

# AUTOMETERS

SYSTEMS

## IMPORTANT INFORMATION WHEN USING CURRENT TRANSFORMERS

### Before installing current transformers you must know the following:

- The load you are measuring, highest load and lowest load.
- The largest physical size current transformer you can install, including the internal diameter for the cable to pass through.  
This will determine all subsequent technical values.
- The distance the meter is from the measuring current transformers.
- The V.A rating of the current transformer and meter.

Now look at diagrams 1 & 2, and in particular the markings on the current transformer.

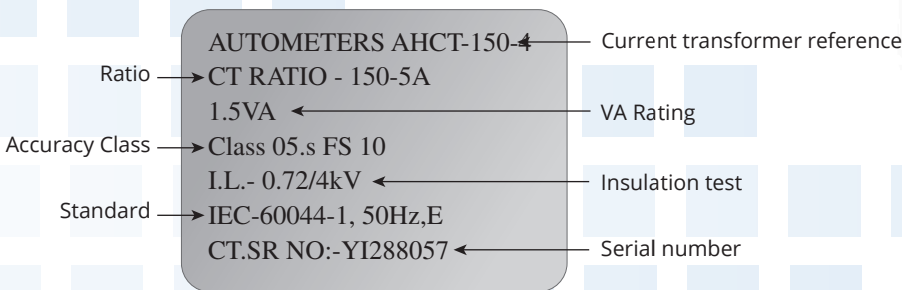


Diagram 1

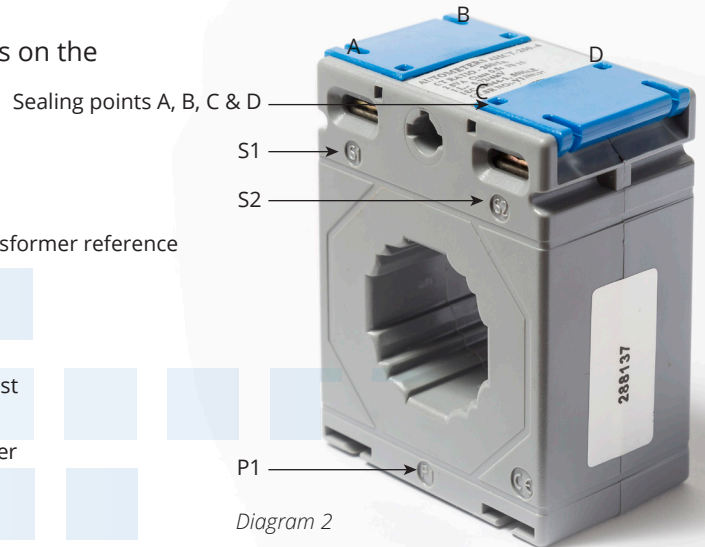


Diagram 2

It is vitally important that you choose the correct current transformer for measuring the load accurately.

- The current transformer will only measure accurately between 5-100% of the rated primary current.
- The distance from the current transformer to the meter and the cable size used is critical for accuracy.
- The VA rating of the current transformer dictates the cable size and length of the cable to be used.
- It is good practice to install a 4 pole isolation switch and current transformer shorting terminals.

### P1, P2

These are marked on each face of the current transformer, you must take the power through P1 and out of P2 to the distribution board (LOAD)

### Voltage.

The voltage phases must be in the correct rotation as per the diagram opposite and ideally have an isolation breaker for the voltage and the Neutral.  
Autometers do supply a Voltage and Current isolating and shorting terminal block for current operated meters.

### S1, S2

These are the terminal definitions and must always be connected as the meter connection diagram indicates.

