

Power supply unit - QUINT4-PS/1AC/24DC/2.5/SC - 2904598

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Primary-switched power supply unit, QUINT POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 2.5 A

Product Description


In the power range of up to 100 W, QUINT POWER provides superior system availability in the smallest size. Preventative function monitoring and exceptional power reserves are available for applications in the low-power range.

Your advantages

- ✓ Starting of heavy loads with dynamic boost
- ✓ Preventive function monitoring indicates critical operating states before errors occur
- ✓ High efficiency and long service life, with low power dissipation and low heating
- ✓ Space savings in the control cabinet, thanks to a narrow, slim-line design
- ✓ Free selection between Push-in and screw connection



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 055626 156040 |
| GTIN | 4055626156040 |

Technical data

Dimensions

| | |
|--------|-------|
| Width | 32 mm |
| Height | 99 mm |
| Depth | 90 mm |

Ambient conditions

| | |
|--|--|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -25 °C ... 70 °C (> 60 °C Derating: 2.5 %/K) |
| Ambient temperature (start-up type tested) | -40 °C |
| Ambient temperature (storage/transport) | -40 °C ... 85 °C |

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Ambient conditions

| | |
|--|---------------------------------------|
| Max. permissible relative humidity (operation) | ≤ 95 % (at 25 °C, non-condensing) |
| Climatic class | 3K3 (in acc. with EN 60721) |
| Degree of pollution | 2 |
| Installation height | ≤ 5000 m (> 2000 m, observe derating) |

Input data

| | |
|--|---|
| Input voltage range | 100 V AC ... 240 V AC -15 % ... +10 % 110 V DC ... 250 V DC -20 % ... +40 % |
| Dielectric strength maximum | 300 V AC 30 s |
| Frequency range (f _N) | 50 Hz ... 60 Hz -10 % ... +10 % |
| Discharge current to PE | < 0.25 mA (264 V AC, 60 Hz) |
| Current consumption | 0.85 A (100 V AC) 0.7 A (120 V AC) 0.39 A (230 V AC) 0.37 A (240 V AC) |
| Nominal power consumption | 71 VA |
| Inrush current | typ. 10 A (at 25 °C) |
| Mains buffering time | typ. 54 ms (120 V AC) typ. 54 ms (230 V AC) |
| Input fuse | 3.15 A (slow-blow, internal) |
| Recommended breaker for input protection | 6 A ... 16 A (Characteristic B, C or comparable) |
| Type of protection | Transient surge protection |
| Protective circuit/component | Varistor |

Output data

| | |
|---|--|
| Nominal output voltage | 24 V DC |
| Setting range of the output voltage (U _{Set}) | 24 V DC ... 28 V DC (constant capacity) |
| Nominal output current (I _N) | 2.5 A |
| Static Boost (I _{Stat.Boost}) | 3.125 A (≤ 40 °C) |
| Dynamic Boost (I _{Dyn.Boost}) | 5 A (≤ 60 °C (5 s), Input < 150 V AC Derating 0.5 %/V) |
| Derating | > 60 °C (2.5%/K) |
| Connection in parallel | Yes, for redundancy and increased capacity |
| Connection in series | yes |
| Feedback voltage resistance | ≤ 35 V DC |
| Protection against overvoltage at the output (OVP) | ≤ 32 V DC |
| Control deviation | < 0.5 % (Static load change 10 % ... 90 %) < 2 % (Dynamic load change 10 % ... 90 %, (10 Hz)) < 0.1 % (change in input voltage ± 10 %) |
| Residual ripple | < 40 mV _{PP} (with nominal values) |
| Output power | 60 W |
| Typical response time | 500 ms |

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Output data

| | |
|--|------------------|
| Maximum power dissipation in no-load condition | < 1 W (230 V AC) |
| | < 1 W (120 V AC) |
| Power loss nominal load max. | < 5 W (230 V AC) |
| | < 5 W (120 V AC) |

