

# PADDLEWHEEL FLOW SENSOR

Non-Magnetic Sensing, Adjustable for 1-1/2 to 40" (38.1 to 1016 mm) Pipe, Pulse or 4-20 mA



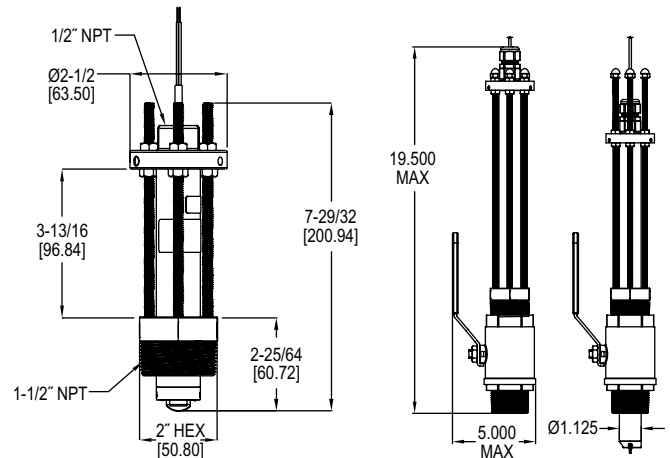
PFT-IAN-B111-S



PFT-HDN-S611-S  
shown with  
A-PFT-HKIT-SS



PFT-HDN-B611-S  
shown with  
A-PFT-HKIT



The **Series PFT Paddlewheel Flow Sensor** is used to monitor liquid flow rates in pipes from 1-1/2 to 40" (40-1016 mm). The unit has one size-adjustable sensor and is available in brass or 316 SS body. The unit outputs a frequency proportional pulsed or 4-20 mA output. The pulse models are a square wave output signal with frequency proportional to the flow velocity and the 4-20 mA models have a linear output of the velocity with 4 mA equal to 0 ft/s and 20 mA equal to 25 ft/s.

## FEATURES/BENEFITS

- Bearings and shaft offer excellent wear protection even in applications with particulate for long life
- Weatherproof and submersible rated for irrigation applications
- One unit adjustable over a large pipe size range
- Multiple wetted material choices offer application versatility
- Integral 4-20 mA output with no need for additional external components
- Sensor technology uses inductive sensing to sense the blades of the impeller therefore does not use magnets allowing low flow rate monitoring with no concerns regarding magnetic material in the flow

## APPLICATIONS

- Irrigation
- Ground water remediation
- Cooling systems
- Pump protection
- Leak detection
- Filtration systems

## SPECIFICATIONS

**Service:** Water-based fluids.

**Range:** 1.2 to 25 ft/s (0.37 to 7.62 m/s).

**Wetted Materials:** Body and fitting: Brass or 316 SS; fitting O-ring: FKM standard, silicone or Buna-N optional; impeller: 316 SS; shaft: Tungsten carbide standard or 316 SS optional; bearing: PTFE standard.

**Linearity:** ±1.0% of FS.

**Repeatability:** ±0.5% of FS.

**Temperature Limits:** -40 to 212°F (-40 to 100°C).

**Pressure Limits:** 400 psig (27.6 bar) @ 100°F (37.8°C), 325 psig (22.4 bar) @ 212°F (100°C).

**Process Connection:** 1-1/2" NPT male or 1-1/2" BSPT male standard, 2" NPT male or 2" BSPT male optional.

**Output:** Pulse: NPN open collector with square wave output, rated 60 V @ 50 mA max; Frequency: 3.2 to 200 Hz. Pulse width: 2.5 msec ±25%; 4-20 mA: 4 mA is 0 ft/s, 20 mA is 25 ft/s.

**Power Requirement:** 10-35 VDC.

**Power Consumption:** 40 mA (max.).

**Electrical Connection:** 22 AWG shielded UL type PTLC rated 105°C, 20' (6.1 m) long with cable gland. Can be extended up to 2000' (609 m) with similar cable. Optional UL listed burial rated cable.

