1, P2) for potential distribution, per potential:						
2 power terminal blocks/8 distributor terminal blocks				**VIP-2/SC/PDM-2/16**	2315256	1
2 power terminal blocks/12 distributor terminal blocks				**VIP-2/SC/PDM-2/24**	2315269	1
2 power terminal blocks/16 distributor terminal blocks				**VIP-2/SC/PDM-2/32**	2315272	1
2 power terminal blocks/24 distributor terminal blocks				**VIP-2/SC/PDM-2/48**	2903717	1

Universal wall adapter

Adapter for mounting on even surfaces

	Technical data	Technical data
Dimensions W x H x D	52 / 182 / 9 mm	25 / 130 / 17 mm
Material	Steel, powder-coated	Steel, powder-coated

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Universal wall adapter, for mounting the TRIO-PS (from 10 A), QUINT-PS, QUINT-DC-UPS, and QUINT-BUFFER power supplies directly on the wall	**UWA 182/52**	2938235	1			
Universal wall adapter, for mounting the QUINT-PS/1AC/24DC/40 and QUINT-UPS/1AC/1AC/500VA power supplies directly on the wall				**UWA 130**	2901664	1

Pluggable thermomagnetic circuit breakers

- Device circuit breakers for protecting against overcurrents and short circuits
- SFB characteristic curve enables longer cables and tripping times < 10 ms
- Maximum ease of maintenance, thanks to the two-piece design
- Further circuit breakers can be found from page 359 onwards

Notes:

For additional technical data, drawings, and accessories, please visit phoenixcontact.net/products.

Pluggable, SFB characteristic curve

	Technical data
Dimensions W/H/D	12.3 mm / 90 mm / 77.3 mm
Degree of protection	IP30 (Actuation area)

		Ordering data		
Description	Nominal current	Type	Order No.	Pcs./Pkt.
Thermomagnetic circuit breaker, pluggable, 1-pos., signal contact 1 PDT				
	0.5 A	**CB TM1 0.5A SFB P**	2800835	1
	1 A	**CB TM1 1A SFB P**	2800836	1
	2 A	**CB TM1 2A SFB P**	2800837	1
	3 A	**CB TM1 3A SFB P**	2800838	1
	4 A	**CB TM1 4A SFB P**	2800839	1
	5 A	**CB TM1 5A SFB P**	2800840	1
	6 A	**CB TM1 6A SFB P**	2800841	1

	Accessories		
Base element, for accommodating CB TM.../CB E... device circuit breakers			
With Push-in connection technology	**CB 1/6-2/4 PT-BE**	2800929	10
With screw connection technology	**CB 1/10-1/10 UT-BE**	2801305	10

The intelligent UPS system ensures superior system availability

Uninterruptible power supplies (UPS) continue to deliver power even in the event of mains failure. An uninterruptible solution consists of three function units:

– Power supply
– UPS module
– Energy storage

QUINT DC UPS

The first intelligent QUINT DC UPS can be easily integrated into any established industrial network via various interfaces. Your systems continue to be supplied with uninterrupted power, even in the event of mains failure. The battery management system with IQ Technology and a very powerful battery charger ensures superior system availability.

IQ Technology and battery management system

Superior system availability is ensured by continuous evaluation of the state of charge (SOC) and by the intelligent battery management system (BMS). It describes the current state of charge and indicates the remaining energy storage life. Connected battery types are automatically detected and their remaining service life is maximized, thanks to an optimally adjusted charging characteristic. Intelligent charging adapts the charging current, thereby ensuring the fastest possible recharging and availability. Reliable supply of the load is ensured by load prioritization. SOH (state of health) intelligent battery management indicates the remaining energy storage life and warns of pending failure in good time.

Extended load management

The extended load management system of the QUINT DC UPS consists of the following functions:

– Energy monitoring – monitoring of input and output voltages and the associated currents
– A 24 V output of the UPS can be switched on and off remotely
– PC shutdown function – reliable shutdown of the IPC in the event of mains failure without data loss, and autostart of the IPC when power returns
– Cold restart function – UPS startup even without mains power

2-port switch

These uninterruptible power supplies can be flexibly integrated into existing industrial networks using the built-in 2-port switch.

Function blocks and device descriptions

If the appropriate function block for your application is not available, you can create your own custom function blocks using our device descriptions.

Space-saving versions

Our UPS versions with integrated energy storage device or integrated power supply save space in the control cabinet.

Selection guide

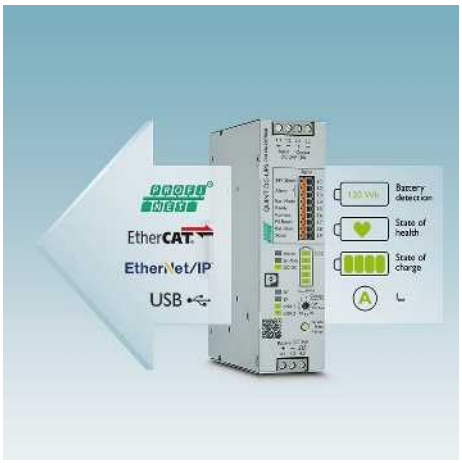
Find the right UPS for your application based on the buffer time and load current from page 314.

Your web code: #0154

IQ Technology for an intelligent UPS system

With its IQ Technology and the industry's strongest battery charger, the battery management system ensures superior system availability.

– Automatic battery detection: VRLA, VRLA-WTR or LiFePO4 battery technologies with different capacities
– IQ Technology: reliably determines the remaining service life in months and remaining buffer time in minutes



Industrial Ethernet

The QUINT DC UPS can be easily integrated into any Industrial Ethernet network via various interfaces:

– PROFINET
– EtherNet/IP™
– EtherCAT®

All network technologies are available in all four performance classes (5 A, 10 A, 20 A, and 40 A).

Function blocks and device descriptions

So that the QUINT DC UPS can be started up quickly and easily, we include the corresponding function blocks for the following engineering environments:

– PC Worx
– TIA Portal
– Studio 5000
– TwinCAT

If the appropriate function block for your application is not available, you can create your own custom function blocks using our device descriptions.

AC UPS

The AC UPS delivers a pure sine curve at the output. The sine generated in battery operation is synchronous with the mains previously used for supply.

QUINT UPS with IQ Technology

– Optimum use of the buffer time (SOC) and preventive monitoring of the energy storage device (SOH)

TRIO AC UPS

– Space-saving, as the UPS module and energy storage are combined in one housing

UPS with integrated energy storage

Particularly space-saving and easy to retrofit, the UPS module and energy storage device are combined in the same housing.

– QUINT UPS: energy storage device with lead AGM technology
– STEP UPS: LiPo-based energy storage device
– UNO UPS: energy storage with lead AGM technology
– QUINT BUFFER buffer module and QUINT CAP: capacitor-based energy storage

UPS with integrated power supply

The UPS module and power supply combined in one housing provides a space-saving solution. Only one energy storage device is required to complete the UPS system.

– MINI UPS: for 24 or 12 V DC
– TRIO UPS: for 24 DC

Selecting the energy storage for QUINT DC UPS

The new modular system for uninterruptible power supplies always offers the ideal solution for superior system availability. The various storage media feature a wide range of different properties: long service life or very long buffer time, no maintenance or use at extreme ambient temperatures. Whatever your requirements, we offer the ideal energy storage.

Your advantages

Fast installation
- Automatic detection of the energy storage device by QUINT UPS
- Tool-free replacement during operation

Maximum availability
- Constant communication with QUINT UPS for continuous monitoring and intelligent management

Extremely long service life
- Optimum charging characteristic according to the technology and ambient conditions

Type	Buffer time Typical	Temperature	Service life At +20°C	Service life At +50°C	Charging cycles At +20°C	Weight Standardized
UPS-CAP…	< 5 min	**-40 ... 60°C**	**> 20 years**	**5 years**	**> 500.000**	**0.4 kg**
UPS-BAT/LI-ION…	> 40 min	-20 ... 58°C	15 years	2 years	**7000**	**0.45 kg**
UPS-BAT/VRLA-WTR…	**> 5 h**	**-25 ... 60°C**	12 years	1.5 years	300	1.3 kg
UPS-BAT/VRLA…	**> 8 h**	0 ... 40°C	6 ... 9 years	1 year	250	1 kg

UPS-BAT/VRLA...
(Valve Regulated Lead Acid)

- Maximum buffer times
- Lead AGM (Absorbent Glass Mat) technology

UPS-BAT/VRLA-WTR...
(Valve Regulated Lead Acid/ Wide Temperature Range)

- Maximum buffer times at extreme temperatures
- Pure lead AGM (Absorbent Glass Mat) technology

UPS-BAT/LI-ION...

- Long service life with long buffer times
- Light weight
- Lithium iron phosphate technology

UPS-CAP (capacitor)

- Maximum service life
- Maintenance-free double-layer capacitors

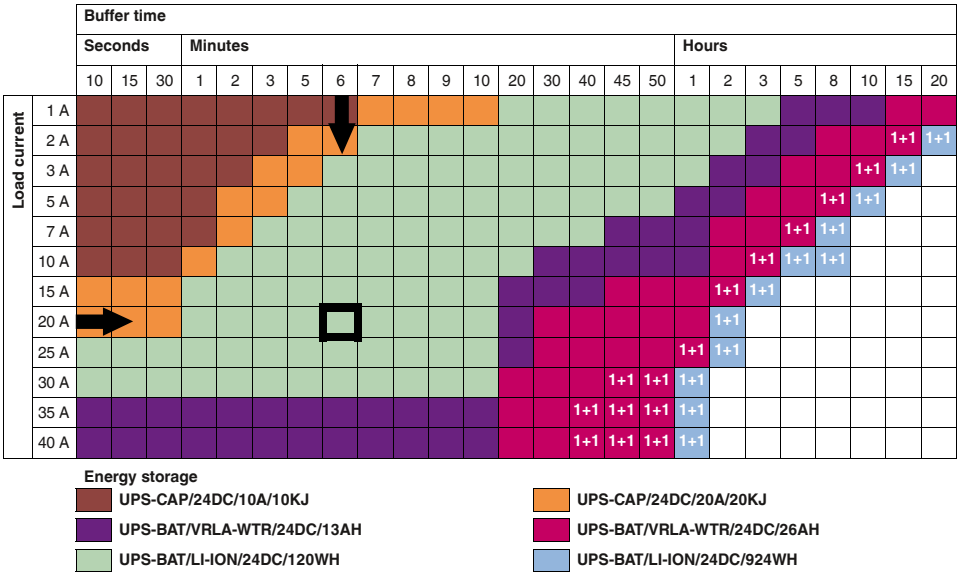
Buffer times for QUINT DC UPS

Buffer times of energy storage devices with double-layer capacitors, lithium iron phosphate and pure lead AGM technology with wide temperature range

Select your **UPS-BAT** and **UPS-CAP** for 24 V DC applications here.

Example: 20 A needs to be buffered for 6 minutes.

Solution:
UPS-BAT/LI-ION/24DC/120WH



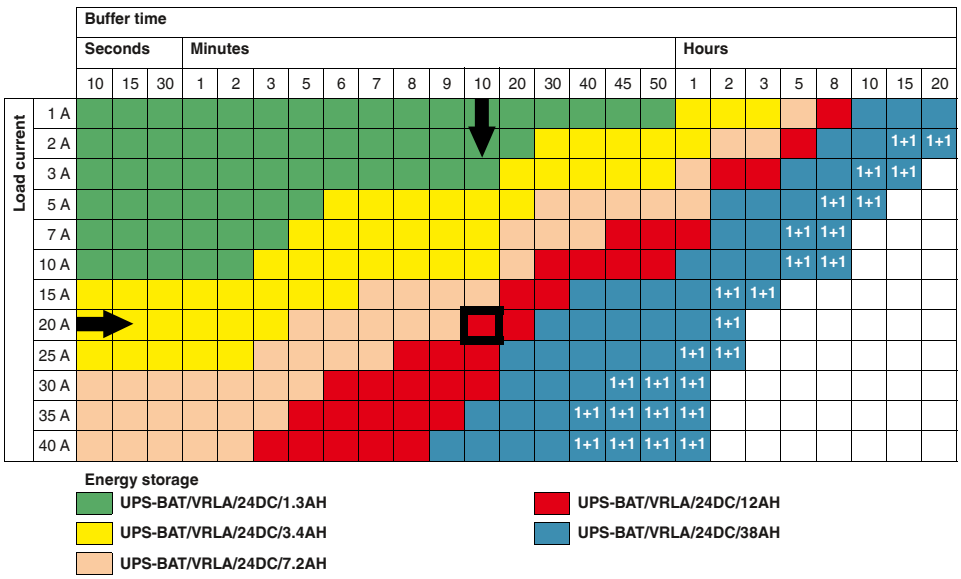
1+1 … Two energy storage devices of the same capacity are required in this case.
The data is based on an ambient temperature of +20°C.

Buffer times of energy storage devices with lead AGM technology

Select your **UPS-BAT** for 24 V DC applications here.

Example: 20 A needs to be buffered for 10 minutes.

Solution:
UPS-BAT/VRLA/24DC/12AH



1+1 … Two energy storage devices of the same capacity are required in this case.
The data is based on an ambient temperature of +20°C.

QUINT DC UPS, 24 V DC with PROFINET interface

The UPS modules for 5 to 40 A allow you to create a custom solution combining a power supply, UPS module, and energy storage device.

Easy integration into PROFINET networks:
– Via 2-port switch

Intelligent battery management:
– Automatic detection of battery capacities and technologies
– Maximizes the remaining service life of the energy storage device, thanks to an optimally adjusted charging characteristic
– The very powerful battery charger maximizes system availability

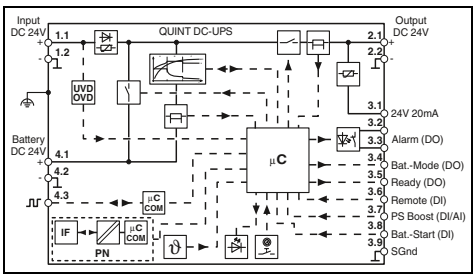
Extended load management:
Energy monitoring – monitoring of input and output voltages and the associated currents
PC shutdown function – reliable shutdown of the IPC in the event of mains failure without data loss, and autostart of the IPC when power returns
Cold restart function – UPS startup even without mains power

Substantial power reserve:
– Static boost up to 125% for a sustained period
– Dynamic boost up to 200% for 5 s
– SFB (Selective Fuse Breaking) Technology

Comprehensive signaling via LEDs and signal contacts:
– Load is being supplied by the energy storage device
– Energy storage device is being charged
– An alarm is present

Uninterruptible power supply, 24 V DC / 24 V DC, 5 A, PN

Ex:

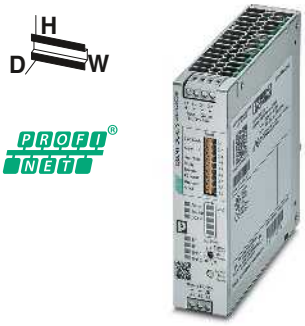


Technical data

Input data	
Input voltage range	18 V DC ... 30 V DC
Fixed connect threshold	22 V DC / 30 V DC
Current consumption I_N / I_{Max} / $I_{No\text{-}Load}$ / I_{charge}	5.1 A / 8.3 A / 105 mA / 1.9 A
Power consumption P_N / P_{Max} / $P_{No\text{-}Load}$ / P_{Charge}	123 W / 213 W / 2.5 W / 44 W
Output data (mains operation)	
Output voltage	24 V DC (U_{OUT} = U_{IN} - 0.3 V DC)
Output voltage range	18 V DC ... 30 V DC (U_{Out} = U_{In} - 0.3 V DC)
Output current I_N / $I_{Stat.\ Boost}$ / $I_{Dyn.\ Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat.\ Boost}$ / $P_{Dyn.\ Boost}$	120 W / 155 W / 240 W (5 s)
Output data (battery operation)	
Output voltage	24 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output voltage range	19 V DC ... 32 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output current I_N / $I_{Stat.\ Boost}$ / $I_{Dyn.\ Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat.\ Boost}$ / $P_{Dyn.\ Boost}$	120 W / 150 W / 240 W (5 s)
Energy storage	
Charge characteristic curve	IU_0U
Nominal voltage U_N	24 V DC
End-of-charge voltage (configurable)	27.6 V DC
Charging current (configurable)	max. 1.5 A
Deep discharge protection (configurable)	19.2 V DC
Battery technology	VRLA, VRLA-WTR, LI-ION
Nominal capacity (without additional charger)	0.8 Ah ... 30 Ah
Energy storage device connection in parallel	Yes, 5 (observe line protection)
Signaling	
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
Configurable signal output	OptoMOS, switch contact (floating)
Channel	2x DO, 2x DI, 1x DI or AI
Interface	PROFINET
General data	
Weight / Dimensions W x H x D	0.5 kg / 35 x 130 x 125 mm
Connection method power / signal	Screw connection / Push-in technology
Power connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (storage/transport)	-40°C ... 85°C
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
UL approvals	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

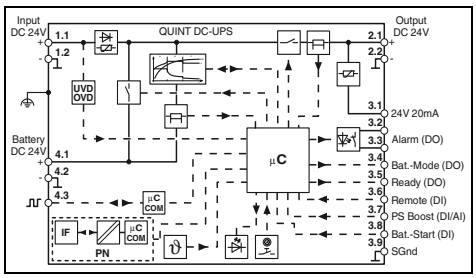
Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**QUINT4-UPS/24DC/24DC/5/PN**	2906993	1



Uninterruptible power supply, 24 V DC / 24 V DC, 10 A, PN

Ex:

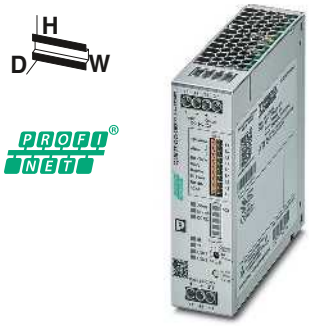


Technical data

	18 V DC ... 30 V DC
	22 V DC / 30 V DC
	10.1 A / 16.3 A / 105 mA / 3.7 A
	245 W / 386 W / 2.6 W / 92 W
	24 V DC (U_{OUT} = U_{IN} - 0.4 V DC)
	18 V DC ... 30 V DC
	10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)
	240 W / 300 W / 480 W (5 s)
	24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC)
	19 V DC ... 32 V DC
	10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)
	240 W / 300 W / 480 W (5 s)
	IU_0U
	24 V DC
	27.6 V DC
	3 A
	19.2 V DC
	VRLA, VRLA-WTR, LI-ION
	1.2 Ah ... 60 Ah
	Yes, 5 (observe line protection)
	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
	OptoMOS, switch contact (floating)
	2x DO, 2x DI, 1x DI or AI
	PROFINET
	0.5 kg / 35 x 130 x 125 mm
	Screw connection / Push-in technology
	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
	IP20 / III
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C ... 85°C
	≤ 95% (at 25°C, non-condensing)
	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

