Power supply unit - QUINT4-PS/1AC/5DC/5/PT - 2904595

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Primary-switched power supply unit, QUINT POWER, Push-in connection, DIN rail mounting, input: 1-phase, output: 5 V DC / 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
- Fast and easy startup, thanks to tool-free Push-in connection technology

Key Commercial Data

Packing unit	1 pc
GTIN	4 055626 255750
GTIN	4055626255750
Weight per Piece (excluding packing)	240.000 g
Custom tariff number	85044030
Country of origin	Germany

Technical data

Dimensions

Width	22.5 mm
Height	106 mm

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Dimensions

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
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 (60 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	0.37 A (100 V AC)
	0.3 A (120 V AC)
	0.17 A (230 V AC)
	0.16 A (240 V AC)
Nominal power consumption	32.8 VA
Inrush current	typ. 9.1 A (at 25 °C)
Mains buffering time	typ. 52 ms (120 V AC)
	typ. 52 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	5 V DC
Setting range of the output voltage (U_{Set})	5 V DC ... 6.2 V DC (constant capacity)
Nominal output current (I_N)	5 A
Static Boost ($I_{Stat.Boost}$)	6.25 A (≤ 40 °C)
Dynamic Boost ($I_{Dyn.Boost}$)	8 A (≤ 60 °C (5 s))
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	yes

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Output data

Feedback voltage resistance	≤ 16 V DC (16 V e-caps in output circuit)
Protection against overvoltage at the output (OVP)	< 8 V DC
Control deviation	< 0.3 % (change in load, static 10 % ... 90 %)
	< 3 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 40 mV_{PP} (with nominal values)
Output power	25 W
Typical response time	350 ms
Maximum power dissipation in no-load condition	< 0.37 W (120 V AC)
	< 0.41 W (230 V AC)
Power loss nominal load max.	< 3.7 W (120 V AC)
	< 3.3 W (230 V AC)

General

Net weight	0.184 kg
Efficiency	typ. 87.4 % (120 V AC)
	typ. 88.4 % (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)	> 1890000 h (25 °C)
	> 1080700 h (40 °C)
	> 473300 h (60 °C)

Connection data, input

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	10 mm

Connection data, output

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²

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Technical data

Connection data, output

Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	10 mm

Connection data for signaling

Connection method	Push-in connection
Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section flexible min.	0.2 mm²
Conductor cross section flexible max.	2.5 mm²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	10 mm

Standards

Standard - Safety of power supply units up to 1100 V (insulation distances)	DIN EN 61558-2-16
Standard - Safety of transformers	EN 61558-2-16
Standard - Electrical safety	IEC 61010-1 (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
Rail applications	EN 50121-3-2
	EN 50121-5
	IEC 62236-3-2
	IEC 62236-5

Conformance/approvals

UL approvals	UL Listed UL 61010-1
	UL Listed UL 61010-2-201
	UL 1310 Class 2 Power Units
SIQ	CB-Scheme (IEC 61010-1, IEC 61010-2-201)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

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Technical data

EMC data

Conducted noise emission	EN 55016
	EN 61000-6-3 (Class B)
Noise emission	EN 55016
	EN 61000-6-3 (Class B)
Harmonic currents	EN 61000-3-2
	EN 61000-3-2 (Class A)
Flicker	EN 61000-3-3
Electrostatic discharge	EN 61000-4-2
Contact discharge	8 kV (Test Level 4)
Discharge in air	15 kV (Test Level 4)
Electromagnetic HF field	EN 61000-4-3
Frequency range	80 MHz ... 1 GHz
Test field strength	20 V/m (Test Level X)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A
Fast transients (burst)	EN 61000-4-4
Input	4 kV (Test Level 4 - asymmetrical)
Output	4 kV (Test Level X - asymmetrical)
Signal	4 kV (Test Level X - asymmetrical)
Comments	Criterion A
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	0.5 kV (Test Level 2 - 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

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Technical data

EMC data

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	1 / 25 / 30 periods
Additional text	Test Level 2
Comments	Criterion A
Voltage dip	40 %
Number of periods	10 / 50 periods
Additional text	Test Level 2
Comments	Criterion A
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 A
Asymmetrical conducted disturbance variables	EN 61000-4-16
Test level 1	16.67 Hz 50 Hz 60 Hz 150 Hz 180 Hz (Test Level 3)
Voltage	30 V (10 s)
Test level 2	16.67 Hz 50 Hz 60 Hz (Test Level 2)
Voltage	300 V (1 s)
Comments	Criterion A
Attenuated oscillating wave	EN 61000-4-18

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Technical data

EMC data

Voltage	1 kV (symmetrical)
	2.5 kV (asymmetrical)
	1 kV (symmetrical)
Comments	Criterion A
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.

