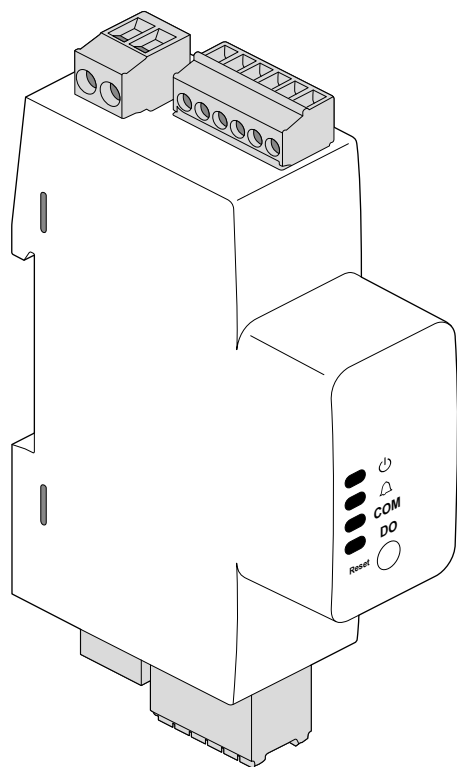


9 Series

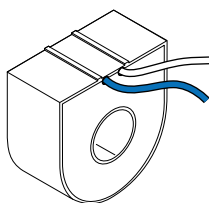
Energy sensor, PowerTag Resi9 80A 6 circuits LN Modbus

Resi9 Current Transformer 80A

Instruction sheet



R9M80X6M



R9MCT80

02/2024

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Safety information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

Failure to follow these instructions will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTE is used to address practices not related to physical injury.

Symbols



ETS settings



Additional information



The information provided must be complied with, otherwise program or data errors may occur.

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Safety precautions

Installation, wiring, testing, and maintenance must be performed in accordance with all local and national electrical codes.

Read carefully and follow the safety precautions below.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals.

Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks.
- Connecting several electrical devices.
- Laying electrical cables.
- Safety standards, local wiring rules and regulations.

Failure to follow these instructions will result in death or serious injury.

WARNING

HAZARD OF ELECTRIC SHOCK

- Observe the regulations for working on live parts.
- Only actuate the device buttons using insulated auxiliary equipment that meets the requirements of EN 60900.

Failure to follow these instructions may result in death, serious injury, or equipment damage.

WARNING

UNINTENTIONAL OPERATION

- Do not use energy sensors for critical control or protection purposes when the operation of the control circuit affects the safety of personnel or equipment.

Failure to follow these instructions may result in death, serious injury, or equipment damage.

WARNING

INACCURATE DATA RESULTS

- Do not rely solely on the data displayed on the front panel or in the software to determine whether the device operates correctly or observes all applicable standards.
- Never substitute the data displayed on the front panel or in the software for appropriate workplace norms or equipment maintenance.

Failure to follow these instructions may result in death, serious injury, or equipment damage.

About the products

Energy sensor, PowerTag Resi9 80A 6 circuits LN Modbus

The Energy sensor, PowerTag Resi9 80A 6 circuits LN Modbus (hereinafter referred to as module) measures current, voltage, energy consumption, etc., for monitoring single-phase electrical installations.

This energy sensor provides bi-directional active energy. The active energy are saved in the non-volatile memory of the energy sensor.

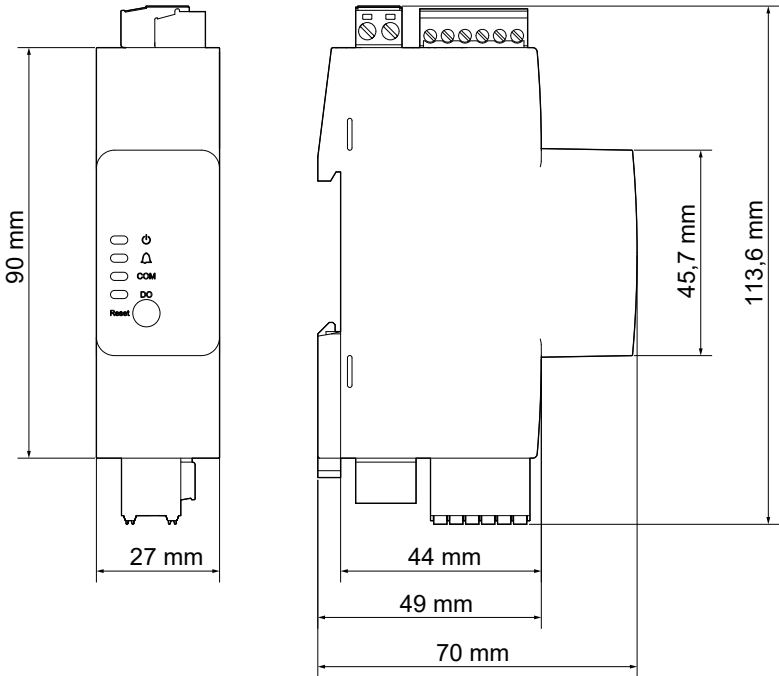
The energy sensor provides highly accurate measurement and average value. To be completed with Resi9 Current Transformer 80A.