General

| | |
|---------------------------------|------------------------|
| Net weight | 0.244 kg |
| Efficiency | typ. 91.9 % (120 V AC) |
| | typ. 92.6 % (230 V AC) |
| Insulation voltage input/output | 4 kV AC (type test) |
| | 3 kV AC (routine test) |
| Protection class | II |
| Degree of protection | IP20 |
| MTBF (IEC 61709, SN 29500) | > 1347000 h (25 °C) |
| | > 734000 h (40 °C) |
| | > 295000 h (60 °C) |
| Assembly instructions | DIN rail mounting |

Connection data, input

| | |
|---------------------------------------|----------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.14 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.14 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 26 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 8 mm |

Connection data, output

| | |
|---------------------------------------|----------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.14 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.14 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 26 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 8 mm |

Connection data for signaling

| | |
|---------------------------------------|----------------------|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.14 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.14 mm ² |

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Technical data

Connection data for signaling

| | |
|---------------------------------------|---------------------|
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 26 |
| Conductor cross section AWG max. | 14 |
| Stripping length | 8 mm |

Standards

| | |
|--|------------------------|
| EMC requirements for noise immunity | EN 61000-6-1 |
| | EN 61000-6-2 |
| EMC requirements for noise emission | EN 61000-6-3 |
| | EN 61000-6-4 |
| Standard - Safety of transformers | EN 61558-2-16 |
| Standard - Electrical safety | IEC 61010-2-201 (SELV) |
| Standard - safety for equipment for measurement, control, and laboratory use | IEC 61010-1 |
| Standard – Safety extra-low voltage | IEC 61010-1 (SELV) |
| | IEC 61010-2-201 (PELV) |
| Standard - Safe isolation | IEC 61558-2-16 |
| Standard - power supply devices for low voltage with DC output | EN 61204-3 |
| Standard – Limitation of mains harmonic currents | EN 61000-3-2 |

Conformance/approvals

| | |
|--------------|--|
| 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) |
| SIQ | CB-Scheme (IEC 61010-1, IEC 61010-2-201) |

EMC data

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Conducted noise emission | EN 55016 |
| | EN 61000-6-3 (Class B) |
| Noise emission | EN 55016 |
| | EN 61000-6-3 (Class B) |
| Electrostatic discharge | EN 61000-4-2 |
| Contact discharge | 8 kV (Test Level 4) |
| Discharge in air | 8 kV (Test Level 3) |
| Electromagnetic HF field | EN 61000-4-3 |
| Frequency range | 80 MHz ... 1 GHz |
| Test field strength | 20 V/m |
| Frequency range | 1 GHz ... 6 GHz |
| Test field strength | 10 V/m (Test Level 3) |
| Comments | Criterion A |

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EMC data

| | |
|----------------------------|------------------------------------|
| Fast transients (burst) | EN 61000-4-4 |
| Input | 4 kV (Test Level 4 - asymmetrical) |
| Output | 4 kV (Test Level 4 - asymmetrical) |
| Signal | 4 kV (Test Level 4 - asymmetrical) |
| Comments | Criterion B |
| Surge voltage load (surge) | EN 61000-4-5 |
| Input | 2 kV (Test Level 4 - symmetrical) |
| | 4 kV (Test Level 4 - asymmetrical) |
| Output | 1 kV (Test Level 3 - symmetrical) |
| | 2 kV (Test Level 3 - asymmetrical) |
| Signal | 2 kV (Test Level 4 - symmetrical) |
| Comments | Criterion A |
| I/O/S | asymmetrical |
| Frequency range | 0.15 MHz ... 80 MHz |
| Voltage | 10 V (Test Level 3) |
| Comments | Criterion A |
| Frequency | 16.67 Hz |
| | 50 Hz |
| | 60 Hz |
| Test field strength | 100 A/m |
| Additional text | 60 s |
| Comments | Criterion A |
| Frequency | 50 Hz |
| | 60 Hz |
| Test field strength | 1 kA/m |
| Additional text | 3 s |
| Frequency | 0 Hz |
| Test field strength | 300 A/m |
| Additional text | DC, 60 s |
| Voltage dips | EN 61000-4-11 |
| Voltage | 100 V AC |
| Frequency | 60 Hz |
| Voltage dip | 70 % |
| Number of periods | 0.5 / 1 / 25 periods |
| Additional text | Test Level 2 |
| Comments | Criterion B |
| Voltage dip | 40 % |
| Number of periods | 5 / 10 / 50 periods |
| Additional text | Test Level 2 |
| Comments | Criterion B |

