

I-METER[®] 636 INSTALLATION AND USER MANUAL



 **i-meter[®]**
Innovative Metering Solutions

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WARNING

Field electrical installers must follow proper safety precautions and all local electrical code requirements during electrical installation, meter wiring, and CT installation. During normal operation of this device, hazardous voltages are present which can cause severe injury or death. It is strongly recommended that only qualified, properly trained personnel should perform installation and servicing.

DISCLAIMER

The information presented in this publication has been carefully checked; however, Intellimeter Canada Inc. (ICI) assumes no responsibility for inaccuracies. The information provided in this document is subject to change without notice.

CUSTOMER SUPPORT

To report any defect, please contact ICI at 905.839.9199. Prior to returning any merchandise to ICI, a return material authorization (RMA) number should be obtained from ICI.

STATEMENT OF CALIBRATION

The accuracy and calibration of our instruments are traceable to Measurement Canada, a division of Industry Canada.

CONFIGURATION

The i-meter[®] 636 is only configurable by Intellimeter Canada Inc. at ICI's factory according to the customers provided panel schedule.

INSTALLATION CHECKLIST

Make sure you have received the right meter as per your order and packing list.

INSTALLATION DISCLAIMER

INTELLIMETER does not accept any responsibility and will not be liable for any loss or damage or expense of any kind whatsoever and howsoever caused by improper installation of its products, be it indirect, special, incidental or consequential damages (including but not limited to damages for loss of business, loss of profits, interruption or the like). Please refer to Intellimeter's Terms and Conditions of Sale available at <https://intellimeter.ca/pages/terms-of-service-privacy-statement>

ELECTRICAL CODE

Installer is responsible for ensuring that all safety and local electrical codes are followed.

1. PRODUCT DESCRIPTION

The i-meter®636 is a multi-customer Metering System (MCMS) or multi-load meter. State of the art electronic kWh meter with onboard data logging and/or ModBus-RTU for new and retrofit installations. Supports up to 16 Current inputs. The compact design is great for applications where tenant or energy cost allocation is important. Programmable for 1, 2 or 3 element metering configurations, from 120V to 347V L-N. Ideal for demand side management with local or remote display units. Saves space and reads real-time V, I, W, VA, pf, THD and energy consumption, meeting LEED and billing requirements.



i-meter®636

1.1. Applications and Configuration

In MCMS applications, property managers can use the latest data for cost allocations and demand side management.

The device could be programmed to 5 different types of modules. They are:

- Single Phase Two Wire: Metering capability of up to 16 meters
- Single Phase Three Wire: Metering capability of up to 8 meters
- Two Phase Three Wire: Metering capability of up to 8 meters
- Three Phase Four Wire: Metering capability of up to 5 meters

The meter provides cumulative (kWh) for each load. It also provides interval energy data logging. All Current Sensors (CTs) are self-protected in the event of an open circuit under load.

1.2. Specifications

Dimensions (Inches)	16.5 H x 4.5 W x 2 D
Dimensions (Millimeters)	420 H x 115 W x 45 D
Mounting Options	External
Meter Elements (CTs)	1 to 16
Voltage	Auto range 120-347VAC (L-N), -20% to +10% of rating
Service type	1Ø2W, 1Ø3W, 2Ø3W, 3Ø4W wye, 3Ø3W Delta*
Current Transformers	100 mA, Self-Shorting
Instrument Transformers Interface	Yes
Memory	45 days (5 min intervals) kWh
Pulse Output	Wh
Communications	ModBus RTU or TCP/IP, BACnet MSTP or TCP/ IP and pulse output.
Frequency	45 to 65 Hz
Accuracy Class	0.5 (Meets ANSI C12.20)
Real Time Measurements	V, I, kW, kVA, kVar, PF, Hz
Operating Temperature	-40°C to +53°C
Regulatory Compliance / Approvals	Measurement Canada, cCSA _{US} , cUL _{US} , CTEP (CA)
Patent	U.S. Patent No. 8,049,488

2. INSTALLATION

To get detailed information about the installation process, please visit:

<https://intellimeter.ca/pages/downloads#videos> : **Intellimeter i-meter®636 Installation &**

Troubleshooting :

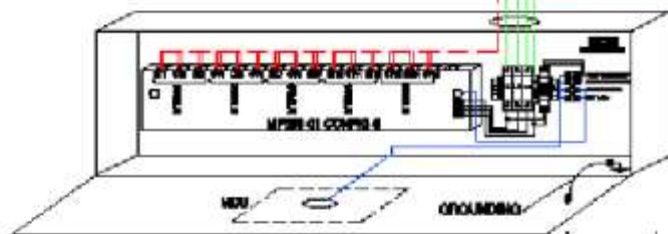
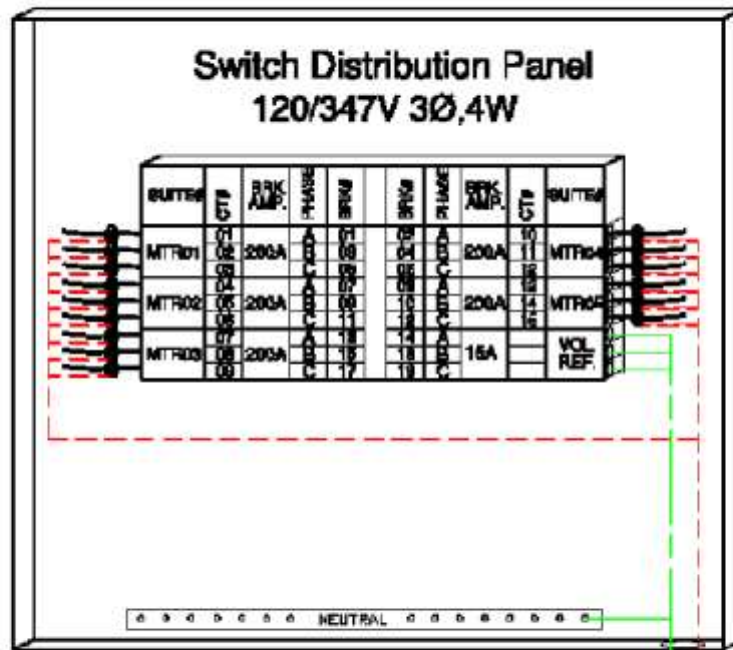
- Review general information and wiring diagram
- Carefully read all the WARNING signs and notes.
- Check meter serial number and other information on the meter.
- All meter modules are assigned within the panel board and are identified with respect to position, or section of breakers.