Resi9 Current Transformer 80A

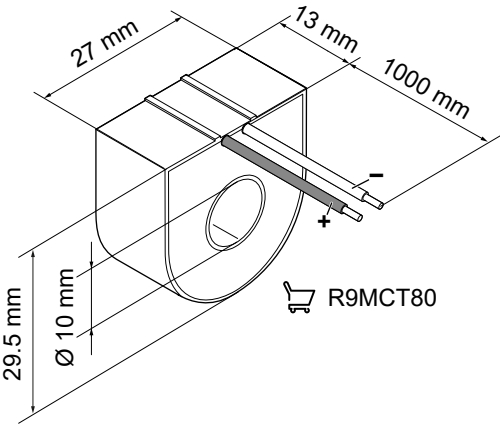
The Resi9 Current Transformer 80A (hereafter referred to as CT) is the actual sensing device. One set has 6 units. The set must be procured separately.

Components

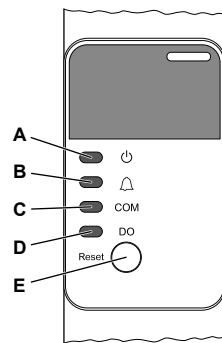
Module



CT



User interface



- A** LED in Green. Power: LED is ON when it is powered and is OFF when the power supply is off.
- B** LED in Red. Alarm: Flashes at 1 Hz frequency when alarm happens and is off when there is no alarm. The LED flashes at 10 Hz frequency during reset. Alarm could be configured by the user, e.g. set input voltage normal range with threshold value, when input voltage is over the threshold, alarm is on for this over voltage situation happening.
- C** LED in Green. Modbus Communication: flashes at 2 Hz when Modbus communication occurs and is constantly ON when no communication occurs. In Modbus address change mode: See details in section E "Button".
- D** LED in Green. Digital output: LED is ON when DO switch is closed, LED is OFF when DO switch is opened.
- E** Button.
 - Reset to factory settings: Press and hold for 10 seconds to reset.
 - Check Modbus address: Short press (<2 sec). COM LED (C) indicates the current address by the number of flashes. As standard, factory settings define Modbus address as 1.
 - Change Modbus address: long press (>2 sec, but <10 sec). COM LED (C) turns OFF, setting mode is activated as standard, factory settings define Modbus address as 1.
Enter the address pressing the button.
1x = address 1
2x = address 2
etc.
To quit the mode, either to long press (>2 sec, but <10 sec) the button, COM LED will come back to green, or to wait (10 sec) and it gets out with COM LED turning back to green.

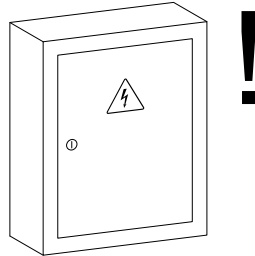
NOTE: When typing more than 10 times in Modbus address setting mode, the address will be always set as 10.

