

Rigel Series Pressure Transmitter

INSTALLATION AND OPERATING INSTRUCTIONS

Principle of operation:

Pressure transmitters work by converting mechanical pressure into an analog electrical signal, typically a current o/p (4~20 mA) or a voltage o/p (0~10VDC), using a pressure sensitive element like a diaphragm (for 'Rigel Series' transmitters its Ceramic / SS type) which deforms under pressure & a sensor to measure the deformation giving corresponding pressure value.

Construction :

A highly stable pressure sensor and a high performance specialised processing circuit are mounted in SS housing, and an output for transmitting the electrical signal, converting the measured pressure into a measurable electrical signal. It is stable and reliable.

A diaphragm seal is being used to separate the pressure sensor from the process fluid, protecting the sensor from corrosive or abrasive material.

Marking :

The marking is defined with 8 groups,

Gr.1 ('N' indicates non-standard options not covered in the catalogue)

Gr.2 (Transmitter Model Name)

Gr.3 (Type of Electrical Connection)

Gr.4 [(Transmitter Type)(Pressure Type)(Accuracy)]

Gr.5 (Max.range) (Unit)]

Gr.6 (Electrical Output)

Gr.7 [(Seal)(Port)(Port Size)]

Gr.8 (Sensor Type)

eg. a RL series pressure transmitter with 4 pin Din connector electrical connection, having 0-10 bar gauge pressure range with 4~20mA electrical o/p, viton seal, SS316 pressure port with 1/4" port size and ceramic diaphragm is specified as below

RL 01 PG01 00010B E0 VS01 01

1	2	3	4	5	6	7	8
□	RL	01	PG01	00010B	E0	VS01	01

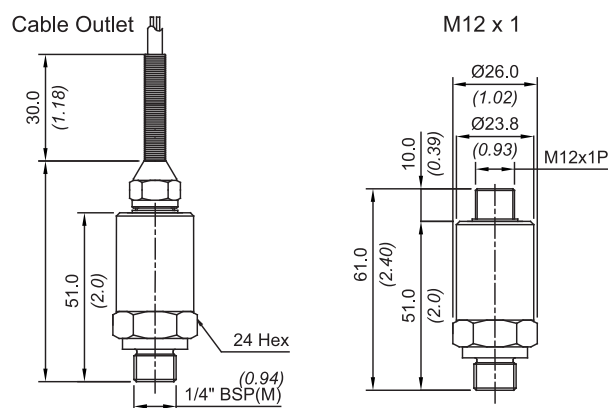
Mounting :

- Before installation, please ensure:
 - The measuring pressure is in the measurement range,
 - The process medium is compatible with wetted parts,
 - The process medium will not jam the pressure sensing port.
- Mounting position doesn't affect the measurement. Keep all labels and markings visible.
- It is recommended to place the transmitter away from all severe environmental conditions (throbbing, hammer-blow in pipes, vibrations, jolts, sources of heat, electrical and magnetic field, lightning, humidity and atmospheric influences)

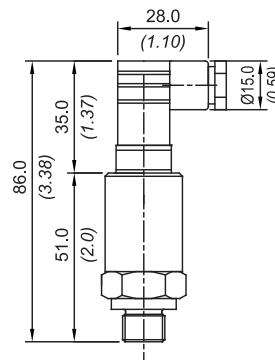


INSTALLATION DRAWINGS

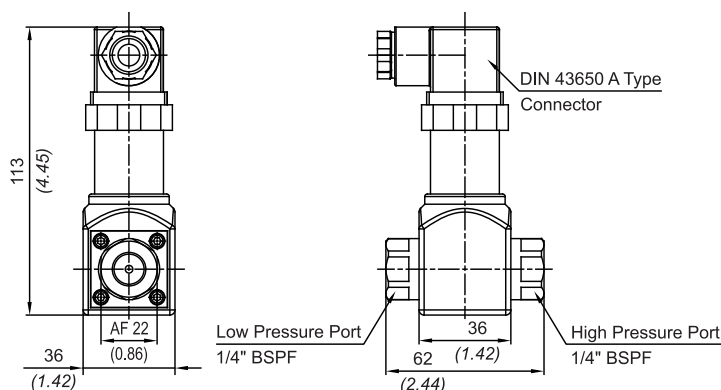
Pressure Transmitter



DIN Connector



*Differential Pressure Transmitter



*Differential Pressure transmitter is available only with DIN Connector.

APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

ELECTRICAL CONNECTION

Output Signal	Equivalent Circuit	Electrical Connection	Function	Pin Assignment
4....20 mA (2 Wire)		M12 x 1, 4 Pin Male Connector 	U+	1
			U-	3
			NA	2
			NA	4
		Din Connector 	U+	1
			U-	2
0....10 V (3 Wire)		M12 x 1, 4 Pin Male Connector 	U+	1
			U-	3
			S+	4
			NA	2
		Din Connector 	U+	1
			U-	2
Legend : U+ - Positive Power Supply Terminal U- - Negative Power Supply Terminal S+ - Positive Output Terminal (Analog)		Cable outlet	NA	4
			U+	Brown (BN)
			U-	Green (WH)

Trouble shooting tips:

For properly selected transmitter, if following symptoms are observed, the likely causes and remedies are as stated below,

SYMPTOM 1 : TRANSMITTER DOES NOT OPERATE

1. Wiring may not be correct

Check electrical connections to the transmitter, if they are as per wiring diagram.

2. The supply voltage may not be between 12VDC ~ 28VDC

3. Pressure does not reach the pressure port

a) Check if the pressure sensing port is not blocked by frozen process or impurities in the process.

i) If this is the case, try freeing the blocked path by a blunt tool in case of scales and impurities.

ii) For frozen process, it is advisable to use chemical seals.

SYMPTOM 2 : SHORT WIRING

Isolate the transmitter electrically. Check the connections of the terminal (refer fig.- Electrical connections) and the screws fitted to the plug core (for DIN connector), check the short connections elsewhere in the circuit.

SYMPTOM 3: LEAKAGE

In case leakage is observed, check for proper fitting of the transmitter. If it is OK and leakage is still observed then transmitter has to be returned to the factory. Check for the following likely causes and use a new transmitter taking proper precautions.

a) System pressure is greater than working pressure : use a transmitter with appropriate maximum working pressure.



Caution : DO NOT INSERT ANY WIRE OR POINTED OBJECT TO CLEAR THE HOLE IN PRESSURE PORT. The sensor diaphragm is sensitive and may be damaged permanently if pressed by a sharp tool or fingers.



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