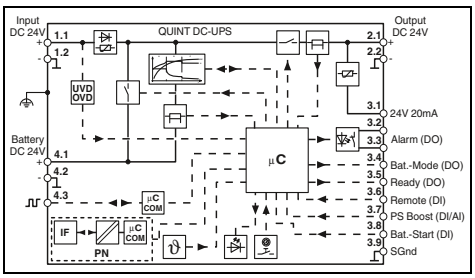
Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/10/PN	2907068	1



Uninterruptible power supply, 24 V DC / 24 V DC, 20 A, PN

Ex:

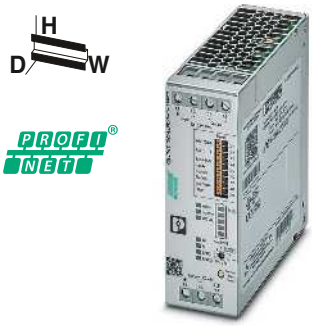


Technical data

	18 V DC ... 30 V DC
	22 V DC / 30 V DC
	20.1 A / 31.2 A / 105 mA / 6.1 A
	475 W / 740 W / 2.6 W / 148 W
	24 V DC (U_{OUT} = U_{IN} - 0.4 V DC)
	18 V DC ... 30 V DC
	20 A / 25 A / 30 A (5 s) / 120 A (15 ms)
	480 W / 600 W / -
	24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC)
	19 V DC ... 32 V DC
	20 A / 25 A / 30 A (5 s) / 120 A (15 ms)
	480 W / 600 W / -
	IU_0U
	24 V DC
	27.6 V DC
	5 A
	19.2 V DC
	VRLA, VRLA-WTR, LI-ION
	3 Ah ... 100 Ah
	Yes, 5 (observe line protection)
	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
	OptoMOS, switch contact (floating)
	2x DO, 2x DI, 1x DI or AI
	PROFINET
	0.6 kg / 40 x 130 x 125 mm
	Screw connection / Push-in technology
	0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10
	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
	IP20 / III
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C ... 85°C
	≤ 95% (at 25°C, non-condensing)
	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

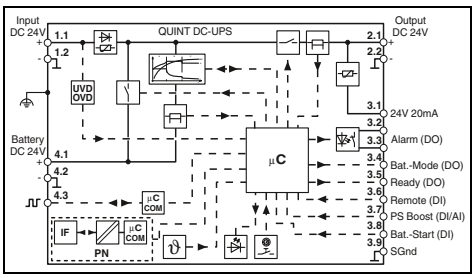
Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/20/PN	2907073	1



Uninterruptible power supply, 24 V DC / 24 V DC, 40 A, PN

Ex:



Technical data

	18 V DC ... 30 V DC
	22 V DC / 30 V DC
	40.1 A / 51.2 A / 105 mA / 6.1 A
	967 W / 1122 W / 2.6 W / 148 W
	24 V DC (U_{OUT} = U_{IN} - 0.5 V DC)
	18 V DC ... 30 V DC
	40 A / 45 A / 60 A (5 s) / 215 A (15 ms)
	960 W / 1080 W / -
	24 V DC (U_{OUT} = U_{BAT} - 0.5 V DC)
	19 V DC ... 32 V DC
	40 A / 45 A / 60 A (5 s) / 215 A (15 ms)
	960 W / 1080 W / -
	IU_0U
	24 V DC
	27.6 V DC
	5 A
	19.2 V DC
	VRLA, VRLA-WTR, LI-ION
	7 Ah ... 100 Ah
	Yes, 5 (observe line protection)
	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
	OptoMOS, switch contact (floating)
	2x DO, 2x DI, 1x DI or AI
	PROFINET
	0.7 kg / 47 x 130 x 125 mm
	Screw connection / Push-in technology
	0.5 - 16 mm² / 0.5 - 16 mm² / 8 - 6
	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
	IP20 / III
	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
	-40°C ... 85°C
	≤ 95% (at 25°C, non-condensing)
	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/40/PN	2907079	1

QUINT DC UPS, 24 V DC with EtherNet/IP™ interface

The UPS modules for 5 to 40 A allow you to create a custom solution combining a power supply, UPS module, and energy storage device.

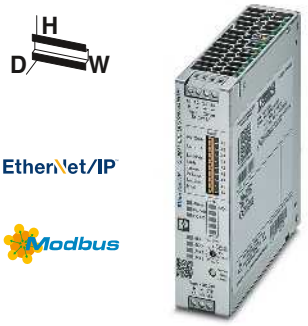
Easy integration into EtherNet/IP™ networks:
– Via 2-port switch

Intelligent battery management:
– Automatic detection of battery capacities and technologies
– Maximizes the remaining service life of the energy storage device, thanks to an optimally adjusted charging characteristic
– The very powerful battery charger maximizes system availability

Extended load management:
Energy monitoring – monitoring of input and output voltages and the associated currents
Cold restart function – UPS startup even without mains power

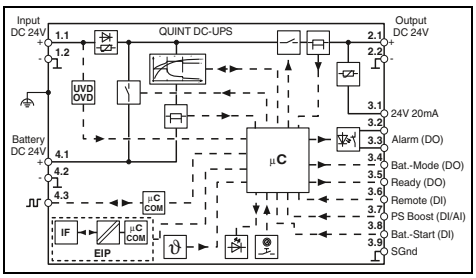
Substantial power reserve:
– Static boost up to 125% for a sustained period
– Dynamic boost up to 200% for 5 s
– SFB (Selective Fuse Breaking) Technology

Comprehensive signaling via LEDs and signal contacts:
– Load is being supplied by the energy storage device
– Energy storage device is being charged
– An alarm is present



Uninterruptible power supply, 24 V DC / 24 V DC, 5 A, EIP

Ex:



Technical data

Input data	
Input voltage range	18 V DC ... 30 V DC
Fixed connect threshold	22 V DC / 30 V DC
Current consumption I_N / I_{Max} / $I_{No-Load}$ / I_{charge}	5.1 A / 8.3 A / 105 mA / 1.9 A
Power consumption P_N / P_{Max} / $P_{No-Load}$ / P_{Charge}	123 W / 213 W / 2.5 W / 44 W
Output data (mains operation)	
Output voltage	24 V DC (U_{OUT} = U_{IN} - 0.3 V DC)
Output voltage range	18 V DC ... 30 V DC (U_{Out} = U_{In} - 0.3 V DC)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat. Boost}$ / $P_{Dyn. Boost}$	120 W / 155 W / 240 W (5 s)
Output data (battery operation)	
Output voltage	24 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output voltage range	19 V DC ... 32 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat. Boost}$ / $P_{Dyn. Boost}$	120 W / 150 W / 240 W (5 s)
Energy storage	
Charge characteristic curve	IU_0U
Nominal voltage U_N	24 V DC
End-of-charge voltage (configurable)	27.6 V DC
Charging current (configurable)	max. 1.5 A
Deep discharge protection (configurable)	19.2 V DC
Battery technology	VRLA, VRLA-WTR, LI-ION
Nominal capacity (without additional charger)	0.8 Ah ... 30 Ah
Energy storage device connection in parallel	Yes, 5 (observe line protection)
Signaling	
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
Configurable signal output	OptoMOS, switch contact (floating)
Channel	2x DO, 2x DI, 1x DI or AI
Interface	EtherNet/IP™
General data	
Weight / Dimensions W x H x D	0.5 kg / 35 x 130 x 125 mm
Connection method power / signal	Screw connection / Push-in technology
Power connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (storage/transport)	-40°C ... 85°C
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
UL approvals	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

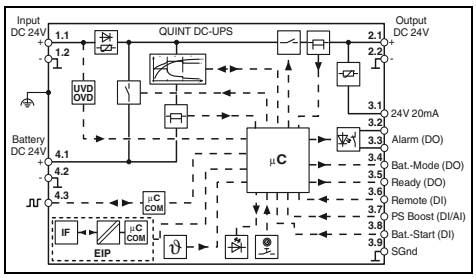
Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**QUINT4-UPS/24DC/24DC/5/EIP**	2906994	1

EtherNet/IP

Modbus

Uninterruptible power supply, 24 V DC / 24 V DC, 10 A, EIP

Ex:



Technical data

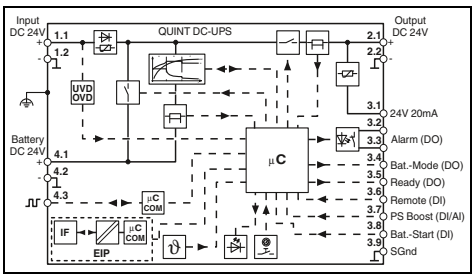
	18 V DC ... 30 V DC 22 V DC / 30 V DC 10.1 A / 16.3 A / 105 mA / 3.7 A 245 W / 386 W / 2.6 W / 92 W
	24 V DC (U_{OUT} = U_{IN} - 0.4 V DC) 18 V DC ... 30 V DC 10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms) 240 W / 300 W / 480 W (5 s)
	24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC) 19 V DC ... 32 V DC 10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms) 240 W / 300 W / 480 W (5 s)
	IU_0U 24 V DC 27.6 V DC 3 A
	19.2 V DC VRLA, VRLA-WTR, LI-ION 1.2 Ah ... 60 Ah Yes, 5 (observe line protection)
	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green) OptoMOS, switch contact (floating) 2x DO, 2x DI, 1x DI or AI EtherNet/IP™
	0.5 kg / 35 x 130 x 125 mm Screw connection / Push-in technology 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12 0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K) -40°C ... 85°C ≤ 95% (at 25°C, non-condensing)
	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/10/EIP	2907069	1

Uninterruptible power supply, 24 V DC / 24 V DC, 20 A, EIP

Ex:



Technical data

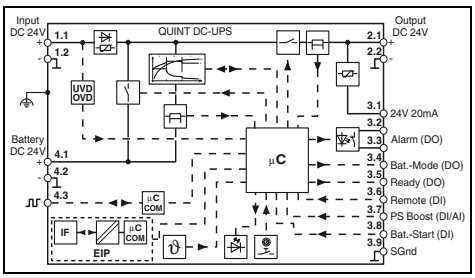
	18 V DC ... 30 V DC 22 V DC / 30 V DC 20.1 A / 31.2 A / 105 mA / 6.1 A 475 W / 740 W / 2.6 W / 148 W
	24 V DC (U_{OUT} = U_{IN} - 0.4 V DC) 18 V DC ... 30 V DC 20 A / 25 A / 30 A (5 s) / 120 A (15 ms) 480 W / 600 W / -
	24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC) 19 V DC ... 32 V DC 20 A / 25 A / 30 A (5 s) / 120 A (15 ms) 480 W / 600 W / -
	IU_0U 24 V DC 27.6 V DC 5 A
	19.2 V DC VRLA, VRLA-WTR, LI-ION 3 Ah ... 100 Ah Yes, 5 (observe line protection)
	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green) OptoMOS, switch contact (floating) 2x DO, 2x DI, 1x DI or AI EtherNet/IP™
	0.6 kg / 40 x 130 x 125 mm Screw connection / Push-in technology 0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10 0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K) -40°C ... 85°C ≤ 95% (at 25°C, non-condensing)
	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/20/EIP	2907074	1

Uninterruptible power supply, 24 V DC / 24 V DC, 40 A, EIP

Ex:



Technical data

	18 V DC ... 30 V DC 22 V DC / 30 V DC 40.1 A / 51.2 A / 105 mA / 6.1 A 967 W / 1122 W / 2.6 W / 148 W
	24 V DC (U_{OUT} = U_{IN} - 0.5 V DC) 18 V DC ... 30 V DC 40 A / 45 A / 60 A (5 s) / 215 A (15 ms) 960 W / 1080 W / -
	24 V DC (U_{OUT} = U_{BAT} - 0.5 V DC) 19 V DC ... 32 V DC 40 A / 45 A / 60 A (5 s) / 215 A (15 ms) 960 W / 1080 W / -
	IU_0U 24 V DC 27.6 V DC 5 A
	19.2 V DC VRLA, VRLA-WTR, LI-ION 7 Ah ... 100 Ah Yes, 5 (observe line protection)
	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green) OptoMOS, switch contact (floating) 2x DO, 2x DI, 1x DI or AI EtherNet/IP™
	0.7 kg / 47 x 130 x 125 mm Screw connection / Push-in technology 0.5 - 16 mm² / 0.5 - 16 mm² / 8 - 6 0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K) -40°C ... 85°C ≤ 95% (at 25°C, non-condensing)
	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/40/EIP	2907080	1

QUINT UPS for DC applications

QUINT DC UPS, 24 V DC with EtherCAT® interface

The UPS modules for 5 to 40 A allow you to create a custom solution combining a power supply, UPS module, and energy storage device.

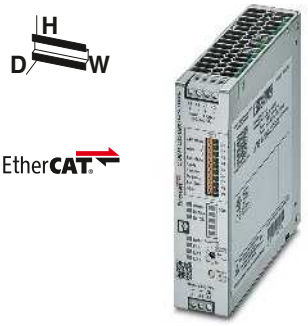
Easy integration into EtherCAT® networks:
– Via 2-port switch

Intelligent battery management:
– Automatic detection of battery capacities and technologies
– Maximizes the remaining service life of the energy storage device, thanks to an optimally adjusted charging characteristic
– The very powerful battery charger maximizes system availability

Extended load management:
Energy monitoring – monitoring of input and output voltages and the associated currents
Cold restart function – UPS startup even without mains power

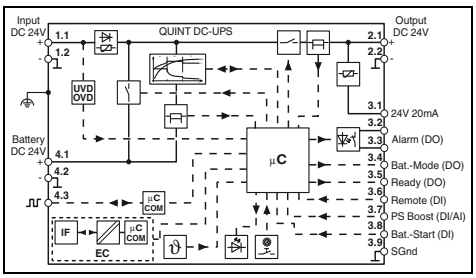
Substantial power reserve:
– Static boost up to 125% for a sustained period
– Dynamic boost up to 200% for 5 s
– SFB (Selective Fuse Breaking) Technology

Comprehensive signaling via LEDs and signal contacts:
– Load is being supplied by the energy storage device
– Energy storage device is being charged
– An alarm is present



Uninterruptible power supply, 24 V DC / 24 V DC, 5 A, EC

Ex:



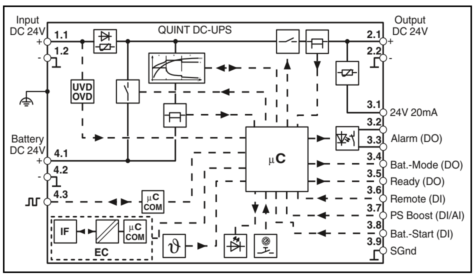
Technical data

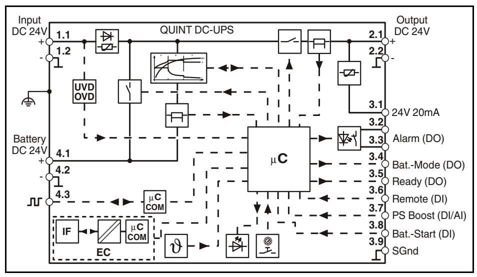
Input data	
Input voltage range	18 V DC ... 30 V DC
Fixed connect threshold	22 V DC / 30 V DC
Current consumption I_N / I_{Max} / $I_{No\text{-}Load}$ / I_{charge}	5.1 A / 8.3 A / 105 mA / 1.9 A
Power consumption P_N / P_{Max} / $P_{No\text{-}Load}$ / P_{Charge}	123 W / 213 W / 2.5 W / 44 W
Output data (mains operation)	
Output voltage	24 V DC (U_{OUT} = U_{IN} - 0.3 V DC)
Output voltage range	18 V DC ... 30 V DC (U_{Out} = U_{In} - 0.3 V DC)
Output current I_N / $I_{Stat.\ Boost}$ / $I_{Dyn.\ Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat.\ Boost}$ / $P_{Dyn.\ Boost}$	120 W / 155 W / 240 W (5 s)
Output data (battery operation)	
Output voltage	24 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output voltage range	19 V DC ... 32 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output current I_N / $I_{Stat.\ Boost}$ / $I_{Dyn.\ Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat.\ Boost}$ / $P_{Dyn.\ Boost}$	120 W / 150 W / 240 W (5 s)
Energy storage	
Charge characteristic curve	IU_0U
Nominal voltage U_N	24 V DC
End-of-charge voltage (configurable)	27.6 V DC
Charging current (configurable)	max. 1.5 A
Deep discharge protection (configurable)	19.2 V DC
Battery technology	VRLA, VRLA-WTR, LI-ION
Nominal capacity (without additional charger)	0.8 Ah ... 30 Ah
Energy storage device connection in parallel	Yes, 5 (observe line protection)
Signaling	
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
Configurable signal output	OptoMOS, switch contact (floating)
Channel	2x DO, 2x DI, 1x DI or AI
Interface	EtherCAT®
General data	
Weight / Dimensions W x H x D	0.5 kg / 35 x 130 x 125 mm
Connection method power / signal	Screw connection / Push-in technology
Power connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (storage/transport)	-40°C ... 85°C
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
UL approvals	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

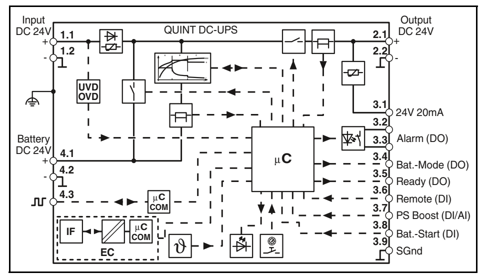
Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**QUINT4-UPS/24DC/24DC/5/EC**	2906996	1

Uninterruptible power supply, 24 V DC / 24 V DC, 10 A, EC	Uninterruptible power supply, 24 V DC / 24 V DC, 20 A, EC	Uninterruptible power supply, 24 V DC / 24 V DC, 40 A, EC
Ex:	Ex:	Ex:







Technical data

18 V DC ... 30 V DC	18 V DC ... 30 V DC	18 V DC ... 30 V DC
22 V DC / 30 V DC	22 V DC / 30 V DC	22 V DC / 30 V DC
10.1 A / 16.3 A / 105 mA / 3.7 A	20.1 A / 31.2 A / 105 mA / 6.1 A	40.1 A / 51.2 A / 105 mA / 6.1 A
245 W / 386 W / 2.6 W / 92 W	475 W / 740 W / 2.6 W / 148 W	967 W / 1122 W / 2.6 W / 148 W
24 V DC ($U_{OUT} = U_{IN}$ - 0.4 V DC)	24 V DC ($U_{OUT} = U_{IN}$ - 0.4 V DC)	24 V DC ($U_{OUT} = U_{IN}$ - 0.5 V DC)
18 V DC ... 30 V DC	18 V DC ... 30 V DC	18 V DC ... 30 V DC
10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)	20 A / 25 A / 30 A (5 s) / 120 A (15 ms)	40 A / 45 A / 60 A (5 s) / 215 A (15 ms)
240 W / 300 W / 480 W (5 s)	480 W / 600 W / -	960 W / 1080 W / -
24 V DC ($U_{OUT} = U_{BAT}$ - 0.4 V DC)	24 V DC ($U_{OUT} = U_{BAT}$ - 0.4 V DC)	24 V DC ($U_{OUT} = U_{BAT}$ - 0.5 V DC)
19 V DC ... 32 V DC	19 V DC ... 32 V DC	19 V DC ... 32 V DC
10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)	20 A / 25 A / 30 A (5 s) / 120 A (15 ms)	40 A / 45 A / 60 A (5 s) / 215 A (15 ms)
240 W / 300 W / 480 W (5 s)	480 W / 600 W / -	960 W / 1080 W / -
IU_0U	IU_0U	IU_0U
24 V DC	24 V DC	24 V DC
27.6 V DC	27.6 V DC	27.6 V DC
3 A	5 A	5 A
19.2 V DC	19.2 V DC	19.2 V DC
VRLA, VRLA-WTR, LI-ION	VRLA, VRLA-WTR, LI-ION	VRLA, VRLA-WTR, LI-ION
1.2 Ah ... 60 Ah	3 Ah ... 100 Ah	7 Ah ... 100 Ah
Yes, 5 (observe line protection)	Yes, 5 (observe line protection)	Yes, 5 (observe line protection)
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
OptoMOS, switch contact (floating)	OptoMOS, switch contact (floating)	OptoMOS, switch contact (floating)
2x DO, 2x DI, 1x DI or AI	2x DO, 2x DI, 1x DI or AI	2x DO, 2x DI, 1x DI or AI
EtherCAT®	EtherCAT®	EtherCAT®
0.5 kg / 35 x 130 x 125 mm	0.6 kg / 40 x 130 x 125 mm	0.7 kg / 47 x 130 x 125 mm
Screw connection / Push-in technology	Screw connection / Push-in technology	Screw connection / Push-in technology
0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 30 - 12	0.2 - 6 mm^2 / 0.2 - 4 mm^2 / 30 - 10	0.5 - 16 mm^2 / 0.5 - 16 mm^2 / 8 - 6
0.2 - 1 mm^2 / 0.2 - 1 mm^2 / 24 - 16	0.2 - 1 mm^2 / 0.2 - 1 mm^2 / 24 - 16	0.2 - 1 mm^2 / 0.2 - 1 mm^2 / 24 - 16
IP20 / III	IP20 / III	IP20 / III
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
-40°C ... 85°C	-40°C ... 85°C	-40°C ... 85°C
≤ 95% (at 25°C, non-condensing)	≤ 95% (at 25°C, non-condensing)	≤ 95% (at 25°C, non-condensing)
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/10/EC	2907070	1
QUINT4-UPS/24DC/24DC/20/EC	2907076	1
QUINT4-UPS/24DC/24DC/40/EC	2907081	1

QUINT UPS for DC applications

QUINT DC UPS, 24 V DC with USB interface

The UPS modules for 5 to 40 A allow you to create a custom solution combining a power supply, UPS module, and energy storage device.

Intelligent battery management:
- Automatic detection of battery capacities and technologies
- Maximizes the remaining service life of the energy storage device, thanks to an optimally adjusted charging characteristic
- The very powerful battery charger maximizes system availability

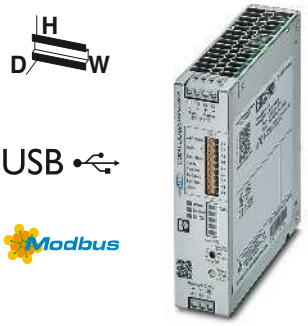
Extended load management:
Energy monitoring – monitoring of input and output voltages and the associated currents

PC shutdown function – reliable shutdown of the IPC in the event of mains failure without data loss, and autostart of the IPC when power returns

Cold restart function – UPS startup even without mains power

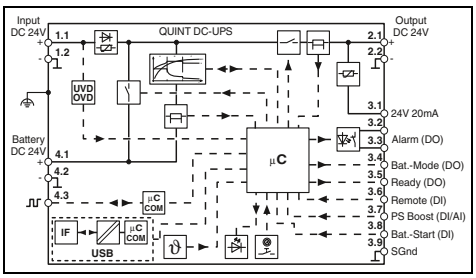
Substantial power reserve:
- Static boost up to 125% for a sustained period
- Dynamic boost up to 200% for 5 s
- SFB (Selective Fuse Breaking) Technology

Comprehensive signaling via LEDs and signal contacts:
- Load is being supplied by the energy storage device
- Energy storage device is being charged
- An alarm is present



Uninterruptible power supply, 24 V DC / 24 V DC, 5 A, USB

Ex:

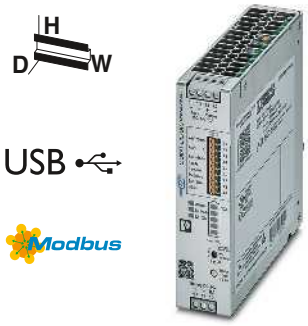


Technical data

Input data	
Input voltage range	18 V DC ... 30 V DC
Fixed connect threshold	22 V DC / 30 V DC
Current consumption I_N / I_{Max} / $I_{No-Load}$ / I_{charge}	5.1 A / 8.3 A / 45 mA / 1.8 A
Power consumption P_N / P_{Max} / $P_{No-Load}$ / P_{Charge}	121 W / 211 W / 1.1 W / 43 W
Output data (mains operation)	
Output voltage	24 V DC (U_{OUT} = U_{IN} - 0.3 V DC)
Output voltage range	18 V DC ... 30 V DC (U_{Out} = U_{In} - 0.3 V DC)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat. Boost}$ / $P_{Dyn. Boost}$	120 W / 155 W / 240 W (5 s)
Output data (battery operation)	
Output voltage	24 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output voltage range	19 V DC ... 32 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat. Boost}$ / $P_{Dyn. Boost}$	120 W / 150 W / 240 W (5 s)
Energy storage	
Charge characteristic curve	IU_0U
Nominal voltage U_N	24 V DC
End-of-charge voltage (configurable)	27.6 V DC
Charging current (configurable)	max. 1.5 A
Deep discharge protection (configurable)	19.2 V DC
Battery technology	VRLA, VRLA-WTR, LI-ION
Nominal capacity (without additional charger)	0.8 Ah ... 30 Ah
Energy storage device connection in parallel	Yes, 5 (observe line protection)
Signaling	
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
Configurable signal output	OptoMOS, switch contact (floating)
Channel	2x DO, 2x DI, 1x DI or AI
Interface	USB (Modbus/RTU)
General data	
Weight / Dimensions W x H x D	0.5 kg / 35 x 130 x 125 mm
Connection method power / signal	Screw connection / Push-in technology
Power connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (storage/transport)	-40°C ... 85°C
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
UL approvals	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

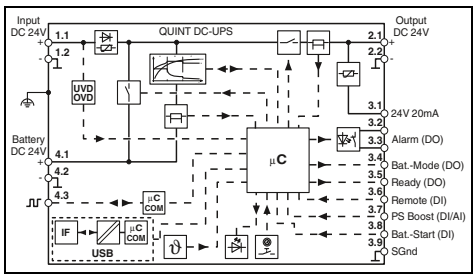
Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**QUINT4-UPS/24DC/24DC/5/USB**	2906991	1



Uninterruptible power supply, 24 V DC / 24 V DC, 10 A, USB

Ex:



Technical data

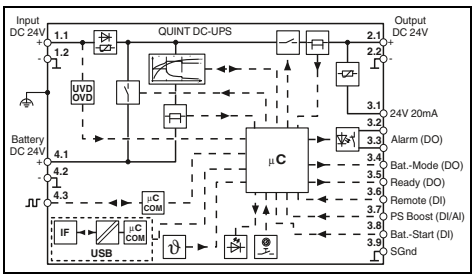
18 V DC ... 30 V DC 22 V DC / 30 V DC 10.1 A / 16.3 A / 48 mA / 3.5 A 241 W / 384 W / 1.2 W / 90 W	
24 V DC (U_{OUT} = U_{IN} - 0.4 V DC) 18 V DC ... 30 V DC 10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms) 240 W / 300 W / 480 W (5 s)	
24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC) 19 V DC ... 32 V DC 10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms) 240 W / 300 W / 480 W (5 s)	
IU_0U 24 V DC 27.6 V DC 3 A 19.2 V DC VRLA, VRLA-WTR, LI-ION 1.2 Ah ... 60 Ah Yes, 5 (observe line protection)	
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green) OptoMOS, switch contact (floating) 2x DO, 2x DI, 1x DI or AI USB (Modbus/RTU)	
0.5 kg / 35 x 130 x 125 mm Screw connection / Push-in technology 0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12 0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K) -40°C ... 85°C ≤ 95% (at 25°C, non-condensing)	
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/10/USB	2907067	1

Uninterruptible power supply, 24 V DC / 24 V DC, 20 A, USB

Ex:



Technical data

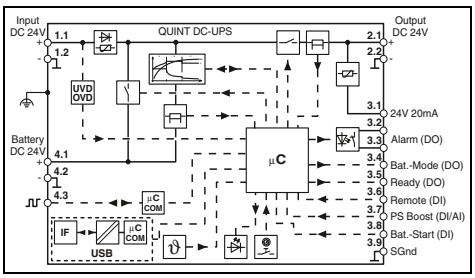
18 V DC ... 30 V DC 22 V DC / 30 V DC 20.1 A / 31.2 A / 50 mA / 6.1 A 474 W / 738 W / 1.3 W / 145 W	
24 V DC (U_{OUT} = U_{IN} - 0.4 V DC) 18 V DC ... 30 V DC 20 A / 25 A / 30 A (5 s) / 120 A (15 ms) 480 W / 600 W / -	
24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC) 19 V DC ... 32 V DC 20 A / 25 A / 30 A (5 s) / 120 A (15 ms) 480 W / 600 W / -	
IU_0U 24 V DC 27.6 V DC 5 A 19.2 V DC VRLA, VRLA-WTR, LI-ION 3 Ah ... 100 Ah Yes, 5 (observe line protection)	
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green) OptoMOS, switch contact (floating) 2x DO, 2x DI, 1x DI or AI USB (Modbus/RTU)	
0.6 kg / 40 x 130 x 125 mm Screw connection / Push-in technology 0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10 0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K) -40°C ... 85°C ≤ 95% (at 25°C, non-condensing)	
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/20/USB	2907072	1

Uninterruptible power supply, 24 V DC / 24 V DC, 40 A, USB

Ex:



Technical data

18 V DC ... 30 V DC 22 V DC / 30 V DC 40.1 A / 51.2 A / 50 mA / 6.1 A 965 W / 1120 W / 1.3 W / 147 W	
24 V DC (U_{OUT} = U_{IN} - 0.5 V DC) 18 V DC ... 30 V DC 40 A / 45 A / 60 A (5 s) / 215 A (15 ms) 960 W / 1080 W / -	
24 V DC (U_{OUT} = U_{BAT} - 0.5 V DC) 19 V DC ... 32 V DC 40 A / 45 A / 60 A (5 s) / 215 A (15 ms) 960 W / 1080 W / -	
IU_0U 24 V DC 27.6 V DC 5 A 19.2 V DC VRLA, VRLA-WTR, LI-ION 7 Ah ... 100 Ah Yes, 5 (observe line protection)	
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green) OptoMOS, switch contact (floating) 2x DO, 2x DI, 1x DI or AI USB (Modbus/RTU)	
0.7 kg / 47 x 130 x 125 mm Screw connection / Push-in technology 0.5 - 16 mm² / 0.5 - 16 mm² / 8 - 6 0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16 IP20 / III -25°C ... 70°C (> 60°C Derating: 2.5%/K) -40°C ... 85°C ≤ 95% (at 25°C, non-condensing)	
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/40/USB	2907078	1

QUINT UPS for DC applications

QUINT DC UPS, 24 V DC

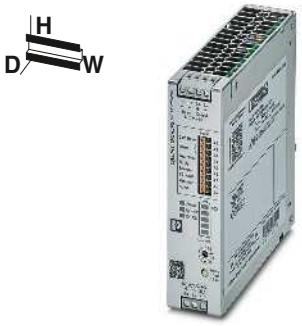
The UPS modules for 5 to 40 A allow you to create a custom solution combining a power supply, UPS module, and energy storage device.

Intelligent battery management:
– Automatic detection of battery capacities and technologies
– Maximizes the remaining service life of the energy storage device, thanks to an optimally adjusted charging characteristic
– The very powerful battery charger maximizes system availability

Extended load management:
Energy monitoring – monitoring of input and output voltages and the associated currents
PC shutdown function – reliable shutdown of the IPC in the event of mains failure without data loss, and autostart of the IPC when power returns
Cold restart function – UPS startup even without mains power

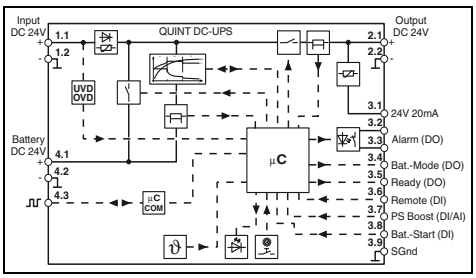
Substantial power reserve:
– Static boost up to 125% for a sustained period
– Dynamic boost up to 200% for 5 s
– SFB (Selective Fuse Breaking) Technology

Comprehensive signaling via LEDs and signal contacts:
– Load is being supplied by the energy storage device
– Energy storage device is being charged
– An alarm is present



Uninterruptible power supply, 24 V DC / 24 V DC, 5 A

Ex:



Technical data

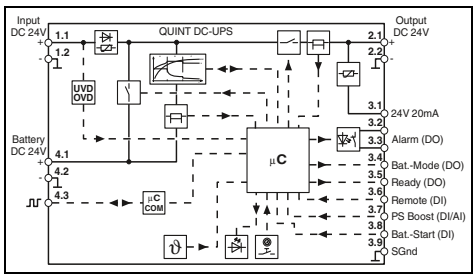
Input data	
Input voltage range	18 V DC ... 30 V DC
Fixed connect threshold	22 V DC / 30 V DC
Current consumption I_N / I_{Max} / $I_{No-Load}$ / I_{charge}	5.1 A / 8.3 A / 45 mA / 1.8 A
Power consumption P_N / P_{Max} / $P_{No-Load}$ / P_{Charge}	121 W / 211 W / 1.1 W / 43 W
Output data (mains operation)	
Output voltage	24 V DC (U_{OUT} = U_{IN} - 0.3 V DC)
Output voltage range	18 V DC ... 30 V DC (U_{Out} = U_{In} - 0.3 V DC)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat. Boost}$ / $P_{Dyn. Boost}$	120 W / 150 W / 240 W (5 s)
Output data (battery operation)	
Output voltage	24 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output voltage range	19 V DC ... 28 V DC (U_{OUT} = U_{BAT} - 0.3 V DC)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / 10 A (5 s) / 30 A (15 ms)
Output power P_N / $P_{Stat. Boost}$ / $P_{Dyn. Boost}$	120 W / 150 W / 240 W (5 s)
Energy storage	
Charge characteristic curve	IU_0U
Nominal voltage U_N	24 V DC
End-of-charge voltage (configurable)	27.6 V DC
Charging current (configurable)	max. 1.5 A
Deep discharge protection (configurable)	19.2 V DC
Battery technology	VRLA, VRLA-WTR, LI-ION
Nominal capacity (without additional charger)	0.8 Ah ... 40 Ah
Energy storage device connection in parallel	Yes, 5 (observe line protection)
Signaling	
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)
Configurable signal output	OptoMOS, switch contact (floating)
Channel	2x DO, 2x DI, 1x DI or AI
Interface	-
General data	
Weight / Dimensions W x H x D	0.5 kg / 35 x 130 x 125 mm
Connection method power / signal	Screw connection / Push-in technology
Power connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Ambient temperature (storage/transport)	-40°C ... 85°C
Max. permissible relative humidity (operation)	≤ 95% (at 25°C, non-condensing)
Standards/regulations	
UL approvals	UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**QUINT4-UPS/24DC/24DC/5**	2906990	1

Uninterruptible power supply, 24 V DC / 24 V DC, 10 A

Ex:



Technical data

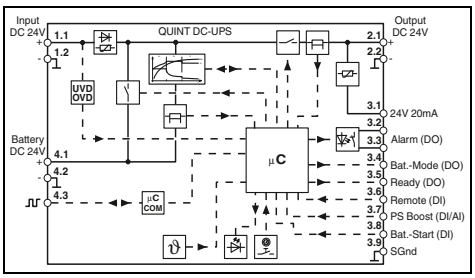
18 V DC ... 30 V DC	
22 V DC / 30 V DC	
10.1 A / 16.2 A / 48 mA / 3.5 A	
241 W / 384 W / 1.2 W / 90 W	
24 V DC (U_{OUT} = U_{IN} - 0.4 V DC)	
18 V DC ... 30 V DC (U_{OUT} = U_{IN} - 0.4 V DC)	
10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)	
240 W / 300 W / 480 W (5 s)	
24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC)	
19 V DC ... 28 V DC (U_{OUT} = U_{BAT} - 0.4 V DC)	
10 A / 12.5 A / 20 A (5 s) / 60 A (15 ms)	
240 W / 300 W / 480 W (5 s)	
IU_0U	
24 V DC	
27.6 V DC	
max. 3 A	
19.2 V DC	
VRLA, VRLA-WTR, LI-ION	
1.2 Ah ... 80 Ah	
Yes, 5 (observe line protection)	
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)	
OptoMOS, switch contact (floating)	
2x DO, 2x DI, 1x DI or AI	
-	
0.5 kg / 35 x 130 x 125 mm	
Screw connection / Push-in technology	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12	
0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16	
IP20 / III	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C ... 85°C	
≤ 95% (at 25°C, non-condensing)	
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/10	2907066	1

Uninterruptible power supply, 24 V DC / 24 V DC, 20 A

Ex:



