NOTE! - THIS DOCUMENT IS FOR A LEGACY-VERSION FIRMWARE. IF YOU ARE SEEKING THE LATEST COMPATIBILITY MATRIX DOC, THEN PLEASE VISIT OUR DOCUMENTATION AND SUPPORT CENTER ON THE WEB: HTTP://SCADAMETRICS.COM/DOCS/DOCS.HTM

EtherMeter®

FLOW METER GATEWAY FOR SCADA, TELEMETRY, & BUILDING AUTOMATION SYSTEMS

COVERED BY US PATENT NO. 8,219,214





Flow-Meter Compatibility Matrix

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AUTHORIZED SCADAMETRICS RESELLER

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EtherMeter® Compatibility Matrix

1. PULSE-TYPE METERS

The EtherMeter was primarily designed for absolute-encoder-type meters. However, it also provides meter-reading support for many pulse-based meters. As a consequence, pulse meter signal(s) may be connected to either (or both) of the EtherMeter's meter input channels. Pulse processing technology allows the EtherMeter to collect meter totalization and flow rate data from non-encoder-based meters. Common examples include petroleum & chemical meters, commercial & industrial natural gas meters, volume correctors, and many others.

When the EtherMeter handles pulse-based meters, the totalization and flow-rate data is stored and transmitted from the same Modbus- and Rockwell-compatible memory registers that it uses for encoder-based meters. Therefore, regardless of which type of meter(s) is connected to the EtherMeter (encoder versus pulse), collection of totalization and flow data by the connected SCADA system is identical.

Because of the large number of pulse-type meters available, we cannot provide an exhaustive list of compatible pulse-type meter makes and models. Instead, we specify the acceptable pulse-type technologies, which include ONLY the following types:

- Mechanical Dry Contact
- Solid-State Dry Contact
- Open-Collector Input

The EtherMeter is compatible with pulse output signal flow meters that feature a passive (mechanical-switch or solid-state switch) output.

The EtherMeter is NOT compatible with pulse-output meters that feature an active (voltage) pulse.

When using the EtherMeter with a pulse output signal flow meter, both the EtherMeter and the flow meter MUST BE powered by a battery-backed power supply.

Wiring Codes:

Meter Channel 1:
PULSE(+)=EtherMeter.Terminal.15, PULSE(-)=EtherMeter.Terminal.16

Meter Channel 2:
PULSE(+)=EtherMeter.Terminal.18, PULSE(-)=EtherMeter.Terminal.19

2. ENCODER-TYPE METERS

The provided Encoder-Type Meter Compatibility Matrix is by no means exhaustive, especially in light of the fact that there are a multitude of three-wire-protocol registers available on the market today. Advertised full compatibility is limited to registers deemed so based upon testing within the laboratory and/or the field; and those are denoted by the EtherMeter® logo:

If there is a Sensus-protocol, Neptune-protocol, or K-Frame-protocol encoder meter register that is not listed as compatible based upon testing, and you would like to see it listed as such, then please contact SCADAmetrics. Note that in such cases, we may request a register for testing and verification.

ENCODER-TYPE METER COMPATIBILITY MATRIX

Make	Model	Notes
ABB Elster-AMCO	AquaMaster III Mag-Meter K-Frame Protocol Option	Compatible (based upon laboratory and/or field testing). Test Results provided courtesy City of Montreal, Quebec, Canada. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Provides accurate bidirectional measurements of flow-rate and totalization. Note: The data-logging version of this meter does NOT provide the "ScanCoder" output signal that the EtherMeter requires. Mains-powered or battery-powered. Register requires user or factory pre-programming per Quick Reference Guide IM/AM/QRG_13: Set Parameter 326 (Adapter Code) to '0' (ScanCoder). Set Parameter 327 (Totalizer Source and Range) to '2' (Net x1). Must use the following EtherMeter setup command(s): SET ROLLn <most-significant 2="" digits="" display="" meter="" on="" totalizer="" unit=""> SET PWRn 700</most-significant>
		Wiring Interface: +V(GREEN)=TX, DATA(RED)=RX, 0V(BLACK)=CMN Connect To: 3-Terminal PCB WADX2026
Badger	ADE®	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Badger Meter. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Register requires factory pre-programming. The maximum (6 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500. Note 3: On certain Badger Meters that are built to be connected to an Itron ERT, the following alternate color coding may apply: BLACK=TX, RED=RX, DRAIN=CMN
Badger	HRE-LCD High Resolution Encoder, LCD Version	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of ABS Water Cooperative (IL). Excellent register for SCADA System interrogation of encoder register. When ordering, please make sure to request the encoder version and *not* the pulse (Badger HR) version. Provides high-resolution totalization (9 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-powered (20-year battery life). Register requires factory pre-programming. The maximum (9 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500. Note 3: On certain Badger Meters that are built to be connected to an Itron ERT, the following alternate color coding may apply: BLACK=TX, RED=RX, DRAIN=CMN