NOTE: Reset to factory settings resets the following parameters:

- Communication settings: Device modbus address, RS-485 port baud rate and parity
- Digital output: Digital alarm output settings, Digital alarm bit mask

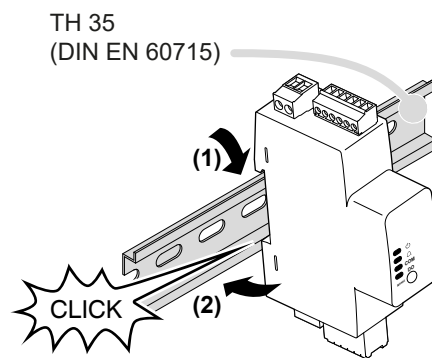
Mounting

General



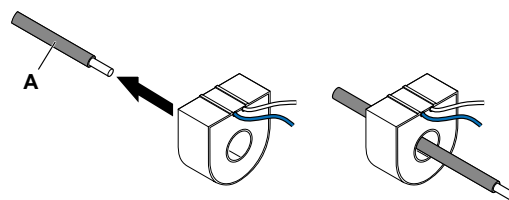
Module and CTs must be installed in a locked cabinet.

Module



- (1) Hook the module to the DIN rail from above.
- (2) Press the locking system of the module at the bottom against the DIN rail.

CT



A Phase

TIP: First feed the phase power wire through the CT and only then fit the wire ends with ferrules. With the ferrules, the wire may no longer fit through the opening.

Connections

Module

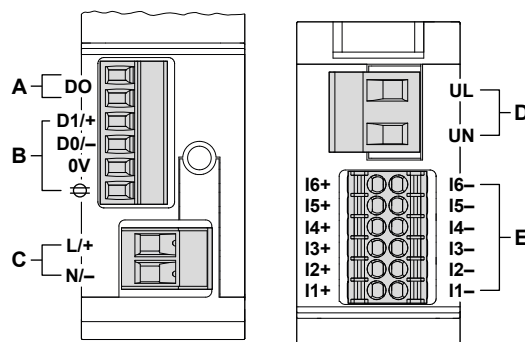
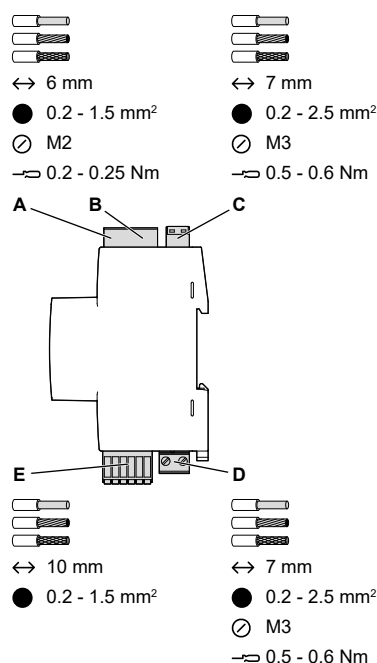
⚠ WARNING

HAZARD OF ELECTRIC SHOCK

The terminal blocks are removable.

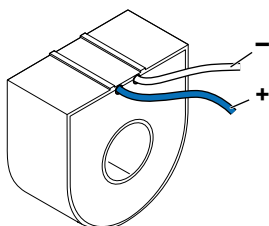
- Observe the regulations for working on live parts.
- Only actuate the device buttons using insulated auxiliary equipment that meets the requirements of EN 60900.

Failure to follow these instructions may result in equipment damage.



- A** Digital output DO
B RS485 Communication D1/+, D0/-, 0V, ⌀
C Auxiliary power supply terminal L/+, N/-
D Voltage input terminal UL, UN
E Current input I1, I2, I3, I4, I5, I6

CT



- + Blue
 - White

Wiring

General

When wiring, pay particular attention to the Modbus installation instructions, especially regarding line shielding, earthing and line termination.

Note the polarity (+/-) for the Modbus connections.

Module

NOTICE

RISK OF EQUIPMENT DAMAGE

- Respect certain length of the stripped copper wires.

