MULTI-CIRCUIT MULTIFUNCTION ENERGY METER

CED-4C ML

Product Overview

Multi-circuit energy meter CED-4C ML is a new-generation multifunction meter for multi-circuit measurement. It is compatible with single-phase 2-wire (1P2W), single-phase 3-wire (1P3W), three-phase 3-wire (3P3W), and three-phase 4-wire (3P4W) electrical systems, and provides all essential electrical data, including voltage, current, power, power factor (PF), total harmonic distortion (THD), frequency, demand, active energy, and other key electrical parameters.

Its plug-in connector design enables rapid installation, reducing installation time by up to 80% and minimizing wiring errors. The meter supports measurement of up to 4 three-phase circuits or 12 single-phase circuits.

Equipped with two RJ45 ports (RS485 communication), it supports remote meter reading and parameter configuration via the Modbus RTU protocol. A large backlit LCD display and 4 front-panel controls allow convenient data viewing and parameter configuration.

Features

- Monitors up to 4 three-phase circuits in a compact housing less than 72 mm wide
- Uses an error-resistant plug-in hub (CRJ-31) to connect the meter and current transformers for faster wiring and reduced installation errors
- Compatible with four electrical system configurations: 1P2W, 1P3W, 3P3W, and 3P4W
- Measures and displays a wide range of electrical parameters
- Built-in RS485 communication interface supporting Modbus RTU
- Measures both voltage harmonics and current harmonics
- Compliant with CE, RoHS, and FCC standards

Installation Diagram

Technical Specifications

Nominal Voltage (Un)	3 Φ , 400Y/230 VAC
Operating Voltage	80% ~ 120% of Un
Auxiliary Power Supply	85 ~ 276 VAC
Insulation Withstand Voltage	4 kV / 1 min
Impulse Withstand Voltage	6 kV, 1.2/50 μs
Operating Current Range	0.4% Ib to Imax
Overcurrent Withstand	20 Imax for 0.5 s
Operating Frequency Range	50 or 60 Hz
Power Consumption	≤ 2 W, ≤ 10 VA
Pulse Output Indicator	LED
Meter Constant	1000 imp/kWh
Display	8-digit LCD multifunction display for electrical parameters
Maximum Display Value	99999999 (kWh & kvarh)

Performance Specifications

Operating Humidity	≤ 90%
Storage Humidity	≤ 95%
Operating Temperature	-25°C ~ +55°C
Storage Temperature	-40°C ~ +70°C
Reference Operating Temperature	23°C (± 2°C)
Standard	IEC 62053-21
Accuracy Class	Class 1
Overvoltage Category	CAT III
Ingress Protection Rating	IP51 (Indoor Use)

Accuracy

Voltage & Current	± 0.5%
Frequency (Hz)	± 0.2%
Power Factor (PF)	± 1%
Active Power (kW) & Apparent Power (kVA)	± 1% of range maximum
Reactive Power (kvar)	± 1% of range maximum
Reactive Energy (kvarh)	Class 2
Active Energy (kWh)	Class 1

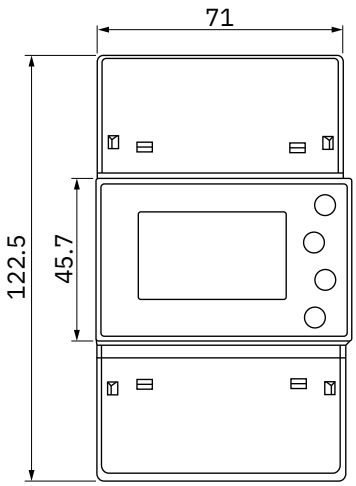
Communication

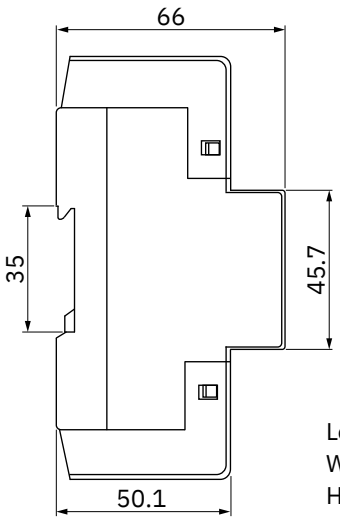
Communication Interface	RS485 (half-duplex)
Communication Protocol	Modbus RTU
Baud Rate (bps)	2400 / 4800 / 9600 (default) / 19200 / 38400
Address Range	1-247
Maximum Number of Connected Units	64 pcs
Transmission Distance	1000 m
Parity Check	EVEN / ODD / NONE (default)
Data Bits	8
Stop Bits	1