Technical data

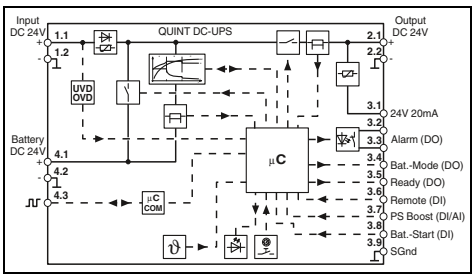
18 V DC ... 30 V DC	
22 V DC / 30 V DC	
20.1 A / 31.4 A / 50 mA / 6.1 A	
474 W / 738 W / 1.3 W / 145 W	
24 V DC (U_{OUT} = U_{IN} - 0.4 V DC)	
18 V DC ... 30 V DC (U_{OUT} = U_{IN} - 0.4 V DC)	
20 A / 25 A / 30 A (5 s) / 120 A (15 ms)	
480 W / 600 W / 720 W (5 s)	
24 V DC (U_{OUT} = U_{BAT} - 0.4 V DC)	
19 V DC ... 28 V DC (U_{OUT} = U_{BAT} - 0.4 V DC)	
20 A / 25 A / 30 A (5 s) / 120 A (15 ms)	
480 W / 600 W / 720 W (5 s)	
IU_0U	
24 V DC	
27.6 V DC	
max. 5 A	
19.2 V DC	
VRLA, VRLA-WTR, LI-ION	
3 Ah ... 135 Ah	
Yes, 5 (observe line protection)	
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)	
OptoMOS, switch contact (floating)	
2x DO, 2x DI, 1x DI or AI	
-	
0.6 kg / 40 x 130 x 125 mm	
Screw connection / Push-in technology	
0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10	
0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16	
IP20 / III	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C ... 85°C	
≤ 95% (at 25°C, non-condensing)	
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/20	2907071	1

Uninterruptible power supply, 24 V DC / 24 V DC, 40 A

Ex:



Technical data

18 V DC ... 30 V DC	
22 V DC / 30 V DC	
40.1 A / 51.2 A / 50 mA / 6.1 A	
965 W / 1120 W / 1.3 W / 147 W	
24 V DC (U_{OUT} = U_{IN} - 0.5 V DC)	
18 V DC ... 30 V DC	
40 A / 45 A / 60 A (5 s) / 215 A (15 ms)	
960 W / 1080 W / -	
24 V DC (U_{OUT} = U_{BAT} - 0.5 V DC)	
19 V DC ... 32 V DC	
40 A / 45 A / 60 A (5 s) / 215 A (15 ms)	
960 W / 1080 W / -	
IU_0U	
24 V DC	
27.6 V DC	
max. 5 A	
19.2 V DC	
VRLA, VRLA-WTR, LI-ION	
7 Ah ... 135 Ah	
Yes, 5 (observe line protection)	
DC OK (green), Alarm (red), Bat.-Mode (yellow), SOC (red, green), Data (red, green)	
OptoMOS, switch contact (floating)	
2x DO, 2x DI, 1x DI or AI	
-	
0.7 kg / 47 x 130 x 125 mm	
Screw connection / Push-in technology	
0.5 - 16 mm² / 0.5 - 16 mm² / 8 - 6	
0.2 - 1 mm² / 0.2 - 1 mm² / 24 - 16	
IP20 / III	
-25°C ... 70°C (> 60°C Derating: 2.5%/K)	
-40°C ... 85°C	
≤ 95% (at 25°C, non-condensing)	
UL/C-UL Listed UL 61010-1, UL/C-UL Listed UL 61010-2-201, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4 (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/24DC/24DC/40	2907077	1

QUINT UPS for DC applications with dual output voltage

The UPS module for two output voltages, 12 and 24 V DC, allows you to create a custom solution combining a power supply, UPS module, and energy storage device.

– Flexible and space-saving, thanks to two output voltages in one device

Optimum use of the buffer time and preventive monitoring of the energy storage device:

– Detects the current state of charge of the energy storage device and calculates the remaining runtime
– Calculates the current life expectancy of the energy storage device

Substantial power reserve:

– For mains and battery operation
– Power Boost static power reserve
– Dynamic power reserve with SFB (Selective Fuse Breaking) Technology

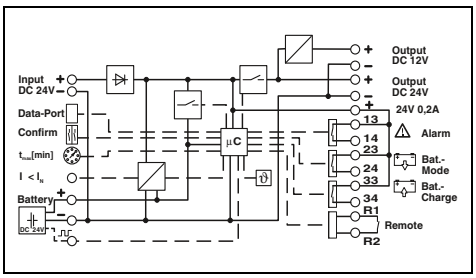
Extensive signaling and parameterization:

– Floating relay contacts
– Data port (Modbus/RTU)
– Parameterization with memory module

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 315.

Uninterruptible power supply, 24 V DC/12 V DC, 5 A and 24 V DC, 10 A



Technical data

Input data		
Input voltage	24 V DC	
Input voltage range	18 V DC ... 30 V DC	
Max. current consumption	16 A	
Output data (mains operation)	12 V DC	24 V DC
Nominal output voltage	12 V DC	24 V DC
Output voltage range		18 V DC ... 30 V DC ($U_{OUT} = U_{IN}$ - 0.5 V DC)
Efficiency (typ.)	> 93% (Mains operation, with charged energy storage)	> 98% (Mains operation, with charged energy storage)
Output current with convection cooling ($P_{max} = P_{12\,V} + P_{24\,V} = 360$ W)		
- Nominal output current I_N (sustained period)	5 A (-25°C ... 60°C)	10 A (-25°C ... 60°C)
- SFB Technology (15 ms)	-	60 A (-25°C ... 60°C)
- Power Boost I_{Boost} (sustained period)	7.5 A (-25°C ... 40°C)	15 A (-25°C ... 40°C)
Output data (battery operation)	12 V DC	24 V DC
Nominal output voltage	12 V DC	24 V DC
Output voltage range	-	19.2 V DC ... 27.6 V DC ($U_{OUT} = U_{BAT}$ - 0.5 V DC)
Output current with convection cooling ($P_{max} = P_{12\,V} + P_{24\,V} = 360$ W)		
- Nominal output current I_N (sustained period)	5 A (-25°C ... 60°C)	10 A (-25°C ... 60°C)
- SFB Technology (15 ms)	-	65 A (-25°C ... 60°C)
- Power Boost I_{Boost} (sustained period)	7.5 A (-25°C ... 40°C)	15 A (-25°C ... 40°C)
Energy storage		
Nominal voltage U_N	24 V DC	
End-of-charge voltage	24 V DC ... 29 V DC (temperature compensated)	
Nominal capacity range	1.3 Ah ... 140 Ah	
Max. charging current	0.2 A ... 2.88 A	
Signaling		
Signaling	LED, relay contact, interface/software	
Interfaces	IFS (Interface system data port)	
General data		
Weight / Dimensions W x H x D	0.6 kg / 35 x 130 x 125 mm	
Connection method	Plug-in screw connection	
Input/output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 16 - 12	
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	
Degree of protection / Protection class	IP20 / III	
Ambient temperature (operation)	-25°C ... 70°C	
Derating	60°C ... 70°C (2.5%/K)	
Standards/regulations		
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1	

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible			
	QUINT-UPS/ 24DC/12DC/5/24DC/10	2320461	1

Selecting the energy storage for AC UPS

The new modular system for uninterruptible power supplies always offers the ideal solution for superior system availability. The various storage media feature a wide range of different properties: long service life or very long buffer time, no maintenance or use at extreme ambient temperatures. Whatever your requirements, we offer the ideal energy storage.

Your advantages

Fast installation
- Automatic detection of the energy storage device by QUINT UPS
- Tool-free replacement during operation

Maximum availability
- Constant communication with QUINT UPS for continuous monitoring and intelligent management

Extremely long service life
- Optimum charging characteristic according to the technology and ambient conditions

Type	Buffer time Typical	Temperature	Service life At +20°C	Service life At +50°C	Charging cycles At +20°C	Weight Standardized
UPS-CAP…	< 5 min	-40 ... 60°C	> 20 years	5 years	> 500.000	0.4 kg
UPS-BAT/LI-ION…	> 40 min	-20 ... 58°C	15 years	2 years	7000	0.45 kg
UPS-BAT/VRLA-WTR…	> 5 h	-25 ... 60°C	12 years	1.5 years	300	1.3 kg
UPS-BAT/VRLA…	> 8 h	0 ... 40°C	6 ... 9 years	1 year	250	1 kg

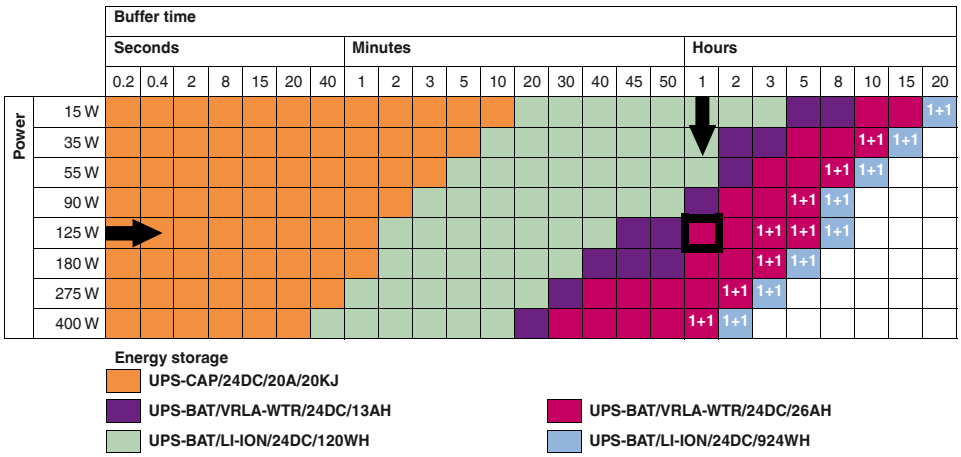
Buffer times for QUINT AC UPS

Buffer times of energy storage devices with double-layer capacitors, lithium iron phosphate and pure lead AGM technology with wide temperature range

Select **UPS-CAP**, **LI-ION**, and **UPS-BAT/VRLA-WTR** for your **QUINT AC UPS/500 VA** (120/230 V AC applications) here.

Example: 125 W needs to be buffered for one hour.

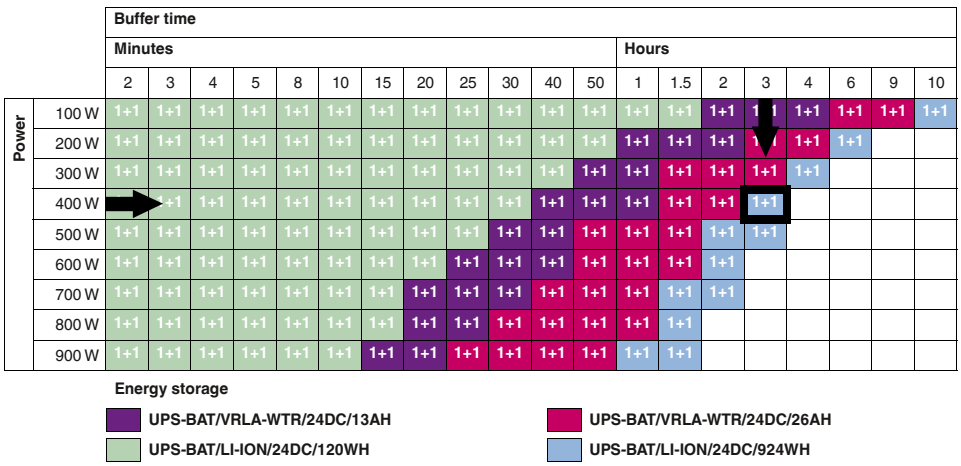
Solution:
UPS-BAT/VRLA-WTR/24DC/26AH



Select **LI-ION** and **UPS-BAT/VRLA-WTR** for your **QUINT AC UPS/1000 VA** (120/230 V AC applications) here.

Example: 400 W needs to be buffered for three hours.

Solution:
2x UPS-BAT/LI-ION /24DC/924WH



1+1 … Two energy storage devices of the same capacity are required in this case.
The data is based on an ambient temperature of +20°C.

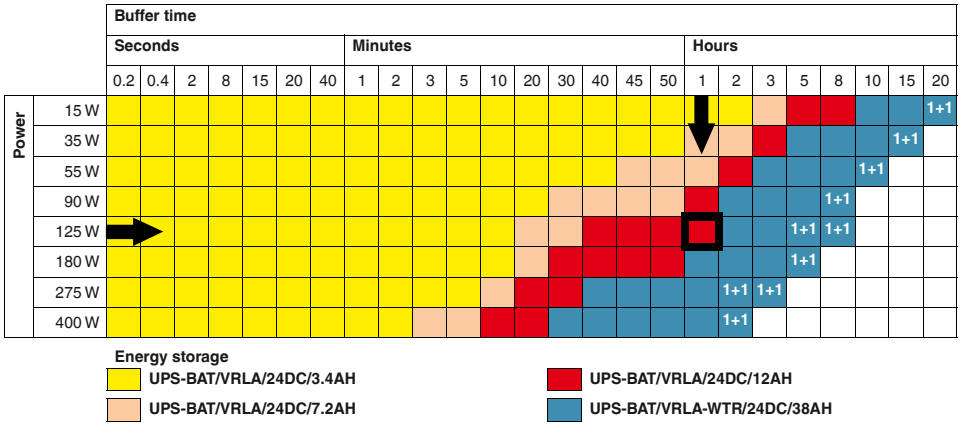
Buffer times for QUINT AC UPS

Buffer times of energy storage devices with lead AGM technology

Select **UPS-BAT/VRLA** for your **QUINT AC UPS/500 VA** (120/230 V AC applications) here.

Example: 125 W needs to be buffered for one hour.

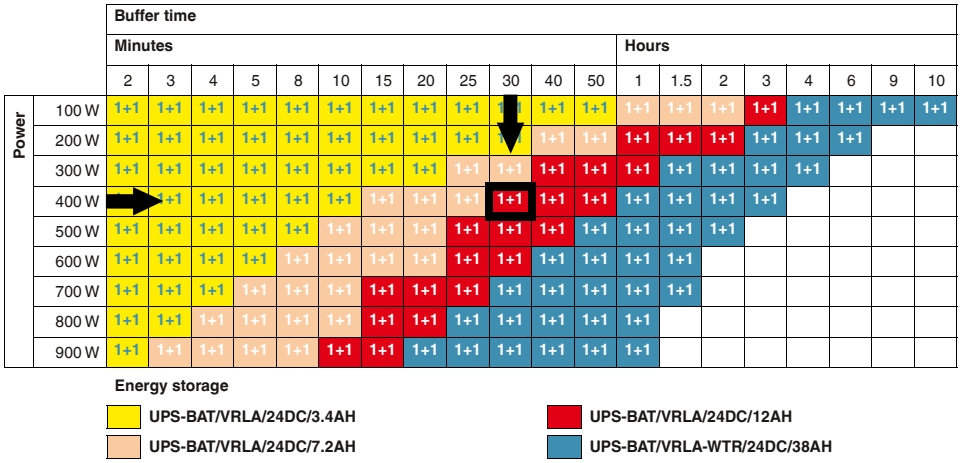
Solution:
UPS-BAT/VRLA/24DC/12AH



Select **UPS-BAT/VRLA** for your **QUINT AC UPS/1000 VA** (120/230 V AC applications) here.

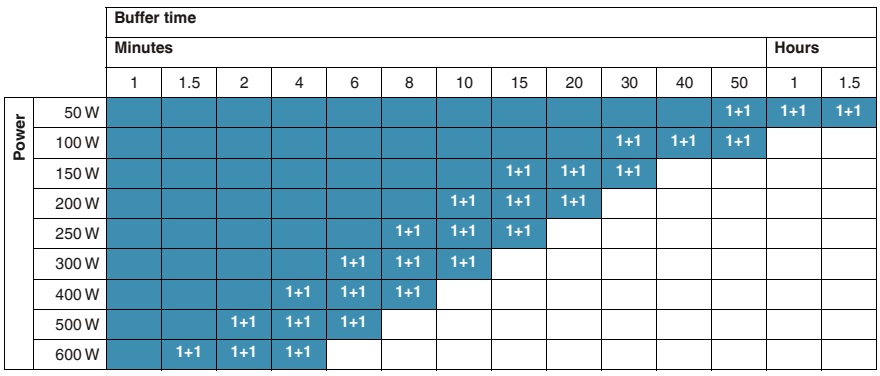
Example: 400 W needs to be buffered for 30 minutes.

Solution:
2x UPS-BAT/VRLA/24DC/12AH



1+1 … Two energy storage devices of the same capacity are required in this case.
The data is based on an ambient temperature of +20°C.

Buffer times for TRIO AC UPS with integrated energy storage



1+1 … An additional energy storage device of the same capacity (3.4 Ah) of type UPS-BAT/VRLA/24DC/3.4AH (2320306) or QUINT-BAT/24DC/3.4AH (2866349) is required in this case.
The data is based on an ambient temperature of +20°C.

QUINT UPS for AC applications

The QUINT UPS for AC applications delivers a pure sine curve at the output. The sine generated in battery operation is synchronous with the mains previously used for supply. The QUINT AC UPS for 120 V AC/230 V AC with 400 W/500 VA power can be combined with all UPS-CAP, LI-ION, and UPS-BAT energy storage devices.

Optimum use of the buffer time and preventive monitoring of the energy storage device:
- Detects the current state of charge of the energy storage device and calculates the remaining runtime
- Calculates the current life expectancy of the energy storage device

Worldwide use:
- Input voltages from 96 to 264 V AC
- Storage of the level and frequency of the input voltage, in the event of mains failure, the output is automatically supplied with 120 V AC/60 Hz or 230 V AC/50 Hz
- Manual voltage pre-selection possible

Maximum energy efficiency:
- Offline operation: 98% efficiency for charged energy storage device
- Power factor cos phi 0.8

Extensive signaling and parameterization:
- Switching outputs
- USB interface
- Data port
- Parameterization with memory module

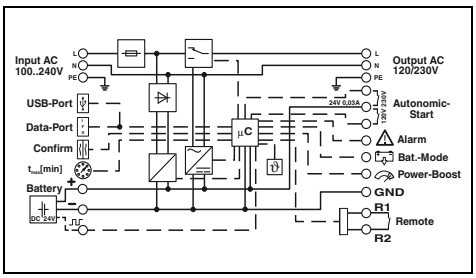
Simplified startup:
- The UPS can be switched on without a power supply network (cold restart)

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 328.