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EMC data

| | |
|--|--|
| Voltage dip | 0 % |
| Number of periods | 0.5 / 1 / 5 / 50 periods |
| Additional text | Test Level 2 |
| Comments | Criterion B |
| Pulse-shape magnetic field | EN 61000-4-9 |
| Test field strength | 1000 A/m |
| Comments | Criterion A |
| Attenuated sinusoidal oscillations (ring wave) | EN 61000-4-12 |
| Input | 2 kV (symmetrical) |
| | 4 kV (asymmetrical) |
| Comments | Criterion B |
| Asymmetrical conducted disturbance variables | EN 61000-4-16 |
| Test level 1 | 16.67 Hz 50 Hz 60 Hz (Test Level 3) |
| Voltage | 30 V (Permanent) |
| Test level 2 | 16.67 Hz 50 Hz 60 Hz (Test Level 4) |
| Voltage | 300 V (1 s) |
| Comments | Criterion A |
| Attenuated oscillating wave | EN 61000-4-18 |
| Comments | Criterion B |
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |
| Criterion C | Temporary adverse effects on the operating behavior, which the device corrects automatically or which can be restored by actuating the operating elements. |

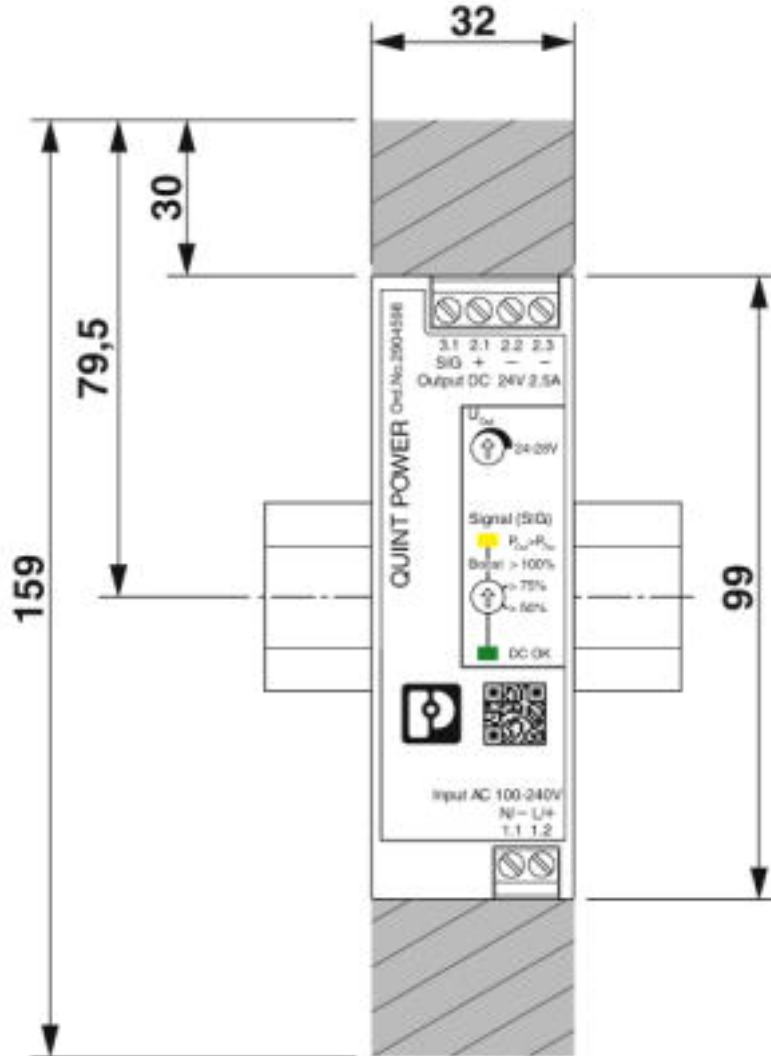
Environmental Product Compliance

| | |
|------------|---|
| | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 25; |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

Power supply unit - QUINT4-PS/1AC/24DC/2.5/SC - 2904598

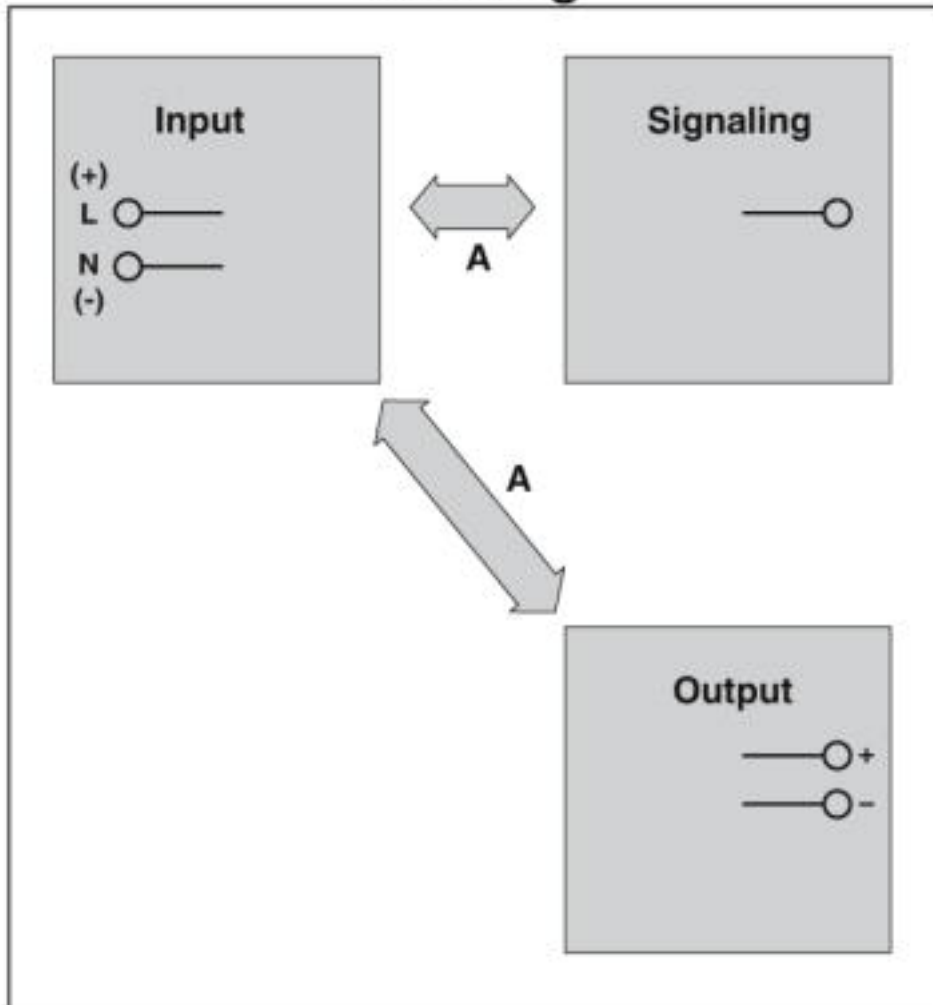
Dimensional drawing



Power supply unit - QUINT4-PS/1AC/24DC/2.5/SC - 2904598

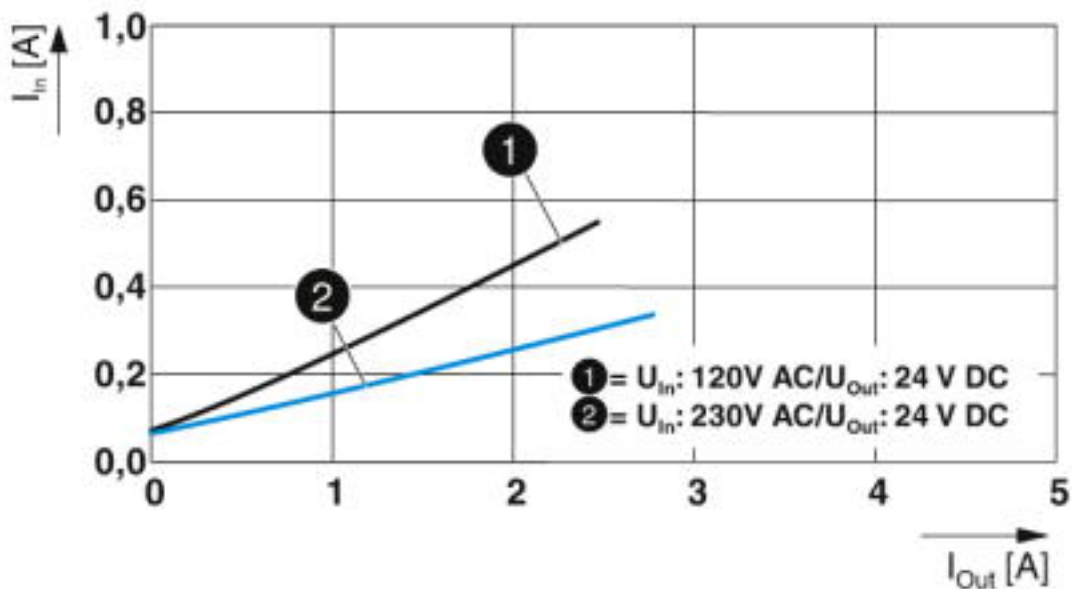
Schematic diagram

Housing

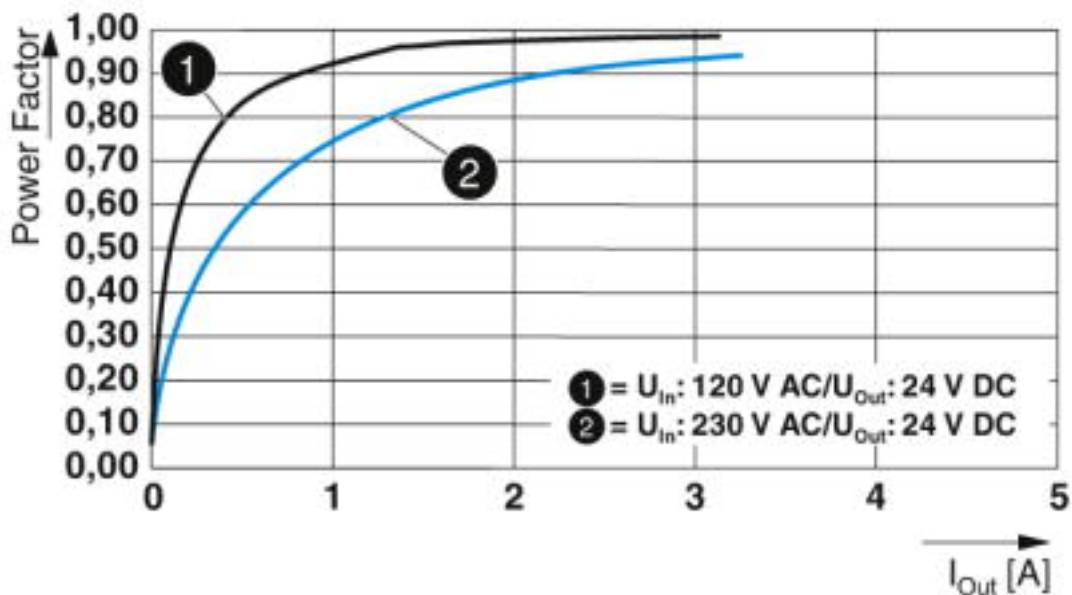


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Diagram

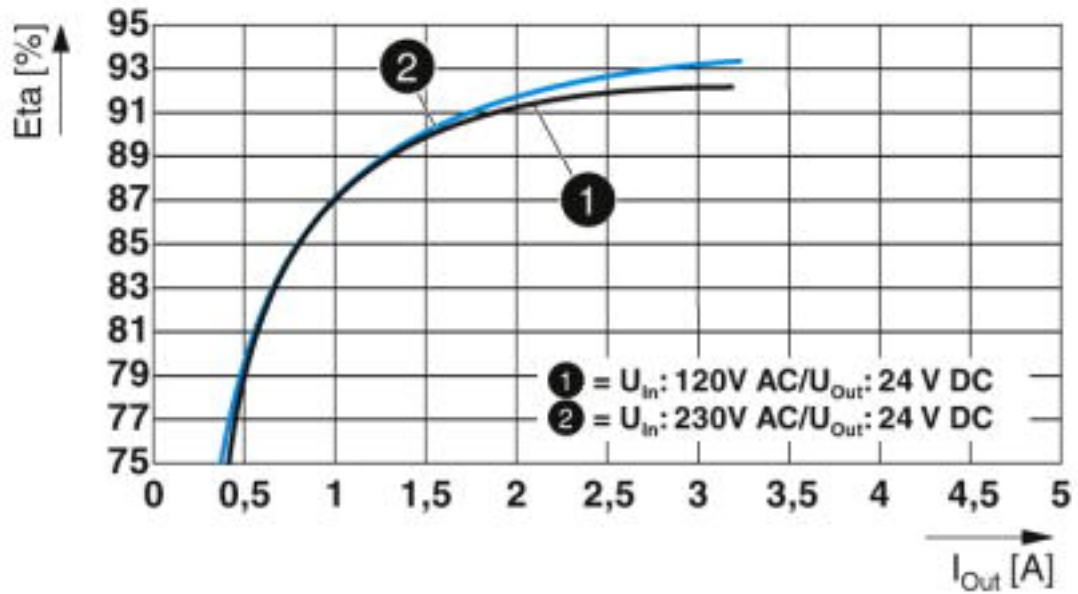


Diagram

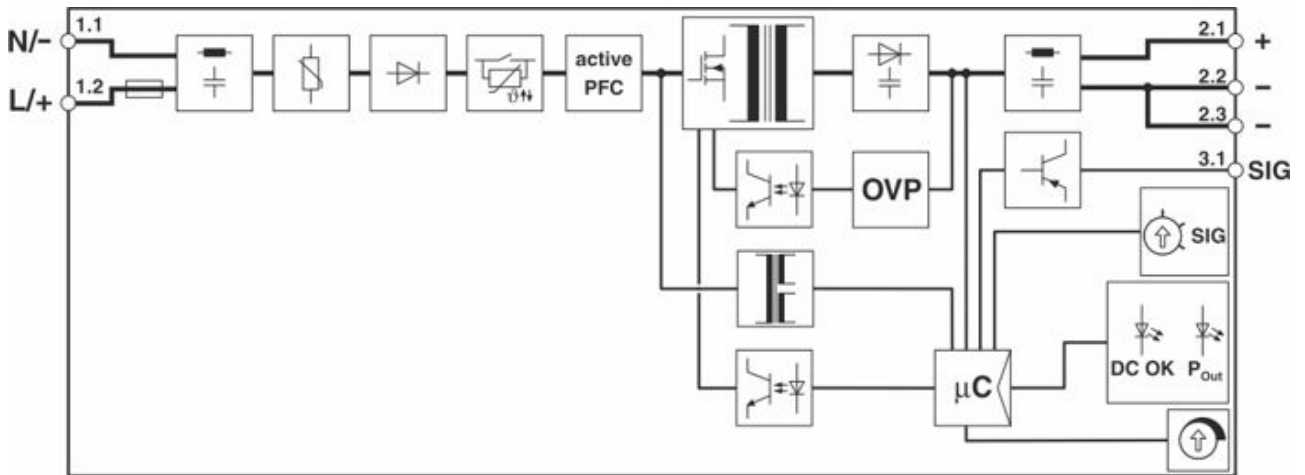


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Diagram



Block diagram



Approvals

Approvals

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Approvals

Approvals

DNV GL / UL Listed / IECCEB Scheme / cUL Listed / EAC / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

| | | | |
|--------|--|---|------------|
| DNV GL | | https://approvalfinder.dnvgl.com/ | TAA00001SN |
|--------|--|---|------------|

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|-----------|--|---|---------------|

| | | | |
|-----------------|--|---|---------|
| IECEE CB Scheme | | http://www.iecee.org/ | SI-6218 |
|-----------------|--|---|---------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 123528 |
|------------|--|---|---------------|

| | | | |
|-----|--|--|--------------------------|
| EAC | | | RU C- DE.A*30.B.01082 |
|-----|--|--|--------------------------|

| | | | |
|--------------|--|--|--|
| cULus Listed | | | |
|--------------|--|--|--|

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