

SINGLE CHANNEL SOLID STATE kWh METER FOR SUBMETERING

PRODUCT CODE: ICI20-i-M3-PO

INSTALLATION INSTRUCTIONS

This meter is a flexible, low cost, revenue grade meter, for the residential, commercial, and institutional market. The meter is UL listed (E489079), ANSI C12.20, 0.5 accuracy class as tested by UL, and designed to provide accurate measurement and verification of electricity consumption.

Prior to commencing the installation of the meter please note that it is intended to be connected by a qualified electrical professional as per the codes and laws of the local governing entities. Please ensure that all related circuits are de-energized before beginning the installation and take the time to read the installation instructions as well as plan out all of the appropriate connections. If the device is used, mounted or connected in a manner that is not specified by your local electrical code, the protection provided by the equipment may be impaired.

MARKINGS



Indicates danger of an electric shock hazard, make sure all related circuits are de-energized before proceeding.



Please consult manual and ensure that all circuits are de-energized before handling



If ambient temperature of the environment under normal conditions is rated reaches more than 40° C (104° F), please ensure that the wire being used for at least 60° C (140° F)



LOCATIONS AND MATERIALS

The meter should be installed in an adequately ventilated area (as per the temperature rating on page 2) near a UL listed fuse (in-line or terminal), breaker or switch being used for the supply lines that connect to the Voltage terminals or leads. Please ensure that the fuse, breaker or switch is appropriately labeled or visibly traceable to the meter connections and the mounted enclosure does not impede its operation. The wire being used must be 18 AWG min., 600 V min. insulated wiring for Line voltages and Neutral to the appropriate locations in the breaker panel per the specifications of the fuse, or the breaker manufacturer and the local electrical code. We recommend a 1A fuse for the line voltage reference conductors.

If replacing or extending the supplied conductors, please ensure that the alternate or added conductor is also certified as per local electrical code requirements.

ENCLOSURE

The Single Channel Digital Meters can be mounted into different UL listed enclosures as long as the environmental conditions are met and the external enclosure also meets local electrical code. The enclosures are tested, recommended and supplied for this installation:

If cutting or drilling wire feedthroughs on site, please ensure that the hardware and installation methods being used are certified as per local electrical code requirements and the manufacturers specifications. **CURRENT TRANSFORMERS**

Meter will work with any mA rated CT (donut) although the meter is calibrated for 200:0.1A CTs, a multiplier can be applied for other amperages as required.

QUICK SUMMARY OF METERING CONVENTIONS

Electrical energy is calculated by the meter using inputs of I(Current) and V(Voltage). The Voltage inputs (protected with a breaker) must be connected to the main supply lines that feed the load being metered.

Important: Voltage terminal "A" must always be connected as it supplies power to the meter.

The Current inputs use Current Transformers(donuts) which are installed around the main conductors of the load being metered. A CT is not required on the Neutral. Ensure that the CTs are rated for the peak current of the primary and that the secondaries cannot exceed 100 mA. The current transformers may not be installed in a panel where they exceed 75% of the wiring space of any cross-sectional area with the panel.

Important: The arrow on the CT label must point towards the load.

QUICK SUMMARY OF METERING CONVENTIONS CONT'D

The "Pulse Output" and "3.3 V" (25 mA max) terminals on the Meter are intended for the connection of 3rd party pulse recording equipment.

Important: Before connecting to the "3.3V" terminal, ensure that the "N" (Neutral) Voltage input on the meter is wired correctly (not live), as there is potential for 120V from the terminal to ground if miswired. In order to maintain the UL certification, any wires or hardware that are connected to the "3.3V" terminal **MUST BE CONTAINED** within the enclosure that the meter is installed into.

Please refer to the connection diagram for different service configuration and do not hesitate to contact us with any questions or inquiries.

RATINGS AND ENVIRONMENTAL CONDITIONS

- ANSI C12.20, 0.5 accuracy class as tested by UL
- California State Approval (CTEP); New York State Approval
- UL listed (E489079) as an open style meter for use with different enclosures
- 120V (Line to Neutral) Single Phase 2 Wire
- 120V (Line to Neutral) / 240V (Line to Line) Single Phase 3 Wire
- 120V (Line to Neutral) / 208V (Line to Line) 3 Phase 4 Wire Wye
- Rated for 50 or 60 Hz systems
- Rated for 100mA max on CT secondary leads
- Indoor Use
- Altitude up to 2000 meters

- Temperature: -20° to 50° C, 0° to 120° F
- Rated Relative Humidity: 80%
- Rated Pollution Degree: 2
- Evaluated to Measurement Category III
- Supply Power: 24 VA
- Screw terminal torque values: 0.4Nm min - 0.5Nm max

