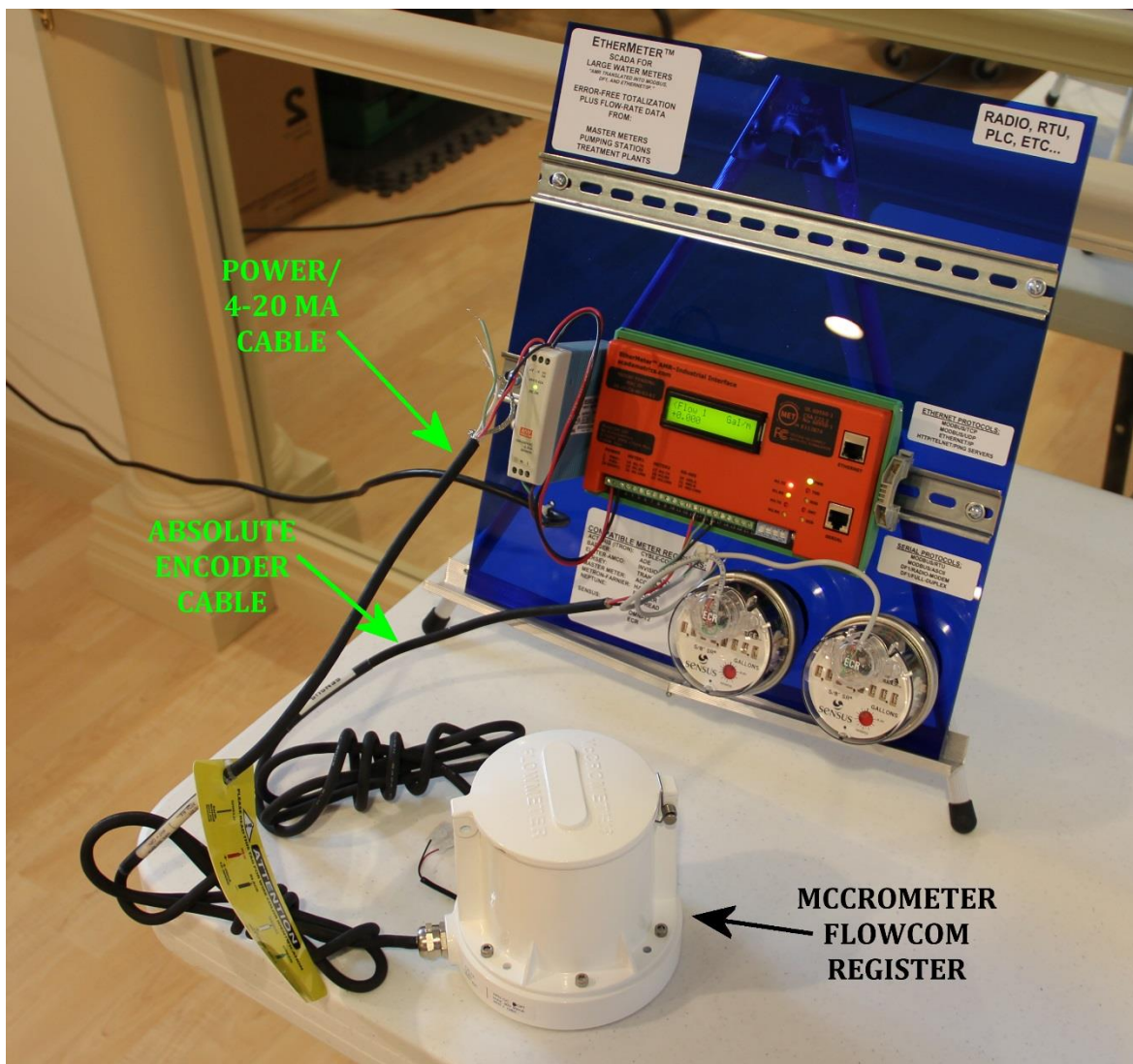


Application Note 019
 Version 001
 08 July 2014

Connecting the EtherMeter® to the McCrometer FlowCom™ Register, Absolute Encoder Version

In 2013, McCrometer Inc. (Hemet, CA, www.McCrometer.com) introduced a new version of its FlowCom™ water meter register that offers an absolute-encoder signal output. When used in conjunction with the EtherMeter, this new version of the FlowCom register allows SCADA/Telemetry/Building/Farm Automation Systems to collect revenue-grade-accurate meter totalization and flow rate data using standard industrial networking protocols such as Modbus, DF1, and EtherNet/IP.

This document describes FlowCom ordering information, along with the electrical wiring interface details between the EtherMeter and the FlowCom.



**FlowCom Register Connected to an EtherMeter
 Bench Test Register Courtesy of McCrometer Inc. (Hemet, CA)**

The FlowCom register is offered in two model families – the FC100 and the FC101. The FC100 is the register is used in conjunction with the McPropeller™ line of propeller meters, and the FC101 is used in conjunction with the Water Specialties™ line of propeller meters.



McPropeller Flow Meter



Water Specialties Flow Meter

The FlowCom register is offered by McCrometer as factory-installed register on new flow meters, or as a retrofit kit for meters that are already installed in the field.

External Power and the Internal Backup Battery

The FlowCom register contains an integral 5-year battery. However, for EtherMeter applications, it is recommended that the FlowCom be configured for external power supply, as this will permit the user to interrogate the register at a high sampling rate without adversely affecting the battery life.

External power is supplied via the FlowCom's 4-20mA flow rate loop cable. However, the 4-20mA signal may be effectively ignored in many applications, as the EtherMeter calculates the flow-rate using a delta-volume/delta-time method.

Solar Powered Applications

In solar-powered applications, it is recommended that the 4-20mA loop span be factory-programmed for a very high flow rate (eg 50,000 GPM = 20mA), and then the FlowCom will draw a minimal electrical current from the valuable solar power resources.

Ordering Information

For retrofit applications, the following information should be provided to the McCrometer factory or your local McCrometer sales representative:

McPropeller Meter Serial Number / Model Number

FC100-02-K + Sensus Protocol Output

...or...

Water Specialties Meter Serial Number / Model Number

FC101-02-K + Sensus Protocol Output

Signal, Power, and Meter Wiring

The FlowCom register kit contains three (3) integral cables: Meter Connection, Power Connection, and Absolute Encoder Connection.

Magnetic Pickup. The Meter Connection cable contains two inner conductors (Red,Black) which are connected to the propeller's magnetic pickup in accordance with factory instructions.

Power Supply. The Power Connection cable contains a Red inner conductor which should be connected to the DC Power Supply (+) and the Black inner conductor should be connected to the DC Power Supply Common (-). The DC Power Supply must be within the range of 12-30VDC. The Power Connection cable also contains a Silver Shield conductor, and this should be connected to Earth/Chassis ground.

Absolute Encoder. The Absolute Encoder Cable contains three (3) inner conductors, which should be connected to the EtherMeter. For EtherMeter channel 1, the connections are: Terminal.14-Red, Terminal.15-Green, Terminal.16-Black. For EtherMeter channel 2, the connections are: Terminal.17-Red, Terminal.18-Green, Terminal.19-Black.

Additional Grounding. Additionally, the metal body of the FlowCom register should be bonded to Earth/Chassis ground using a ring terminal or grounding lug.

For more information, please contact SCADAmetrics or McCrometer technical support.