

Application Note 031
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Connecting The Master Meter Octave Dual-Output Register Signals (Encoder and Pulse) To The EtherMeter®.

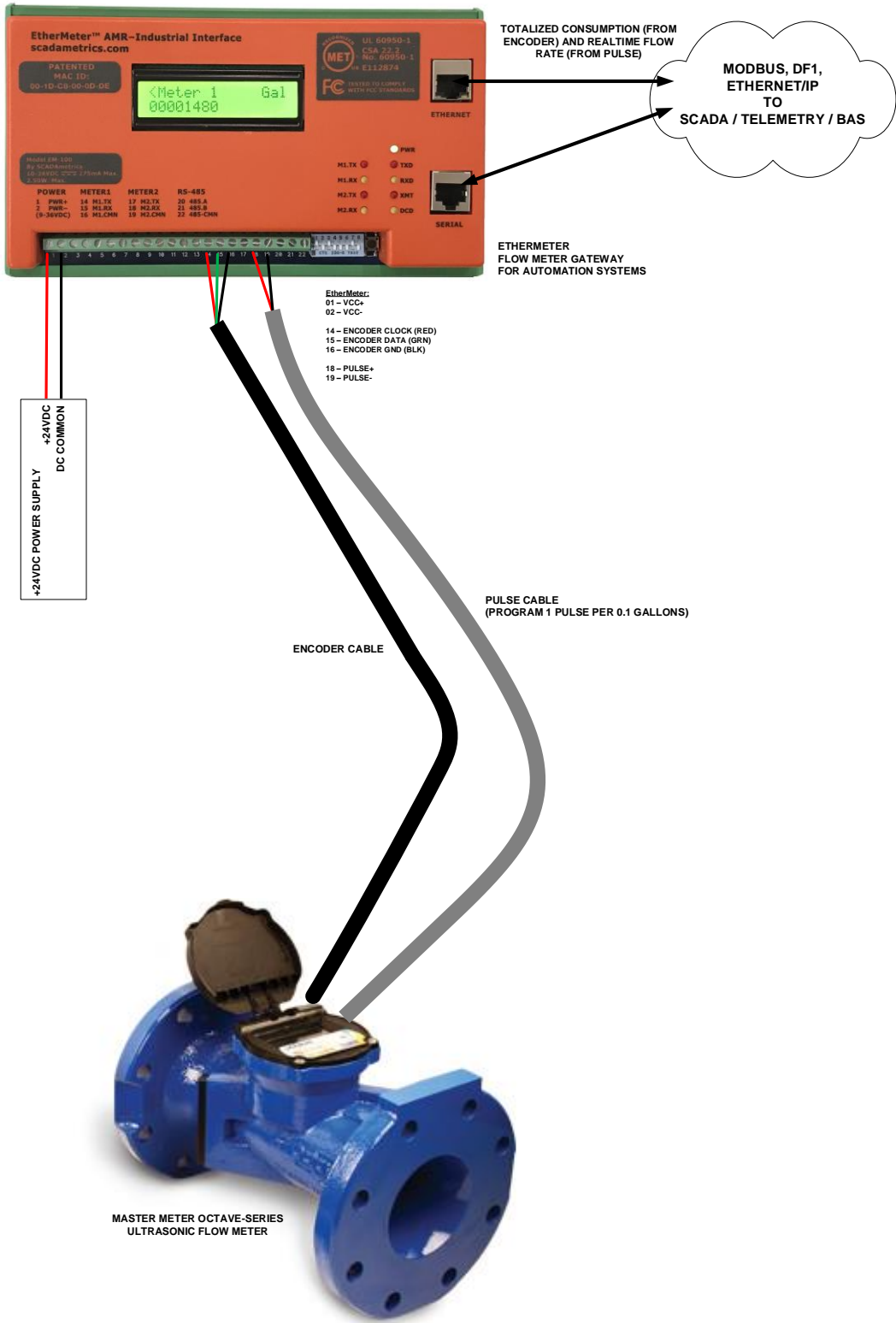
This document describes the wiring procedures and EtherMeter settings required when connecting to a Master Meter Octave-Series Flow Meter to the EtherMeter. This document specifically addresses the Octave dual-output register that features both encoder ***and*** pulse signals.

The dual-output (encoder+pulse) interface may be desired in situations where realtime rate-of-flow information (GPM, LPM,...) is desired, and one or more of the following limitations exist:

1. Situations where the Octave setting “ENCODER_UPDATE_PERIOD” is set to a high value (e.g. 600 seconds): Because the EtherMeter’s rate-of-flow update period must mirror the Octave’s ENCODER_UPDATE_PERIOD, the customer may find this to be unacceptably time-delayed for SCADA monitoring purposes.
2. Situations where the Octave’s encoder resolution setting is set to less than the maximum 8 digits. Certain AMR/AMI systems do not handle high-resolution flow meters, and therefore the resolution of the flow meter must be reduced in order to be compatible with the connected AMR/AMI system. Because the EtherMeter’s rate-of-flow calculation depends upon the availability of high-resolution encoder data, lessened resolution may cause the calculated rate-of-flow to be unacceptably time-delayed for the customer’s SCADA monitoring purposes.

In these situations, the **dual-input** capability of the EtherMeter may be paired with the **dual-output**-option capability of the Octave meter in order to provide both revenue-grade totalization (from the encoder signal) and realtime rate-of-flow (from the pulse signal).

CONNECTING AN ETHERMETER TO A MASTER METER OCTAVE METER USING BOTH ENCODER AND PULSE SIGNALS.



Application Example:

A Water Utility desires to connect a major production Octave meter to its SCADA system in order to collect realtime rate-of-flow information and revenue-grade accurate totalization. The ENCODER_UPDATE_PERIOD setting of the Octave meter is set to 600 seconds, in order to maximize the battery life of the Octave meter. Therefore, rate-of-flow information based on encoder can only be updated every 600 seconds, which is unacceptably slow for the SCADA system. Therefore, the Octave meter is outfitted with a dual-output register (encoder+pulse). The pulse output channel is programmed for 1 pulse per 0.1 gallon, which will provide realtime rate-of-flow to the SCADA system. The encoder output signal is to be co-metered with an Itron AMR/AMI system, and therefore this signal is split using an SDAW (or SDA) Duplexer.

If the SCADA system is **Modbus-capable**, then the system reads totalization from Holding Register 40001 (based on encoder), and reads rate-of-flow from Holding Register 40005 (based on pulse).

If the SCADA system is **Allen-Bradley-based**, then the system reads totalization from Register N7:0 (based on encoder) and reads rate-of-flow from Register N7:4 (based on pulse).

The necessary equipment includes one (1) EtherMeter, one (1) SDAW (or SDA) Duplexer, and one (1) DC power supply. The following wiring would apply:

