



BRUCONTROL

Process Automation Made Personal

Model PSF-20-x
Tri-Clamp Flush Diaphragm Pressure Sensor

Updated: July 23, 2022



Description:

This sensor can be used to directly measure liquid volume level in a vessel (such as a kettle) via hydro-static pressure. It has a 1.5" Tri-Clamp Mount and a flush SS diaphragm which enables simple cleaning and functions in sanitary applications. It can be mounted vertically (bottom mount) or horizontally (side mount) and measure approximately 16 in. (PSF-20-5) or 32 in. (PSF-20-10) of liquid above the sensor, respectively. The sensor can monitor liquids up to boiling temperatures via an embedded radiator which keeps the sensor module cool. It comes with a pre-wired DIN connector and ~15 ft. cable. The sensor output is analog voltage which can be wired directly to a BruControl interface.

Specifications:

Pressure:

Model PSF-20-5: 0 – 20 in. H₂O / 0-50 mbar

Model PSF-20-10: 0 – 40 in. H₂O / 0-100 mbar

Type: Gauge

Output: 0 – 5 VDC (analog)

Maximum pressure: 200% full scale

Accuracy: +/- 0.5% full scale

Power: 12 – 30 VDC

Mount: 1.5" Tri-Clamp (1.984 in. / 50.4 mm)

Media temperature: -40 – 255°F / -40 – 125 °C

Stability: <0.2% FS / year

Protection: IP65

Construction: 304 SS

Height: 4 1/4 in. / 105 mm

IMPORTANT Note: The diaphragm is delicate and is very sensitive to impact, contact, or overpressure (above 2x rated). Doing so, even momentarily, will damage the sensor and void the warranty. Do not use in applications where it cannot be handled or protected from such contact, impact, or overpressure. Do not touch the diaphragm directly with hands or tools, as this can easily induce overpressure. It is recommended a mesh screen or other protection be located in front of sensor to prevent contact or impact with the diaphragm.

Wiring / Install:

Red: 12 – 36 VDC

Yellow or Black: GND

Green or Blue: 0 – 5 VDC analog out (proportional to pressure)

Mount the sensor either vertically (diaphragm up) or horizontally. It will be normal for an initial voltage to be present on the output, especially in vertical applications, as the internal oil is part of the vertical liquid column being measured. Mount the sensor such that it will be isolated from vibration or excess ambient heat, as only the diaphragm is rated above ambient temperature.

Calibration:

Review calibration steps in BruControl. Use Pressure Sensor Calibration Tool in website resources (<https://brucontrol.com/build/resources/>)

Contact BruControl at info@brucontrol.com with any questions or concerns.