Uninterruptible power supply, 1 AC / 1 AC, 500 VA

Ex:



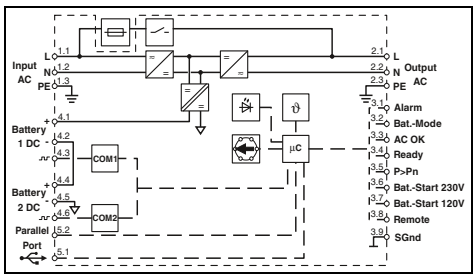
Technical data

General input data		
Input voltage range	184 V AC ... 264 V AC	
Frequency range	45 Hz ... 65 Hz	
Activation threshold	Can be configured using UPS-CONF software	
Input data	120 V AC	230 V AC
Nominal input voltage	120 V AC -20% / +15%	230 V AC -20% / +15%
Input voltage range AC	102 V AC ... 138 V AC	196 V AC ... 264 V AC
Nominal frequency	50 Hz ... 60 Hz	50 Hz ... 60 Hz
Max. current consumption	6.8 A	3.7 A
General output data		
Nominal power / Apparent power	400 W / 500 VA	
Derating	> 50°C ... 70°C (2.5%/K)	
Switch-over time	< 10 ms	
Efficiency (typ.)	> 98%	> 98% (Mains operation)
Output data (mains operation)	120 V AC	230 V AC
Nominal output voltage	120 V AC	230 V AC
- Nominal output current (sustained period)	4.3 A (-25°C ... 70°C)	2.2 A (-25°C ... 70°C)
- Power Boost (sustained period)	5.2 A (-25°C ... 70°C)	2.7 A (-25°C ... 70°C)
Output data (battery operation)	120 V AC	230 V AC
Nominal output voltage	120 V AC	230 V AC
- Nominal output current I_N (sustained period)	4.3 A (-25°C ... 50°C)	2.2 A (-25°C ... 50°C)
- Power Boost I_{Boost} (5 s)	5.2 A (-25°C ... 50°C)	2.7 A (-25°C ... 50°C)
Energy storage		
Nominal voltage U_N	24 V DC	
End-of-charge voltage	25 V DC ... 30 V DC (temperature compensated)	
Nominal capacity range	3 Ah ... 200 Ah	
Max. charging current	2 A	
Signaling		
Signaling	LED, active switching outputs, interface/software	
Interfaces	IFS (Interface system data port), MINI-USB type B	
General data		
Classification according to IEC 62040-3	VFD-SS-311	
Weight / Dimensions W x H x D	2.2 kg / 125 x 130 x 125 mm	
Connection method	Screw connection	
Input/output connection data rigid / flexible / AWG	1.5 - 6 mm^2 / 1.5 - 4 mm^2 / 18 - 10	
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm^2 / 0.2 - 2.5 mm^2 / 24 - 10	
Degree of protection / Protection class	IP20 / I	
Ambient temperature (operation)	-25°C ... 70°C (> 50°C Derating: 2.5%/K)	
Standards/regulations		
UL approvals	UL/C-UL Recognized UL 1778	

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**QUINT-UPS/ 1AC/ 1AC/500VA**	2320270	1

**Uninterruptible power supply,
1 AC / 1 AC, 1 KVA**



Technical data

90 V AC ... 264 V AC	
45 Hz ... 65 Hz	
Can be configured using UPS-CONF software	
120 V AC	230 V AC
120 V AC -10% / +20%	230 V AC -20% / +15%
96 V AC ... 144 V AC	184 V AC ... 264 V AC
60 Hz ±5%	50 Hz ±5%
10.5 A	5.5 A
900 W / 1 kVA	
> 50°C ... 60°C (2.5%/K)	
0 ms	
> 92% (120 V AC)	> 94% (230 V AC)
120 V AC	230 V AC
120 V AC	230 V AC
8.3 A (-25°C ... 70°C)	4.3 A (-25°C ... 70°C)
13 A (-25°C ... 70°C)	7 A (-25°C ... 70°C)
120 V AC	230 V AC
120 V AC	230 V AC
8.3 A (-25°C ... 70°C)	4.3 A (-25°C ... 70°C)
13 A (-25°C ... 70°C)	7 A (-25°C ... 70°C)
2x 24 V DC	
58 V (temperature compensated)	
3.4 Ah ... 200 Ah	
5 A	
LED, active switching output	
MINI-USB type B, lockable	
VFI-SS-111	
5 kg / 290 x 130 x 125 mm	
Screw connection	
0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10	
0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12	
IP20 / I	
-25°C ... 60°C (> 50°C Derating: 2.5%/K)	
UL/C-UL Recognized UL 1778	

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-UPS/1AC/1AC/1KVA	2320283	1

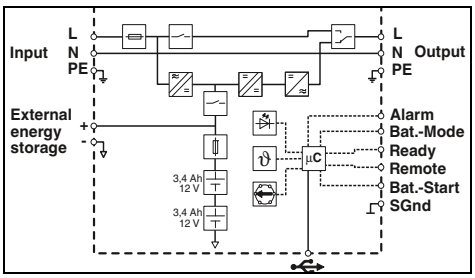
TRIO UPS for AC applications

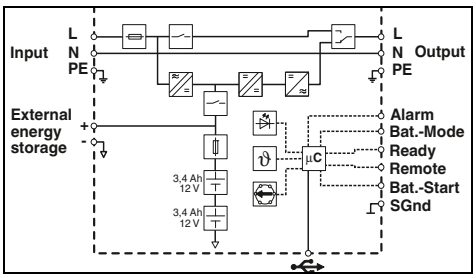
The TRIO UPS for AC applications delivers a pure sine curve at the output. The sine generated in battery operation is synchronous with the mains previously used for supply. Supply AC loads reliably with the new TRIO-UPS-2G uninterruptible power supplies for the DIN rail.

– Space-saving: UPS module and energy storage are combined in one housing
– Long buffer times with integrated VRLA energy storage, can be extended with additional energy storage
– USB interface for connection to higher-level controllers, such as industrial PCs
– Startup from energy storage possible, even without mains input

Uninterruptible power supply, 1 AC / 1 AC, 750 VA

Uninterruptible power supply, 1 AC / 1 AC, 750 VA





	Technical data	Technical data
Input data		
Input voltage range	184 V AC ... 264 V AC	96 V AC ... 138 V AC
Frequency range (f_N)	45 Hz ... 55 Hz	55 Hz ... 65 Hz
Max. current consumption	3 A	6 A
General output data		
Input fuse	10 A 400 V gRL	10 A 400 V gRL
General output data		
Apparent power / Nominal power	750 VA / 600 W	750 VA / 600 W
Switch-over time	< 10 ms	< 10 ms
Efficiency	> 95% (with charged energy storage device)	> 95% (with charged energy storage device)
Classification according to IEC 62040-3	VFD-SS-311	VFD-SS-311
Output data (mains operation)		
Nominal output voltage	230 V AC	120 V AC
Output current	3 A (750 VA)	6 A (750 VA)
Output data (battery operation)		
Nominal output voltage	230 V AC	120 V AC
Output current	3 A (750 VA)	6 A (750 VA)
Form of output voltage	Pure sine	Pure sine
Energy storage		
Accumulator type	2x Panasonic UP-VW1220P1	2x Panasonic UP-VW1220P1
Buffer period	20 min. (100 W) / 4 min. (300 W) / 1 min. (600 W)	20 min. (100 W) / 4 min. (300 W) / 1 min. (600 W)
Signaling		
LED signaling	AC OK, Alarm, Battery Mode	AC OK, Alarm, Battery Mode
Transistor switching output	Alarm, Battery Mode, Ready	Alarm, Battery Mode, Ready
General data		
Weight / Dimensions W x H x D	5.7 kg / 210 x 170 x 136 mm	5.7 kg / 210 x 170 x 136 mm
Connection method	Push-in connection	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection battery	0.2 - 10 mm² / 0.2 - 6 mm² / 24 - 8	0.2 - 10 mm² / 0.2 - 6 mm² / 24 - 8
Signal connection data rigid / flexible / AWG	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
Degree of protection / Protection class	IP20 / I	IP20 / I
MTBF (IEC 61709, SN 29500)	> 206000 h (40°C)	> 206000 h (40°C)
Ambient temperature (operation)	0°C ... 40°C	0°C ... 40°C
Ambient temperature (storage/transport)	-15°C ... 40°C (with charged energy storage device)	-15°C ... 40°C (with charged energy storage device)
Standards/regulations		
UL approvals	-	UL/C-UL Recognized UL 1778

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**TRIO-UPS-2G/1AC/1AC/230V/750VA**	2905909	1	**TRIO-UPS-2G/1AC/1AC/120V/750VA**	2905908	1

USB data cable

MINI-SCREW-USB-DATACABLE
– For communication between the uninterruptible power supply and the UPS-CONF configuration software
– Can be locked in accordance with UL requirements

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Data cable for communication between higher-level controllers and uninterruptible power supplies Cable length: 3 m	**MINI-SCREW-USB-DATACABLE**	2908217	1

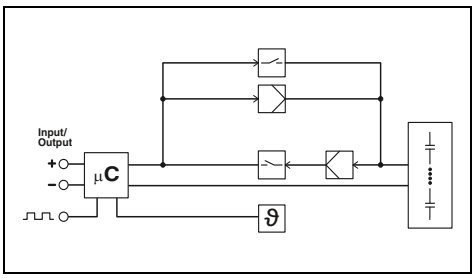
Energy storage for QUINT UPS

Maintenance-free CAP UPS

– Double-layer capacitors
– Life expectancy: > 20 years (20°C), > 5 years (50°C)
– Communication with QUINT UPS
– Integrated temperature sensor
– Works reliably, even in extreme ambient temperatures from -40°C to +60°C

Maintenance-free energy storage, 24 V DC, 10 A, 10 kJ

Ex:



Maintenance-free energy storage, 24 V DC, 20 A, 20 kJ

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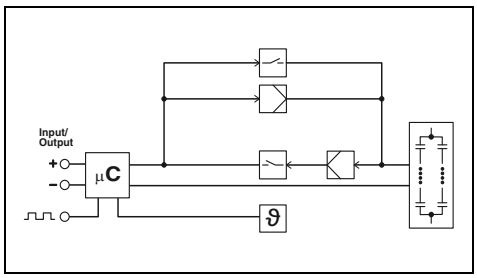

	Technical data	Technical data
Input data		
Nominal capacity	0.1 Ah	0.2 Ah
Output data		
Output voltage range	22 V DC ... 27 V DC	22 V DC ... 27 V DC
Output current	10 A	20 A
Output fuse	1x 25 A (internal)	2x 25 A (internal)
Can be connected in parallel/series	No / No	No / No
Buffer period	6 min. (1 A) / 33 s (10 A)	12 min. (1 A) / 33 s (20 A)
General data		
Storage medium	Double-layer capacitor	Double-layer capacitor
Weight / Dimensions W x H x D	1.7 kg / 126 x 130 x 126 mm	2.9 kg / 150 x 130 x 176 mm
Degree of protection / Protection class	IP20 / III	IP20 / III
Ambient temperature (operation)	-40°C ... 60°C	-40°C ... 60°C
Ambient temperature (storage/transport)	-40°C ... 60°C	-40°C ... 60°C
Service life	20 years (20°C)	20 years (20°C)
Standards/regulations		
UL approvals	UL/C-UL Recognized UL 60950-1	UL/C-UL Recognized UL 60950-1

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Energy storage						
	UPS-CAP/24DC/10A/10KJ	2320377	1	**UPS-CAP/24DC/20A/20KJ**	2320380	1

Energy storage for QUINT UPS

UPS-BAT/LI-ION for long service life with long buffer times

– Lithium iron phosphate technology
– Works reliably, even in extreme ambient temperatures from -20°C to +58°C
– Communication with QUINT UPS
– Integrated temperature sensor for optimum charging
– Battery can be changed without tools

LI-ION energy storage, 120 Wh

LI-ION energy storage, 924 Wh

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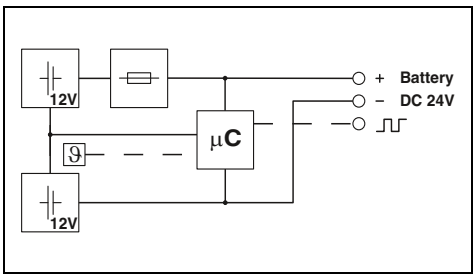

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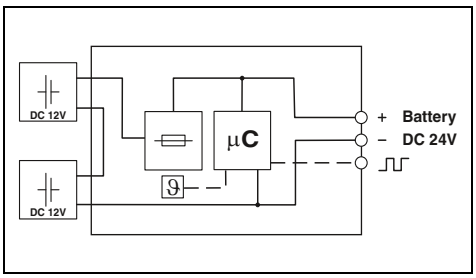


	Technical data	Technical data
Input data/output data		
Nominal input voltage	24 V DC	24 V
Nominal capacity	120 Wh	924 Wh
Output current	30 A	45 A
Output fuse	1x 30 A ATOF 32V (breaking capacity 1000 A)	2x 25 A ATOF 32V (breaking capacity 1000 A)
Can be connected in parallel/series	Yes / No	Yes / No
Buffer period	14 min. (20 A)	105 min. (20 A (20°C)) / 50 min. (40 A (20°C))
General data		
Storage medium	LI-ION, 120 Wh	LI-ION, 924 Wh
Weight / Dimensions W x H x D	2.9 kg / 135 x 202 x 110 mm	12.9 kg / 264 x 224 x 197 mm
Degree of protection / Protection class	IP20 / III	IP20 / III
Ambient temperature (operation)	-20°C ... 58°C	-25°C ... 58°C
Service life	-	15 years (20°C)
Standards/regulations		
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	-

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Energy storage						
	UPS-BAT/LI-ION/24DC/120WH	2320351	1	UPS-BAT/LI-ION/24DC/924WH	2908232	1

Energy storage for QUINT UPS

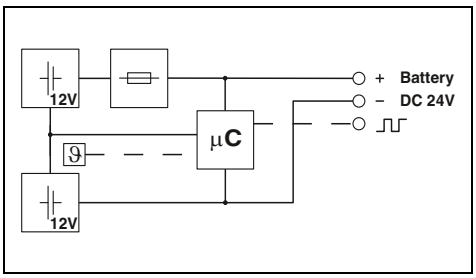
UPS BAT/VRLA for maximum buffer times

- Lead AGM (Absorbent Glass Mat) technology
- Ambient temperatures from 0°C to +40°C
- Long buffer times for high currents
- Communication with QUINT UPS
- Integrated temperature sensor for optimum charging
- Battery can be changed without tools

VRLA energy storage, 1.3 Ah

VRLA energy storage, 3.4 Ah

Ex:



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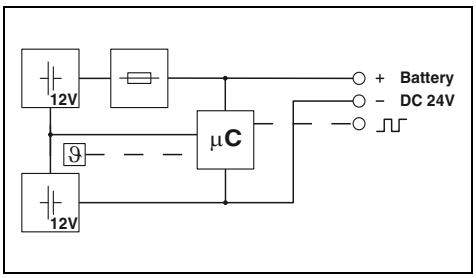

	Technical data	Technical data
Input data/output data		
Nominal input voltage	24 V DC	24 V DC
Nominal capacity	1.3 Ah	3.4 Ah
Output current	15 A	25 A
Output fuse	1x 15 A	1x 25 A
Can be connected in parallel/series	Yes / No	Yes / No
Buffer period	20 min. (2 A) / 5 min. (5 A)	4.5 min. (20 A) / 3 min. (25 A)
General data		
Storage medium	Lead rechargeable battery module	Lead rechargeable battery module
Weight / Dimensions W x H x D	1.7 kg / 54 x 157 x 113 mm	3.3 kg / 85 x 191 x 110 mm
Degree of protection / Protection class	IP20 / III	IP20 / III
Ambient temperature (operation)	0°C ... 40°C	0°C ... 40°C
Service life	6 years ... 9 years (20°C)	6 years ... 9 years (20°C)
Standards/regulations		
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Energy storage						
	UPS-BAT/VRLA/24DC/1.3AH	2320296	1	**UPS-BAT/VRLA/24DC/3.4AH**	2320306	1
	Accessories			**Accessories**		
Fuse	**FUSE 15A/32V FK1**	2908360	2	**FUSE 25A/32V ATOF**	2908366	2
Mounting set						
Mounting set						

VRLA energy storage, 7.2 Ah

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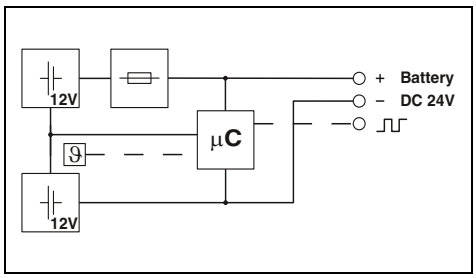

Technical data

24 V DC	
7.2 Ah	
50 A	
2x 25 A	
Yes / No	
10 min. (20 A) / 3 min. (40 A)	
Lead rechargeable battery module	
5.9 kg / 135 x 202 x 110 mm	
IP20 / III	
0°C ... 40°C	
6 years ... 9 years (20°C)	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
UPS-BAT/VRLA/24DC/7.2AH	2320319	1

Accessories

FUSE 25A/32V ATOF	2908366	2

VRLA energy storage, 12 Ah

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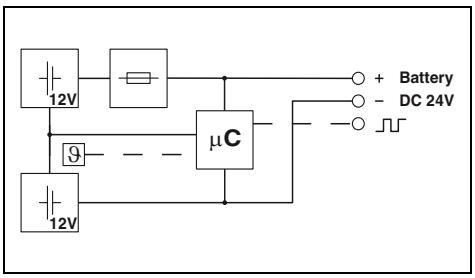

Technical data

24 V DC	
12 Ah	
50 A	
2x 25 A	
Yes / No	
22.5 min. (20 A) / 9 min. (40 A)	
Lead rechargeable battery module	
8.9 kg / 202 x 202 x 110 mm	
IP20 / III	
0°C ... 40°C	
6 years ... 9 years (20°C)	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
UPS-BAT/VRLA/24DC/12AH	2320322	1

Accessories

FUSE 25A/32V ATOF	2908366	2

VRLA energy storage, 38 Ah

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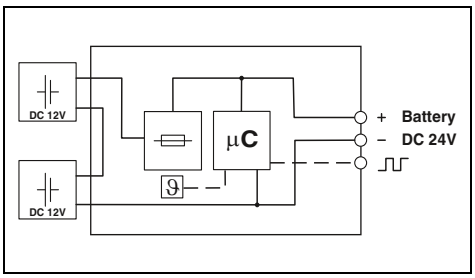


Technical data

24 V DC	
38 Ah	
45 A	
2x 25 A ATOF 32V	
Yes / No	
72 min. (20 A) / 35 min. (40 A)	
Lead rechargeable battery module	
26 kg / 330 x 221 x 197 mm	
IP20 / III	
0°C ... 40°C	
-	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
UPS-BAT/VRLA/24DC/38AH	2320335	1

Accessories

FUSE 25A/32V ATOF	2908366	2
BATTERY MOUNTING KIT	2320788	1
BATTERY MOUNTING CASE	2320458	1

Energy storage for QUINT UPS

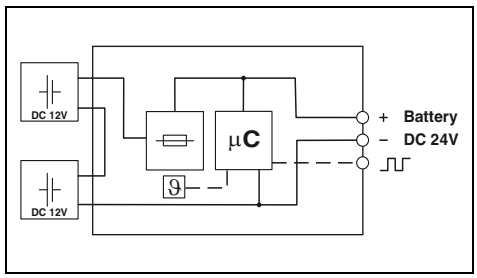
UPS BAT/VRLA-WTR for temperatures from -25°C to +60°C

– Pure lead AGM technology
– Communication with QUINT UPS
– Integrated temperature sensor for optimum charging

IQ Technology
Designed by PHOENIX CONTACT

Energy storage with wide temperature range 24 V DC, 13 Ah

Ex:



IQ Technology
Designed by PHOENIX CONTACT

Energy storage with wide temperature range 24 V DC, 26 Ah

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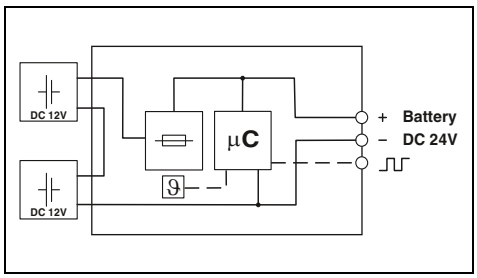


	Technical data	Technical data
Input data/output data		
Nominal input voltage	24 V DC	24 V DC
Nominal capacity	13 Ah	26 Ah
Output current	45 A	45 A
Output fuse	2x 25 A ATOF 32V	2x 25 A ATOF 32V
Can be connected in parallel/series	Yes / No	Yes / No
Buffer period	50 min. (10 A) / 10 min. (40 A)	120 min. (10 A) / 30 min. (40 A)
General data		
Storage medium	Pure lead AGM	Pure lead AGM
Weight / Dimensions W x H x D	10.8 kg / 172 x 177 x 178 mm	21.6 kg / 358 x 174 x 169 mm
Degree of protection / Protection class	IP20 / III	IP20 / III
Ambient temperature (operation)	-25°C ... 60°C	-25°C ... 60°C
Ambient temperature (storage/transport)	-40°C ... 60°C	-40°C ... 60°C
Standards/regulations		
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1
GL approvals	DNV GL (EMC A), ABS	DNV GL (EMC A), ABS

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Energy storage						
	UPS-BAT/VRLA-WTR/24DC/13AH	2320416	1	**UPS-BAT/VRLA-WTR/24DC/26AH**	2320429	1
	Accessories			**Accessories**		
Fuse	**FUSE 25A/32V ATOF**	2908366	2	**FUSE 25A/32V ATOF**	2908366	2
Mounting set	**BATTERY MOUNTING KIT**	2320788	1	**BATTERY MOUNTING KIT**	2320788	1
Mounting set	**BATTERY MOUNTING CASE**	2320458	1	**BATTERY MOUNTING CASE**	2320458	1

Mounting accessories

Battery mounting kit

– For attaching individual battery blocks to a mounting plate
– Consists of four powder-coated metal brackets and a fabric lashing strap

Battery mounting case

– Battery frame for universal wall or surface mounting of battery blocks and electronics

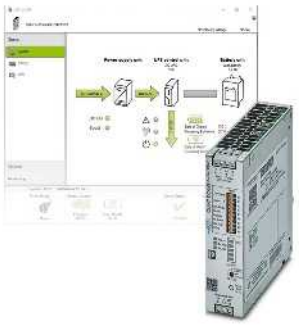
Description	Ordering data			Ordering data		
	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Mounting set						
	BATTERY MOUNTING KIT	2320788	1	BATTERY MOUNTING CASE	2320458	1

Configuration software for QUINT UPS, TRIO UPS, and QUINT CAP

The UPS-CONF configuration software can be downloaded free of charge from our homepage. The IFS-USB-DATACABLE is required in order to use the software.

Supported operating systems:
– Windows 7 (32 and 64-bit)
– Windows 8 (32 and 64-bit)
– Windows 8.1 (32 and 64-bit)
– Windows 10 (32 and 64-bit)

Minimum requirements:
– Display: 800 x 600, 256 colors
– Processor: 400 MHz, Pentium processor or similar
– RAM: 96 MB



Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Configuration software for QUINT UPS, TRIO UPS, and QUINT CAP	**UPS-CONF**	2320403	1

Accessories for QUINT UPS and TRIO DC UPS

IFS-USB-DATACABLE
– For communication between the uninterruptible power supply and the UPS-CONF configuration software

IFS-CONFSTICK
– For storing the values you have configured and quickly transferring them to other uninterruptible power supplies

Memory module

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Programming adapter for configuring modules with S-PORT interface Cable length: 3 m	**IFS-USB-DATACABLE**	2320500	1
Multi-functional memory module for the Interface system			
- Flat design	**IFS-CONFSTICK**	2986122	1
- Tall design	**IFS-CONFSTICK-L**	2901103	1

Accessories for QUINT UPS and TRIO DC UPS

IFS-RS232-DATACABLE
– For Modbus communication with the RS-232 interface
– Connection to the Phoenix Contact COM server for Ethernet communication
– Communicate directly with higher-level controllers, such as Phoenix Contact ILC or RFC, or use as a gateway

IFS-MINI-DIN-DATACABLE
– For direct communication with the ILC from the Phoenix Contact Inline system

IFS-OPEN-END-DATACABLE
– Open cable for flexible communication

QUINT UPS function blocks
– For further processing of information communicated via data cables
– For PC Worx software
– Free download at phoenixcontact.net/products

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Data cable for communication between higher-level controllers and QUINT UPS uninterruptible power supplies, cable length: 2 m			
Modbus communication	**IFS-RS232-DATACABLE**	2320490	1
Direct communication	**IFS-MINI-DIN-DATACABLE**	2320487	1
Flexible communication	**IFS-OPEN-END-DATACABLE**	2320450	1

Accessories for QUINT UPS and TRIO DC UPS

IFS-BT-PROG-ADAPTER
– For wireless communication between the uninterruptible power supply and the UPS-CONF configuration software

Bluetooth adapter

Description	Ordering data		
	Type	Order No.	Pcs./Pkt.
Bluetooth programming adapter, with USB and S-PORT interface	**IFS-BT-PROG-ADAPTER**	2905872	1

Selection of UPS modules with integrated energy storage or integrated power supply

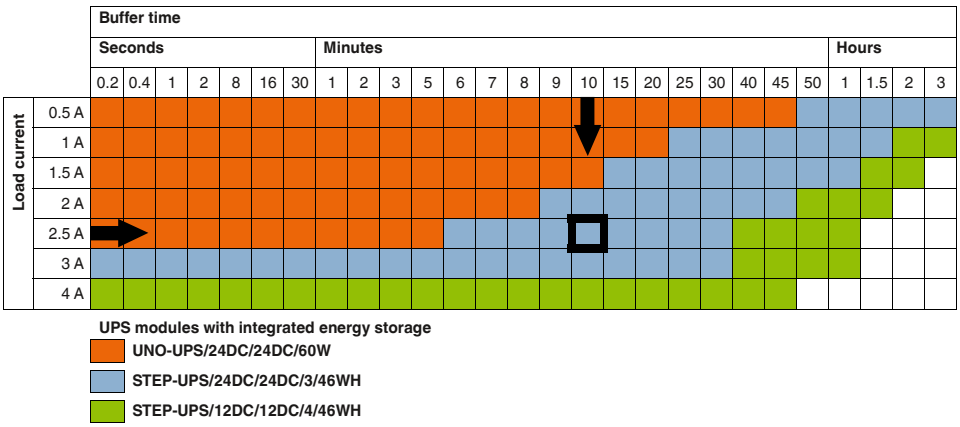
To save space in the control cabinet or to retrofit existing systems easily, UPS versions with integrated energy storage (QUINT, UNO, and STEP) or integrated power supply (MINI and TRIO) are recommended.

Buffer times for UNO UPS and STEP UPS

Select your UPS solution here.

Example: 2.5 A needs to be buffered for 10 minutes:

Solution:
STEP-UPS/24DC/24DC/3



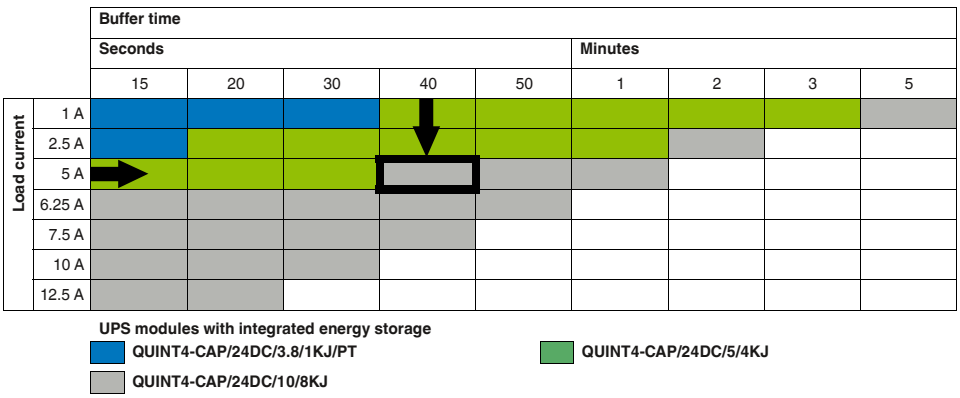
The data is based on an ambient temperature of +20°C.

Buffer times for QUINT CAP

Select your UPS solution here.

Example: 5 A needs to be buffered for 40 seconds:

Solution:
QUINT4-CAP/24DC/10/8KJ



The data is based on an ambient temperature of +25°C.

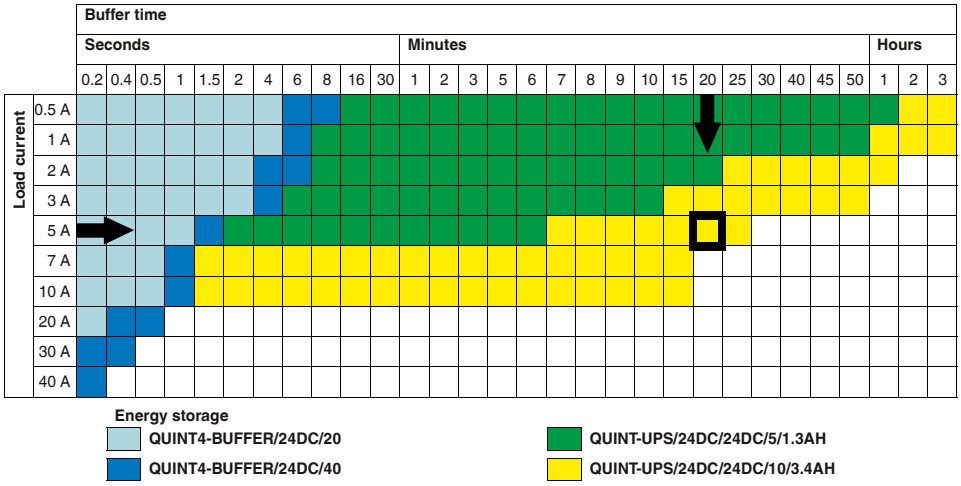
Buffer times for QUINT UPS and QUINT BUFFER

Particularly space-saving: UPS module and energy storage combined in one housing. It's just a case of connecting a power supply upstream.

Select your QUINT UPS or QUINT BUFFER here.

Example: 5 A needs to be buffered for 20 minutes.

Solution:
QUINT-UPS/24DC/24DC/10/3.4AH



The data is based on an ambient temperature of +20°C.

Buffer times for MINI UPS and TRIO UPS

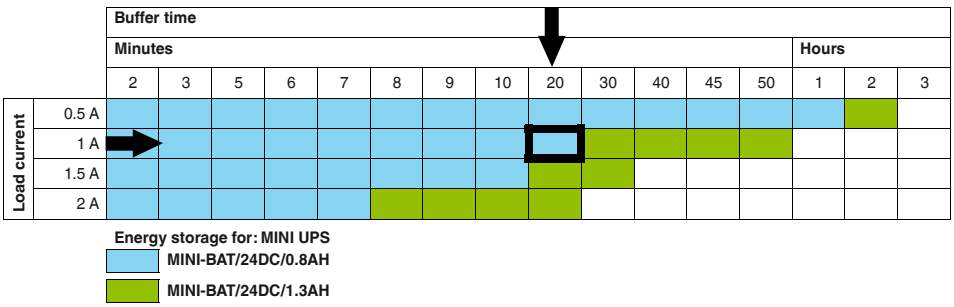
Particularly space-saving: UPS module and power supply combined in one housing. It's just a case of connecting an energy storage device upstream.

Buffer times for MINI DC UPS

Select your MINI-BAT for your MINI UPS here.

Example: 1 A needs to be buffered for 20 minutes.

Solution:
MINI-DC-UPS/24DC/2 and MINI-BAT/24DC/0.8AH

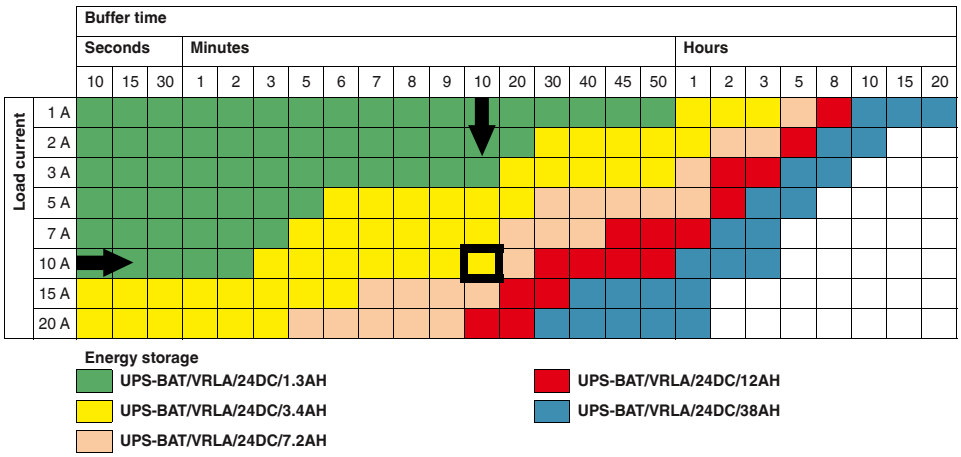


Buffer times for TRIO DC UPS

Select your energy storage device for your TRIO DC UPS here.

Example: 10 A needs to be buffered for 10 minutes.

Solution:
TRIO-UPS-2G/1AC/24DC/10 and UPS-BAT/VRLA/24DC/3.4AH



The data is based on an ambient temperature of +20°C.

UPS module with integrated energy storage

QUINT-UPS is very easy to install in existing systems. It's just a case of connecting a 24 V DC power supply unit upstream and the reliable UPS solution is complete.

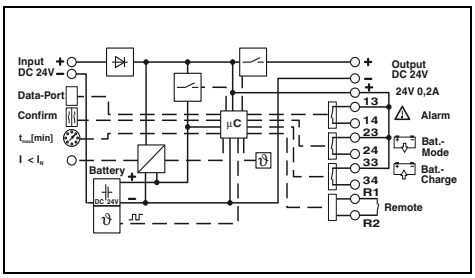
– Advantages of using IQ Technology
– Minimal wiring effort
– Maintenance-free energy storage device with lead AGM technology

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 343.

Uninterruptible power supply with integrated energy storage, 24 V DC / 24 V DC, 5 A, 1.3 Ah

Ex:



Technical data	
Input data	
Input voltage range	18 V DC ... 30 V DC
Max. current consumption	9.3 A (24 V DC)
Output data	
Nominal output voltage	24 V DC
Output voltage range	19.2 V DC ... 27.6 V DC (U_{OUT} = U_{BAT} - 0.5 V DC)
Output current	5 A
Can be connected in parallel/series	Yes / No
Buffer period	50 min. (1 A) / 5 min. (5 A)
Max. power dissipation (normal mode / buffer mode)	2.5 W / 3.3 W
Efficiency	> 97.1% (Mains operation, with charged energy storage) / 97.31%
Signaling	
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
General data	
Storage medium	Lead rechargeable battery module 1.3 Ah
Weight / Dimensions W x H x D	2.2 kg / 88 x 138 x 125 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontal 5 mm, vertical 50 mm
Connection method	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 20 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 20 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection / Protection class	IP20 / III
MTBF (IEC 61709, SN 29500)	> 806000 h (40°C)
Ambient temperature (operation)	0°C ... 40°C
Ambient temperature (storage/transport)	-15°C ... 40°C
Service life	6 years ... 9 years (20°C)
Latest startup	3 Months (0°C ... 20°C) 1 Months (30°C ... 40°C)
Standards/regulations	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
UL approvals	UL/C-UL Recognized UL 60950-1, UL Listed UL 508

Ordering data

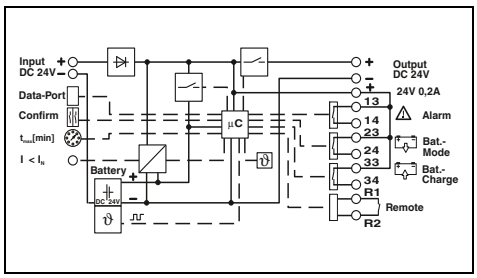
Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible			
	QUINT-UPS/ 24DC/ 24DC/ 5/1.3AH	2320254	1

Accessories

Fuse			
	FUSE 15A/32V FKS ATO	2908361	2

Uninterruptible power supply with integrated energy storage, 24 V DC / 24 V DC, 10 A, 3.4 Ah

Ex:



Technical data	
Input data	
Input voltage range	18 V DC ... 30 V DC
Max. current consumption	18.6 A (24 V DC)
Output data	
Nominal output voltage	24 V DC
Output voltage range	19.2 V DC ... 27.6 V DC (U_{OUT} = U_{BAT} - 0.5 V DC)
Output current	10 A
Can be connected in parallel/series	Yes / No
Buffer period	180 min. (1 A) / 10 min. (10 A)
Max. power dissipation (normal mode / buffer mode)	3.1 W / 6.3 W
Efficiency	> 97.6% (Mains operation, with charged energy storage) / 96.41%
Signaling	
Signaling	LED, relay contact, interface/software
Interfaces	IFS (Interface system data port)
General data	
Storage medium	Lead rechargeable battery module, 3.4 Ah
Weight / Dimensions W x H x D	3.8 kg / 120 x 169 x 125 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontal 5 mm, vertical 50 mm
Connection method	Plug-in screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 16 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 16 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection / Protection class	IP20 / III
MTBF (IEC 61709, SN 29500)	> 806000 h (40°C)
Ambient temperature (operation)	0°C ... 40°C
Ambient temperature (storage/transport)	-15°C ... 40°C
Service life	6 years ... 9 years (20°C)
Latest startup	6 Months (0°C ... 20°C)
Standards/regulations	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)
UL approvals	UL/C-UL Recognized UL 60950-1, UL Listed UL 508

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT-UPS/ 24DC/ 24DC/10/3.4AH	2320267	1

Accessories

FUSE 15A/32V FKS ATO	2908361	2

Maintenance-free buffer module

The QUINT BUFFER is ideal for failures lasting just seconds.

