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Pulse outputs

What is the functionality of the pulse output?

The pulse output sends out a proportional amount of pulses to the consumed kilowatt hours.

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My pulse collector cannot detect any pulses from the meter. Why?

It is essential to adjust the pulse frequency in relation to the maximum power usage in the application. Too many pulses/kWh can result in pulses going into each other (no space between pulses) preventing the pulse relay to open and close.

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How do I get the voltage signal from the pulse output?

The pulse output needs an external power supply to get a voltage signal over the relay contact.

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Applications

What meters should be used for different network types?

- ODIN 3-phase: 3x230/400 V Network(4 wire application)
- DELTAplus/ DELTAmax DXX13000:3x57-288/100-500 V (4 wire application)
- DELTAplus/DELTAmax DXX12000: 3x100-500 V (3-wire).
- EQ meters A-series can be used in both 3 and 4 wire applications.

Can I use ODIN 4165/4110 in a 3 wire application (L1, L2, L3 + PE)?

NO! The meter is designed for a 4-wire network (3-phase + N + PE) and needs the neutral conductor to start!

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Current transformers

What rating should be used on the current transformers for the CT connected meters?

- OD 4110: CT's with 5A on the secondary side.
- EQ meters A42 and A44: CT's with 1, 2 or 5A on the secondary side.
- DELTAplus/max: Any rating is possible. (in the DELTA series a ratio is configured e.g. $200/5=40$)

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How do I wire the current transformers?

The primary conductor shall be fed (from the fuse) from P1 to P2 through the transformer. The secondary side of the transformer (marked S1 and S2) shall be connected to S1 and S2 on the meter.

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When installing CT's, should the secondary side of the CT be connected to ground?

You need to consult the local installation regulations!

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Is summation metering possible?

Yes it is possible to sum the current from several current transformers into one single meter. Note: Our CT connected meter are approved for 6A or 10A secondary current.

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Protocols and software

How can I decode the protocol and read-out the data/values registered in the electricity meter?

The protocols communicated from our meters are M-bus or Modbus. This means that software with either an M-bus or Modbus parser/interpreter has to be used.

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Where can I get software for reading meter data?

ABB do not provide any software. Our recommendation is to contact a System Integrator to support you with a total system solution.

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Communication

What are the default settings on the Modbus communication adapter CSO05000?

- Modbus address = 1
- Baud rate = 19200
- Transmission mode = RTU
- Parity = Even

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Why does the communication adapter CTM04000 (M-bus adapter) requires twice the current as a standard M-bus load?

A standard M-bus load (native TP cable) requires 1,5 mA. The IR interface of CTM04000 requires additional 1,5 mA from the M-bus master. Since the CTM has both native TP cable and IR it consequently requires 3 mA

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What is the maximum communication speed (baud rate) when using a serial communication adapter over IR port?

Maximum communication speed is 2400. On the new EQ meter range the IR-port is configurable for use with gateway and access points.

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Installation/wiring

Where should I connect the neutral conductor on an ODINmeter?

The neutral terminals are connected to the same solid copper bar going through the meter, meaning that it doesn't matter if you connect on the upper or lower side.

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What type of fuse is used for circuit protection?

- DELTAplus/max direct connected: Max 80A MCB, C characteristic or 80A diazed, type gL-gG.
- ODIN 3-phase direct connected: Max 63A MCB, C characteristic or 63A diazed, type gL-gG.
- A41 and A43: Max 80A MCB, C characteristic or 80A diazed, type gL-gG.
- Transformer connected meters: Max 10A MCB, B characteristic or 10A diazed, type gL-gG.
- DELTAsingle: Max 80A MCB, C characteristic or 80A diazed, type gL-gG.
- ODINsingle: Max 63A MCB, C characteristic or 63A diazed, type gL-gG.
- C11: Max 40A MCB, C characteristic or 40A diazed, type gL-gG.

How does the meter react in the event of reversed installed CT's?

The event/error code for negative power will be displayed. If the meter can measure both import and export of energy, no error code is activated. An arrow for each phase indicates the direction of energy on the EQ meters.

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Power failure

For how long can a meter be without power?

The meter has a super capacitor which will keep the internal clock running for approximately 168 hours in +20°C.

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What happens if the internal clock loses power?

If the internal clock loses power it is important to set the time and date again as soon as the meter is powered up. If this is not done, new stored data will have no valid time stamps!

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How is data secured when power failure occurs?

All data is stored in an EEPROM inside the meter. When power failure occurs the meter, within milliseconds, transfer all data into the EEPROM. When power is back, all data is available.

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How long will the data remain in the meter after a power failure?

The EEPROM in the meter retains data for more than 40 years.

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Error codes

What do the error codes indicate?

For answer please look up the information in the corresponding manuals. These can be downloaded from ABB's homepage. You will find them under here:

www.abb.com > Product Guide > Low Voltage Products and Systems > Modular DIN Rail Products > Electricity Meters for DIN Rail Electricity > Meters

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You can also try these links:

[User manual A43/44](#)

[User manual DELTAplus/max](#)

[User manual C11](#)

Installation environment

What does the temperature range for the meter indicate?

The temperature range mentioned is referring to the lowest and highest ambient temperature where we can ensure correct meter operation.

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Addressing

How can I set a primary address on the ODIN meter?

Only on MID approved ODIN meters a primary address can be configured. This has to be done via communication (M-bus command). Use communication adapter CRM04000 or CTM04000 for easy configuration via IR interface.

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What is a valid M-bus address?

A valid address should be within the range 1-250

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What is a valid Modbus address?

A valid address should be within the range 1-247

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Tariffs

How can I switch tariffs on a meter?

There are three different options. Using the internal clock, sending a communication command or via inputs.

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How can I configure tariff switch points?

For DELTAplus and DELTAsingle the software Tariff configure 1.11 is used. For the new EQ meter range tariffs can be configured manually or via web browser interface.

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General questions

Why is there a blue button on the C11 meter?

The blue button is used for scrolling through meter data and also for configuration settings. Please see C11 user manual for menu structure (page 17)

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