MAINTENANCE AND TROUBLESHOOTING

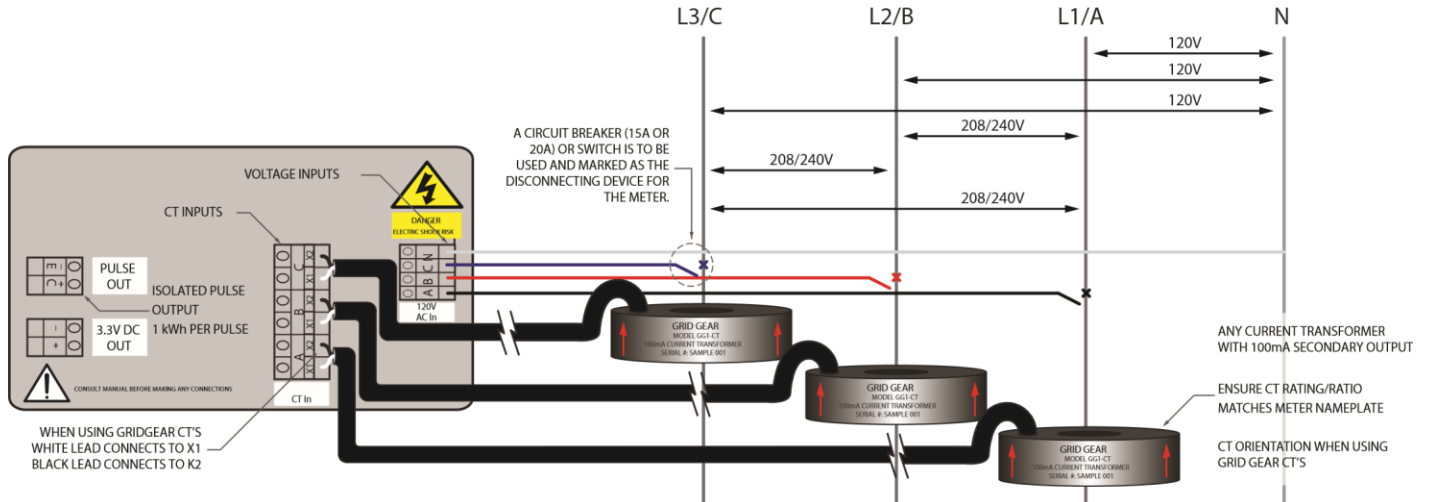
If the product has been properly installed, it should not require any maintenance or service. When the meter is not functioning as it should, please contact service@intellimeter.com

CONNECTION DIAGRAMS

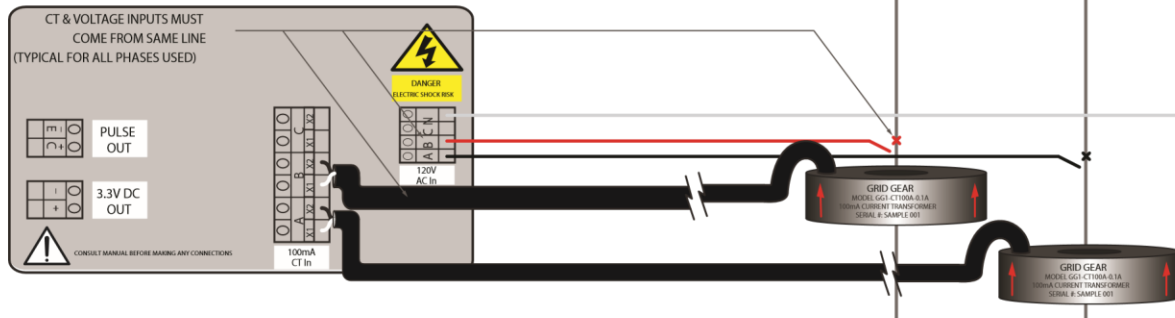
****VOLTAGE INPUT "A" POWERS METER****

LOAD SIDE

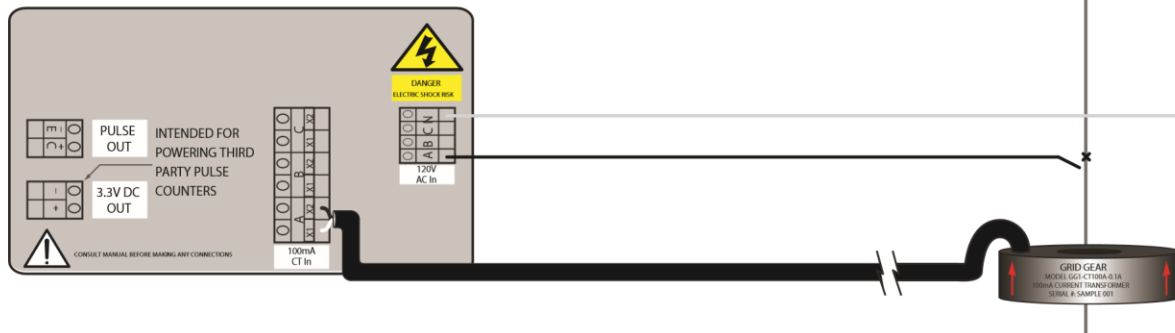
4 WIRE 3 ELEMENT CONNECTION



3 WIRE 2 ELEMENT CONNECTION



2 WIRE 1 ELEMENT CONNECTION



SUPPLY SIDE
120V LINE TO NEUTRAL, 208/240V LINE TO LINE 1 or 3 PHASE 2,3,4 WIRE