Installation manual

EDMI Mk10a three phase CT meter

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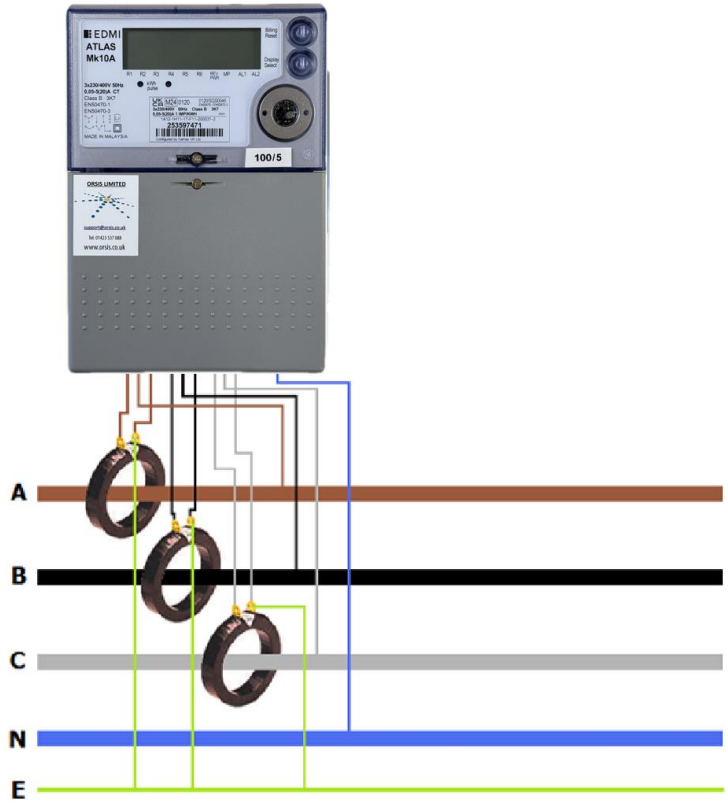
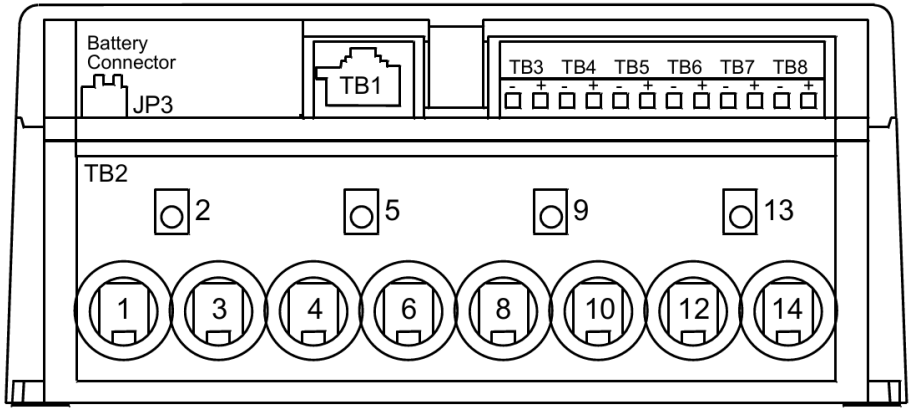
EDMI three-phase CT diagram



EDMI CT wiring schematic



Terminal	Description
TB1	RJ45 connector which is hardware configured to either RS485 or RS232, or a 5 way terminal block for RS485.
TB2	Voltage and current inputs.
TB3	I/O - PI5 or PO5.
TB4	I/O - PI6 or PO6.
TB5	I/O - PO1.
TB6	I/O - PO2.
TB7	I/O - PO3.
TB8	I/O - PO4.

The above is a guide, depending on the variant of the meter the terminals may differ slightly.

UNDER NO CIRCUMSTANCES THE SECONDARY CIRCUIT OF A CT BE OPENED WHEN THE PRIMARY CIRCUIT IS ENERGISED.
THIS WILL RESULT IN DANGEROUS HIGH VOLTAGES ON THE SECONDARY LEADS.

POLARITY

- **CTs are direction sensitive and must be fitted the correct way round.**
- **CTs are marked with P1 and P2 to indicate which way they should be fitted around the cable or bus-bar.**
- **The side marked P1 must point towards the supply, and P2 must point towards the load. If an arrow is printed on the CT it must point towards the load.**
- **CTs are supplied with secondary terminals marked S1 and S2 which must be connected to the correct terminals on the meter.**
- **The meter will not record consumption correctly if any of the CTs are connected incorrectly.**

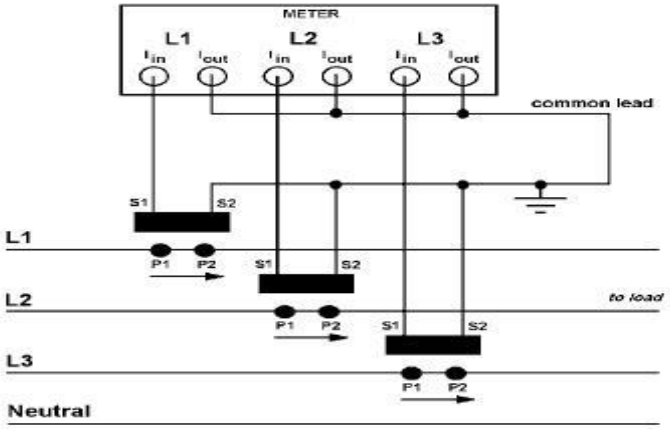
The CTs must be connected to the correct phase inputs on the meter.
The correct voltage references must also be connected to the meter from the correct phase.

