

# QUINT4-CHARGER/1AC/24DC/10 - Battery charger



2907990

<https://www.phoenixcontact.com/us/products/2907990>

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Battery charger QUINT CHARGER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 10 A

## Commercial data

Item number	2907990
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CM21
Product key	CMUI13
GTIN	4055626289434
Weight per piece (including packing)	1,238 g
Weight per piece (excluding packing)	942 g
Customs tariff number	85044083
Country of origin	CN

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## Technical data

### Product properties

Product type	Charger
Product family	QUINT CHARGER
MTBF (IEC 61709, SN 29500)	> 500000 h (230 V AC, at 40 °C)

### Insulation characteristics

Protection class	I
Degree of pollution	2

### Electrical properties

Number of phases	1.00
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### Input data

#### AC operation

Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
Derating	< 90 V AC (2.5 %/V)
Frequency range ( $f_N$ )	50 Hz ... 60 Hz $\pm$ 10 %
Current consumption	2.7 A (100 V AC)
	1.2 A (240 V AC)
Input fuse	6.3 A (internal (device protection), slow-blow)
Recommended breaker for input protection	10 A ... 16 A (AC: Characteristic B, C, D, K, or comparable)

#### DC operation

Input voltage range	110 V DC ... 250 V DC
Current consumption	2.4 A (110 V DC)
	1.1 A (250 V DC)

#### Digital Control (configurable)

Designation	Remote / Service
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### Output data

Efficiency	89 %
	91 %
Nominal output voltage	24 V DC
Setting range of the output voltage ( $U_{Set}$ )	19.2 V DC ... 28.6 V DC
Nominal output current ( $I_N$ )	10 A
Residual ripple	< 20 mV <sub>PP</sub>
Short-circuit-proof	yes
No-load proof	yes
Output power	240 W
Maximum no-load power dissipation	< 4 W (for 230 V AC)
Power loss nominal load max.	< 35 W (for 230 V AC)

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Connection in parallel	no
Connection in series	No

Signal:  $U_{in}$  OK

Output voltage	24 V DC
Continuous load current	20 mA
Signal ground SGnd	Reference ground signal contacts

Signal: Bat.-Voltage OK

Output voltage	24 V DC
Continuous load current	20 mA
Signal ground SGnd	Reference ground signal contacts

Signal: Alarm

Output voltage	24 V DC
Continuous load current	20 mA
Signal ground SGnd	Reference ground signal contacts

## Energy storage

Nominal voltage $U_N$	24 V DC
Charging voltage	max. 32 V DC
Charging current	typ. 10 A
Nominal capacity range	7 Ah ... 300 Ah
Battery technology	VRLA, VRLA-WTR, LI-ION (LiFePO <sub>4</sub> )
Charge characteristic curve	IU

## Connection data

Input

Connection method	Screw connection
Conductor cross section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross section, rigid 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>
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	6.5 mm
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

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## Output

Connection method	Screw connection
Conductor cross section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross section, rigid 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>
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	6.5 mm
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

## Signal

Connection method	Push-in connection
Conductor cross section, rigid min.	0.2 mm <sup>2</sup>
Conductor cross section, rigid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	1.5 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm <sup>2</sup>
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

## Interfaces

Interface	MINI-USB type B
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## Signaling

Signal output: Transistor output, active

Signalization designation	U <sub>In</sub> OK
Status display	Green LED

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Signal output: Transistor output, active

Signalization designation	Bat.-Voltage OK
Status display	Green LED

Signal output: Transistor output, active

Signalization designation	Alarm
Status display	LED red

Signal output

Signalization designation	Reference potential for the signal inputs and outputs
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## Dimensions

Width	60 mm
Height	130 mm
Depth	126 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	50 mm / 50 mm

Alternative assembly

Width	123 mm
Height	130 mm
Depth	63 mm

## Material specifications

Housing material	Metal
Hood version	High-grade steel plate
Side element version	Aluminum

## Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (> 60 °C Derating: 2,5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Maximum altitude	≤ 4000 m (> 2000 m, observe derating)
Climatic class	3K3 (EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (At +25°C, non-condensing)
Shock	30g, 18 ms in accordance with IEC 60068-2-27
Vibration (operation)	2 Hz ... 15 Hz, ±2.5 mm amplitude; 15 Hz ... 150 Hz, 2.3g