Installation & Related Information

Mounting Method	DIN rail mounting (35 mm)
Dimensions (mm)	122.5 x 71 x 66 (L x W x H)
Ingress Protection Rating	IP51 (Indoor Use)
Material	UL 94 V-0
Weight (g)	330

Outline Dimensions





Length: 122.5 mm
Width: 71 mm
Height: 66 mm

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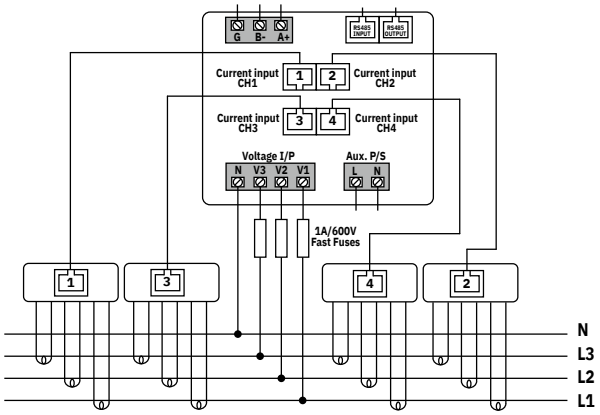
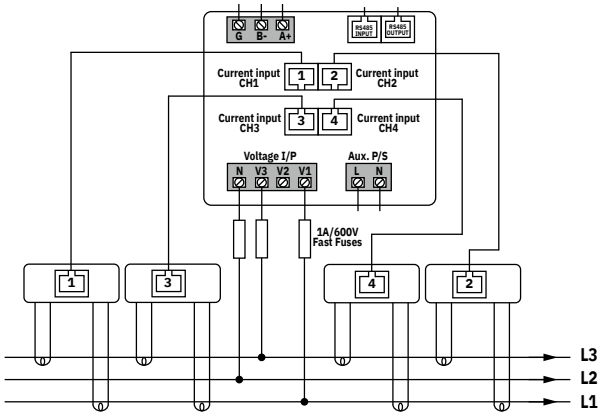
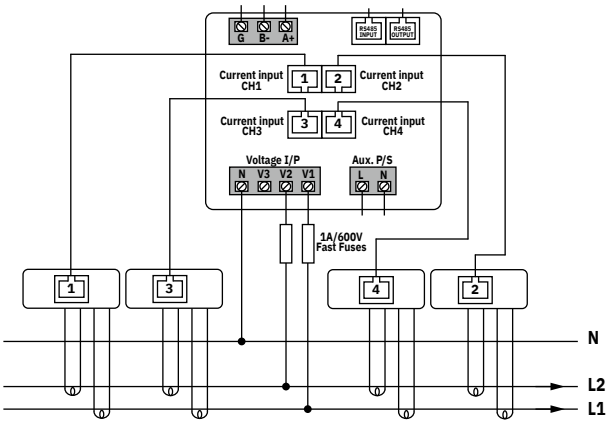
Three-Phase 4-Wire System



