

Description

The IPT-DIN Current-to-Pressure Transmitter accepts a 4-20mA input signal and is capable of supplying a 3-15psig (or 15-3psig) pneumatic output signal, as well as a number of other pneumatic signals typically used in I/P-type process control applications. Available in a compact, aluminum housing that is only 40mm wide, the IPT unit can be conveniently snapped onto any standard mounting rail or a Moore Industries pneumatic header rack for use in high-density control room and factory installations. This versatile transmitter will interface with just about any kind of process control instrumentation including chart recorders, data loggers, panel meters, multiplexers, controllers and computers.

The IPT offers infinite resolution, output volume up to 1.4SCFM, and air consumption as low as 0.1SCFM. Intrinsically safe units are available as an option, and the transmitter itself can be enclosed in a water-proof box. A front panel LED that varies in intensity with the level of the pneumatic signal indicates input current, and complete RFI protection is provided as a standard feature. To save time during calibration and maintenance procedures, operation of the IPT can be monitored using an optional pneumatic test jack located on either the front or rear panel of the unit. Within certain limitations, the customer may select the location of the test jack, as well as the locations of electrical input and pneumatic output connections, by specifying the appropriate access designation listed in Table 1.

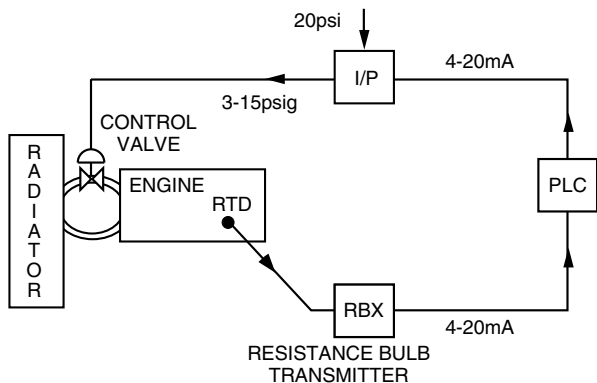


The IPT-DIN pneumatic mounting block (left) allows the unit to be easily snapped onto a DIN rail for high density installation

Features

- **Plug-in connections.** Mounting block and optional removable terminal block (-RTB) allow unit to be taken out of service without use of tools.
- **Vibration resistant.** High-technology sensor is insensitive to shock and vibration; unit may be installed in any position.
- **Self-sealing connection.** Mounting block and supply headers contain self-sealing valves which offer quick release and no air loss.
- **Accessory air filters available.** Moore Industries offers a series of air filters designed to protect the IPT transmitter from plugging or corrosion.

A typical IPT-DIN application



Certifications



Canadian Standards Association (CSA)
General (Ordinary) Location – NRTL/C



ATEX Approvals by:
TUV – Intrinsically Safe:
EEx ia IIC, T6



Standards Association of Australia (SAA)
Intrinsically Safe – Exia IIC; T6
Type N – Exn IIC; T6; IP65



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

IPT-DIN

Current-to-Pressure Transmitter

Specifications

<p>Characteristics</p> <p>Front Panel Adjustments Output Zero: Adjusts zero to ±3% of span Output Span: Fully adjustable to 100%. +T, -T: Electrical test jacks for calibration; accept 2mm (.080 in) dia. x 12.7mm (.50 in) long phone tip plugs (handles should be less than 8mm (.32 in) in diameter)</p> <p>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 or 10-50mA, error not to exceed 1% of span). Step Response: 0.3 seconds into 100 ml. (6 cu. in) at 90% of span Supply Pressure Effect: Maximum 0.3% / 1.4psig (0.3% / 0.1bar) 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 RFI Effect: Negligible Ambient Temperature Effect: Less than 0.1%/°C (0.055%/°F) Ambient Temperature Range: -40°C to +85°C (-40°F to +185°F). LED: When lit (red), indicates presence of electrical input signal</p>	<p>Performance (Continued) Air Capacity: 1.6SCFM, minimum Air Supply: Instrument air only, filtered and regulated. 20psig nominal; 30psig without damage. For 3-27psig output, 35psig supply only Air Consumption: Deadended 0.08SCFM (0.2 kg/hr.)</p> <p>Connections Input Connections: Screw clamp type, front or rear mounted, 22-14 AWG Output Connections: 1/8 inch NPT female, bottom or rear location on units supplied with optional pneumatic mounting block Supply connection: 1/8 inch NPT female, bottom or rear location on units with optional pneumatic mounting block</p> <p>Weight 20 ounces (.57 kg.)</p>	<p>Supply Pressure 20PSI 20psi 35PSI 35psi for 3-27psig 140KPA 140kPa</p> <p>Access Designations Refer to Table 1</p> <p>Options -FMEDA Unit comes with Failure Modes, Effects and Diagnostic Analysis (FMEDA) data for evaluating the instrument for suitability of use in a safety-related application -ISE TUV approved intrinsically safe when used with an approved barrier. -ISA SAA approved intrinsically safe when used with an approved barrier; Australia, requires -FA3 access designation -RTB Removable terminal block connector (not available with XIP)</p> <p>Housings DIN Aluminum case with rail-mount housing. Must use either a pneumatic mounting block or air supply header (RIR) or (SIR).</p>						
<p>Ordering Specifications</p>								
<table border="0"> <tr> <td style="padding-right: 10px;">Unit</td> <td>IPT-DIN</td> </tr> <tr> <td style="padding-right: 10px;">Input</td> <td>4-20MA 4-20mA into 280 ohms (into 200 ohms for Intrinsically Safe versions)</td> </tr> <tr> <td style="padding-right: 10px;">Output</td> <td>.2-1 BAR .2-1bar 3-15PSIG 3-15psig 3-27PSIG 3-27psig 15-3PSIG 15-3psig, reverse-acting 20-100KPA 20-100kPa</td> </tr> </table>			Unit	IPT-DIN	Input	4-20MA 4-20mA into 280 ohms (into 200 ohms for Intrinsically Safe versions)	Output	.2-1 BAR .2-1bar 3-15PSIG 3-15psig 3-27PSIG 3-27psig 15-3PSIG 15-3psig, reverse-acting 20-100KPA 20-100kPa
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NOTE: For NEMA 4X (water-tight, dust-tight and corrosion-resistant) protection with CSA, FM, see IPF Current-to-Pressure Transmitter data sheet.