## Approvals

UL approvals	UL Listed UL 61010-1
	UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C

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## UL

Identification	UL Listed UL 61010
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## EMC data

Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Interference emission	Interference emission in accordance with EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial)
Noise immunity	Immunity in accordance with EN 61000-6-2 (industrial)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conducted noise emission	EN 61000-6-3 (Class B)
Noise emission	EN 61000-6-3 (Class B)

## Harmonic currents

Frequency range	0 kHz ... 2 kHz
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## Electrostatic discharge

Standards/regulations	EN 61000-4-2
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## Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion A

## Electromagnetic HF field

Standards/regulations	EN 61000-4-3
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## Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A

## Fast transients (burst)

Standards/regulations	EN 61000-4-4
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## Fast transients (burst)

Input	2 kV (Test Level 3 - asymmetrical)
Output	1 kV (Test Level 2 - asymmetrical)
Signal	1 kV (Test Level 2 - asymmetrical)
Comments	Criterion B

## Surge voltage load (surge)

Standards/regulations	EN 61000-4-5
Input	2 kV (Test Level 4 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 1 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Signal	1 kV (Test Level 2 - asymmetrical)

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Comments	Criterion B
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## Conducted interference

Standards/regulations	EN 61000-4-6
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## Conducted interference

I/O/S	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

## Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

## Standards and regulations

Standard – Safety extra-low voltage	IEC 61010 (SELV) / (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard - safety for equipment for measurement, control, and laboratory use	IEC 61010-1

## Overvoltage category

EN 61010-1	II
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## Mounting

Mounting type	DIN rail mounting
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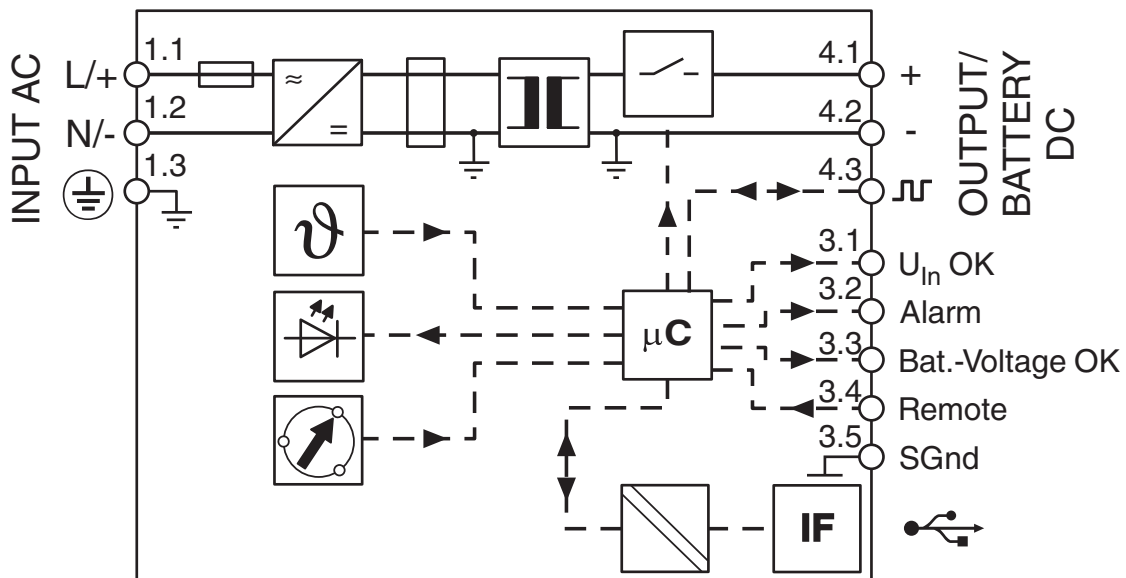


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## Drawings

Block diagram





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2907990>



**UL Listed**

Approval ID: FILE E 123528



**cUL Listed**

Approval ID: FILE E 123528



**cUL Listed**

Approval ID: FILE E 199827



**UL Listed**

Approval ID: FILE E 199827

**cULus Listed**

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-11.0	21052901
ECLASS-12.0	21052901
ECLASS-13.0	21052901

### ETIM

ETIM 8.0	EC001184
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### UNSPSC

UNSPSC 21.0	26111700
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 25;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### MINI-SCREW-USB-DATACABLE - Data cable

2908217

<https://www.phoenixcontact.com/us/products/2908217>



Used for communication between an industrial PC and Phoenix Contact devices with USB-Mini-B connection.