**Enclosure Rating:** NEMA 6P (IP67)\*.

**Housing Materials:** Brass or 316 SS.

**Weight:** 3 lb (1.36 kg).

**Agency Approvals:** CE.

\*Brass units IP67 only.

## MODEL CHART

| Example                      | PFT | -I     | D      | N | -B     | 1                                    | 1           | -S     | -ST | PFT-IDN-B111-S-ST  |
|------------------------------|-----|--------|--------|---|--------|--------------------------------------|-------------|--------|-----|--|
| <b>Series</b>                | PFT |        |        |   |        |                                      |             |        |     | Paddlewheel flow sensor  |
| <b>Style</b>                 |     | I<br>H |        |   |        |                                      |             |        |     | Insertion<br>Hot-tap insertion   |
| <b>Output</b>                |     |        | D<br>A |   |        |                                      |             |        |     | 600UA/40 MA 2.5 MS pulse<br>Analog 4-20 mA transmitter   |
| <b>Approvals</b>             |     |        |        | N |        |                                      |             |        |     | None   |
| <b>Body Material</b>         |     |        |        |   | B<br>S |                                      |             |        |     | Brass body<br>316 SST body   |
| <b>Mounting</b>              |     |        |        |   |        | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8 |             |        |     | 1-1/2" NPTM mounting<br>2" NPTM mounting<br>1-1/2" male BSPT mounting<br>2" male BSPT mounting<br>1-1/2" NPTM hot tap with valve<br>1-1/2" NPTM hot tap without valve<br>1-1/2" male BSPT hot tap with valve<br>1-1/2" male BSPT hot tap without valve |
| <b>O-Ring Material</b>       |     |        |        |   |        |                                      | 1<br>2<br>3 |        |     | FKM fluoroelastomer<br>Silicone (FDA approved)<br>Buna-N   |
| <b>Wetted Materials</b>      |     |        |        |   |        |                                      |             | 1<br>2 |     | Tungsten-carbide shaft, 316 SS<br>impeller, PTFE bearing<br>316 SS shaft, 316 SS impeller,<br>PTFE bearing   |
| <b>Electrical Connection</b> |     |        |        |   |        |                                      |             | S<br>B |     | 22 GA shielded wire, 20 ft (6.1 m)<br>18 GA UL listed burial rated, 4 ft (1.2 m)   |
| <b>Options</b>               |     |        |        |   |        |                                      |             |        | ST  | Stainless steel tag  |

## MODEL CHART

| Model          | Description   |
|----------------|---|
| PFT-IAN-B111-S | Standard brass 1-1/2" NPTM analog output                |
| PFT-IAN-S111-S | Standard 316 SST 1-1/2" NPTM analog output              |
| PFT-IDN-B111-S | Standard brass 1-1/2" NPTM pulse output                 |
| PFT-IDN-S111-S | Standard 316 SST 1-1/2" NPTM pulse output               |
| PFT-HAN-B611-S | Hot tap without valve brass 1-1/2" NPTM analog output   |
| PFT-HAN-S611-S | Hot tap without valve 316 SST 1-1/2" NPTM analog output |
| PFT-HDN-B611-S | Hot tap without valve brass 1-1/2" NPTM pulse output    |
| PFT-HDN-S611-S | Hot tap without valve 316 SST 1-1/2" NPTM pulse output  |

## ACCESSORIES

| Model              | Description                         |
|--------------------|-------------------------------------|
| A-PFT-HKIT         | 1-1/2" brass valve NPT with nipple  |
| A-PFT-HKIT-BSPT    | 1-1/2" brass valve BSPT with nipple |
| A-PFT-HKIT-SS      | 1-1/2" SS valve NPT with nipple     |
| A-PFT-HKIT-SS-BSPT | 1-1/2" SS valve BSPT with nipple    |

USA: California Proposition 65

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov