

IE 5522T Indicating Electrical Transmitter

VARIABLE AREA FLOWMETERS – ACCESSORIES

Description

The IE Model 5522T Electrical Transmitters provide local flow rate indication and remote electrical signals linear with flow rate for various types of process instrumentation. They can be used with IE Metal Tube and Glass Tube Rotameters, and can be either extension-mounted or close-coupled on the meter. The Model 5522T is normally furnished in one of several complete electrical transmitting systems; compatible with all commonly used dc milliamp and millivolt process instrumentation. It can also be furnished in a low-cost, direct input system for ac null balance recorders. Each system includes a transmitter and the necessary solid-state electronic equipment to provide the proper signal range for the associated display or control instrumentation. A flowmeter is normally specified as part of the system. Flowmeter and transmitter are calibrated together and shipped as an assembly package.



IE 5522T INDICATING ELECTRICAL TRANSMITTER

Design Features

- Analog output signal exactly linear with flow rate
- Reliable operation - direct local flow rate indication on a 4-1/2" scale, independent of electrical power and transmitted signal
- Loop powered 2 wire design with 4-20 mA dc flow signal
- Convenient field calibration check without interrupting fluid flow
- Unaffected by vibration; suitable for wide ambient temperature ranges or corrosive environments
- Electrical mechanism can be removed with flowmeter on stream, without disturbing local flow rate indication
- Superior flowmeter float motion translating and linearizing system - no linkages or linearity adjustments
- Interchangeable with other IE flowmeter alarm signalling, indication, and pneumatic transmission functional accessories
- Transmitter and field-mounted electronics designed in accordance with IS-2148-1981 recommendations for explosion proof Groups iiA, iiB requirements
- Dust-tight, weather proof case (IP-65, IS-2147-1962)
- A wide range of options for both transmitters and transmitter systems is available

The IE Model 5522T Electrical Transmitters consist of a magnetically actuated indicating mechanism and a split differential transformer with a movable core. A magnet mounted in the flowmeter's float or float extension turns a magnetic position converter which includes an iron helix in an aluminium mandrel. The leading edge of this helix is continuously attracted by the magnet so that the converter rotates as the float moves up and down. There is no physical linkage between the flowmeter float and the position converter to affect the flowmeter's accuracy. A pointer fixed to the position converter indicates float position (instantaneous flow rate) on the horizontal indicating scale. The transmitter section consists of a modified (split) differential transformer and a magnetic cam characterized in accordance with flow data. A constant ac voltage excites the differential transformer's primary. The position converter system imparts a rotary motion to the cam, changing its position within the active coil winding. The resulting output voltage from the secondary winding is directly proportional to the flow through the flowmeter. The constant ac voltage for the transformer's primary is obtained from an associated power supply, a preamplifier-oscillator, or an ac recorder.

E:mail::sales@ieflowmeters.com Model 5522T Indicating Electrical Transmitter





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Specifications

WARNING: Do not operate this instrument in excess of the specifications listed below. Failure to heed warning may result in serious personal injury or damage to equipment.

Electrical Classification:

CMRS approved explosion proof for Groups iiA, iiB and intrinsically safe for Groups iiA, iiB and iiC

Range:

10% to 100% of maximum flow

Accuracy:

±2% of full scale (standard)

±1% of full scale (optional)

Sensitivity and Repeatability:

±1% of full scale

Indicating Scale:

4-1/4" active length. Calibrated in any standard units of gravimetric or volumetric flow, 10 to 100% of flow or arbitrary graduations with calibration curve. 10 to 1 range (standard) others are optional.

Ambient Temperature Limits:

-17°C to 65°C (0°F to 150°F)

Ambient Relative Humidity:

Maximum 90%

Output:

4-20 mA dc

Response Time:

0.7 seconds

Supply:

24 Vdc ± 10%

Maximum Load (including line resistance):

600 ohms

Maximum working pressure (for extension wells only when used with 3620 series):

Standard - 1500 psig up to 200°F

Optional - 3000 or 6000 psig up to 200°F

NOTE: Refer to the appropriate meter specification for the pressure limits of the flowmeter.

Materials of Construction:

Case - Aluminium

Window - Glass

Gasket - Silicone sponge

Paint - Precision tan

Extension well - 316 Stainless steel including purge line and adapter

Compatible IE Equipment:

Glass tube Rotameters - Refer to DS-1110-1140 for complete details.

Metal tube Rotameters - Refer to DS-3611-3620-3630 for complete details.

Optional Equipment:

Electrical heating, steam tracing of extension well, cooling (or radiating) fins or case air purge.

ORDERING INFORMATION

To order, please specify:

1. Model number
2. Type of flowmeter
3. Connection arrangement and orientation
4. Quantity required
5. Minimum, normal and maximum operating temperature
6. Minimum, normal and maximum operating pressure
7. Minimum, normal and maximum flow rate
8. Wetted material
9. Type of Fluid
10. Unusual system conditions
11. Units of registration
12. Options if desire

FLUID TEMPERATURE GUIDE				
Model	Standard	Low Temperature	High Temperature	Ultra High Temperature
5522T Close Coupled (3611/1100)	33 – 250°F	0 – 32°F	251 – 400°F	401 – 500°F
5522T Extension Mounted (3620 Series)	33 – 250°F	0 – 32°F	351 – 450°F	451 – 700°F