It combines an electronic switch-over unit and a capacitor-based energy storage device in the same housing.

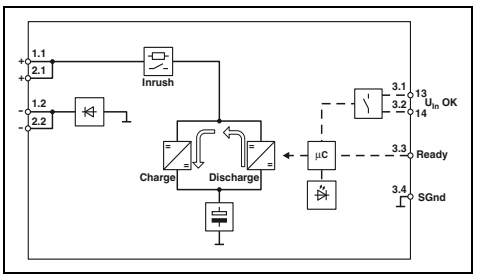
– High system availability due to long capacitor service life
– Maintenance-free due to electrolytic capacitors
– Thanks to soft start, can be used with power supplies in the low power range
– Space savings, thanks to compact design

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 343.

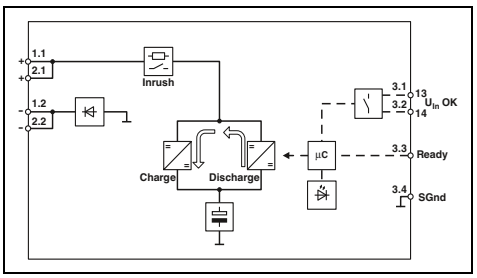
Maintenance-free capacity module
24 V DC / 20 A

Ex:



Maintenance-free capacity module
24 V DC / 40 A

Ex:



	Technical data	Technical data
Input data		
Input voltage range	22.5 V DC ... 30 V DC	22.5 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	0.2 A / 0.6 A / 26 A	0.2 A / 0.8 A / 46 A
Connect threshold (fixed, variable)	< 22 V DC, -	< 22 V DC, -
Output data		
Nominal output voltage	24 V DC (depending on the input voltage)	24 V DC (depending on the input voltage)
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	20 A / 25 A / - / -	40 A / 45 A / - / -
Can be connected in parallel/series	No / No	No / No
Buffer period	0.2 s (20 A) / 2 s (2 A)	0.2 s (40 A) / 2 s (4 A)
Maximum power dissipation for nominal condition	< 6 W	< 9 W
Signaling		
LED signaling	U_{IN} OK, Ready	U_{IN} OK, Ready
Transistor switching output	Ready	Ready
Floating signal contact	U_{IN}OK	U_{IN}OK
General data		
Storage medium	Electrolytic capacitor	Electrolytic capacitor
Weight / Dimensions W x H x D	1 kg / 56 x 130 x 125 mm	1.2 kg / 72 x 130 x 125 mm
Mounting position	horizontal DIN rail NS 35, EN 60715	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontally 0 mm, vertically 50 mm	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Screw connection	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10	0.5 - 16 mm² / 0.5 - 16 mm² / 10 - 6
Output connection data rigid / flexible / AWG	0.2 - 6 mm² / 0.2 - 4 mm² / 30 - 10	0.5 - 16 mm² / 0.5 - 16 mm² / 10 - 6
Signal connection data rigid / flexible / AWG	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
Degree of protection / Protection class	IP20 / Special application (SELV input voltage, hazardous voltages are generated in the device).	IP20 / Special application (SELV input voltage, hazardous voltages are generated in the device).
MTBF (IEC 61709, SN 29500)	2497464 h (40°C)	2813895 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 40°C Derating: 1%/K / > 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 40°C Derating: 0.56%/K / > 60°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage: input, output/housing	500 V	500 V
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)	IEC 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	-	-
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1	UL Listed UL 508, UL/C-UL Recognized UL 60950-1

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Buffer module, maintenance-free	**QUINT4-BUFFER/24DC/20**	2907913	1	**QUINT4-BUFFER/24DC/40**	2908283	1

Maintenance-free buffer module

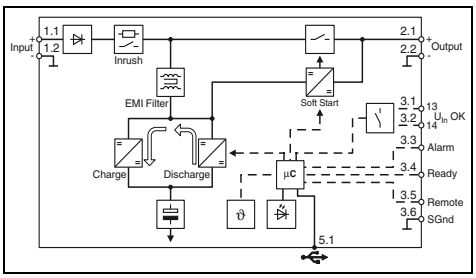
QUINT CAP is ideal for cyclical failures lasting up to 30 seconds. It combines an electronic switch-over unit and a capacitor-based energy storage device in the same housing.

– Convenient PC shutdown
– Maintenance-free with a long service life
– Space savings, thanks to compact design
– Long buffer time, thanks to high memory capacity

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 342.

Maintenance-free Ultra-CAP capacity module 24 V DC, 5 A



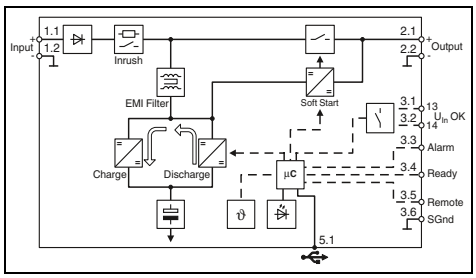
Technical data

Input data	
Input voltage range	22.5 V DC ... 30 V DC
Current consumption (idling/charging process/max.)	0.1 A / 0.8 A / 7 A
Connect threshold (fixed, variable)	< 22 V DC, -
Output data	
Nominal output voltage	24 V DC
Output current I_N / $I_{Stat. Boost}$ / $I_{Dyn. Boost}$ / I_{SFB}	5 A / 6.25 A / - / -
Can be connected in parallel/series	No / No
Buffer period	3 min. (1 A) / 1 min. (2.5 A) / 30 s (5 A)
Maximum power dissipation for nominal condition	< 3 W
Signaling	
LED signaling	U_{IN} OK, Alarm, Ready
Transistor switching output	Alarm, Ready
Floating signal contact	U_{IN}OK
General data	
Storage medium	Double-layer capacitor
Weight / Dimensions W x H x D	1.3 kg / 94 x 130 x 125 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
Degree of protection / Protection class	IP20 / Special application (SELV input voltage, hazardous voltages are generated in the device).
MTBF (IEC 61709, SN 29500)	1301923 h (40°C)
Ambient temperature (operation)	-25°C ... 60°C (> 40°C Derating: 1%/K)
Standards/regulations	
Insulation voltage: input, output/housing	500 V
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety	IEC 60950-1/VDE 0805 (SELV)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Buffer module, maintenance-free	**QUINT4-CAP/24DC/5/4KJ**	2320539	1

Maintenance-free Ultra-CAP capacity module 24 V DC, 10 A



Technical data

	22.5 V DC ... 30 V DC
	0.1 A / 1 A / 13.5 A
	< 22 V DC, -
	24 V DC
	10 A / 12.5 A / - / -
	No / No
	5 min. (1 A) / 1 min. (5 A) / 30 s (10 A)
	< 6 W
	U_{IN} OK, Alarm, Ready
	Alarm, Ready
	U_{IN}OK
	Double-layer capacitor
	1.6 kg / 118 x 130 x 125 mm
	horizontal DIN rail NS 35, EN 60715
	alignable: horizontally 0 mm, vertically 50 mm
	Screw connection
	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 30 - 12
	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
	IP20 / -
	1387186 h (40°C)
	-25°C ... 60°C (> 40°C Derating: 1%/K)
	500 V
	Conformance with EMC Directive 2014/30/EU
	IEC 60950-1/VDE 0805 (SELV)
	UL Listed UL 508, UL/C-UL Recognized UL 60950-1

Ordering data

Type	Order No.	Pcs./Pkt.
QUINT4-CAP/24DC/10/8KJ	2320571	1

UPS module with integrated energy storage

STEP UPS

The STEP BAT energy storage device is included when ordering the STEP UPS. It can be re-ordered separately. (See accessories on this page)

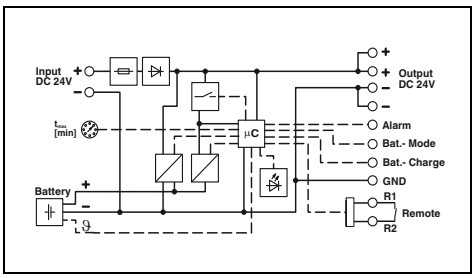
Notes:

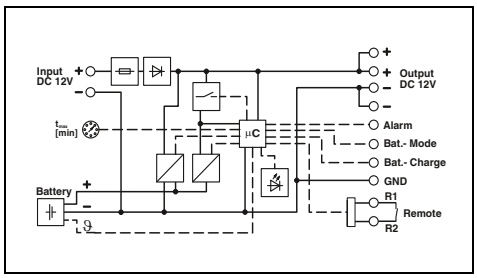
With the STEP-UPS/12DC/12DC/4/46WH, buffer times are double those of the STEP-UPS/24DC/24DC/3/46WH. See page 342.

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 342.

Uninterruptible power supply with integrated battery module, 24 V DC/24 V DC, 4 A, 46WH

Uninterruptible power supply with integrated battery module, 12 V DC/12 V DC, 4 A, 46WH





	Technical data	Technical data
Input data		
Nominal input voltage range	24 V DC	12 V DC
Input voltage range	22.5 V DC ... 29.5 V DC	10 V DC ... 16.5 V DC
Max. current consumption	4.7 A	6 A
Current consumption charging process	0.5 A	0.8 A
Input fuse	7 A (slow-blow, internal)	7 A (slow-blow, internal)
Output data		
Nominal output voltage	24 V DC	12 V DC
Output current standard operation	3 A	4 A
Output current Power Boost	4 A (0°C ... 35°C)	5 A (0°C ... 35°C)
Can be connected in parallel/series	No / No	No / No
Buffer period	90 min. (1 A) / 45 min. (2 A) / 30 min. (3 A)	180 min. (1 A) / 90 min. (2 A) / 60 min. (3 A)
Max. power dissipation (normal mode / buffer mode)	2 W / 3.8 W	1.2 W / 4.4 W
Efficiency	> 98% (Mains operation, with charged energy storage) / > 95% (Battery operation)	> 97.4% (Mains operation, with charged energy storage) / > 92% (Battery operation)
Signaling		
Signaling Power OK	LED	LED
Signaling alarm	LED, active transistor switching output	LED, active transistor switching output
Signaling battery charge	LED, active transistor switching output	LED, active transistor switching output
Signaling battery mode	LED, active transistor switching output	LED, active transistor switching output
General data		
Storage medium	Lithium-ion	Lithium-ion
Weight / Dimensions W x H x D	0.51 kg / 108 x 90 x 71 mm	0.52 kg / 108 x 90 x 71 mm
Mounting position	horizontal DIN rail NS 35, EN 60715	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontally 0 mm, vertically 50 mm	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Screw connection	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection / Protection class	IP20 / III	IP20 / III
MTBF (IEC 61709, SN 29500)	> 1401000 h (40°C)	> 1997000 h (40°C)
Ambient temperature (operation)	0°C ... 40°C	0°C ... 40°C
Standards/regulations		
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1	UL Listed UL 508, UL/C-UL Recognized UL 60950-1

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible						
	STEP-UPS/24DC/24DC/3/46WH	1081430	1	**STEP-UPS/12DC/12DC/4/46WH**	1082548	1
	Accessories			**Accessories**		
Energy storage	**STEP-BAT/LI-ION/18.5DC/46WH**	1081355	1	**STEP-BAT/LIPO/18.5DC/1.4AH**	2320364	1

UPS module with integrated energy storage

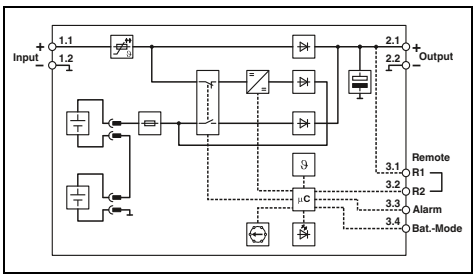
UNO UPS

The energy storage is included when ordering the UNO UPS.

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 342.

Uninterruptible power supply with integrated rechargeable battery, 24 V DC/24 V DC, 60 W



Technical data

Input data	
Nominal input voltage range	24 V DC
Input voltage range	22.5 V DC ... 29.5 V DC
Max. current consumption	2.8 A
Current consumption charging process	0.3 A
Input fuse	5 A (electronic)
Output data	
Nominal output voltage	24 V DC (SELV)
Output current standard operation	2.5 A
Output current Power Boost	-
Can be connected in parallel/series	yes, with redundancy module / No
Buffer period	45 min. (0.5 A) / 20 min. (1 A) / 8 min. (2 A)
Max. power dissipation (normal mode / buffer mode)	3 W / -
Efficiency	> 95% (Mains operation, with charged energy storage) / > 92% (Battery operation)
Signaling	
Signaling Power OK	LED
Signaling alarm	LED, active transistor switching output
Signaling battery charge	-
Signaling battery mode	LED, active transistor switching output
General data	
Storage medium	Lead rechargeable battery module
Weight / Dimensions W x H x D	1 kg / 110 x 90 x 84 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
Connection	alignable: 0 mm horizontally, 30 mm vertically
Connection method	Screw connection
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 14
Degree of protection / Protection class	IP20 / III
MTBF (IEC 61709, SN 29500)	> 1900000 h (40°C)
Ambient temperature (operation)	-15°C ... 50°C
Standards/regulations	
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	EN 60950-1/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 60950-1

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible	**UNO-UPS/24DC/24DC/60W**	2905907	1

Accessories

Fuse	**FUSE 5A/32V FK-1**	2908367	2

UPS module with integrated power supply

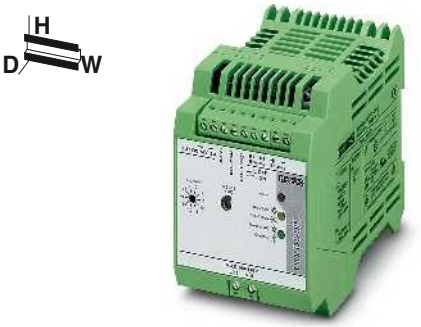
MINI UPS 24 V DC and 12 V DC

The MINI UPS combines the power supply and the UPS module in the same housing in a particularly space-saving way.

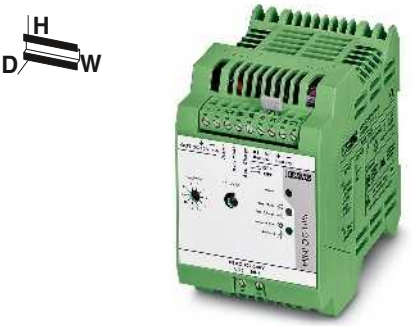
Notes:

With the MINI-DC-UPS/12DC/4, buffer times are double those of the MINI-DC-UPS/24DC/2.

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 343.

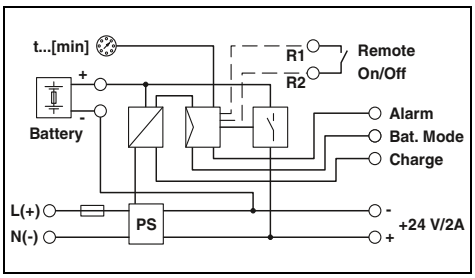


UPS with integrated power supply, 100 - 240 V AC / 24 V DC, 2 A



UPS with integrated power supply, 100 - 240 V AC / 12 V DC, 4 A

Ex:



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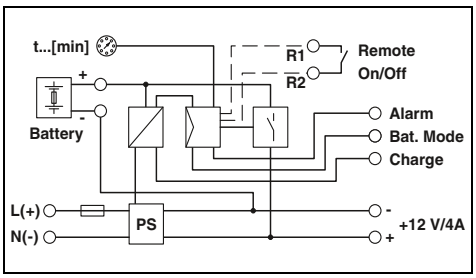


	Technical data	Technical data
Input data		
Nominal input voltage range	100 V AC ... 240 V AC	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC / 100 V DC ... 350 V DC	85 V AC ... 264 V AC / 100 V DC ... 350 V DC
Max. current consumption in normal mode	0.6 A / 0.85 A (230 V AC), 1.1 A / 1.5 A (120 V AC)	0.5 A / 0.65 A (230 V AC), 1.15 A / 1.35 A (120 V AC)
Input fuse	3.15 A (slow-blow, internal)	3.15 A (slow-blow, internal)
Reliable backup fuse, circuit breaker	B6, B10, B16	B6, B10, B16
Output data		
Nominal output voltage	24 V DC (available AC input voltage: 22.5 to 29.5 V DC, unavailable AC input voltage: 27.9 to 19.2 V DC)	12 V DC (available AC input voltage: 10 to 16 V DC, unavailable AC input voltage: 13.6 to 9.6 V DC)
Output current	2 A	4 A
Can be connected in parallel/series	No / yes	No / yes
Buffer period	20 min. (2 A)	20 min. (4 A)
Max. power dissipation (idling / normal mode / buffer mode)	3.8 W / 10.1 W / 2.1 W	1.6 W / 10.5 W / 2.6 W
Efficiency	> 83%	> 82%
Signaling		
Signaling Power OK	LED	LED
Signaling alarm	LED, active switching output	LED, active switching output
Signaling battery charge	LED, active switching output	LED, active switching output
Signaling battery mode	LED, active switching output	LED, active switching output
General data		
Storage medium	External, battery 0.8 Ah / 1.3 Ah	External, rechargeable battery 1.6 Ah / 2.6 Ah
Weight / Dimensions W x H x D	0.45 kg / 67.5 x 99 x 107 mm	0.45 kg / 67.5 x 99 x 107 mm
Mounting position	horizontal DIN rail NS 35, EN 60715	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontally 0 mm, vertically 50 mm	alignable: horizontally 0 mm, vertically 50 mm
Connection method	COMBICON plug-in screw connections	COMBICON plug-in screw connections
Input connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Signal connection data rigid / flexible / AWG	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 2.5 mm² / 0.2 - 2.5 mm² / 24 - 12
Degree of protection / Protection class	IP20 / II	IP20 / II
MTBF (IEC 61709, SN 29500)	> 753000 h (40°C)	> 728000 h (40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	2 kV (routine test) / 4 kV (type test)	2 kV (routine test) / 4 kV (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
Electrical safety, safety transformer	EN 60950-1/VDE 0805 (SELV)	EN 60950-1/VDE 0805 (SELV)
Electronic equipm. for electrical power installations	EN 50178/VDE 0160 (PELV)	EN 50178/VDE 0160 (PELV)
UL approvals	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible						
	MINI-DC-UPS/24DC/2	2866640	1	**MINI-DC-UPS/12DC/4**	2866598	1

Energy storage for MINI UPS

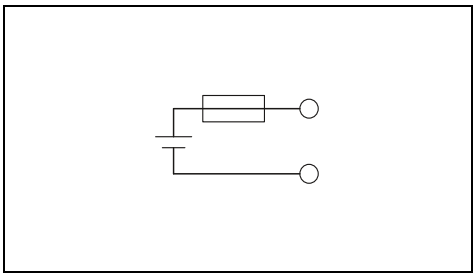
MINI-BAT

MINI-BAT for maximum buffer times
– Lead AGM (Absorbent Glass Mat) technology
– Ambient temperatures from 0°C to +40°C

Notes:

The buffer time associated with your solution is dependent on the load current. Exact details for each uninterruptible power supply can be found on page 343.

Energy storage, 24 V DC, 0.8 Ah for MINI UPS 2 A



Technical data

Input data/output data	
Nominal capacity	0.8 Ah
Nominal output voltage	24 V DC
Output current	5 A
Can be connected in parallel/series	Yes / No
General data	
Weight / Dimensions W x H x D	0.9 kg / 67.5 x 99 x 107 mm
Degree of protection / Protection class	IP20 / III
Ambient temperature (operation)	0°C ... 40°C
Service life	4 years (20°C) 6 months (20°C ... 30°C) 3 months (30°C ... 40°C)

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Energy storage			
	MINI-BAT/24DC/0.8AH	2866666	1

Accessories

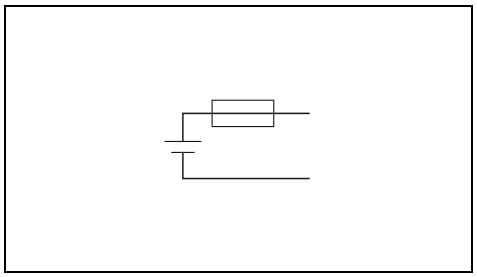
Fuse	**FUSE 5A/32V FK-1**	2908367	2

Energy storage, 24 V DC, 1.3 Ah
for TRIO UPS and MINI UPS 2 A

Energy storage, 12 V DC, 1.6 Ah
for MINI UPS 4 A

Energy storage, 12 V DC, 2.6 Ah
for MINI UPS 4 A

EAC



Technical data

1.3 Ah
24 V DC
15 A
Yes / No
1.7 kg / 52 x 130 x 110 mm
IP20 / III
0°C ... 40°C
6 years ... 9 years (20°C)
6 months (20°C ... 30°C)
3 months (30°C ... 40°C)

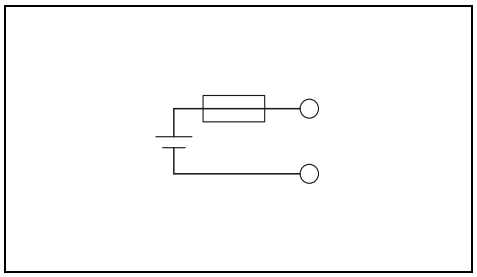
Ordering data

Type	Order No.	Pcs./Pkt.
MINI-BAT/24DC/1.3AH	2866417	1

Accessories

FUSE 15A/32V FKS ATO	2908361	2

EAC



Technical data

1.6 Ah
12 V DC
10 A
Yes / No
0.9 kg / 67.5 x 99 x 107 mm
IP20 / III
0°C ... 40°C
4 years (20°C)
6 months (20°C ... 30°C)
3 months (30°C ... 40°C)

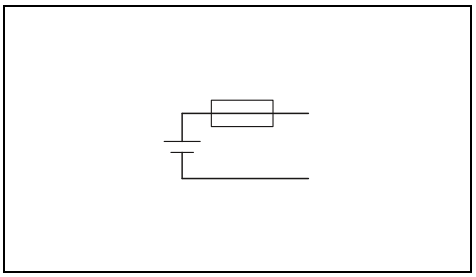
Ordering data

Type	Order No.	Pcs./Pkt.
MINI-BAT/12DC/1.6AH	2866572	1

Accessories

FUSE 10A/32V FK1	2908364	2

EAC



Technical data

2.6 Ah
12 V DC
15 A
Yes / No
1.7 kg / 52 x 130 x 110 mm
IP20 / III
0°C ... 40°C
6 years ... 9 years (20°C)
6 months (20°C ... 30°C)
3 months (30°C ... 40°C)

Ordering data

Type	Order No.	Pcs./Pkt.
MINI-BAT/12DC/2.6AH	2866569	1

Accessories

FUSE 25A/32V FKS	2908363	2

UPS module with integrated power supply

TRIO DC UPS, 1 AC, 24 V DC

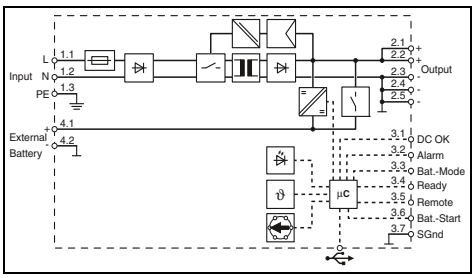
For the reliable supply of DC loads.

- Space-saving combination of UPS and power supply in the same housing
- Long buffer times, thanks to a large number of VRLA energy storage devices
- USB interface for connection to higher-level controllers, such as industrial PCs
- Startup from energy storage possible, even without mains input
- Push-in connection

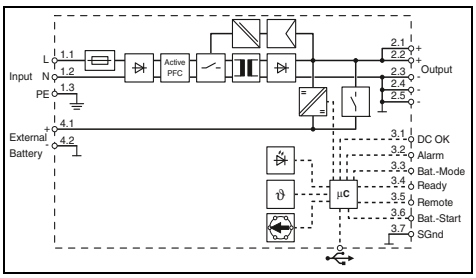
UPS with integrated power supply, 1 V AC / 24 V DC, 5 A

UPS with integrated power supply, 1 V AC / 24 V DC, 10 A

Ex:



Ex:



	Technical data	Technical data
Input data		
Input voltage range	100 V AC ... 240 V AC 110 V DC ... 250 V DC	100 V AC ... 240 V AC 110 V DC ... 250 V DC
Current consumption (nominal load)	1.6 A (240 V AC) / 3.3 A (100 V AC) 0.7 A (250 V DC) / 1.8 A (110 V DC)	2 A (240 V AC) / 4.5 A (100 V AC) 1.8 A (250 V DC) / 4 A (110 V DC)
Input fuse	6.3 A (slow-blow, internal)	6.3 A (slow-blow, internal)
Reliable backup fuse, circuit breaker	B10	B10
Output data		
Nominal output voltage	24 V DC	24 V DC
Setting range of the output voltage (in mains operation)	24 V DC ... 28 V DC (> 24 V constant capacity)	24 V DC ... 28 V DC (> 24 V constant capacity)
Output current / Dynamic Boost	5 A / 7.5 A	10 A / 15 A
Can be connected in parallel/series	yes, with diode module uncoupled / No	yes, with diode module uncoupled / No
Buffer period	to 2 h	to 3 h
Max. power dissipation (no load/nominal load)	< 3 W (230 V AC) / < 19 W (230 V AC)	< 3 W (230 V AC) / < 32 W (230 V AC)
Efficiency	typ. 85% (120 V AC) / typ. 87% (230 V AC) / typ. 96% (Battery operation)	typ. 90% (120 V AC) / typ. 91% (230 V AC) / typ. 96% (Battery operation)
Signaling		
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow)	DC OK (green), Alarm (red), Bat.-Mode (yellow)
Configurable signal output	DC OK, Alarm, Bat.-Mode, Ready	DC OK, Alarm, Bat.-Mode, Ready
Interfaces	MINI-USB type B	MINI-USB type B
General data		
Battery technology	VRLA	VRLA
Charging current	0.2 A ... 1.5 A (-25°C ... 60°C)	0.2 A ... 3 A (-25°C ... 60°C)
Weight / Dimensions W x H x D	0.75 kg / 60 x 130 x 115 mm	1.34 kg / 68 x 130 x 160 mm
Mounting position	horizontal DIN rail NS 35, EN 60715	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontally 0 mm, vertically 50 mm	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Push-in connection	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Signal connection data rigid / flexible / AWG	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
Degree of protection / Protection class	IP20 / I	IP20 / I
MTBF (IEC 61709, SN 29500)	> 825726 h (230 V AC, at 40°C)	> 1210518 h (230 V AC, at 40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations		
Insulation voltage input/output	1.5 kV AC (routine test) / 3 kV AC (type test)	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU	Conformance with EMC Directive 2014/30/EU
UL approvals	UL Listed UL 61010, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C	UL Listed UL 61010, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible						
	TRIO-UPS-2G/1AC/24DC/5	2907160	1	**TRIO-UPS-2G/1AC/24DC/10**	2907161	1

UPS module with integrated power supply

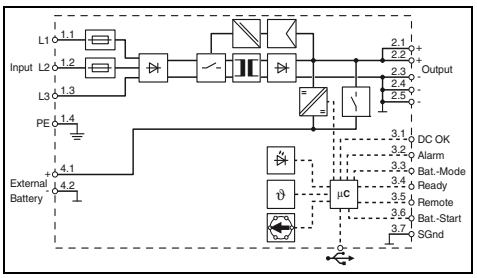
TRIO DC UPS, 3 AC, 24 V DC

For the reliable supply of DC loads.

- Space-saving combination of UPS and power supply in the same housing
- Long buffer times, thanks to a large number of VRLA energy storage devices
- USB interface for connection to higher-level controllers, such as industrial PCs
- Startup from energy storage possible, even without mains input
- Push-in connection

UPS with integrated power supply, 3 V AC / 24 V DC, 20 A

Ex:



Technical data

Input data	
Input voltage range	3x 400 V AC ... 500 V AC / 2x 400 V AC ... 500 V AC
Current consumption (nominal load)	3x 1.1 A (500 V AC) / 3x 1.3 A (400 V AC) 2x 1.9 A (480 V AC) / 2x 2.2 A (400 V AC)
Input fuse	6.3 A (slow-blow, internal)
Reliable backup fuse, circuit breaker	B10
Output data	
Nominal output voltage	24 V DC
Setting range of the output voltage (in mains operation)	24 V DC ... 28 V DC (> 24 V constant capacity)
Output current / Dynamic Boost	20 A / 30 A
Can be connected in parallel/series	yes, with diode module uncoupled / No
Buffer period	to 1.5 h
Max. power dissipation (no load/nominal load)	< 3.6 W (400 V AC) / < 36 W (400 V AC)
Efficiency	typ. 93% (400 V AC) / typ. 92% (480 V AC) / typ. 94% (Battery operation)
Signaling	
LED signaling	DC OK (green), Alarm (red), Bat.-Mode (yellow)
Configurable signal output	DC OK, Alarm, Bat.-Mode, Ready
Interfaces	MINI-USB type B
General data	
Battery technology	VRLA
Charging current	0.5 A ... 3 A (-25°C ... 60°C)
Weight / Dimensions W x H x D	1.71 kg / 88 x 130 x 160 mm
Mounting position	horizontal DIN rail NS 35, EN 60715
Connection	alignable: horizontally 0 mm, vertically 50 mm
Connection method	Push-in connection
Input connection data rigid / flexible / AWG	0.2 - 4 mm² / 0.2 - 2.5 mm² / 24 - 12
Output connection data rigid / flexible / AWG	0.2 - 10 mm² / 0.2 - 6 mm² / 24 - 16
Signal connection data rigid / flexible / AWG	0.2 - 1.5 mm² / 0.2 - 1.5 mm² / 24 - 16
Degree of protection / Protection class	IP20 / I
MTBF (IEC 61709, SN 29500)	> 680194 h (400 V AC, at 40°C)
Ambient temperature (operation)	-25°C ... 70°C (> 60°C Derating: 2.5%/K)
Standards/regulations	
Insulation voltage input/output	2 kV AC (routine test) / 4 kV AC (type test)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
UL approvals	UL Listed UL 61010, UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C

Ordering data

Description	Type	Order No.	Pcs./Pkt.
Power supply, uninterruptible			
	TRIO-UPS-2G/3AC/24DC/20	2906367	1

Energy storage for TRIO UPS

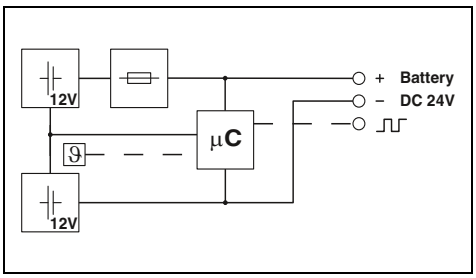
UPS BAT/VRLA for maximum buffer times

– Lead AGM (Absorbent Glass Mat) technology
– Ambient temperatures from 0°C to +40°C
– Long buffer times for high currents
– Integrated temperature sensor for optimum charging
– Battery can be changed without tools

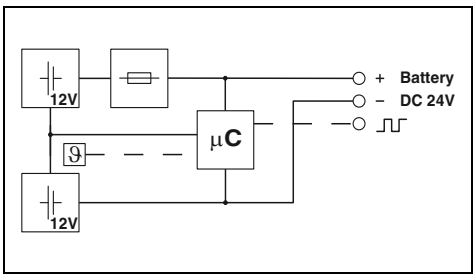
VRLA energy storage, 1.3 Ah

VRLA energy storage, 3.4 Ah

Ex:



Ex:

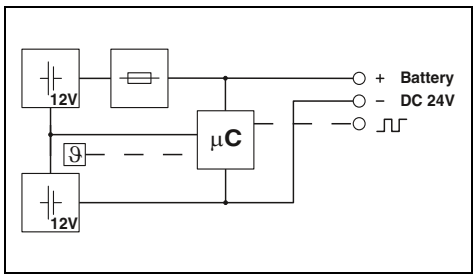


	Technical data	Technical data
Input data/output data		
Nominal input voltage	24 V DC	24 V DC
Nominal capacity	1.3 Ah	3.4 Ah
Output current	15 A	25 A
Output fuse	1x 15 A	1x 25 A
Can be connected in parallel/series	Yes / No	Yes / No
Buffer period	20 min. (2 A) / 5 min. (5 A)	4.5 min. (20 A) / 3 min. (25 A)
General data		
Storage medium	Lead rechargeable battery module	Lead rechargeable battery module
Weight / Dimensions W x H x D	1.7 kg / 54 x 157 x 113 mm	3.3 kg / 85 x 191 x 110 mm
Degree of protection / Protection class	IP20 / III	IP20 / III
Ambient temperature (operation)	0°C ... 40°C	0°C ... 40°C
Service life	6 years ... 9 years (20°C)	6 years ... 9 years (20°C)
Standards/regulations		
UL approvals	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

	Ordering data			Ordering data		
Description	Type	Order No.	Pcs./Pkt.	Type	Order No.	Pcs./Pkt.
Energy storage						
	UPS-BAT/VRLA/24DC/1.3AH	2320296	1	**UPS-BAT/VRLA/24DC/3.4AH**	2320306	1
	Accessories			**Accessories**		
Fuse	**FUSE 15A/32V FK1**	2908360	2	**FUSE 25A/32V ATOF**	2908366	2
Mounting set						
Mounting set						

VRLA energy storage, 7.2 Ah

Ex:



Technical data

24 V DC	
7.2 Ah	
50 A	
2x 25 A	
Yes / No	
10 min. (20 A) / 3 min. (40 A)	
Lead rechargeable battery module	
5.9 kg / 135 x 202 x 110 mm	
IP20 / III	
0°C ... 40°C	
6 years ... 9 years (20°C)	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

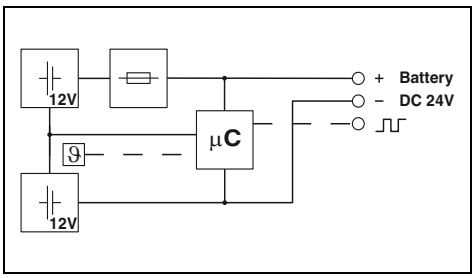
Type	Order No.	Pcs./Pkt.
UPS-BAT/VRLA/24DC/7.2AH	2320319	1

Accessories

FUSE 25A/32V ATOF	2908366	2

VRLA energy storage, 12 Ah

Ex:



Technical data

24 V DC	
12 Ah	
50 A	
2x 25 A	
Yes / No	
22.5 min. (20 A) / 9 min. (40 A)	
Lead rechargeable battery module	
8.9 kg / 202 x 202 x 110 mm	
IP20 / III	
0°C ... 40°C	
6 years ... 9 years (20°C)	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

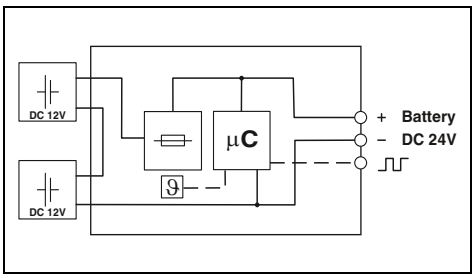
Type	Order No.	Pcs./Pkt.
UPS-BAT/VRLA/24DC/12AH	2320322	1

Accessories

FUSE 25A/32V ATOF	2908366	2

VRLA energy storage, 38 Ah

Ex:



Technical data

24 V DC	
38 Ah	
45 A	
2x 25 A ATOF 32V	
Yes / No	
72 min. (20 A) / 35 min. (40 A)	
Lead rechargeable battery module	
26 kg / 330 x 221 x 197 mm	
IP20 / III	
0°C ... 40°C	
-	
UL/C-UL Listed UL 508, UL/C-UL Recognized UL 60950-1, UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)	

Ordering data

Type	Order No.	Pcs./Pkt.
UPS-BAT/VRLA/24DC/38AH	2320335	1

Accessories

FUSE 25A/32V ATOF	2908366	2
BATTERY MOUNTING KIT	2320788	1
BATTERY MOUNTING CASE	2320458	1

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