



Badger Meter

Transmitters

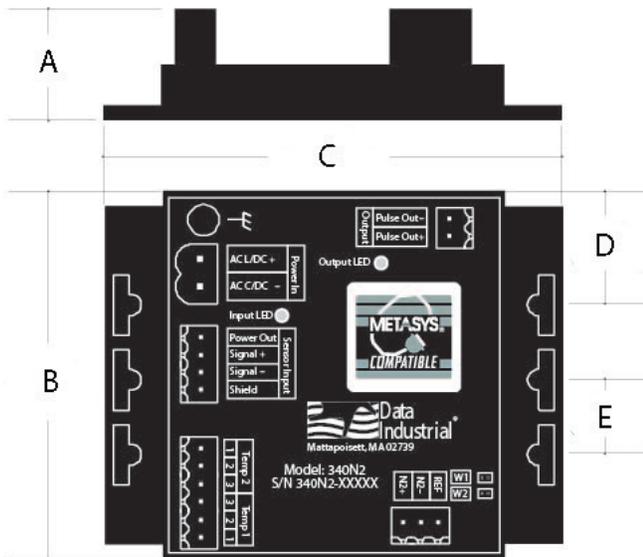
Model 340N2 Btu

DESCRIPTION

The Model 340N2 Btu transmitter from Badger Meter is an economical, compact device for sub-metering applications using Johnson Controls Metasys® Network Companion and Facilitator Supervision System.

The Model 340N2 transmitter calculates thermal energy in a closed pipe hydronic system by integrating the flow and temperature inputs. The transmitter can accept the signal from most Badger Meter raw pulse flow sensors, as well as many other pulse and sine wave devices. Temperature inputs are accepted from standard 10 kΩ (Type II) thermistors.

The onboard microcontroller and digital circuitry make precise measurements and produce accurate, drift-free outputs. The Model 340N2 transmitter is commissioned using Badger Meter Windows® based software. Calibration information for the flow sensor, type and pipe size can be pre-selected or entered in the field. When a PC or laptop computer is connected, the same data that is transmitted across the N2 network is shown in real time. This includes flow rate, flow total, energy rate, energy total, supply and return temperatures, and Delta T.



| A | B | C | D | E |
|----------|----------|----------|---------|---------|
| 1.60 in. | 2.95 in. | 3.65 in. | .88 in. | .60 in. |
| 41 mm | 75 mm | 93 mm | 22 mm | 15 mm |

Figure 1: Transmitter dimensions

ORDERING MATRIX

| | | EXAMPLE: | 340N2 | - | xx |
|----------------|----------------------------|----------|-------|---|----|
| Series | Btu Transmitter | | 340N2 | | |
| Options | Transmitter Only | | | | 00 |
| | w/ Metal Enclosure | | | | 02 |
| | w/ Plastic Enclosure | | | | 03 |
| | w/ DIN Rail Mounting Clips | | | | 04 |

The Model 340N2 transmitter features two LEDs to verify input and output signals.

The pulse output for the Model 340N2 transmitter is an isolated solid state switch closure that is user programmed for units of energy or flow. The output pulse width is adjustable from 50 milliseconds to 5 seconds.

The N2 output is an RS-485 compliant signal.

The Model 340N2 transmitter operates on AC or DC power supplies ranging from 12...24 volts.

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



Badger Meter

XMT-DS-01632-EN-04 (March 2016)

SPECIFICATIONS

| | | |
|----------------------------------|--|------------------------|
| Power | | |
| Power Supply Options | 12...35V DC $\pm 5\%$ | 12...24V AC $\pm 10\%$ |
| Current Draw | 60 mA at 12V DC | |
| Flow Sensor Input | | |
| All Sensors | Separate excitation voltage is provided for three wire sensors 7.9...11.4V DC with 270 Ω source impedance | |
| Pulse Type Sensors | | |
| Signal Amplitude | 2.5V DC threshold | |
| Signal Limits | $V_{in} < 35V$ (DC or AC peak) | |
| Frequency | 0.4...1.0 kHz | |
| Pull-up | To 9.1V DC with 2 k Ω | |
| Sine Wave Sensors | | |
| Signal Amplitude | 10 mV p-p threshold | |
| Signal Limits | $V_{in} < 35V$ (DC or AC peak) | |
| Frequency | 0.4...1.0 kHz | |
| Temperature Sensor Input | Two required: 10 k Ω thermistor, 2 wire, type II, 10 k Ω at 77° F (25° C) | |
| Pulse Output | | |
| Opto-isolated solid state switch | | |
| Operating voltage range | 0... $\pm 60V$ (DC or AC peak) | |
| Closed (on) state | Load current, 700 mA max. over operating temperature range | |
| | On-resistance, 700 m Ω max. over operating temperature range | |
| Open (off) state | Leakage at 158° F (70° C) $< 1\mu A$ at 60V (DC or AC peak) | |
| N2 Output | RS-485 output compliant with EIA/TIA-485 standards | |
| Operating Temperature | -20...158° F | -29...70° C |
| Storage Temperature | -40...185° F | -40... 85° C |
| Weight | 4.8 oz with headers installed | |
| Sensor Calibration | | |
| Data Industrial | Use K and offset values provided in sensor owners manual | |
| Other Sensors | Check with factory | |
| Units of Measure | | |
| Flow | Rate: gpm, gph, l/sec, l/min, l/hr, ft3/sec, ft3/min, ft3/hr, m3/sec, m3/min, m3/hr | |
| | Total: gallons, liters, cubic feet, cubic meters | |
| Energy | Rate: kBtu/min, kBtu/hr, kW, MW, hp, tons | |
| | Total: Btu, kBtu, MBtu, kWh, MWh, kJ, MJ | |
| Temperature Units | Fahrenheit | Centigrade |
| Programming | Requires PC or laptop running Windows® 7, XP or Vista and A302-20 programming kit | |
| Accessories | A302-20 programming kit | |

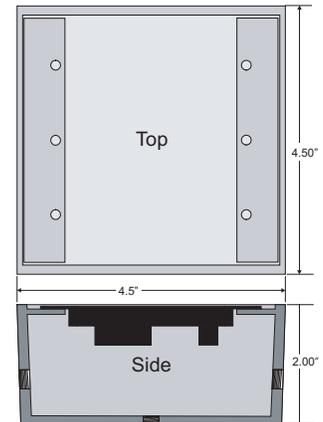


Figure 2: Metal box dimensions

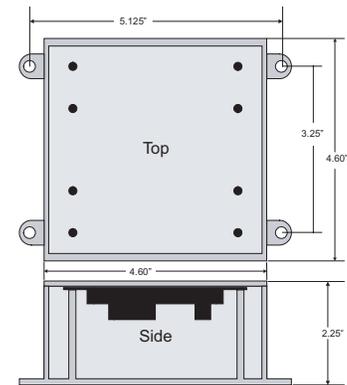


Figure 3: Plastic enclosure dimensions

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