Badger	HRE-MECH High Resolution Encoder, Mechanical Version	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of ABS Water Cooperative (IL). Excellent register for SCADA System interrogation of encoder register. When ordering, please make sure to request the encoder version and *not* the pulse (Badger HR) version. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Register requires factory pre-programming. The maximum (8 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500. Note 3: On certain Badger Meters that are built to be connected to an Itron ERT, the following alternate color coding may apply: BLACK=TX, RED=RX, DRAIN=CMN
Badger	E-Series® Meter	Compatible (based upon laboratory and/or field testing). Test Results provided courtesy City of Montreal, Quebec, Canada. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (9 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-powered (20-year battery life). Register requires factory pre-programming. Specify 'High-Resolution E-Series ADE Mode'. The maximum (9 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500. Note 3: On certain Badger Meters that are built to be connected to an Itron ERT, the following alternate color coding may apply: BLACK=TX, RED=RX, DRAIN=CMN
Badger	M5000 Mag-Meter	Compatible (based upon laboratory and/or field testing). Test Results provided courtesy City of Montreal, Quebec, Canada. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Register requires field- or factory-programming. The maximum (8 digits) is recommended: Ouput #4 should be set to ADE. Communication method should be set to ADE. Mains-powered or battery-powered. SCADAmetrics recommends mains-powered, so that regular battery replacement is not required. MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug. Wiring: INPUT+ = TX, ADE_DATA = RX, INPUT- JUMPERED TO ADE_GROUND = CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500. Note 3: On certain Badger Meters that are built to be connected to an Itron ERT, the following alternate color coding may apply: BLACK=TX, RED=RX, DRAIN=CMN

Elster-AMCO (ABB/Kent)	InVISION™ Sensus- Protocol Option	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Bond-Madison Water District. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Register requires factory pre-programming. The maximum (6 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
Elster-AMCO (ABB/Kent) Elster-AMCO (ABB/Kent)	InVISION™ K-Frame Protocol Option ScanCoder K-Frame Protocol Option	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Elster-AMCO Water. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Wiring Color Codes: GREEN=TX, RED=RX, BLACK=CMN Note: On the EtherMeter, the user must set PWRn parameter to 700 msec. Compatible (based upon laboratory and/or field testing). Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Wiring Color Codes: BLACK=TX, RED=RX, GREEN(OR BARE SHIELD)=CMN
Elster AMCO	evoQ4 Mag-Meter Sensus- Protocol Option	Note: On the EtherMeter, the user must set PWRn parameter to 700 msec. Compatible (based upon laboratory and/or field testing). Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-powered (10-year battery life). Register requires factory pre-programming. The maximum (8 digits) is recommended. MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.

Elster AMCO	evoQ4 Mag-Meter K-Frame Protocol Option	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Elster-AMCO Water. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Provides accurate measurement of bi-directional flow-rate and totalization. Battery-powered (10-year battery life). MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug. Wiring Color Codes: WHITE=TX, RED=RX, BLACK=CMN Note: On the EtherMeter, the user must set PWRn parameter to 700 msec.
Itron (Actaris)	Cyble™ Coder	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Itron (Actaris). Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-Powered (12-year battery life). Register requires factory pre-programming. The maximum (8 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
Kamstrup	Flow IQ 2100 Ultrasonic Meter	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Kamstrup USA. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (9 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Also provides advanced alarm flags, which can be accessed by the EtherMeter. Please request special Kamstrup Firmware when ordering the EtherMeter. Note: On the EtherMeter, SAMPn should always be set to an even multiple of 32 seconds. Example: On the EtherMeter, set SAMPn to 64, TOn to 64 (same as SAMPn), FCALCn to DTOTAL Battery-powered (16-year battery life). Note: For maximum Kamstrup meter battery life preservation, the user should set the EtherMeter's SAMPn setting to >=320 Seconds. Register requires factory pre-programming. The maximum (9 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.

		Compatible (based upon laboratory and/or field testing). Test Register and Results courtesy of Davis-Monthan AFB (Tucson, AZ).
		Excellent register for SCADA System interrogation of encoder register.
Master Meter	Acculinx™	Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
		Register should <u>NOT</u> include the Factory RESISTOR option. Register requires factory pre-programming. The maximum (8 digits) is recommended.
		Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
		Compatible (based upon laboratory and/or field testing). Test Register and Results courtesy of Davis-Monthan AFB (Tucson, AZ).
		Excellent register for SCADA System interrogation of encoder register.
		Battery-powered (10-year battery life).
		Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
	Octave [®]	Meter Register requires factory pre-programming.
	Ultrasonic Meter	When ordering the Octave®, specify:
Master Meter	Meter	 ENCODER_UPDATE_PERIOD as 60 seconds. "NET UNSIGNED" Totalization Mode. Maximum Number of Encoder Digits (8 digits). Do <u>NOT</u> include the Factory RESISTOR option. Resolution = GALx1 (meter 4" or smaller) or GALx10 (meter 6" or larger)or Resolution = FT³x0.1 (meter 4" or smaller) or FT³x1 (meter 6" or larger).
		Note: On the EtherMeter, Recommended SAMPn Setting: 60, 120, 180, 240, 300, 600, or 900 Seconds. (Must Be A Multiple of 60 Seconds). Example. On the EtherMeter, set SAMPn to 60, TOn to 60 (same as SAMPn), FCALCn to DTOTAL
		Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
		Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of Master Meter Inc.
		Excellent register for SCADA System interrogation of encoder register.
		Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
	Elinx™ Interpreter	Battery-powered (20-year battery life). Note: On the EtherMeter, the user should set SAMPn >= 30 seconds to preserve battery life.
Master Meter	(Pose	Register requires factory pre-programming.
		When ordering the Elinx™, specify:
		 Maximum Number of Encoder Digits (8 digits). Resolution = GALx1 (meter 4" or smaller) or GALx10 (meter 6" or larger). or
		• Resolution = FT³x0.1 (meter 4" or smaller) or FT³x1 (meter 6" or larger).
		Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.

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McCrometer (& Water Specialties)	FlowCom Smart-Output Version	Compatible (based upon laboratory and/or field testing). Test Register courtesy of McCrometer Corp. (Hemet, CA). Fair register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). Generally speaking, an 8-digit high-resolution register will enable fast calculation of flow-rates. However, in this case, the FlowCom register only updates its available reading once every 10 minutes; and therefore flow-rate calculation can only be performed as a 10-minute average flow, severely hampering its ability to provide up-to-date flow readings via its encoder signal. If flow data is required, then the system integrator should purchase and utilize the 4-20mA FlowCom option. Battery-powered. In order to preserve battery capacity, recommend that the FlowCom be purchased with the 4-20mA output option, which allows for externally-powering the meter. Register requires factory pre-programming. The maximum (8 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
		Note 3: On the EtherMeter, the user should set FCALCn to DTOTAL, SAMPn to 600, and Ton to 600
	ProComm Transmitter	Compatible (based upon laboratory and/or field testing). Test Meter courtesy of McCrometer Corp. (Hemet, CA).
McCrometer (& Water Specialties)	UltraMag™ Flanged MagMeter Models UM06 & UM08 FPI Mag™ Insertion MagMeter SPI Mag™ Insertion MagMeter Smart-Output Version	Excellent register for SCADA System interrogation of encoder register. Provides high-resolution (8 or 9 digits) or medium-resolution (6-Digit) totalization. The high-resolution (8-9 digit) totalization is preferable, as it speeds the flow-rate calculation. Order with Converter Option: '7' (Smart Output). Order with Smart Output Protocol Option: IT9 (9-Digit)or SEN (8-Digit) Note: If the meter is to be connected only to an EtherMeter, then the 9-Digit option is recommended. If the meter is to be co-connected to a utility AMR system, then select the output compatible with the utility AMR system (9 Digit, 8 Digit, 6 Digit). Terminal Block Wire Codes: Term.28=TX, Term.29=RX, Term.27=CMN MIM085 Option Wiring Color Codes: BLACK=TX, RED=RX, WHITE=CMN MIM086 Option Wiring Color Codes: BLACK=TX, RED=RX, WHITE=CMN MIM087 Option Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.

	M-Series &	Compatible (based upon laboratory and/or field testing). Test Meter courtesy of McCrometer Corp. (Hemet, CA).
	L-Series Transmitters	Excellent register for SCADA System interrogation of encoder register.
McCrometer (& Water Specialties)	UltraMag™ Flanged MagMeter Models UM06	Provides high-resolution (8 or 9 digits) or medium-resolution (6-Digit) totalization. The high-resolution (8-9 digit) totalization is preferable, as it speeds the flow-rate calculation.
	& UM08 FPI Mag™ Insertion MagMeter SPI Mag™ Insertion MagMeter Smart-Output Version	Order with "MIM085 Smart Output™ Option: 9-Digit Absolute Encoder Signalor Order with "MIM087 Smart Output™ Option: 8-Digit Absolute Encoder Signal. Note: If the meter is to be connected only to an EtherMeter, then the MIM085 (9-Digit) option is recommended. If the meter is to be co-connected to a utility AMR system, then select the output compatible with the utility AMR system (MIM085=9 Digit, MIM087=8 Digit, MIM086=6 Digit). Terminal Block Wire Codes: Term.28=TX, Term.29=RX, Term.27=CMN MIM085 Option Wiring Color Codes: BLACK=TX, RED=RX, WHITE=CMN MIM086 Option Wiring Color Codes: BLACK=TX, RED=RX, WHITE=CMN MIM087 Option Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
Metron-Farnier	HawkEye™ OER	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Metron-Farnier. (Note: The 6-digit (newest) version of this register is recommended.) Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Register requires factory pre-programming. The maximum (6 digits) is recommended. Wiring Color Codes: RED=TX, WHITE=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
Metron-Farnier	MIU (Register Attachment)	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Metron-Farnier. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Reverse-flows can cause erroneous readings and are not detected with this register. Battery-powered. Register requires factory pre-programming. The maximum (7 digits) is recommended. Wiring Color Codes: RED=TX, WHITE=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.

Metron-Farnier	Innov8™	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of Metron-Farnier (Boulder, CO). EtherMeter Firmwares Dated 28 Aug 2019, and Later. Excellent register for SCADA System interrogation of encoder register. When ordering, please make sure to request the encoder version and *not* the pulse version. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-powered (10-year battery life). Note: On the EtherMeter, the user should set SAMPn >= 30 seconds to preserve battery life. Register requires factory pre-programming. The maximum (8 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
Mueller (Hersey)	Translator	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Hersey Meter. Good register for SCADA System interrogation of encoder register. Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Register requires factory pre-programming. The maximum (6 digits) is recommended. Wiring Color Codes: RED=TX, WHITE=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500. Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Siemens Industry.
Mueller (Hersey)	HbMAG Mag-Meter Sensus Protocol Option	Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. This mag-meter provides accurate measurement of bi-directional flow-rate and totalization. By Default, this meter is Battery-powered. We recommend the meter configuration that features the line-powered option with a small internal battery backup option. Line-Powered Option: 12/24 V AC/VDC Mains (Line) Powered. Internal Battery Backup Option: HBBAT1D. Register requires user/factory pre-programming. The maximum (8 digits) is recommended. Adjust Parameter 305 to provide desired resolution. For 3" size meters and below, set to "Two Digits After Decimal Point" (GALx100 x 0.01 = GALx1 Resolution). For 4" size meters and above, set to "One Digit After Decimal Point (GALx100 x 0.1 = GALx10 Resolution). Note: On the EtherMeter, Recommended SAMPn Setting: 15, 30, 45, 60, 75, (Must Be A Multiple of 15 Seconds). MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug. Wiring Codes: TX=TERM.91, RX=TERM.92, CMN=TERM.93 Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.