When ordering, specify: Unit Type / Input / Output / Supply Pressure / -Access Designation -Option [Housing]
Model number example: IPT / 4-20MA / 3-15PSIG / 20PSI / -FA1 -RTB [DIN]

- NOTES:
- When ordering IPTs, specify access designation -FA7 or -FA8 for use with SIR, Surface Mounted Rack; specify -RA7, -RA8 or -RA9 for use with RIR Rack Mounted Rack.
 - Pneumatic mounting blocks are 35.31mm (1.390 in) wide. Use of a 4.32mm (.170 in) wide gage between them when installing on a rail provides uniform spacing in a minimum rail length.
 - Specify length when ordering mounting rail (see Figure 2).
 - For specifications of accessory air filters, refer to appropriate data sheet.

Figure 1. IPT-DIN Outline and Installation Dimensions

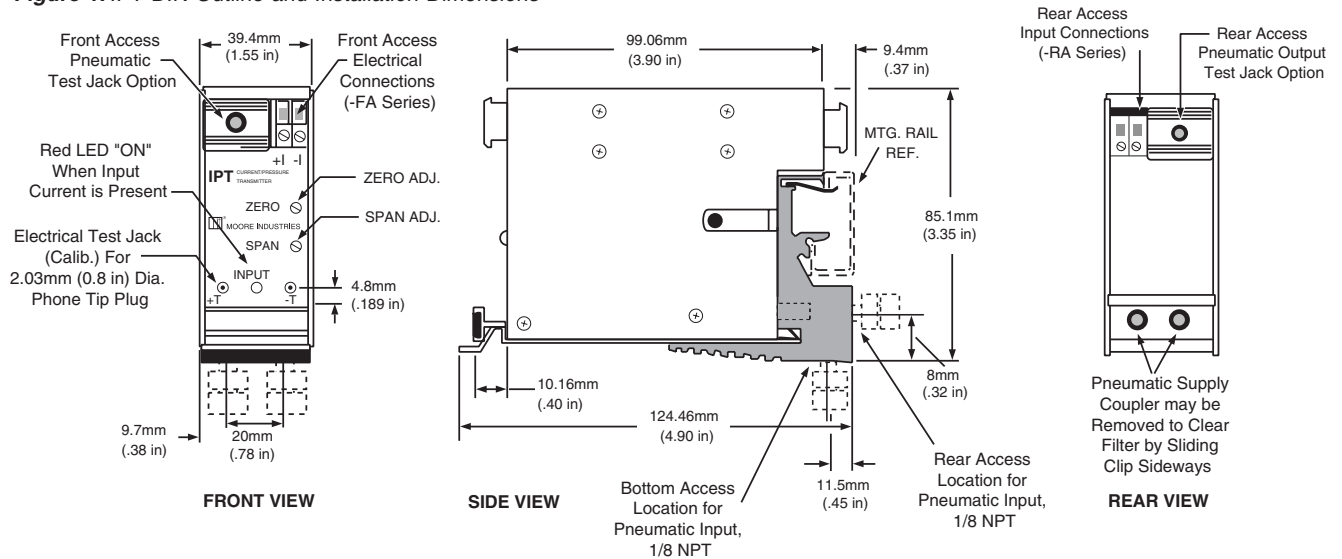


Figure 2. Mounting Rail Dimensions
(G-rail EN 50035-G32) P/N 800-124-24

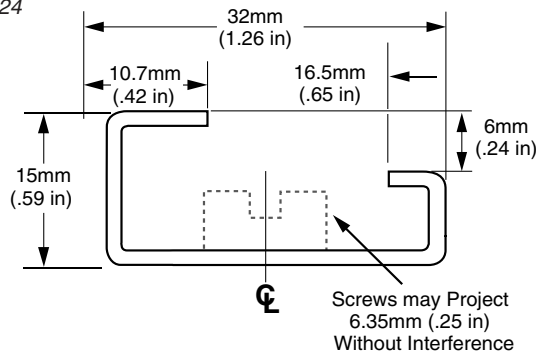


Table 1. Access Designations

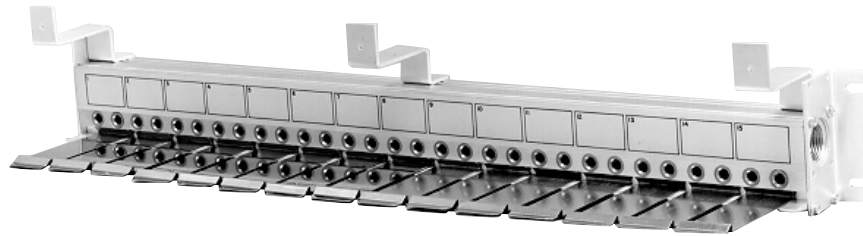
Electrical Input Location	Pneumatic Output Supply Location*	Pneumatic Test Jack Location	Access Designation
Front	Bottom	None	-FA1
Front	Rear	None	-FA2
Front	Bottom	Front	-FA3
Front	Rear	Front	-FA4
Front	(no mtg. block)	None	-FA7
Front	(no mtg. block)	Front	-FA8
Rear	Rear	None	-RA1
Rear	Bottom	None	-RA2
Rear	Rear	Front	-RA3
Rear	Bottom	Front	-RA4
Rear	Rear	Rear	-RA5