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### UWA 130 - Mounting adapter

2901664

<https://www.phoenixcontact.com/us/products/2901664>



2-piece universal wall adapter for securely mounting the device in the event of strong vibrations. The profiles that are screwed onto the side of the device are screwed directly onto the mounting surface. The universal wall adapter is attached on the left/right.

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## UWA 182/52 - Mounting adapter

2938235

<https://www.phoenixcontact.com/us/products/2938235>



Universal wall adapter for securely mounting the device in the event of strong vibrations. The device is screwed directly onto the mounting surface. The universal wall adapter is attached on the top/bottom.

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## UPS-BAT/PB/24DC/7AH - Energy storage

1274118

<https://www.phoenixcontact.com/us/products/1274118>



Energy storage, VRLA-AGM, 24 V DC, 7 Ah, automatic detection and communication with QUINT UPS-IQ

# QUINT4-CHARGER/1AC/24DC/10 - Battery charger



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## UPS-BAT/PB/24DC/12AH - Energy storage

1274119

<https://www.phoenixcontact.com/us/products/1274119>



Energy storage, VRLA-AGM, 24 V DC, 12 Ah, automatic detection and communication with QUINT UPS-IQ

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## UPS-BAT/PB/24DC/20AH - Energy storage

1348516

<https://www.phoenixcontact.com/us/products/1348516>



Energy storage, VRLA-AGM, 24 V DC, 20 Ah, automatic detection and communication with QUINT UPS-IQ

## QUINT4-CHARGER/1AC/24DC/10 - Battery charger

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## UPS-BAT/PB/24DC/40AH - Energy storage

1354641

<https://www.phoenixcontact.com/us/products/1354641>



Energy storage, VRLA-AGM, 24 V DC, 40 Ah, automatic detection and communication with QUINT UPS-IQ

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## UPS-BAT/VRLA-WTR/24DC/13AH - Energy storage

2320416

<https://www.phoenixcontact.com/us/products/2320416>



Energy storage device, lead AGM, VRLA technology, 24 V DC, 13 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

# QUINT4-CHARGER/1AC/24DC/10 - Battery charger



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## UPS-BAT/VRLA-WTR/24DC/26AH - Energy storage

2320429

<https://www.phoenixcontact.com/us/products/2320429>



Energy storage device, lead AGM, VRLA technology, 24 V DC, 26 Ah, tool-free battery replacement, automatic detection, and communication with QUINT UPS-IQ

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## UPS-BAT/LI-ION/24DC/120WH - Energy storage

2320351

<https://www.phoenixcontact.com/us/products/2320351>



Energy storage device, LI-ION technology, 24 V DC, 120 Wh, for ambient temperatures of -20°C ... 60°C, automatic detection and communication with QUINT UPS-IQ



## QUINT4-CHARGER/1AC/24DC/10 - Battery charger

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## UPS-BAT/LI-ION/24DC/924WH - Energy storage

2908232

<https://www.phoenixcontact.com/us/products/2908232>



Energy storage device, LI-ION technology, 24 V DC, 924 Wh, for ambient temperatures of -25 °C ... 60 °C, automatic detection and communication with QUINT UPS-IQ

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## RIF-1-BPT/2X21 - Relay base

2900931

<https://www.phoenixcontact.com/us/products/2900931>



Relay base RIF-1..., for miniature power relay with 1 or 2 changeover contacts or solid-state relays of the same design, Push-in connection, plug-in option for input/interference suppression modules, for mounting on NS 35/7,5

# QUINT4-CHARGER/1AC/24DC/10 - Battery charger



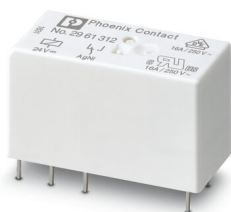
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## REL-MR- 24DC/21HC - Single relay

2961312

<https://www.phoenixcontact.com/us/products/2961312>



Plug-in miniature power relay, with power contact for high continuous currents, 1 changeover contact, input voltage 24 V DC

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