

Description

The rugged IPF Field-Mounted Current-to-Pressure Transmitter is designed specifically for installation in harsh environments.

The two-wire IPF accepts a 4-20mA or 10-50mA input. It converts the input to a 3-15psig, 0.2-1bar, 15-3psig or 1-0.2bar pneumatic output signal, or to a wide variety of other commonly used pneumatic outputs (see Specifications for details). This versatility allows the IPF to interface with just about any kind of process control instrumentation including chart recorders, data loggers, panel meters, multiplexers, controllers and computers.

The IPF can either be surface-mounted or mounted directly on a two-inch (vertical or horizontal) pipe. Two different types of housings are offered. The standard WP housing provides 1/2-inch NPT female wire entry threads while the metric WPM housing provides M20X1.5 female wire entry threads.

The IPF transmitter is also available with an optional coalescing filter/regulator that combines both an air filter and a miniature supply line regulator. For more information on the filter/regulator unit, refer to the FILTERS data sheet.

Ordering Information

To order a specific unit use the appropriate bold face data from the Specification table on the back page. For assistance during this procedure, refer to the model number example.

Installation

Housing dimensions (excluding the optional filter-regulator) for the IPF are 96mm (3.8 in) X 96mm (3.8 in) X 140mm (5.5 in) high. The enclosure can either be surface mounted or, as an option, mounted on a two-inch pipe. See the applicable housing sheet for details.



The compact and rugged IPF Current-to-Pressure Transmitter is ideal for use in harsh environments

Features

- **Polyetherimide thermoplastic housing.** Designed to meet NEMA 4X, IP55 (water-tight dust-tight and corrosion-resistant) requirements, the unit's housing delivers superior heat, flame and chemical resistance. Its high impact strength makes it ideal for demanding applications.
- **Vibration resistant.** High technology sensor is insensitive to shock and vibration.
- **RFI/EMI protection.** Inherent RFI/EMI immunity eliminates the need for additional filters or terminals.

Certifications



Canadian Standards Association (CSA)
General (Ordinary) Location – WP; (NRTL/C)
Non-Incendive – WP: Class I, Division 2, Groups A, B, C, D for hazardous locations; Enclosure Type 3R; (NRTL/C)



Factory Mutual Research Corporation (FMRC)
Non-Incendive – WP: Class I, Division 2, Groups A, B, C, D; NEMA 4X; for use in indoor/outdoor hazardous locations



ATEX Approvals by: Mii Type N: EEx N IIC, T6
TUV – WPM/N: Contains an Intrinsically Safe transducer EEx ia IIC; T6

SAA Standards Association of Australia (SAA)
Type N – WPM: Ex N IIC; T6; IP46



CE Conformant – WP and WPM: EMC Directive 89/336/EEC, EN 61326; Low Voltage Directive 73/23/EEC, EN 61010

IPF

Field-Mounted
Current-to-Pressure Transmitter

Specifications

Characteristics

Performance Accuracy: Less than 0.5% of span including the combined effects of linearity, hysteresis, and repeatability—defined as independent linearity per SAMA standard PMC 20.1-1973. (For 3-27psig, error will not exceed 1% of span)

Step Response: 0.3seconds into 100ml (6 cu. in) at 90% of output span

Supply Pressure Effect: Maximum 0.3%/1.4psig (0.3%/0.1bar)

Air Consumption: 0.1SCFM (dead-ended)

Air Capacity: 1.4SCFM maximum

Maximum Input: 150% of input span without damage

RFI/EMI Effect: With field strengths of 10 volts per meter, at frequencies of 20-500MHz, less than $\pm 0.1\%$ of span change (standard)

Mounting Position Effect: Negligible—unit can be mounted in any position, but should be calibrated in final orientation

Shock and Vibration Effect: Less than 0.5% for acceleration up to 10g's and frequency up to 80Hz

Ambient Temperature Range: -40 to +60°C (-40 to +140°F)

Effect: Less than $\pm 0.1\%$ of input span per °C over above range (0.055%/°F)

Front Panel Adjustments **Zero:** Multiturn screw adjusts zero to $\pm 3\%$ of span
Span: Multiturn potentiometer fully adjustable to 100% of output span

Connections **Pneumatic:** 1/4-inch NPT female for both supply air and output air. Air supply also has additional (normally plugged) port for optional filter/regulator (-FR1 option).
Electrical: 1/2 inch NPT female, WP version; M20X 1.5 female, WPM version

Certifications Refer to front page

Fire Rating Housing material rated UL94V-O flame retardant

Weight Approximately 1 lb. 12 oz. (800 grams)

Options **-FR1** Combines a coalescing filter, miniature supply line regulator and pressure gauge that reads in both psi (0-60) and bars (0-4)
-TF1 Plastic tubing fitting offered as installed accessory for 1/4-inch O.D. tubing (not available with -FR1 option)
-FMD2 Factory Mutual approved. Non-incendive, Class I, Div II, Groups A, B, C, D NEMA 4.
-ISE TUV approved intrinsically safe
-NA SAA approved Type N
-NE Mii approved Type N (Requires WPM housing)

Housings **WP*** Standard, polyetherimide thermoplastic, NEMA 4X, IP55 housing (water-tight, dust-tight and corrosion-resistant—indoor and outdoor) with 1/2-inch NPT female wire entry threads. CSA approved Hazardous, Class I, Div II, Groups A, B, C, D
WPM* Metric version of housing with M20X1.5 female wire-entry threads

* Adding P-suffix includes steel clamp set (2) for 2" pipe mounting (e.g., WDMP)

Ordering Specifications

Unit	IPF
Input	4-20MA 4-20mA into 260 ohms, nominal
Output	.2-1 BAR 0.2-1bar 3-15 PSIG 3-15psig 3-27 PSIG 3-27psig 15-3 PSIG 15-3psig 20-100KPA 20-100kPa
Supply Pressure	20PSI 20psi 35PSI 35psi (for 3-27psig output only) 140KPA 140kPa 1.4BAR 1.4bar (for .2-1bar output only)

When ordering, specify: Unit / Input / Output / Supply Pressure / Options [Housing]
Model number example: IPF / 4-20MA / 3-15PSIG / 20PSI / -FR1 [WPM]



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