- A label on the top of each unit indicates meter assignment. Follow the installation drawings that are supplied with the units.
- Do not leave the secondary of Current Transformers (CT) open when current is flowing through the primary circuit. This applies to instrument CTs as our milliamp CTs are self-protected.
- Contact ICI if there has been any changes made to the layout or if the assigned drawings do not match the actual distribution panel layout.
- Referring to the diagram below, CTs can be embedded in the distribution panel. If the customer has supplied a special compartment for the meter with their electrical panel, Intellimeter will install the meter and have the SPE-1000 field evaluation completed. Otherwise, the meter will be installed in an external enclosure to be mounted near the electrical panel for ease of servicing.
- The CT can be supplied on rails or loose. The rail option is permanently fastened to the interior panel rails in their designated position; this serves for spacing and support for the CT's. Loose CT's are to be installed on the feeders as close to the breaker as possible and to their designated position based on their number in reference to the panel drawing.
- CT DIRECTION – The ARROW points to the LOAD!!!
- Dress in the CT wire back to the metering modules using flexible conduit.
- A CT that is not connected to the proper metering module and/or not in its designed position will give incorrect readings.
- All CT wire connectors and terminal position on the meter module are identified. Typically, the CT leads do not need to be removed from the meter module. If required, connect the CT wire connector to the identified terminal on the correct meter module. There may be several modules within a panel board, confirm the meter number on the CT connector label.
- Install the voltage reference connectors to the meter modules and dress the wires in flexible conduit so they are protected from damage during feeder and branch circuit installation.
- Terminate the voltage reference chain to the designated 15Amp breaker or fuse block.
- Install the communication connectors to the meter modules and dress the wires in flexible conduit so they are protected from damage during feeder and branch circuit installation.
- Communication cable is to be installed as per the overview drawing for the project.



Typical i-meter®636 Installation

Typical MP-636EXTC Metering System



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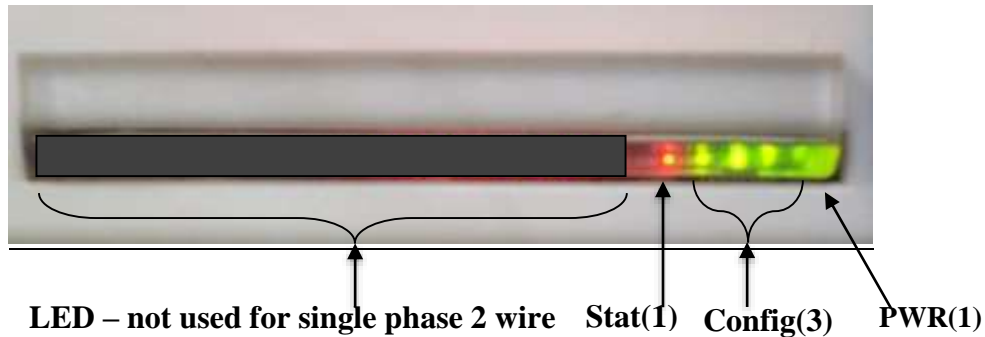
Legend:

- CT LEAD (Red)
- Voltage reference (Green)
- Communication (Blue)

SUITE NO.	MTR NO.	SUITE NO.	MTR NO.
METERED BY	MTR#01	METERED BY	MTR#04
METERED BY	MTR#02	METERED BY	MTR#05
METERED BY	MTR#03		

3. OPERATION AND TROUBLESHOOTING

3.1 LED Indicators



PWR	LED (Green) indicates power is ON.
Meter Config.	Three green LED's identify the voltage is applied to the phase and they flash the configuration code the meter is programmed for
Stat	Red LED is always on. For service diagnostic only.

3.2 Troubleshooting

“PWR” LED NOT ON	- Power not connected or not ON	- Verify the voltage reference is energised and check at the terminal connector for voltage.
No Communications	- MDU is not displaying the reading and consumption	<ul style="list-style-type: none"> - Power cycle the MDU - Check that the connectors are properly seated - Are all the meters ON? - Is the power in the DCU ON?
Meter Configuration	- To determine the configuration of the meter	- The three flashing LED's represent the configuration of the meter. Count the pulses, there will be a slight pause before it repeats again.

This is a sealed measuring device approved for revenue billing and designed not to be tampered with. Beside the basic operation and LED indicators, the meter is to be serviced by authorised technicians only. Any tampering or alteration can void the warranty. Please contact Intellimeter for support or directions.

3.3 Communication

Refer to the installation drawings for communication cable pathway connection and termination configuration between all automation.

Thank you for giving us the opportunity to serve you. We appreciate your business and the confidence you have placed in us.

Please visit us @ <https://intellimeter.ca>
or call us @ 905-839-9199 if you need any further assistance.