

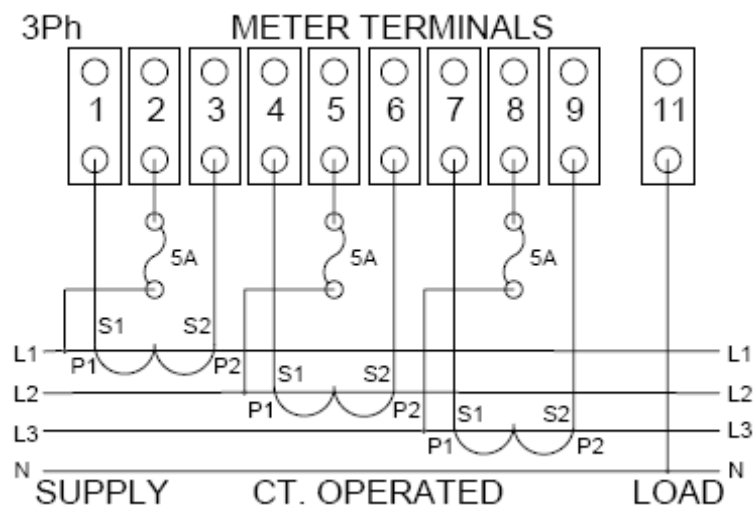
MT375 CT Operated Three Phase Meter – Checking Connections

To ensure a meter is not wholly or partially running in the reverse direction, perform the following checks.

DANGER !

- Note that this work should be only carried out by suitably qualified and trained personnel.
- The equipment should be isolated while making changes to the wiring.
- CT connections should not be open circuit while a load is present, switch off or use shorting links if available.

Check the Wiring is Correct - Typical Wiring Arrangement



Check The Reverse (export) Energy Display

- Access the manual scroll sequence - press the blue button repeatedly until “Std Data” is shown then hold the button for 2 seconds and release. Pressing the button again now cycles through various displays shown below. The display will return to normal operation automatically.

Manual scroll sequence:-

- 1.8.0 - kWh total
- **2.8.0 - kWh reverse total – THIS SHOULD BE CLOSE TO ZERO AND NOT INCREASE OVER TIME**
- 3.8.0 - kvarh total
- 4.8.0 - kvarh reverse total
- 31.7.0 - Phase 1 Current
- 51.7.0 - Phase 2 Current
- 71.7.0 - Phase 3 Current
- 32.7.0 - Phase 1 Voltage
- 52.7.0 - Phase 2 Voltage
- 72.7.0 - Phase 3 Voltage
- C.7.5 - Phase failure, power off/on count
- U.8.0 - All phases average voltage daily peak
- U.8.2 - All phases average voltage daily minimum
- C.242.1 - Alarm on status code
- C.243.0 - Alarm off status code
- 1.4.0 - kW rising demand total in present half hour period
- Test Display

Voltages

- Check the L1, L2, L3, indicators on the meter display – these should all be on.
- Missing indicators show a phase voltage missing.
- Flashing indicators show incorrect phase rotation – two phase voltages must be swapped, along with their corresponding CT connections.

Currents and Energy Direction – Check each phase separately

- To perform this test a load must be drawing current from the supply so that the meter is operating.
- Remove two of the meter supply fuses so the meter is working with one phase only – check that the arrow indicators on the meter display show P+ and Q+ .
- Repeat this test with only one fuse fitted on the other phases checking for P+ and Q+.
- If P- is showing instead of P+ the pair of wires from the CT to the meter for that phase will need to be reversed or CT can be reversed on the cable if this is easier.
- If you can't get consistent results with the P+ indication and the Q- (rather than Q+) is showing – the phase voltages into the meter may not correspond with the current inputs from the CTs, and will need changing round. Check the wiring and swap the pairs of CT connections between phases as necessary.
- Finally replace all the fuses and re-check the reverse (export) reading on the meter by accessing the additional displays using the blue button as shown above. Make a note of the reading then check a few minutes (or hours) later – the value should not increase.
- Note that some loads result in energy flow in two directions – e.g. a grid connected wind turbine will draw a small current for its control circuitry in the reverse direction when not generating.