Grounding

- It is common practice in low voltage (LV) installations (circuits below 1000V) to ground the current transformer secondary **S2** leads. This is a safety precaution to protect against static voltages or insulation failure.
- There only needs to be one ground on the secondary circuit, and this is usually made at the transformer end (see diagram below). In three phase installations where a common secondary lead is used, the grounding can be taken from the common lead.
- It is essential that the CT's are connected the right way round and that the phase relationships are maintained between the meter and the CTs.

The following must be checked during installation of the meter and CTs:

- Orientation of each CT around the conductor. (**P1** towards the generator, **P2** towards the load, or arrow pointing from the generator towards the load).
- Output orientation from CT. (**S1** to 'current in', **S2** to 'current out').
- CT assignment. (CT around L1 conductor connected to the L1 current inputs on the meter, and so on).

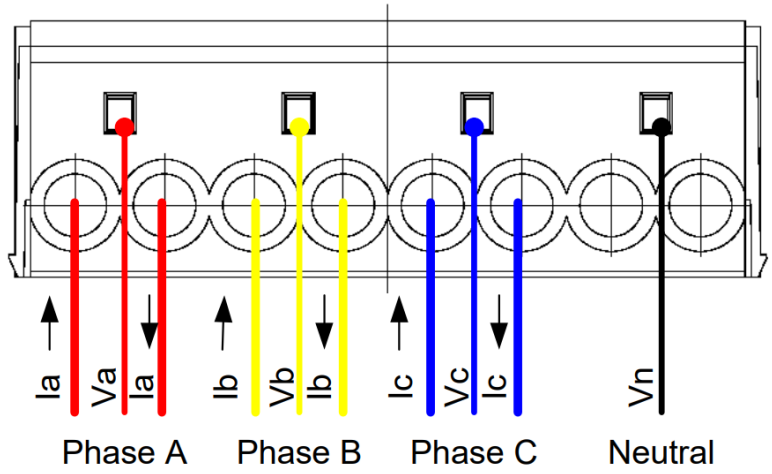


Using EDMI for PV export metering

Export metering with three-phase CT meters

- The meter is capable of measuring energy in both directions.
- All 3 CTs must be wired in the same electrical and physical orientation.
- The correct voltage references must also be correctly connected for each phase.

Three phase 4 wire wiring diagram for the EDMI



Electrical wiring installation

- The CT comes with a 1 metre lead, a positive (S1 - red) and negative (S2 - black) cable.
- Phase A the positive lead should go into terminal 1 and the negative into terminal 3.
- The reference voltage for this phase goes into terminal 2.
- There is an arrow on the CT to indicate which way round the cable it should go.
- The physical orientation is different depending if the meter is being used as a generation meter or as an import/export meter.

How to Install the EDMI module

Ensure the meter is installed prior to module installation

Remove tails cover

Plug in RJ11 Clip

Refit tails cover

Commissioning Phase

It is essential that the commissioning engineer contacts the Orsis support team to confirm the communications paths are operational **BEFORE** leaving site.

CT meter commissioning phase

For a CT installation it is essential that a full commissioning check is performed to confirm the meter is operating correctly. The meter is sensitive to connections L1, L2 and L3 must be connected in the correct order on the meter (from left to right). A CT Commissioning sheet is in Appendix A.

The metering system will not be deemed operational until Orsis support staff confirm all communications paths are connected.

Please phone Orsis Support Team on 01423 537088 to check and confirm the connection.

Appendix A

LV CT Panel Meter Commissioning Form

Voltages

L1-N		V
L2-N		V
L3-N		V

L1-L2		V
L2-L3		V
L3-L1		V

Phase Rotation	

Currents

Primary			Secondary			Calculated ratio	
L1:		A	L1:		A	Ratio:	
L2:		A	L2:		A	Ratio:	
L3:		A	L3:		A	Ratio:	

Current Transformer Ratio:	

Power

Calculated

L1:		KVA
L2:		KVA
L3:		KVA
Total:		KVA

Metered

L1:		KVA
L2:		KVA
L3:		KVA
Total		KVA

Panel Meter Serial No:	

Pulse Value		KWh

Pulse Width:	

Current Transformer Ratio:	

Meter Total KWh:	

COAP Total KWh:	

Time:	

Date:	

Operator:	