Drawings

Power supply unit - QUINT4-PS/1AC/5DC/5/PT - 2904595

Schematic diagram

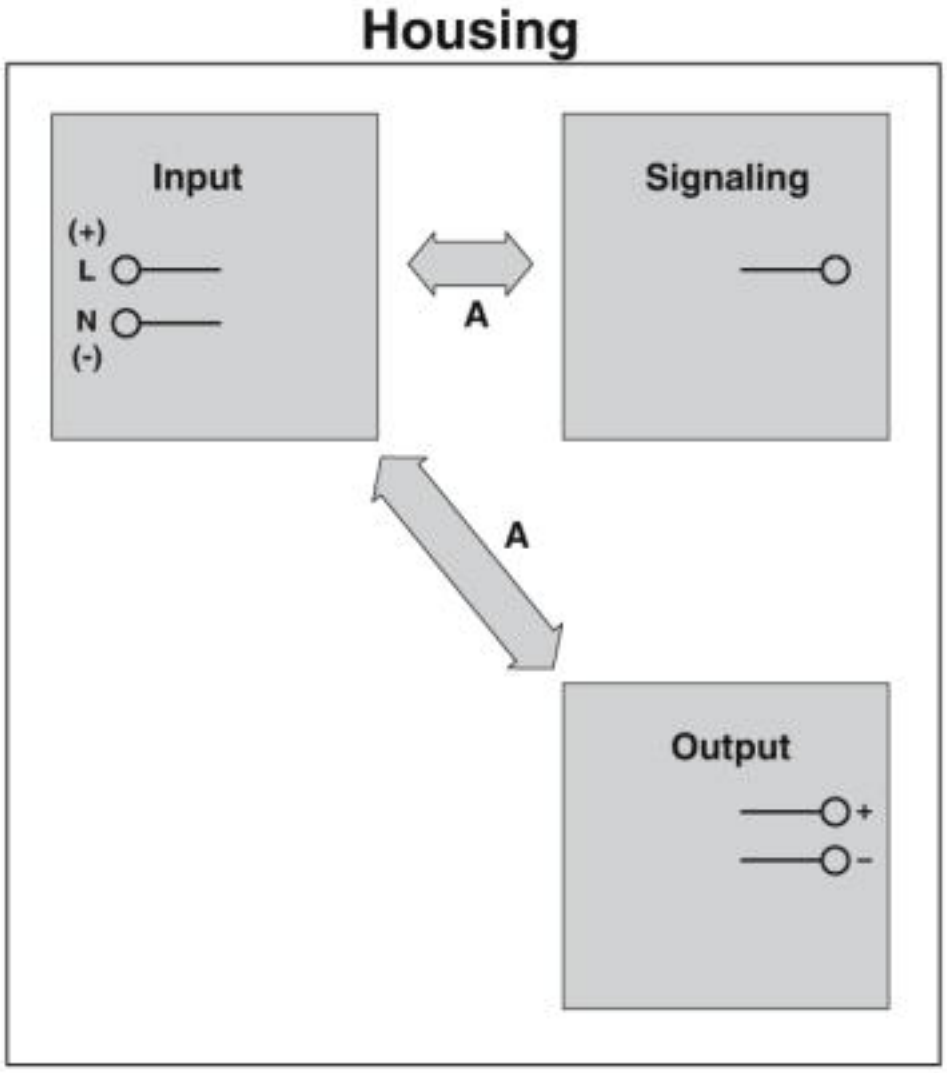

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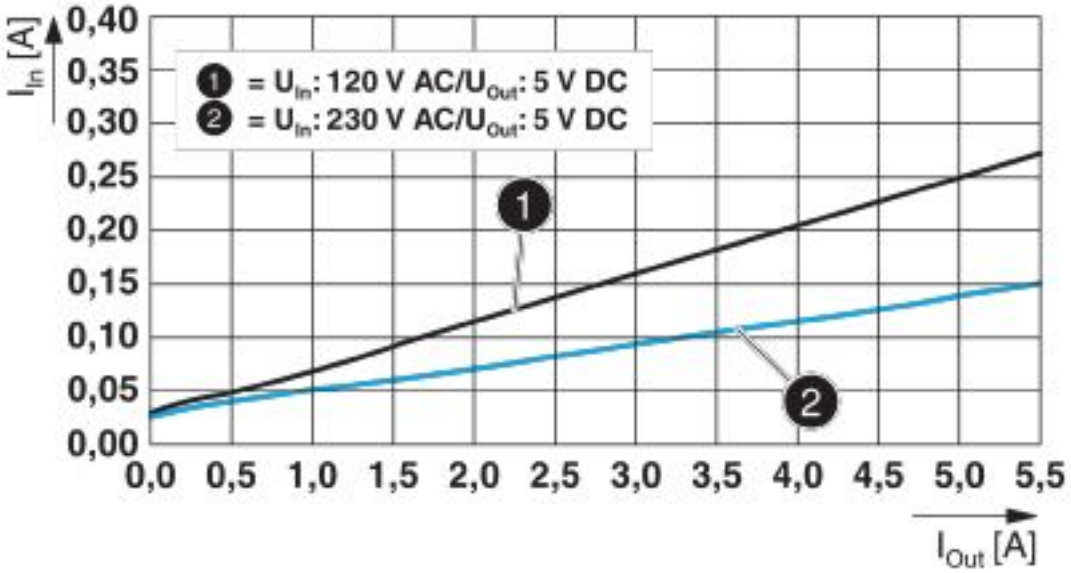
Diagram



