

## Application Note – Micro-meter Power Compatibility, Demand Response Relay Switching, and Programming Port

### 1. Power System Compatibility

The Micro-meter can work with both single-phase and three-phase electrical systems, as long as they are within the supported voltage ranges.

Single-phase (50 or 60 Hz):

- 110–120 V AC
- 208–220 V AC
- 277 V AC (this is the voltage from Neutral to one phase in a 480 V three-phase “Y” system)
- 480 V AC phase to phase

Three-phase (50 or 60 Hz):

- 208 V AC in a Y-network with Neutral
- 240 V AC in a Delta network
- 480 V AC in Y-network with Neutral

**IMPORTANT:** This unit is not meant to be powered directly from the full 480 V three-phase lines. In a 480 V Network System, the Micro-Meter connects between Neutral and one phase (277 V).

Three Phase, four-wire 120/208 Wye Connection

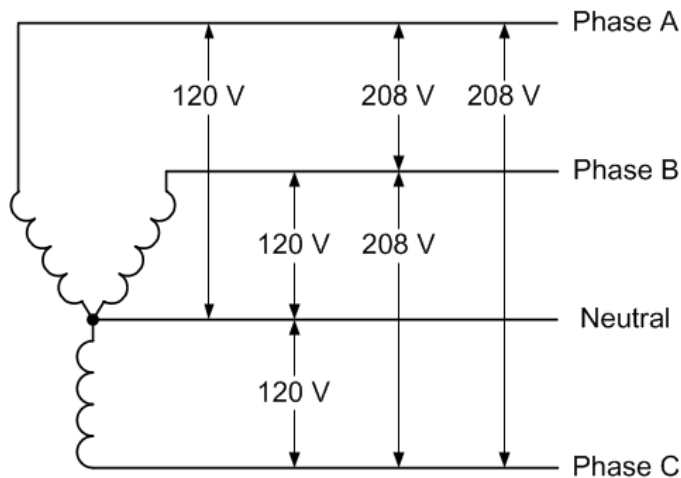


Fig 1. Three Phase, four-wire 120/208 Wye Connection

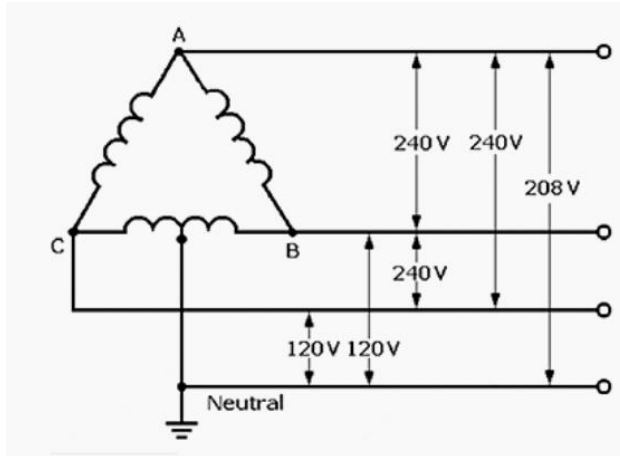


Fig 2. Three Phase, four-wire 120/240 delta connection

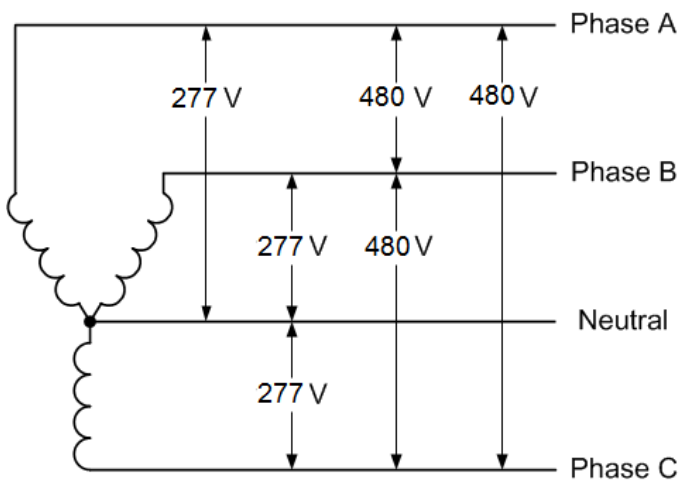


Fig. 3

## 2. Relay Output Function for Demand Response application

The Micro-meter contains a relay that acts like a remote-controlled on/off switch — but it is only meant to control the coil of a contactor, not to directly power heavy machinery.