Rear	Bottom	Rear	-RA6
Rear	(no mtg. block)	None	-RA7
Rear	(no mtg. block)	Front	-RA8
Rear	(no mtg. block)	Rear	-RA9

* Applicable only on units with mounting blocks

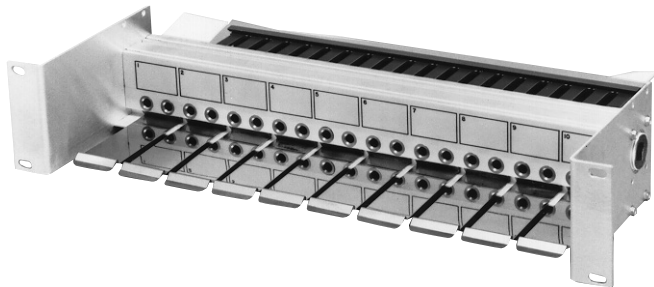
IPT-DIN

Current-to-Pressure Transmitter

Figure 3. Optional Header Racks



SIR, 5-, 10-, or 15-Position Surface Mounted Rack
(Shown with 15-Position Rack)

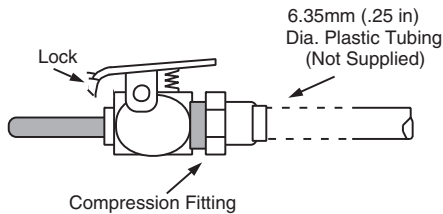


RIR, 10-Position 19-Inch
Rack Mounted Rack

NOTE:

1. For rack- or surface-mounting, the IPT can be ordered with Moore Industries Rack-Mounted Header (RIR) or Surface-Mounted Header (SIR). Both the RIR and SIR racks eliminate the need for an interlocking mounting block and rail. Each header unit supplies air to the IPT using only one air supply pipe.

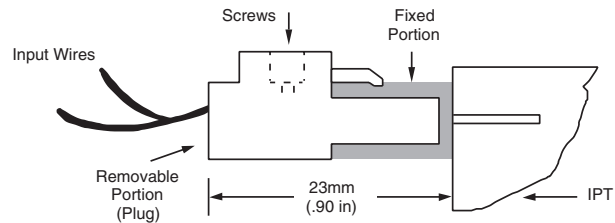
Figure 4. Pneumatic Test Coupler
P/N 163-202-00



NOTE:

1. The pneumatic test coupler is used to monitor output pressure during calibration on units with an optional pneumatic test jack.

Figure 5. Removable Terminal Block (-RTB) Option



NOTES:

1. The -RTB option adds a 2-piece wire connector to the IPT. This allows the input wiring to be unplugged without the use of tools and maintains polarity.
2. The plug has screw-clamp connections and accepts 22-14 AWG wire.



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