



## FLOW SENSOR WITH INTEGRAL FLOW TRANSMITTER SDI SERIES

### DESCRIPTION

The **Badger Meter SDI Series flow sensor** has an integral transmitter and is available in either brass or stainless steel. Hot tap stainless steel models include isolation valve and mounting hardware which enables installation and removal while the piping system is pressurized. Hot tap stainless steel models are also available for bidirectional flow measurement. The impeller is rugged and non-fouling and requires no custom calibration. The **SDI Series** is available with a frequency output, analog output, or a scaled-pulse output and the display is optional; programming is done using the A301-20 Programming Kit. Stainless steel models are available with a PEEK (polyetheretherketone) tip for high fluid temperatures (up to 300 °F).

### FEATURES

- *Direct insertion or hot tap installation*
- *Fits pipe sizes 1.5" to 36"+ (3.8 to 91+ cm)*
- *Mounts in 1" NPT tap, weld-on or pipe saddle*
- *Low pressure drop*
- *Optional 8 character 3/8" (0.95 cm) LCD*
- *NEMA 4X enclosure standard*
- *Bidirectional models available*
- *Field programmable with optional software*

### SPECIFICATIONS

|                                  |   |
|----------------------------------|---|
| <b>Supply Voltage</b>            | 8-35 VDC @ 25 mA  |
| <b>Accuracy</b>                  | ± 1% of flow rate   |
| <b>Output Signal</b>             | Models with standard frequency pulse, two-wire 4-20 mA @ 750Ω, scaled pulse, or bi-directional (hot-tap models only)  |
| <b>Velocity Range</b>            | 0.3 to 20 fps (0.09 to 6.1 mps)   |
| <b>Wiring Terminations</b>       | Screw terminals   |
| <b>Conduit Connection</b>        | 1/2" FNPT   |
| <b>Configuration</b>             | A-SDI Programming software kit, includes 20' cable  |
| <b>Repeatability</b>             | ± 0.5%  |
| <b>Display</b>                   | One line, eight character 3/8" (.95 cm) LCD, annunciators for rate, total, input, output  |
| <b>Installation</b>              | Install in straight pipe section with a minimum distance of 10 pipe diameters upstream and 5 pipe diameters downstream to any bend, obstruction or transition |
| <b>Mounting</b>                  | 1" MNPT, mount in Thredolet® or pipe saddle   |
| <b>Media Temperature Range</b>   | Maximum 300°F (149°C) for PEEK tip; 180°F (82°C) for PPS tip  |
| <b>Maximum Pressure</b>          | 1000 psig (6895 kPa) for stainless steel, 600 psig (4137 kPa) for brass   |
| <b>Pressure Drop</b>             | 0.5 psid (3.5 kPa), or less, at 10 fps velocity   |
| <b>Materials Of Construction</b> | Polypropylene enclosure with Viton® sealed dacrylic cover, probe and sensor materials vary by model number (see ORDERING INFORMATION)                         |
| <b>Operating Temperature</b>     | 14° to 150°F (10° to 65°C)  |
| <b>Enclosure Rating</b>          | NEMA 4X   |
| <b>Warranty</b>                  | 1 year  |



SDI Series

### ORDERING INFORMATION

| MODEL               | DESCRIPTION   |
|---------------------|---|
| SDI                 | Flow sensor with integral transmitter                                       |
| <b>MATERIAL</b>     |   |
| 0D1N                | Stainless steel insertion with PPS tip for 1.5" to 10" pipes                |
| 0D2N                | Stainless steel insertion with PPS tip for 12" to 36" pipes                 |
| 0D3N                | Stainless steel insertion with PPS tip for 36"+ pipes                       |
| 1D1N                | Brass insertion with PPS tip for 1.5" to 10" pipes                          |
| 1D2N                | Brass insertion with PPS tip for 12" to 36" pipes                           |
| 1D3N                | Brass insertion with PPS tip for 36"+ pipes                                 |
| 2D1N                | Stainless steel insertion with PEEK tip for 1.5" to 10" pipes               |
| 2D2N                | Stainless steel insertion with PEEK tip for 12" to 36" pipes                |
| 2D3N                | Stainless steel insertion with PEEK tip for 36"+ pipes                      |
| 0H1N                | Stainless steel hot tap with PPS tip for 1.5" to 10" pipes                  |
| 0H2N                | Stainless steel hot tap with PPS tip for 12" to 36" pipes                   |
| 0H3N                | Stainless steel hot tap with PPS tip for 36"+ pipes                         |
| 2H1N                | Stainless steel hot tap with PEEK tip for 1.5" to 10" pipes                 |
| 2H2N                | Stainless steel hot tap with PEEK tip for 12" to 36" pipes                  |
| 2H3N                | Stainless steel hot tap with PEEK tip for 36"+ pipes                        |
| <b>OUTPUT</b>       |   |
| 0                   | Standard frequency pulse  |
| 1                   | 4-20 mA   |
| 2                   | Scaled pulse  |
| 5                   | Bidirectional, 4-20 mA + direction (hot tap, PPS tip only)                  |
| 6                   | Bidirectional, scaled pulse (hot tap, PPS tip only)                         |
| <b>DISPLAY</b>      |   |
| 0                   | No display  |
| 1                   | LCD option (not available with output option 0)                             |
| <b>CONSTRUCTION</b> |   |
| 0200                | Viton O-ring, Carbide shaft, stainless steel impeller, Torlon bearing (std) |
| 1200                | EPDM O-ring, Carbide shaft, stainless steel impeller, Torlon bearing        |

**SDI 2D1N 1 1 0200** Example: SDI2D1N11200 Flow sensor with integral transmitter, stainless steel insertion with PEEK tip, 4-20 mA output, display, standard construction.

### ACCESSORIES

- 8132030 A-1027** Replacement ball valve for hot tap install Hot tap adapter nipple, required for hot tap
- A301-20\*** Flow/BTU transmitter programming kit, Includes cable

\*Required for field calibration and setup.