Badger Meter

Data Industrial® 340 BN/MB
Btu Energy Transmitter

OVERVIEW

The Data Industrial 340 BN/MB Btu Energy Transmitter from Badger Meter is an economical, compact device for sub-metering applications utilizing the BACnet™ or Modbus® communications protocol.

The 340 BN/MB Btu Energy Transmitter calculates thermal energy using the signal from a flow sensor installed in a hydronic heating or chilled water system, and the signals from two 10 kΩ temperature thermistors, 100 Ω RTDs or 1000 Ω RTDs installed in the system's inlet and outlet points. The flow input may be provided by any Data Industrial sensor and many other pulse or sine wave signal flow sensors.

The on-board microcontroller and circuitry make precise measurements and produce accurate, drift-free outputs. The 340 BN/MB Btu Energy Transmitter is programmed using Badger Meter Windows® based software. Calibration information for the flow sensor type and pipe size may be preselected or entered by the user in the field. While the unit is connected to a PC or laptop computer, real-time flow rate, flow total, temperatures, energy rate and energy total are available.
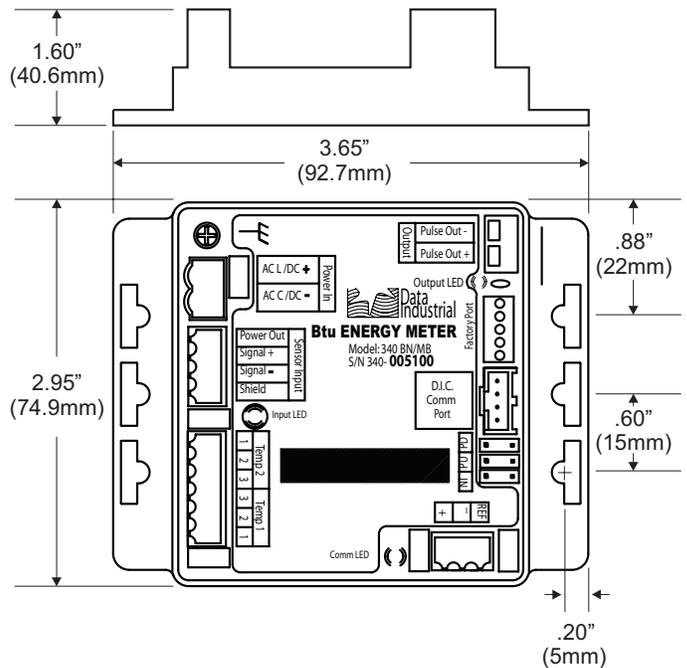

EXAMPLE:	**340 BN/MB**	-	xx
SERIES			
Btu Energy Transmitter w/output	340 BN/MB		
OPTIONS			
Transmitter Only	00		
With Metal Enclosure	02		
With Plastic Enclosure	03		
With DIN Rail Mounting Clips	04		

340 BN/MB Ordering Matrix

The 340 BN/MB Btu Energy Transmitter features three indicator LEDs to verify the sensor input signal, network link and pulse output.

The 340 BN/MB Btu Energy Transmitter communicates via RS485.

The compact cast body measures 3.65 x 2.95 inches (93 x 75 mm) and can be easily mounted on panels, DIN rails or enclosures.


1.60" (40.6mm)

3.65" (92.7mm)

2.95" (74.9mm)

.88" (22mm)

.60" (15mm)

.20" (5mm)

Technical Brief

SPECIFICATIONS

Power

Power supply:

- 12-24V AC rms
- 12-24V DC

Current draw: 115 mA at 12V DC

Flow Sensor Input

Pulse type sensors:

    Signal amplitude: 2.5V DC threshold

    Signal limits: Vin < 35V (DC or AC peak)

    Frequency range: 0 to10 kHz

Pull-up: 15V DC @ 2k Ω Source Impedance

Sine wave sensors:

    Signal amplitude: 30 mV p-p threshold

    Signal limits: Vin < 35V (DC or AC peak)

    Frequency: 0 to10 kHz

Power out terminal:

15V DC ± 1V DC @ 500 Ω Source Impedance

Temperature Sensor (2 of same type required) Input

- 10k Ω thermistor, 2 wire, type II, 10k Ω @ 25°C
- 100 Ω platinum RTD, DIN calibration curve, conforms to IEC-751 Standard
- 1000 Ω platinum RTD, DIN calibration curve, conforms to IEC-751 Standard

Calibration range of measurement: 0 to150°C

Communication Port

- RS-485 with termination, pull up and pull down jumpers

Pulse Output

- Isolated solid state switch in any standard or custom total units
- Adjustable 50 ms to 1.0 second pulse output width in 50 ms increments
- Maximum sinking current: 100 mA @ 36V DC

Operating Temperature

- 0°C to +70°C
- +32°F to +158°F

Storage Temperature

- -40°C to +85°C
- -40°F to +185°F

Weight

- 4.8 oz. with connector headers installed

Sensor Calibration

Badger Meter: Use K and offset values provided in sensor manual

Other Sensors: Check with respected manufacturer of flow sensor and with factory

Units of Measure

Flow Measurement:

    Rate: gpm, gph, l/sec, l/min, l/hr, ft3/sec, ft3/min, ft3/hr, m3/sec, m3/min, m3/hr

    Total: Gallons, Gallons X 100, Gallons X 1000, Liters, Cubic Feet, Cubic Meters

Energy Measurement

    Rate: kBtu/min, kBtu/hr, kW, MW, hp, tons

    Total: Btu, kBtu, MBtu, kWh, MWh, kJ, MJ

Temperature Measurement

- Fahrenheit, Centigrade

Programming

- Requires PC or laptop running Windows 2000, XP, Vista or Windows 7
- Data Industrial 340BN/MB Programming Kit containing software and Data Industrial Series A-301 programming cable is required for programming and setup
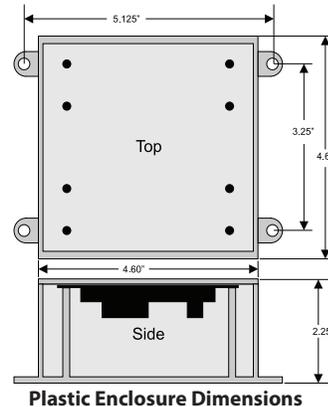
Plastic Enclosure Dimensions

Metal Enclosure Dimensions

Data Industrial is a registered trademark of Badger Meter, Inc.
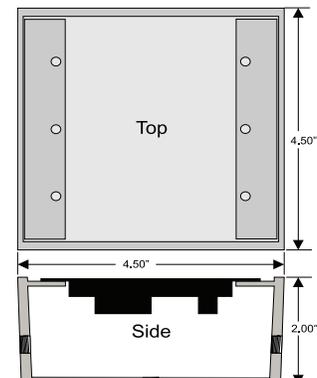
Please see our website at www.badgermeter.com for specific contacts.

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists.