

The Series 380 Btu Systems provide a low cost system for metering cold or hot systems. The 380CS/HS can accurately measure flow and temperature differential to compute energy. Utilizing either BACnet or Modbus RS-485 communications protocols or a scaled pulse output, the Btu Meter can interface with many existing control systems.

The rugged design incorporates an impeller flow sensor and two temperature probes. One temperature probe is conveniently mounted directly in the flow sensor tee. The second temperature probe is placed on either the supply or the return line depending on ease of installation for the application. These minimal connections help simplify installation and save time.

The main advantage of the Series 380 Btu meters is the cost savings over other systems offered on the market today. The integration of flow and temperature sensors, along with metering components provide a single solution for metering. With this system it will be possible to meter energy where it hasn't been cost effective before.

Commissioning of this meter can be completed in the field via a computer connection or setup at the factory with the customers requirements. Setup includes energy measurement units, measurement method, communication protocol, pulse output control, fluid density, and specific heat parameters.

RS-485 Configuration

The Series 380 Btu meters are equipped with BACnet and Modbus protocols as a standard feature. The protocol of choice can be selected and setup in the field at the users discretion. These common protocols allow for quick and easy commissioning while gaining valuable application data beyond energy total. Information such as Flow Rate, Flow Total, Energy Rate, Energy Total, Temp 1, Temp 2, and Delta T can all be transmitted on the RS-485 connection.

Scaled Pulse Output

If the RS-485 is not required for the application, a simple scaled pulse output is available. This output would represent energy total and can be set in various units of measure. This output is an open drain scaled pulse output that is compatible with a variety of PLCs, counters and also the Meter 350 wireless system. This ensures the unit is easily compatible with most inputs.



MECHANICAL

Dimensional
Mass < 10lb

ELECTRICAL

Inputs
Power 12-35VDC
12-28VAC
Communication Modbus RTU
BACnet MSTP
Output
Scaled Pulse Open drain

MATERIALS

Housing Polycarbonate
Flow Sensor PEEK
Potting Material Polyurethane
Tee Material Brass

SENSOR BODY SIZES

Tee Sizes 3/4", 1", 1 1/4", 1 1/2", and 2"

ENVIRONMENTAL

Fluid Temp. -20°C to 60°C (Chilled)
4°C to 125°C (Hot)
Ambient Temp. -20°C to 65°C

ACCURACY

± 3% of full scale
± 0.5% repeatability
RTD meets IEC751 Class B

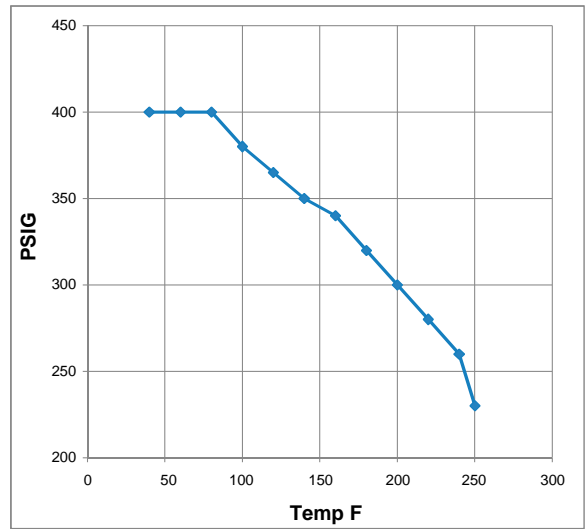
DTB-083-01

Series I380 BTU System Ordering Matrix

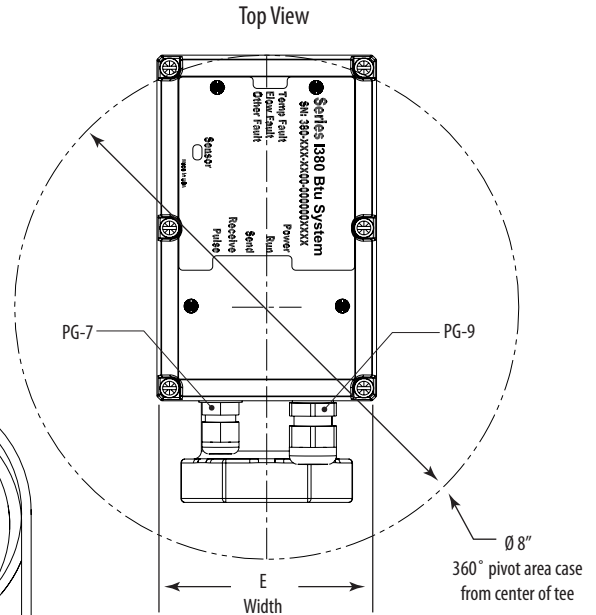
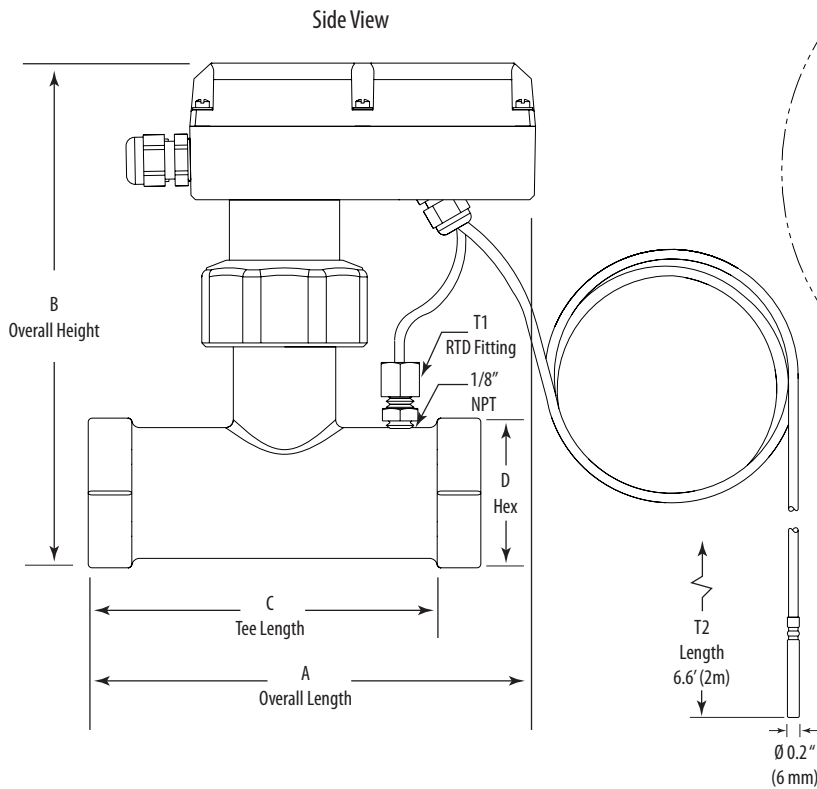
| | | | | | | | | | | | |
|---|------|---|----|---|---|---|---|---|---|---|---|
| | I380 | 0 | 7 | 0 | 0 | 0 | - | 1 | 2 | 0 | 0 |
| Type | | | | | | | | | | | |
| CS - Cold Service | | 0 | | | | | | | | | |
| HS - Hot Service | | 1 | | | | | | | | | |
| Size | | | | | | | | | | | |
| 0.75" | | | 07 | | | | | | | | |
| 1" | | | 10 | | | | | | | | |
| 1.25" | | | 12 | | | | | | | | |
| 1.5" | | | 15 | | | | | | | | |
| 2" | | | 20 | | | | | | | | |
| Electronic Housing | | | | | | | | | | | |
| Polycarbonate | | | 0 | | | | | | | | |
| Output | | | | | | | | | | | |
| Scaled Pulse and RS-485 (Modbus and BACnet) | | | 0 | | | | | | | | |
| Display | | | | | | | | | | | |
| N/A | | | | | | | | | | | 0 |
| O-Ring | | | | | | | | | | | |
| EPDM (CS - Cold Service) | | | | | | | | | | | 1 |
| Aflas® (HS - Hot Service) | | | | | | | | | | | 2 |
| Shaft | | | | | | | | | | | |
| Tungsten Carbide [Standard] | | | | | | | | | | | 2 |
| Impeller | | | | | | | | | | | |
| Stainless Steel | | | | | | | | | | | 0 |
| Bearing | | | | | | | | | | | |
| Torlon® (CS - Cold Service) | | | | | | | | | | | 0 |
| Ketron® (HS - Hot Service) | | | | | | | | | | | 2 |

Viton® is a registered trademark of DuPont-Dow Elastomers.
 Torlon® is a registered trademark of Amoco Performance Products.

Pressure vs. Temperature



* Max. Temp. 250°F @ 230 PSIG
 Unit can be used to -20°F @ 400 PSIG.



| TEE/NPT Size | A | B | C | D | E |
|--------------|--------------|--------------|--------------|--------------|-------------|
| 2" (51mm) | 7.9" (201mm) | 8.5" (216mm) | 7.8" (197mm) | 3.3" (84mm) | 3.5" (89mm) |
| 1.5" (38mm) | 7.3" (185mm) | 8.3" (209mm) | 6.7" (170mm) | 2.75" (70mm) | 3.5" (89mm) |
| 1.25" (32mm) | 7.1" (180mm) | 8.1" (204mm) | 6.2" (158mm) | 2.4" (60mm) | 3.5" (89mm) |
| 1" (25.4mm) | 6.7" (170mm) | 7.9" (200mm) | 5.4" (137mm) | 2" (51mm) | 3.5" (89mm) |
| 0.75" (19mm) | 6.7" (170mm) | 7.9" (200mm) | 5.4" (137mm) | 2" (51mm) | 3.5" (89mm) |

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