- The relay terminals are labeled T1 and T2 on connector J3.
- By default, these two terminals are open circuit (like a switch in the “OFF” position).
- When the Micro-meter activates the relay or activating the demand response, the connection closes (like turning the switch “ON”).

Important limits:

The voltage applied across terminals T1 and T2 must not exceed 250 V, and maximum current of 6 Amps. The current and voltage of the contactor coil you use must also be within the limits given in the Micro-meter’s specifications (see the recommended contactors list).

Isolation:

The relay is fully isolated from the high-power lines that the contactor controls. The Micro-meter never handles the heavy load current directly.

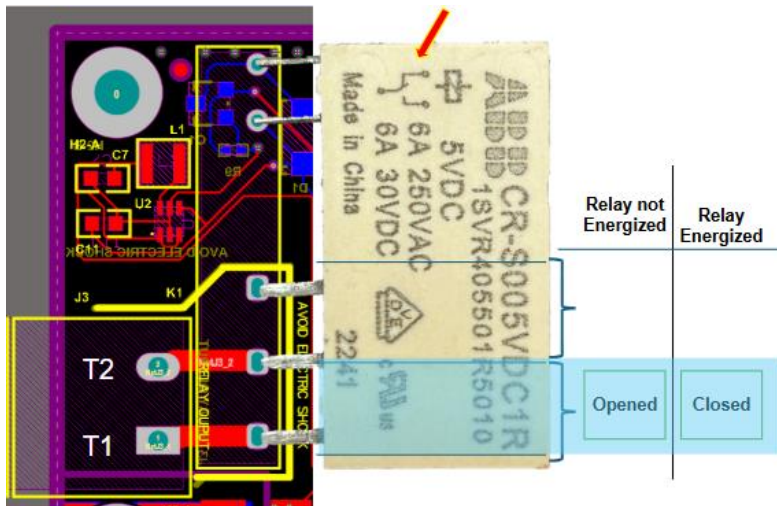


Fig. 4

### 3. Current Transformer Input

The Micro-meter's current transformer input range is from 0 Amps to 50 Amps (0–50 A). This means it can accurately measure current levels within that range from the connected transformer.

### 4. Voltage Rating of J3 Relay Output

The J3 relay output itself does not “produce” a voltage — it is simply an open/close switch. The user supplies the voltage for the contactor coil, which can be:

- 24 V
- 110/120 V
- 208/230 V
- 240 V As long as it's 250 V or below, it's acceptable.



Fig.5. Suggested Contactors to use with Micro-meter

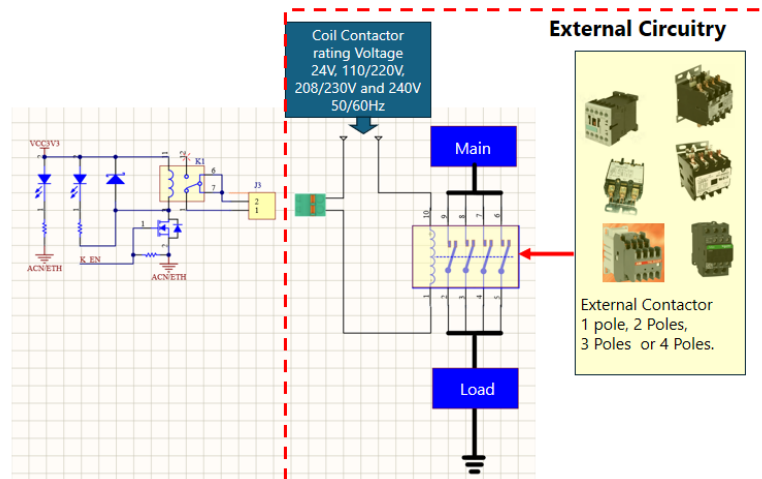


Fig.6: Suggested connection of Contactors to Micro-meter

## 5. Installation Instructions

The most up-to-date installation instructions are on the micro-meter.com website. These instructions will guide the user step-by-step on how to properly install the Micro-meter according to the latest standards and requirements.

### Summary

- Works with certain single-phase and three-phase systems up to 277 V (phase-to-neutral), phase to phase up to 480Vac.
- Built-in Demand Response relay controls contactors only — not direct loads.
- Relay is rated for up to 250 V coil voltage, 6 Amps to power the contactor's activation coil.
- Current transformer input range is 0–50 A. Either a through hole current transformer or a split core clamp on current transformers are available. Please contact our sales office.