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		Compatible (based upon laboratory and/or field testing).
		Excellent register for SCADA System interrogation of encoder register.
		Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
		Register does not require any special factory pre-programming (Neptune Factory Defaults = OK).
Nontuna	E-Coder™	Note: On the EtherMeter, the user should set PWRn parameter to 401 msec; and set SAMPn >= 20 seconds.
Neptune (Schlumberger)		Note: The EtherMeter is <u>NOT</u> compatible with the R900i version of the E-Coder. The R900i has a built-in radio, but no hookup cables or terminals, and therefore it is not compatible with the EtherMeter or any other non-Neptune reading equipment.
		Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN
		SPECIAL NOTE FOR NEPTUNE COMPOUND METERS OUTFITTED WITH TWO E-CODER REGISTERS: When using a compound meter, and 2 registers are connected in parallel, that means the registers are programmed into 'Network Mode'. The EtherMeter is not compatible with registers that are in 'Network Mode'. The register signal wires must be separated; and the registers must be re-programmed into 'Normal Mode' using a Neptune Handheld Programmer. Please call if more details are required.
		Compatible (based upon laboratory and/or field testing).
	Mach 10™	Test Meter provided courtesy of Ti-Sales (Sudbury, MA). Excellent register for SCADA System interrogation of encoder register.
		Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
Neptune (Schlumberger)		Register does not require any special factory pre-programming (Neptune Factory Defaults = OK).
		Note: On the EtherMeter, the user should set PWRn parameter to 401 msec; and set SAMPn >= 20 seconds.
		Note: The EtherMeter is <u>NOT</u> compatible with the R900i version of the Mach 10. The R900i has a built-in radio, but no hookup cables or terminals, and therefore it is not compatible with the EtherMeter or any other non-Neptune reading equipment.
		Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN
		Compatible (based upon laboratory and/or field testing). Test Meter provided courtesy of Ti-Sales (Sudbury, MA).
		Excellent register for SCADA System interrogation of encoder register.
	WaterFlux	Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation.
Neptune (Schlumberger)	WaterFlux 3070	Register does not require any special factory pre-programming (Factory Defaults = OK).
		Note: On the EtherMeter, the user should set PWRn parameter to 401 msec; and set SAMPn >= 20 seconds.
		MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug.
		Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN Note 1: On the EtherMeter, Recommended SAMPn Setting: 30, 60, 90, 120, (Must Be A Multiple of 30 Seconds).

		Compatible (based upon laboratory and/or field testing).
	Tru/Mag™	Excellent register for SCADA System interrogation of encoder register.
		Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation.
		Register does not require any special factory pre-programming (Factory Defaults = OK).
Neptune (Schlumberger)		Note: On the EtherMeter, the user should set PWRn parameter to 401 msec; and set SAMPn >= 20 seconds.
		Note 1: External-Power is recommended. Note 2: The Tru/Mag only measures flow in the forward direction (7/24/2012).
		MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug.
		Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN
		Compatible (based upon laboratory and/or field testing). Register must be an Auto-Sense and Revision H or above (eg: "AUTO H65N").
		Fair register for SCADA System interrogation of encoder register.
	ProRead™ "3-Board"	Provides low/medium-resolution totalization (5.2 digits). The low/medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.)
Neptune (Schlumberger)		Register requires factory pre-programming. The maximum (5.2 digits) is recommended.
, , ,		Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN
		SPECIAL NOTE FOR NEPTUNE COMPOUND METERS OUTFITTED WITH TWO PRO-READ REGISTERS: When using a compound meter, and 2 registers are connected in parallel, that means the registers are programmed into 'Network Mode'. The EtherMeter is not compatible with registers that are in 'Network Mode'. The register signal wires must be separated; and the registers must be re-programmed into 'Normal Mode' using a Neptune Handheld Programmer. Please call if more details are required.
		Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Ti-Sales (Sudbury, MA).
		Excellent register for SCADA System interrogation of encoder register.
	ProCoder™	Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
		Register does not require any special factory pre-programming (Neptune Factory Defaults = OK).
Neptune (Schlumberger)		Note: The EtherMeter is <u>NOT</u> compatible with the R900i version of the ProCoder. The R900i has a built-in radio, but no hookup cables or terminals, and therefore it is not compatible with the EtherMeter or any other non-Neptune reading equipment.
(**************************************		Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN
		Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 1. Note 2: On the EtherMeter, the user should set PWRn to 500.
		SPECIAL NOTE FOR NEPTUNE COMPOUND METERS OUTFITTED WITH TWO PROCODER REGISTERS: When using a compound meter, and 2 registers are connected in parallel, that means the registers are programmed into 'Network Mode'. The EtherMeter is not compatible with registers that are in 'Network Mode'. The register signal wires must be separated; and the registers must be re-programmed into 'Normal Mode' using a Neptune Handheld Programmer. Please call if more details are required.

Neptune (Schlumberger)	ProRead™ "2-Board"	Compatible (based upon laboratory and/or field testing). Register must be an Auto-Sense and Revision H or above (eg: "AUTO H49N"). Test Register provided courtesy of Ti-Sales (Sudbury, MA). Fair register for SCADA System interrogation of encoder register. Provides low -resolution totalization (4 digits). The low -resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Register requires factory pre-programming. The maximum (4 digits) is recommended. Wiring Color Codes: BLACK=TX, RED=RX, GREEN=CMN SPECIAL NOTE FOR NEPTUNE COMPOUND METERS OUTFITTED WITH TWO PRO-READ REGISTERS: When using a compound meter, and 2 registers are connected in parallel, that means the registers are programmed into 'Network Mode'. The EtherMeter is not compatible with registers that are in 'Network Mode'. The register signal wires must be separated; and the registers must be re-programmed into 'Normal Mode' using a
		be separated; and the registers must be re-programmed into 'Normal Mode' using a Neptune Handheld Programmer. Please call if more details are required.
RG3	Tomahawk™	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of RG3 Meter Company. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-powered (20-year battery life). Note: On the EtherMeter, the user should set SAMPn >= 30 seconds to preserve battery life. Register requires factory pre-programming. The maximum (8 digits) is recommended. Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
Sensus (Rockwell/ Invensys)	ICE® (ECR-III)	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of HD Supply Waterworks. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Register requires factory pre-programming. The maximum (8 digits) is recommended. Recommended Pre-Programming Parameters: Reading Wheels: 8 thru 1 Programmable ID: <disabled> Programmable Text: <disabled blank=""> Multiplier: <disabled> Unit: <disabled> Reading String: <normal reading="" string=""> Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.</normal></disabled></disabled></disabled></disabled>

Sensus (Rockwell/ Invensys)	OMNI T² Turbo, C² Compound, F² Fire Svc, R² Residential	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of HD Supply Waterworks. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Battery-powered (10-year battery life). Note: On the EtherMeter, the user should set SAMPn >= 30 seconds to preserve battery life. Register requires factory pre-programming. The maximum (8 digits) is recommended. Recommended Pre-Programming Parameters: Reading Wheels: 8 thru 1 Programmable ID: <disabled> Programmable Text: <disabled> Unit: <disabled> Unit: <disabled> Unit: <disabled> Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.</disabled></disabled></disabled></disabled></disabled>
Sensus (Rockwell/ Invensys)	ECR	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of HD Supply Waterworks. Note 1: Register Utilizes The "Fixed-Length" Variation Of The Sensus Protocol. Note 2: Obsolete Register, No Longer Available From Sensus.

Sensus (Rockwell/ Invensys)	iPerl™ Mag-Meter	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of HD Supply Waterworks. Excellent register for SCADA System interrogation of encoder register. Battery-powered (10-year battery life). Note: On the EtherMeter, the user should set SAMPn >= 30 seconds to preserve battery life. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Register requires factory pre-programming. The maximum (8 digits) is recommended. Requires iPerl 3-Wire, Plain-End Connector. Recommended Pre-Programming Parameters: Reading Wheels: 8 thru 1 Programmable ID: <disabled> Programmable Text: <disabled blank=""> Multiplier: <disabled> Unit: <disabled> Reading String: <normal reading="" string=""> Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.</normal></disabled></disabled></disabled></disabled>
Sensus (Rockwell/ Invensys)	AccuStream™	Compatible (based upon laboratory and/or field testing). Test Registers provided courtesy of HD Supply Waterworks. Excellent register for SCADA System interrogation of encoder register. Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows. Register requires factory pre-programming. The maximum (8 digits) is recommended. Recommended Pre-Programming Parameters: Reading Wheels: 8 thru 1 Programmable ID: <disabled> Programmable Text: <disabled> Programmable Text: <disabled> Unit: <disabled> Reading String: <normal reading="" string=""> Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.</normal></disabled></disabled></disabled></disabled>

