
Intellimeter Test/Commissioning Procedures

At Each Meter Module/Panel:

- Check Meter Module
 - o Check for correct Voltage Reference (Vref).
 - o Source must match CT loads.
 - o Phasing must match CT loads (A, B, C).
 - o Turn the meter on.
 - o Meter should be powered up and configuration # should match green light flashes (ie. Configuration #3 should have 3 green light flashes, pause, then 3 flashes).
- Check CTs
 - o Electrical Panel side troughs need to be opened for visual inspection of CTs (panel schedules should be available to identify breakers).
 - o Confirm CTs are on correct breaker and labels are identified.
 - o Confirm phasing of CTs matches Intellimeter drawings.
 - o Confirm CT extension wires are properly labeled and go to meter module with matching meter/ct number inputs.
 - o Confirm CTs are coming from the same V(ref) source as the meter.
- Check Communications:
 - o CAT5e communications should be in daisy-chain (in-out) format with one end meter being End Of Line (E.O.L.) and the other end terminated to the Data Collection Unit (DCU).
 - o Communications (either for RS485 Ptracker, or RS485 Modbus) are properly labeled on both ends of the CAT5e (ie. With either numbers or written with black marker to identify the wire).
 - o Confirm that communication through each meter is successful one by one all the way back to the DCU (this may be done one by one or all in one shot from the DCU, each tech has their own method).
 - o If splices are needed between one meter module to another meter module, a straight through coupler is required or a splice for each of the 8 wires.
 - o The total length of each daisy-chain should not exceed 4000ft, and no more than 32 devices.
- DCU
 - o DCU computer brought to site by Intellimeter Tech.
 - o Internet Connections should be available to DCU (specify if a Static IP is used or DHCP connection).
 - o All network details should be available before commissioning.
 - o RS485 communication cables identified and left with 2 feet of loop.
 - o Intellimeter Tech will connect and confirm communications at DCU with software.

Intellimeter Inc. Onsite Training

- I. Introduction to the Metering System
 1. Devices (What type & where are they located)
 - i. MP636 or i45 or MF3-6 etc... meter modules.
 - ii. Instrument/Current Transformers (if equipped).
 - iii. Software or Field Server (if included for BAS)
 - iv. DCU (Data Collection Unit)
 2. Overview of network Topology – (How things are connected together)
 - i. Modbus Daisy Chain network
 - ii. PT2k Daisy Chain network
 - iii. Layout and meter panel locations
 - iv. RS485 communication connections
 - v. iMeter Data, iMeter Energy Analysis or iMeter Billing Software (if included).
 - vi. Troubleshooting communications – loss of communications to one device vs. multiple devices.
 3. BAS Interface and Connection
 - i. Modbus Register mapping
 - ii. Modbus Structure and Meter Assignments
 - iii. SSF (Site Setup Form) and closeout metering drawings
- II. Wrap-Up and Questions

ICI Start-Up Checklist Procedure

The start-up and inspection will be for the installation inspection of the meters and their communication network setup. If the system is designed to be connected to 3rd Party Billing Company or 3rd party BAS system as the primary form of data management, communication will be confirmed up to the point of termination to BAS system.

1. Inspect meter Installation
 - i. Voltage reference
 - ii. CT installation Phase in relationship to voltage reference and CT assignment
 - iii. Meter energized and monitoring operation once load has been applied
 - iv. Energy measurement recorded – Confirm with contractor
 - v. Document load ID as per assigned by contractor
2. Communication Links
 - i. Confirm communication termination at each device
 - ii. Confirm daisy chain layout according to system overview with respect to their ID's
 - iii. Confirm communication to all devices at point of termination to BAS system
 - iv. Record and update documentation.

At this point, the system will be considered commissioned and ready for either Intellimeter iMeter software, 3rd Party Billing, or BAS system integration to be tested and configure.