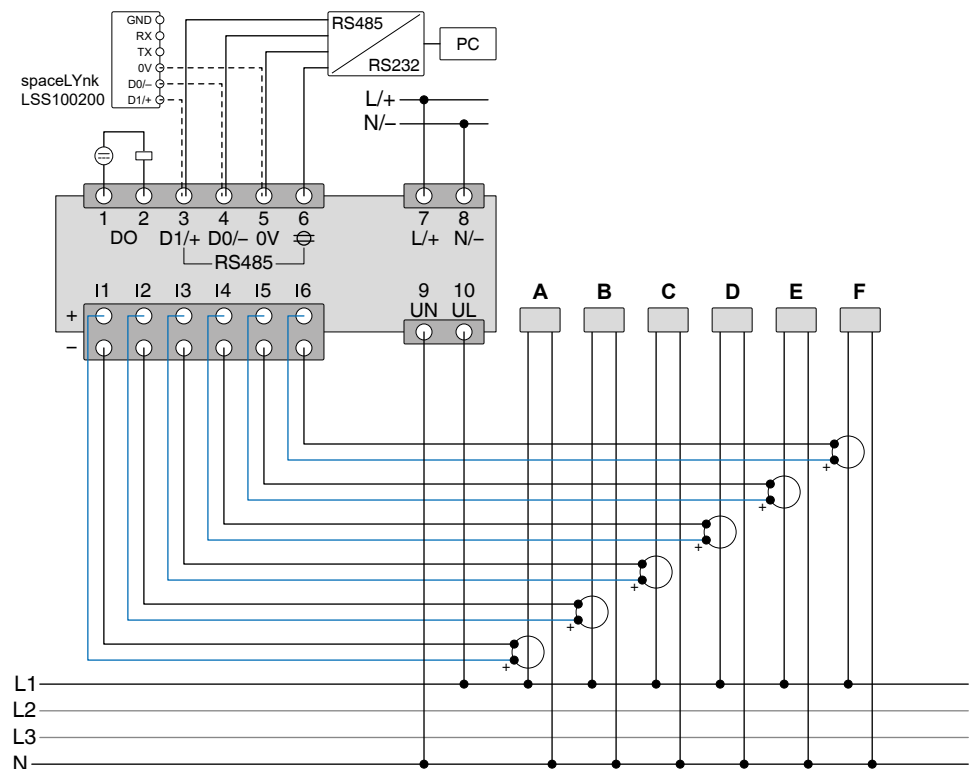
Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

- Do not use 2-line voltage (L-L) to provide auxiliary power supply for the module.

Failure to follow these instructions can result in equipment damage.



- A** Single-phase load 1
- B** Single-phase load 2
- C** Single-phase load 3
- D** Single-phase load 4
- E** Single-phase load 5
- F** Single-phase load 6

NOTE: The voltage input and the loads must be connected to the same phase. Do not connect single-phase circuits from different phases, as this will lead to incorrect measurement results.

You can connect a maximum of 2 CTs to the same current transformer channel. The module then measures the sum of the currents from both loads without impact on accuracy.

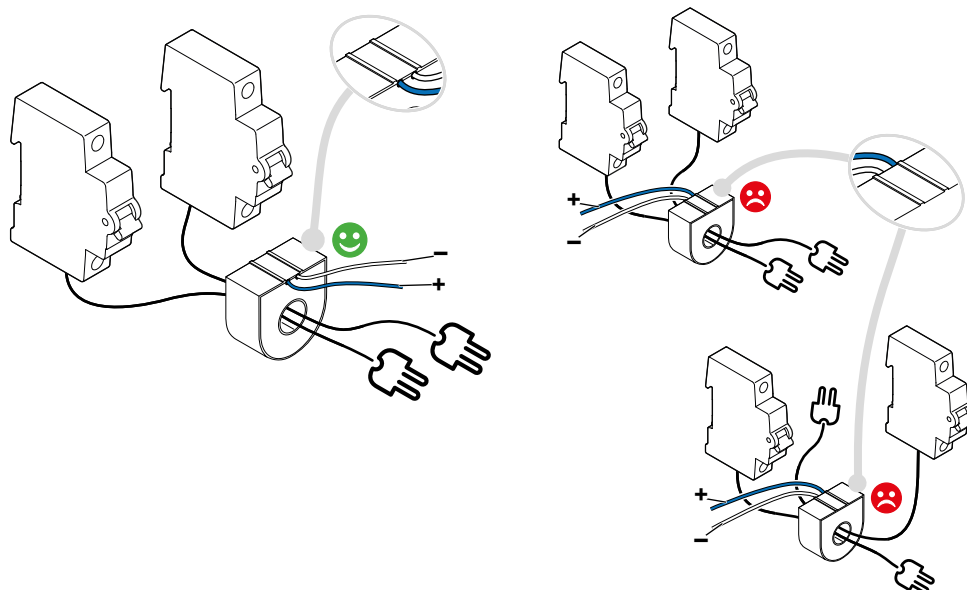
The digital output DO can be configured for digital applications, e.g. for generating ON/OFF control signals for capacitor banks, generators and external devices and systems.