**For safety, S2 terminal should be earthed.**  
See diagram 3.

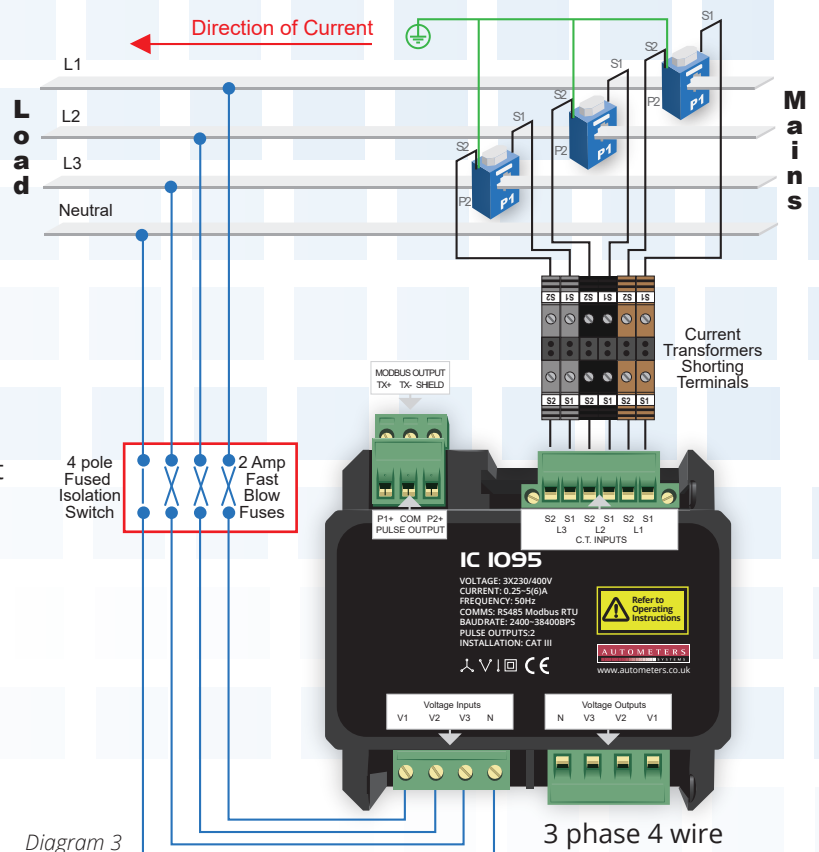


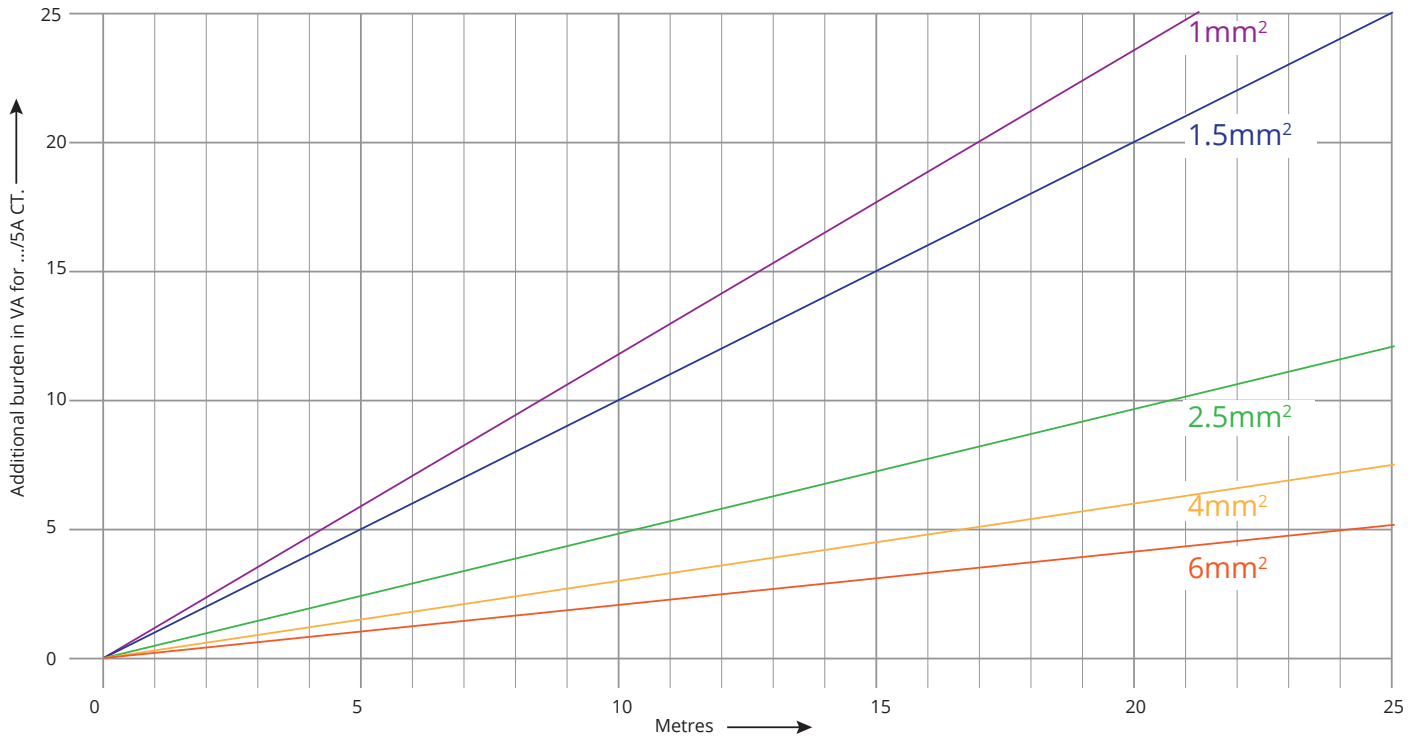
Diagram 3

## VA rating

The V.A. rating is critical information for installing the current transformer, It dictates what SIZE cable to use for the distance the current transformer is installed from the meter. See chart below as an indication only. The chart indicates the VA rating on the left and distance along the bottom. The chart is indicating the cable size when selecting the current transformer.

NOTE: Every meter has a VA burden, for Autometers electronic meters allow 1 VA.  
Enter this in your calculation when checking current transformer VA and cable size for distance.

Graph showing cable size requirements over distance related to the V.A. rating of the current transformer



The current transformers should always be secured using the fixing feet or the bus bar clamps provided.

## Electrician

The meter and current transformers should only be installed by a fully qualified electrician.

It is the installer who is fully responsible for the safe installation of this meter. It must be installed to meet the current electrical regulations.

## EMC Installation Requirements

Whilst this unit complies with all relevant EU EMC (electro-magnetic compatibility) regulations, any additional precautions necessary to provide proper operation of this and adjacent equipment will be installation dependent and so the following can only be general guidance: Avoid routing wiring to this unit alongside cables and products that are, or could be, a source of interference.

It is good practice to install sensitive electronic instruments that are performing critical functions in EMC enclosures that protect against electrical interference causing a disturbance in function.

## WARNING

During normal operation, voltages hazardous to life may be present at some of the terminals of this unit. Installation and servicing should be performed only by qualified, properly trained personnel abiding by local regulations. Ensure all supplies are de-energized before attempting connection or other procedures.

Terminals should not be user accessible after installation and external installation provisions must be sufficient to prevent hazards under fault conditions.

This unit is not intended to function as part of a system providing the sole means of fault protection - good engineering practice dictates that any critical function be protected by at least two independent and diverse means.

## Never open-circuit the secondary winding of an energized current transformer.

If this equipment is used in a manner not specified by the manufacturer, protection provided by the equipment may be impaired.

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