

CUSTOMER SUCCESS GUIDE FOR POWERSCOUTS

The most important thing a customer can do to ensure installation success is to perform a “dry run” at the office prior to installing the equipment in the field. The customer must be familiar with the DENT PowerScout and the RTU that will read, store, and send the information. The RTU must be configured properly to read correct data.

Items that need to be verified before heading to the field include:

CONFIGURATION

1. CT type: Is the CT type set for Rogowski or mV? If it's set for mV, does the assigned CT match the mV setting?
2. Scalar: The PowerScout 3 manual provides recommended scalar settings for various voltages and CT ratings. The RTU must be also programmed with the correct scalar multipliers that match the PowerScout scalar setting.
3. Modbus setting: The RTU must be configured with Modbus addresses (or groups of addresses) for each element of a PowerScout 18 or each PowerScout 3. The customer needs to understand how the RTU addresses the device. Some RTUs use decimal addressing; others use Hexadecimal. PowerScout instruments use Hexadecimal addresses so decimal addresses must be converted to Hexadecimal.
4. Baud rate: The default baud rate is 9600. Communications will fail if the RTU does not match the PowerScout.

CONNECTING THE PS3 / PS18 (VOLTAGE / CURRENT)

There are four rules for connecting power and CTs:

1. There must be potential (power) between L1 and L2 (black and red)
2. CTs must be connected to the same phase as voltage. CT1 must be on L1, etc.
3. There must be a neutral power connection. All voltage is referenced to neutral.
4. The CT must be oriented correctly regarding source/load directionality if negative/positive power will be measured.

VIEWPOINT SOFTWARE

ViewPoint is invaluable in troubleshooting and configuring the PowerScout. Each device should be checked with ViewPoint before installation. If there are communications issues, the user can directly connect the PowerScout to a PC and use ViewPoint to troubleshoot communication issues. Connectivity can then be verified to determine if there is a setup problem with the PowerScout or the RTU.

MODBUS WIRING

1. All Modbus devices must be wired using a daisy-chain configuration. Star wiring or extender leads will not work.
2. www.Modbus.org explains basic guidelines

VERIFYING THE POWERSCOUT INSTALLATION

1. With all CTs connected to the PowerScout, the PhaseCheck lights should flash green. The lights turn red only if the CT is not on the same phase as the voltage, or the power factor is less than .55. There have been cases where the power factor was less than .55 due to very light loads during building commissioning.
2. A steady red COM light on a PowerScout signifies a communication problem. Communications problems fall into these categories:
 - The PowerScout Modbus address does not match the RTU.
 - Modbus wiring is incorrectly installed
 - RTU timeout is too low or scan rate is too fast
 - Baud rates don't match
3. Connecting to the device with a laptop and ViewPoint can help resolve most communications issues.

MANUAL

Refer to the manual(s). The PowerScout 3 manual has some valuable information that applies to both the PowerScout3 and the PowerScout 18.