	Length stripped	Width	Screw	Torque	Note
Digital / pulse output	6 mm	0.2 - 1.5 mm ²	M2	0.2 - 0.25 Nm	
RS485	6 mm	0.2 - 1.5 mm ²	M2	0.2 - 0.25 Nm	Optional spaceLynk
AC/DC Communication	7 mm	0.2 - 2.5 mm ²	M3	0.5 - 0.6 Nm	
Voltage input	7 mm	0.2 - 2.5 mm ²	M3	0.5 - 0.6 Nm	
Current input	10 mm	0.2 - 1.5 mm ²			Max. 2 CT's per input

CT

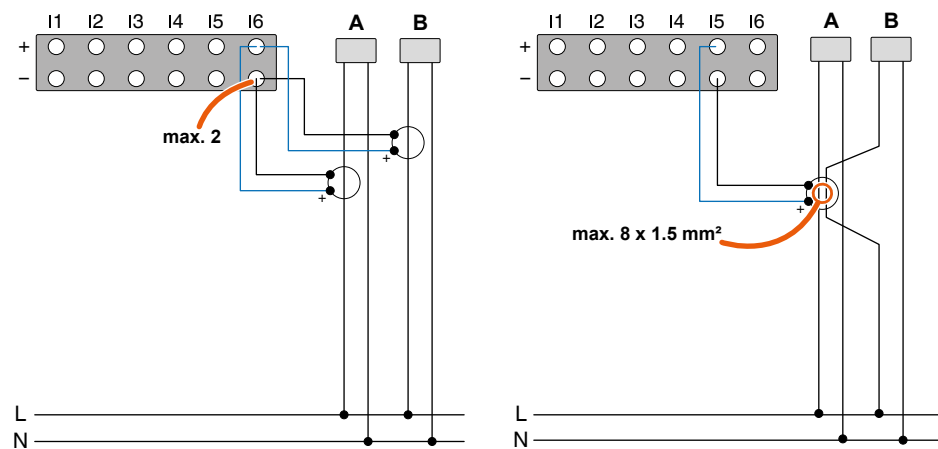
NOTE: When installing the CT on the cable, pay attention to the correct direction of the phase in relation to the source. Wrong direction generates negative outputs (negative energy).

NOTE: While using more than one cable with 1 CT, pay attention to the same direction.



NOTE: Only use the R9MCT80 as the current transformer. Please note that the measurement accuracy cannot be guaranteed if a different current transformer is used.

- **Cutting CT cable length will not impact accuracy. When it's in the case to extend the CT cable, you should not get the cable longer than 1.5 m.**
- Max. 2 CTs per input without impact on accuracy
- Up to 8 cables (phase) per CT
 - 8x 1.5 mm²
 - 6x 2.5 mm²
 - 4x 4 mm²
 - 2x 6 mm²
 - 1x 10 mm²
 - 1x 16 mm²
 - 1x 25 mm²



Configuration and User Manual

Scan this QR code or the one on the front face of the module to access go2se.com and choose your language for complete information about the device, including operation, configuration and using the product.



Technical data

Auxiliary power supply	
Nominal voltage:	AC 100-240 V, 50/60 Hz, or DC 80-265 V
Power loss:	< 5 VA @ AC; < 3 W @ DC
Voltage inputs	
Measured voltage:	AC 230 V, $\pm 20\%$
Nominal frequency:	50 Hz, ± 5 Hz
Current inputs	
Measured current:	20 mA to 80 A
Nominal frequency:	50 Hz, ± 5 Hz
Connecting terminals	Pluggable screw and plug-in terminals see Wiring
DO output:	DC 24 V, 50 mA
Pulse output:	400 imp/kWh
Environment	
Temperature:	
- Operating:	-25 °C to +60 °C
- Storage:	-40 °C to +85 °C
Humidity rating:	5% to 95% relative at 50 °C (non-condensing)
Pollution degree:	2
Altitude:	≤ 2000 m (6562 ft)
Protection type:	IP40 front display, IP20 housing
Dimensions (W x L x H):	
Module:	27 x 70 x 113.6 mm
CT:	27 x 13 x 29.5 mm
- Inner diameter for CT:	10 mm

Disposal



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