

## Power supply unit - QUINT4-PS/1AC/24DC/2.5/PT - 2909576

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Primary-switched power supply unit, QUINT POWER, Push-in 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	
GTIN	4055626356495

### Technical data

#### Dimensions

Width	32 mm
Height	106 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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## Technical data

### 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 <sub>N</sub> )	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)
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 <sub>Set</sub> )	24 V DC ... 28 V DC (constant capacity)
Nominal output current (I <sub>N</sub> )	2.5 A
Static Boost (I <sub>Stat.Boost</sub> )	3.125 A (≤ 40 °C)
Dynamic Boost (I <sub>Dyn.Boost</sub> )	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 <sub>PP</sub> (with nominal values)
Output power	60 W
Typical response time	500 ms
Maximum power dissipation in no-load condition	< 1 W (230 V AC)

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## Technical data

### Output data

	< 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	Push-in connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
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 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>

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## Technical data

### Connection data for signaling

Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	10 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
Fast transients (burst)	EN 61000-4-4

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## Technical data

### EMC data

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
Voltage dip	0 %

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### Technical data

#### EMC data

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.

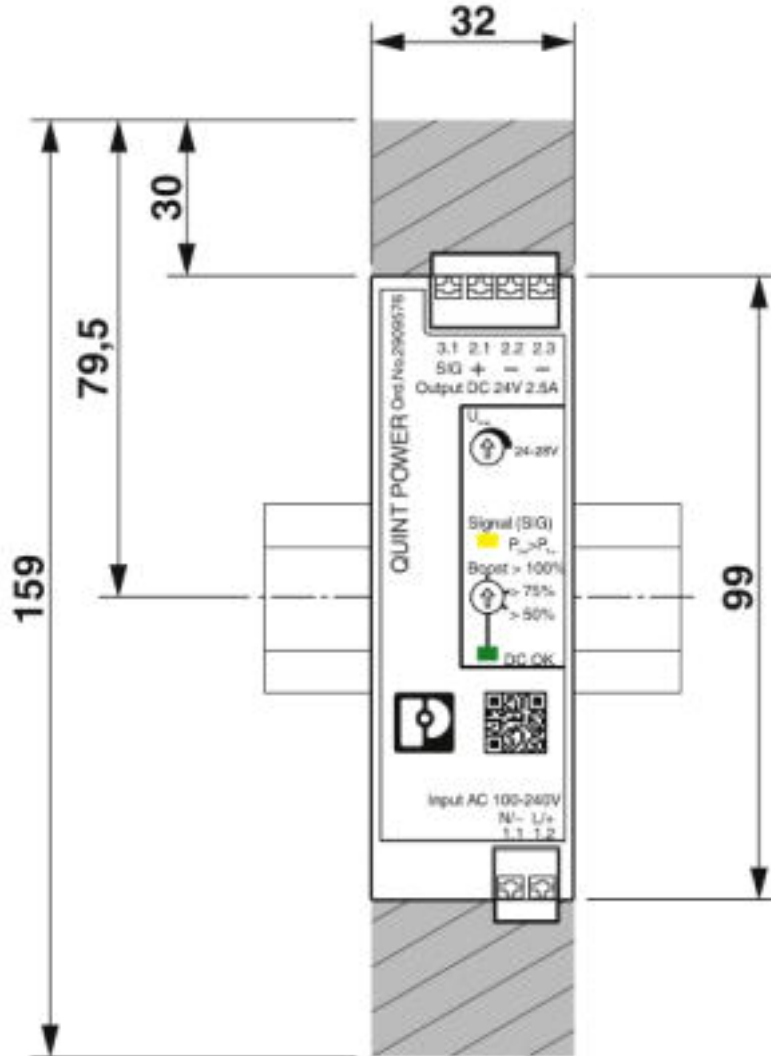
#### Environmental Product Compliance

	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/PT - 2909576

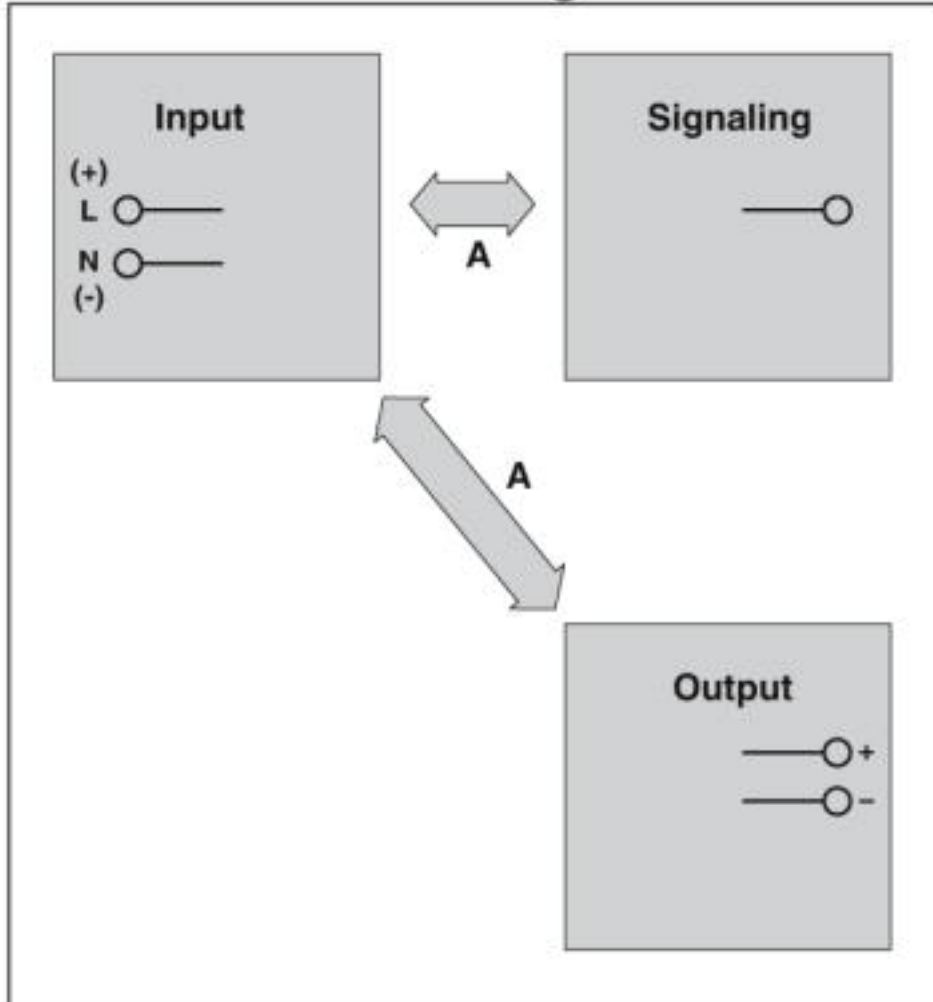
Dimensional drawing



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Schematic diagram

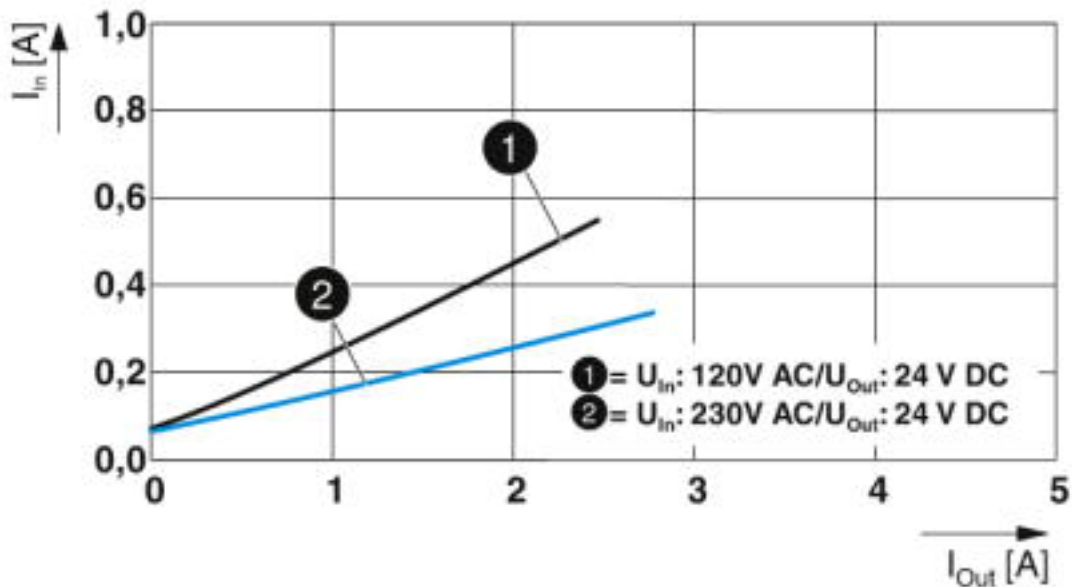
## Housing



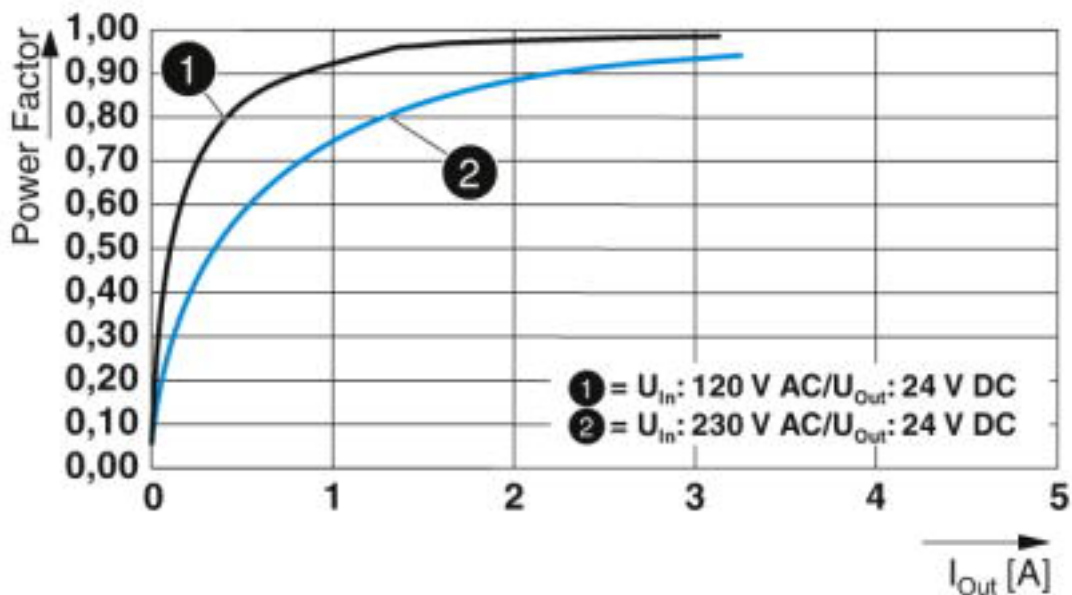


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Diagram

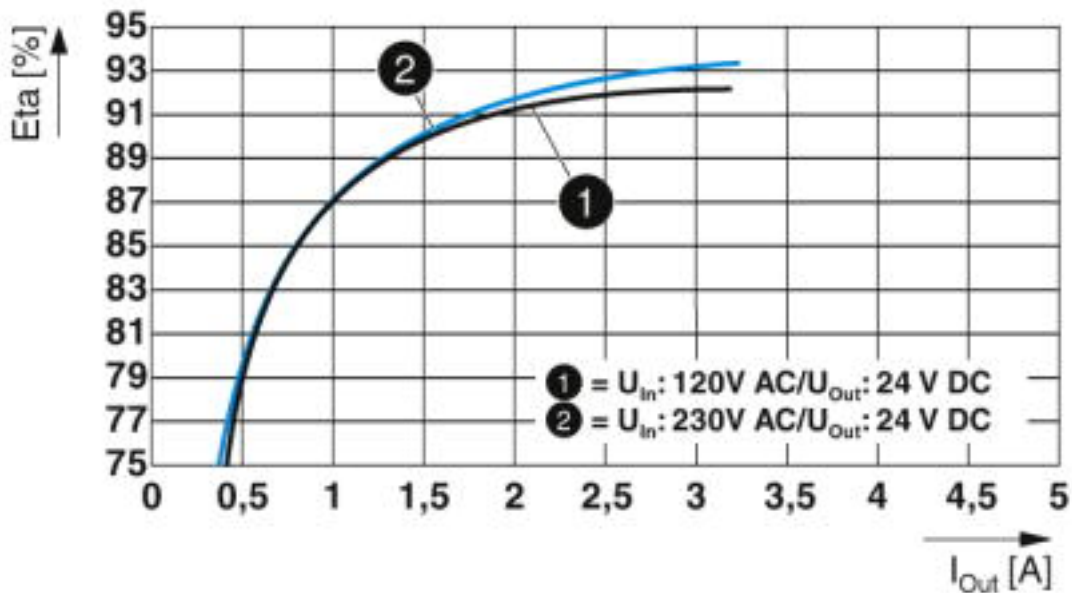


Diagram

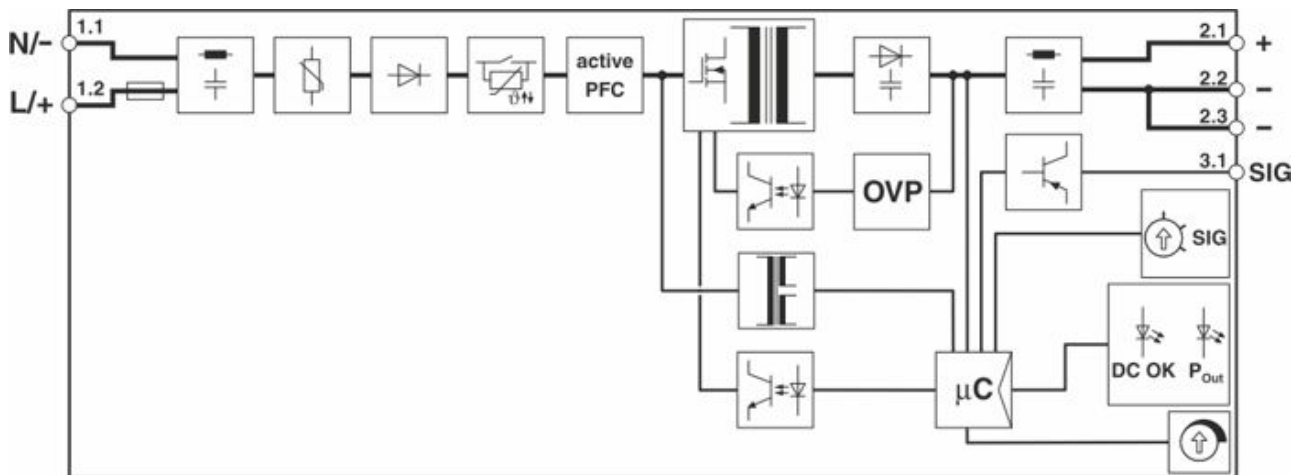


# Power supply unit - QUINT4-PS/1AC/24DC/2.5/PT - 2909576

Diagram



Block diagram



Approvals

Approvals

# Power supply unit - QUINT4-PS/1AC/24DC/2.5/PT - 2909576

## Approvals

### Approvals

DNV GL / UL Listed / IECEE CB Scheme / cUL Listed / EAC / cULus Listed

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### Ex Approvals

UL Listed / cUL Listed / cULus Listed

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## Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00001SN
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UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	SI-6218
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 123528
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EAC			RU C- DE.A*30.B.01082
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cULus Listed			
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