Diagram

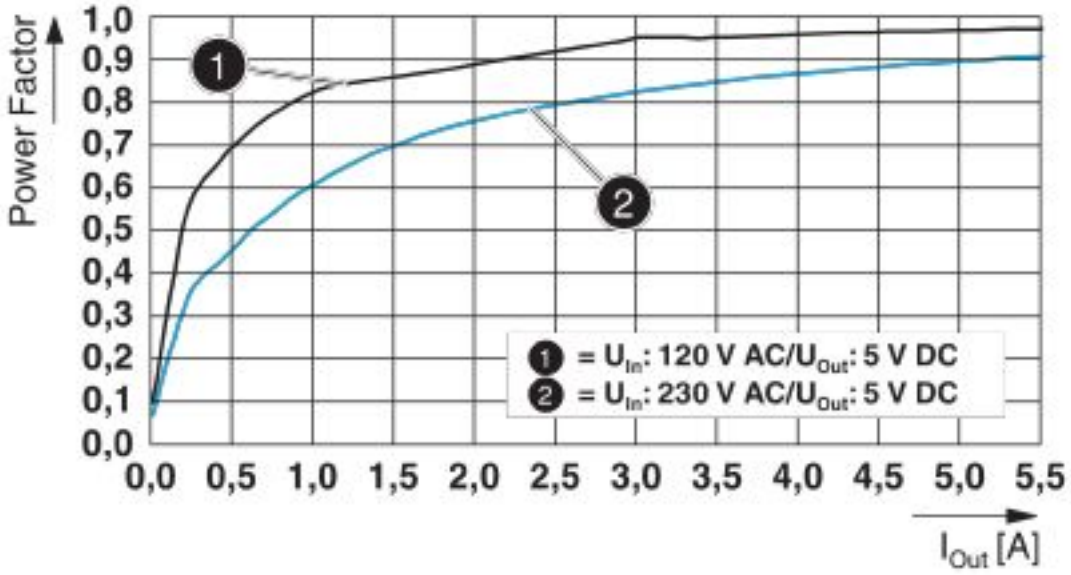


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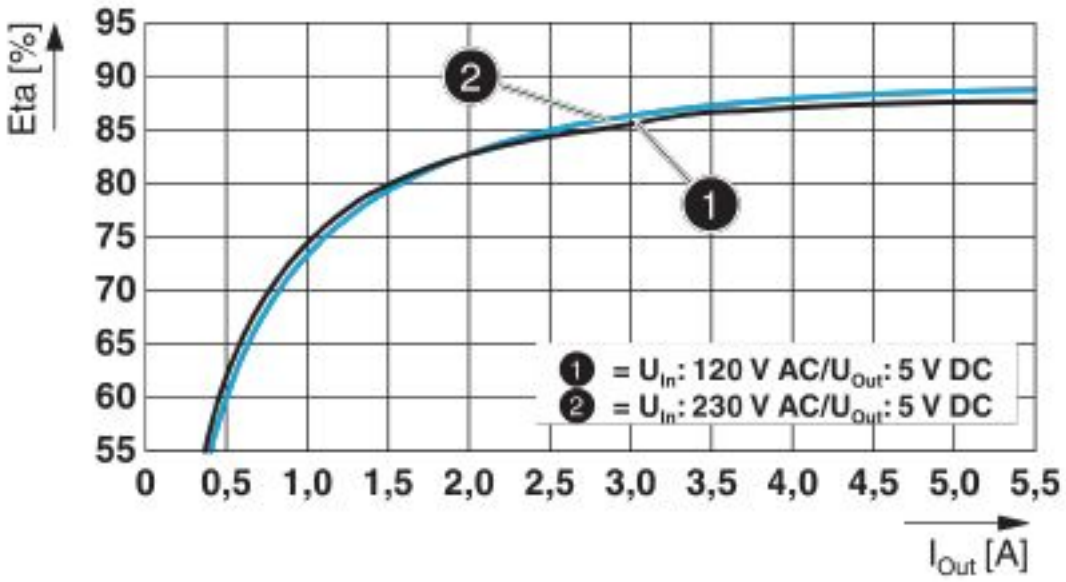
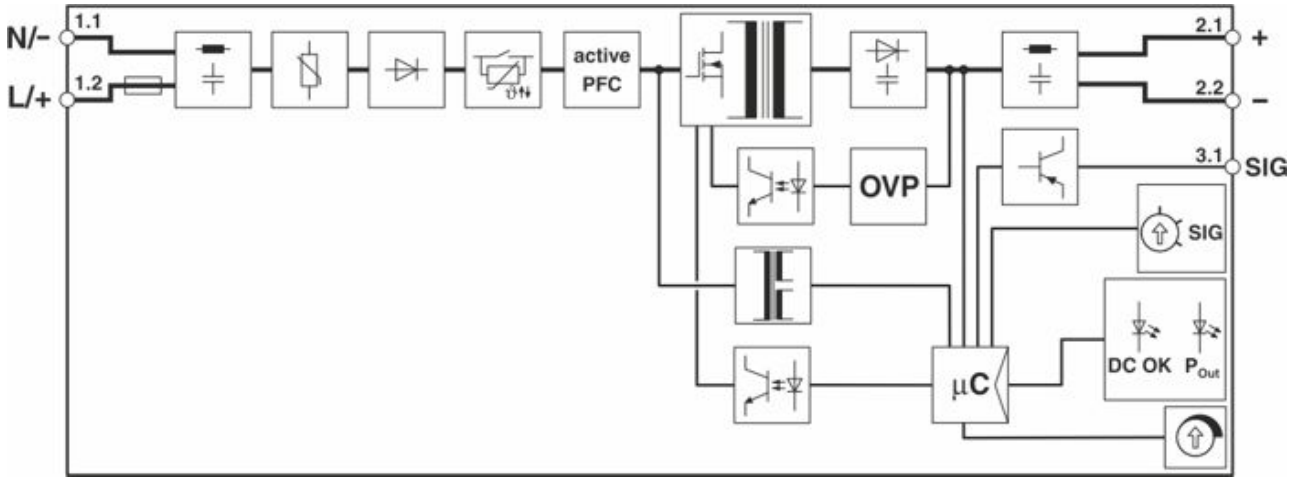
Diagram



Block diagram



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Classifications

eCl@ss

eCl@ss 5.1	27242213
eCl@ss 8.0	27049002
eCl@ss 9.0	27040701

ETIM

ETIM 5.0	EC002540

Approvals

Approvals

Approvals

IECEE CB Scheme / UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

IECEE CB Scheme	CB scheme	http://www.iecee.org/	SI-7440
UL Listed	UL LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cUL Listed	c UL LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 123528
cULus Listed	c UL us LISTED		

Accessories

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Accessories

Device protection

Type 3 surge protection device - PLT-SEC-T3-230-FM-UT - 2907919

Type 2/3 surge protection, consisting of protective plug and base element with screw connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage 230 V AC/DC.

Type 3 surge protection device - PLT-SEC-T3-24-FM-UT - 2907916

Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage 24 V AC/DC.

Type 3 surge protection device - PLT-SEC-T3-230-FM-PT - 2907928

Type 2/3 surge protection, consisting of protective plug and base element with Push-in connection. For single-phase power supply network with integrated status indicator and remote signaling. Nominal voltage 230 V AC/DC.

Type 3 surge protection device - PLT-SEC-T3-24-FM-PT - 2907925

Type 3 surge protection, consisting of protective plug and base element, with integrated status indicator and remote signaling for single-phase power supply networks. Nominal voltage 24 V AC/DC.

Screwdriver tools

Screwdriver - SF-SL 0,4X2,0-60 - 1212546

Screwdriver, flat bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip

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Accessories