Sensus (Rockwell/ Invensys)		Compatible (based upon laboratory and/or field testing). Test Results provided courtesy of City of Montreal, Quebec, Canada.
		Excellent register for SCADA System interrogation of encoder register.
	AccuMag™ Mag-Meter	Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
		Note: On the EtherMeter, SAMPn should always be set to an even multiple of 30 seconds. Example: On the EtherMeter, set SAMPn to 60, TOn to 60 (same as SAMPn), FCALCn to DTIME or DTOTAL.
		Battery-powered (8 to 15-year battery life). Note: For maximum meter battery life preservation, the user should set the EtherMeter's SAMPn setting to >=300 Seconds.
		Note: It has been our observation that the 30 second update period of the Accumag is only approximate. Therefore, setting FCALCn to DTIME is likely to provide better results than DTOTAL.
		MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug.
		Recommended Pre-Programming Parameters: Reading Wheels: 8 thru 1 Programmable ID: <disabled> Programmable Text: <disabled blank=""> Multiplier: <disabled> Unit: <disabled> Reading String: <normal reading="" string=""></normal></disabled></disabled></disabled></disabled>
		Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.
	F M MAG 8000 Mag-Meter Sensus Protocol Option	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Siemens Industry.
		Excellent register for SCADA System interrogation of encoder register.
		Provides high-resolution totalization (8 digits). The high-resolution totalization speeds the flow-rate calculation and detection of reverse flows.
		This mag-meter provides accurate measurement of bi-directional flow-rate and totalization.
		By Default, this meter is Battery-powered. We recommend the meter configuration that features the line-powered option with a small internal battery backup option.
		Line-Powered Option: 12/24 V AC/VDC Mains (Line) Powered.
		Internal Battery Backup Option: HBBAT1D.
Siemens (Sitrans)		Register requires user/factory pre-programming using the Siemens Flow Tool Software. The maximum (8 digits) is recommended.
		Adjust Parameter 305 to provide desired resolution: For All Size Meters, Set to "Zero Digits After Decimal Point", which will provide GALx1 Resolution.
		To Monitor NET Totalization, Set Parameter 310 (Flow Direction Totalizer 1) to "NET".
		For Gallon Registration, Set Parameter 8 (Totalizer Unit) to GAL; and Set Parameter 9 (Flowrate Unit) to GPM.
		MagMeter: Meter grounding lug(s) MUST be tied to the control panel electrical grounding terminal/lug.
		Wiring Codes: TX=TERM.91, RX=TERM.92, CMN=TERM.93 Note 1: On the EtherMeter, Recommended SAMPn Setting: 15, 30, 45, 60, 75, (Must Be A Multiple of 15 Seconds). Note 2: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 3: On the EtherMeter, the user should set PWRn to 500.

Zenner USA	ETR	Compatible (based upon laboratory and/or field testing). Test Register provided courtesy of Zenner USA.
		Good register for SCADA System interrogation of encoder register.
		Provides medium-resolution totalization (6 digits). The medium-resolution totalization delays flow-rate calculations and reverse-flow detection. (The "FIXED DTOTAL" flow calculation method is recommended.) Battery-powered (15-year battery life). Note: On the EtherMeter, the user should set
		SAMPn >= 30 seconds to preserve battery life.
		Register requires factory pre-programming. The maximum (6 or 7 digits) is recommended.
		Wiring Color Codes: RED=TX, GREEN=RX, BLACK=CMN Note 1: On the EtherMeter, the user should set CLKLOWn parameter to 2. Note 2: On the EtherMeter, the user should set PWRn to 500.



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