

RI51, RI53, DT52 & RT52

Digital Rate Indicators and Totalizers

Description

Flow Technology's Series 50 Rate Indicators and Totalizers are designed with integral LCD displays. These units convert low-level signals from turbine flowmeters or other pulse sources into accurate flow data suitable for transmission to remote readout or control instrumentation. Analog outputs, alarm functions, and scaled pulse outputs are available.

RI51 Digital Rate Indicators are the basic unit of the group and provide a local display that can be scaled to readout in the engineering units of measure. The four-digit display has an adjustable decimal point selected by internal DIP switches.

RI53 Digital Rate Indicators include all of the features of the RI51 and provide high/low alarm functions.

DT52 Digital Totalizers incorporate a user-programmable scaling circuit, which allows the number of pulses to equal a selected unit of volume. The eight-digit totalizer display can be reset at the unit or by remote operator command.

RT52 Digital Rate and Total Flow Indicators combine the functions of the RI51 and the DT52 in one enclosure.

Features

- Frequency, current and voltage outputs available
- Powered by 110 VAC, 220 VAC or 22–32 VDC
- Compatible with magnetic, modulated carrier or other pulse sources
- High reliability in harsh industrial environments
- Digital display of flow rate and/or totalized flow
- Weatherproof or explosion-proof enclosures available
- Modular electronics allow for easy reconfiguration or replacement
- Pulse scaling option
- Limit alarms



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Specifications

Standard Input

Frequency Range	0–4 kHz
Amplitude	5–20 VDC p-p

Optional Inputs

Magnetic Pickoff	
<i>Frequency Range:</i>	0–3 kHz
<i>Sensitivity:</i>	20 mV to 10 VDC p-p
<i>Input Impedance:</i>	3.3 K Ω
<i>Max. Dist. from Pickoff:</i>	300 ft. (90 m)
Modulated Carrier Pickoff	1 mH coil
<i>Frequency Range:</i>	0.5 Hz – 3.5 kHz
<i>Carrier Frequency:</i>	45 kHz @ approximately 8–15 VDC p-p (12 VDC p-p typical)
<i>Max. Dist. from Pickoff:</i>	50 ft. (15 m)
Other RF Pickoff	330 μ H coil
<i>Frequency Range:</i>	0.5 Hz – 3.5 kHz
<i>Carrier Frequency:</i>	45 kHz @ approximately 8–15 VDC p-p adjustable (12 VDC p-p typical)
2-Wire Pulse 4 or 20 mA	
<i>Frequency Range:</i>	0–3 kHz
<i>Max. Dist. from Pickoff:</i>	50 ft. (15 m)

Model Numbering System



Basic Model Number

- RI51
- RI53
- RT52
- DT52

Power Source

- 1 = 110 VAC
- 2 = 220 VAC
- 3 = 22-32 VDC (Standard)

Signal Inputs

- A = Magnetic
- B = Pulse (Standard)
- C = FT 1 mH RF
- D = 330 μH RF
- F = 2-Wire Pulse 4 or 20 mA

*Outputs

- G000 = 4-20 mA, 0-10 VDC and 0-10 V pulse (unscaled)
- H000 = 1-5 VDC, 0-10 VDC and 0-10 V pulse (unscaled)
- I000 = 0-5 VDC and 0-10 V pulse (unscaled)
- 0000 = 0-10 VDC and 0-10 V pulse (unscaled)

Enclosures

- 1 = No Enclosure
- 4 = EEX d IIC T5 (RI51/53 only)
- 5 = ExnA II T6
- 6 = IP65/NEMA 4X
- 7 = IP65/NEMA 4X with MS connectors
- 8 = Class I, Division 1, Group C & D
- 9 = Class I, Division 1, Group B

*0-10 V unscaled pulse output available only when pulse input is not used.

Specifications (cont'd)

Outputs

- Standard
 - Analog: 0-10 VDC (all models)
 - Linearity: ±0.1% of F.S. over 20:1 range
 - Frequency: 0-10 VDC pulse, unscaled (all models)
 - Scaled Pulse: 0-10 VDC pulse (RT52/DT52 only)
 - Alarms: 2 SPST relays (RI53 only), selectable for high or low alarm
 - Relay: 3 A @ 30 VDC or 120 VAC
 - Resistive: 1/10 HP @ 120 VAC
 - Optional: One of the following may be selected with standard output
 - Analog: 0-5 VDC, 1-5 VDC, 4-20 mA

Displays

- RI51 & RI53: Rate 3-1/2 Digit
- DT52: Total 8 Digit
- RT52: Rate 3-1/2 Digit, Total 8 Digit

Power

- Standard: 22-32 VDC, 125 mA
- Options: 110 VAC ± 10%, 50/60 Hz, 6 watts; 220 VAC ± 10%, 50/60 Hz, 6 watts

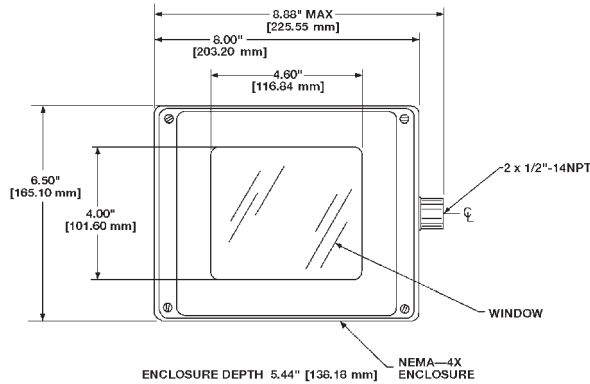
Temperature

- Operating: 32° F to 131° F (0° C to 55° C)
- Storage: -40° F to 140° F (-40° C to 60° C)

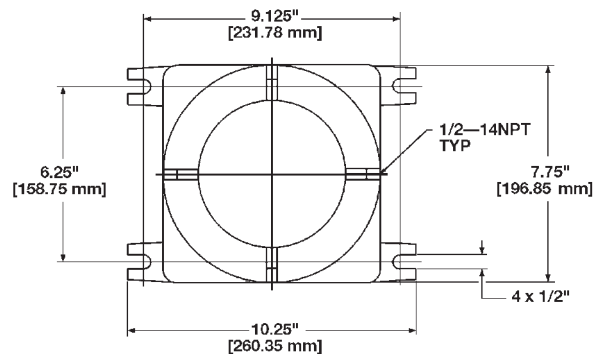
Enclosures

- Standard: IP65/NEMA 4X with conduit hubs
- Options: IP65/NEMA 4X with MS connectors; Class I, Division 1, Groups C & D explosion-proof; Class I, Division 1, Group B explosion-proof; Zone 1 EExd IIC T5; Zone 2 ExnA II T6

Enclosure Options



IP65/NEMA 4X (STANDARD)



GROUP C & D

Drawings not to scale.

Specifications are for reference only and are subject to change without notice.

Local Representative:



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