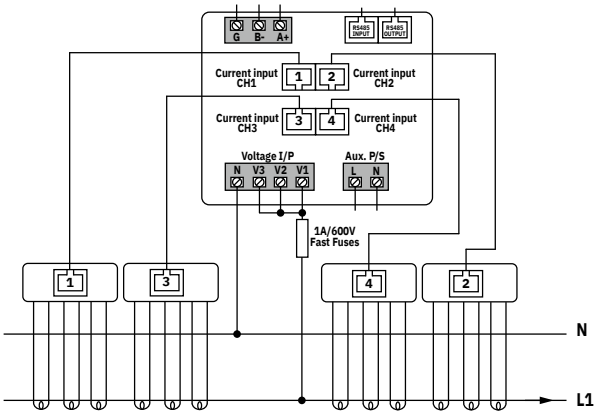
Three-Phase 3-Wire System



Single-Phase 3-Wire System

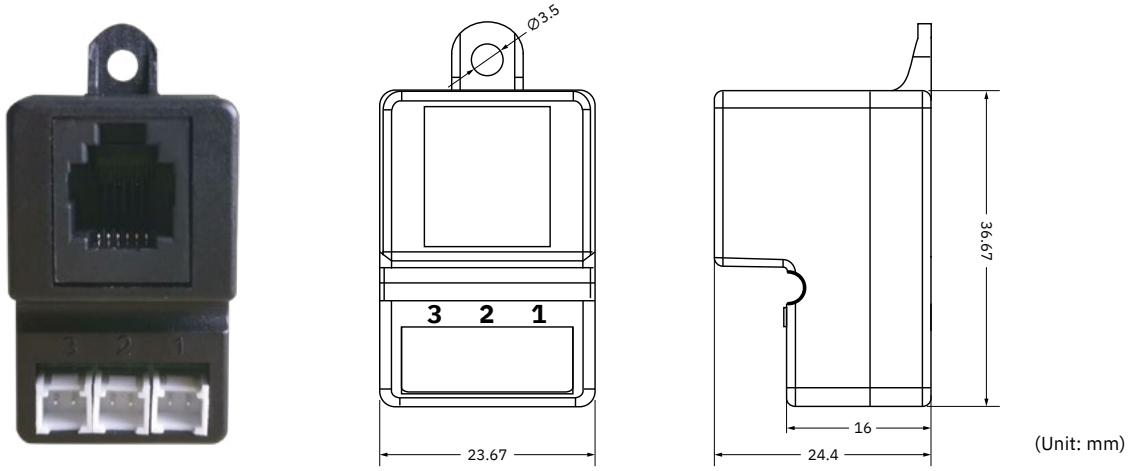


Single-Phase 2-Wire System



Accessory 1: CT Hub (CRJ-31)

Outline Dimensions



(Unit: mm)

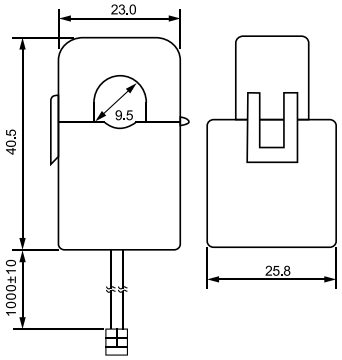
Specifications

Model	CRJ-31
Weight (g)	12.3
Output	Supports mV and mA output options: 100 mV, 333 mV, and 100 mA
Output Connector	RJ 12 (4-pin)
Operating Temperature	-25℃ ~ +55℃
Storage Temperature	-25℃ ~ +55℃
Material	UL 94 V-0

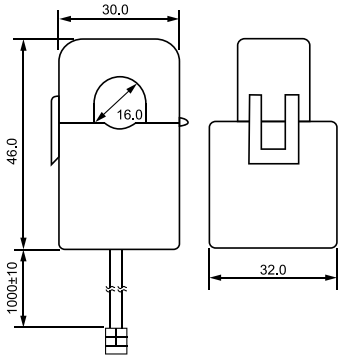
Accessory 2: Split-Core Current Transformer (CT) — ESCT-T Series

Outline Dimensions

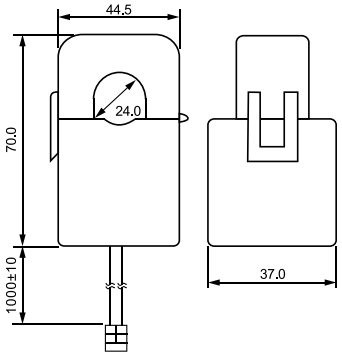
ESCT-TA10-020



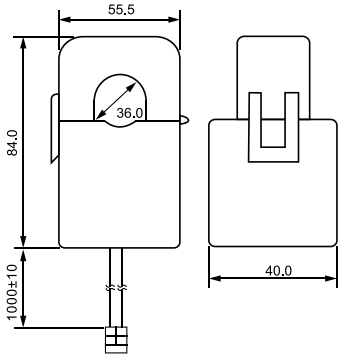
ESCT-TA16-150



ESCT-TA24-300



ESCT-TA36-600



(Unit: mm)

Selection Table

Model	Rated Current	Output	Accuracy Class
ESCT-TA10-020	20 A	100mA	0.5
ESCT-TA16-150	150 A	100mA	0.5
ESCT-TA24-300	300 A	100mA	0.5
ESCT-TA36-600	600 A	100mA	0.5

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Frequency	50 or 60 Hz
Primary Rated Current	20 A to 600 A loads
Output	100mA
Accuracy Class	Class 0.5 (20% ~ 120% of rated current)
Phase Angle Error	Less than 2 degrees (at 50% of rated current)
Insulation Voltage	600 VAC
Dielectric Strength	2.5kV / 1mA / 1min
Operating Temperature	-12℃ ~ +75℃
Operating Humidity	< 85%
Standard	IEC 61869-2

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