

# HAZARDOUS LOCATION AND GENERAL USE RESISTIVE-CHAIN PROBE LEVEL MEASUREMENT SERIES: RPX AND RPE

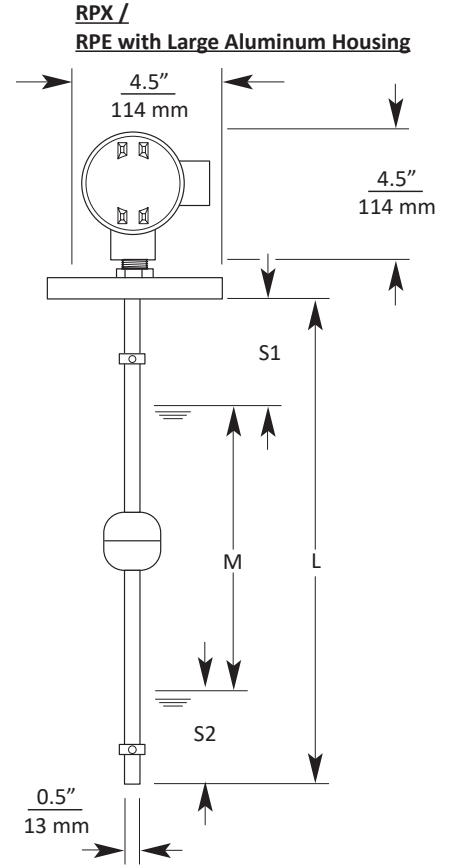
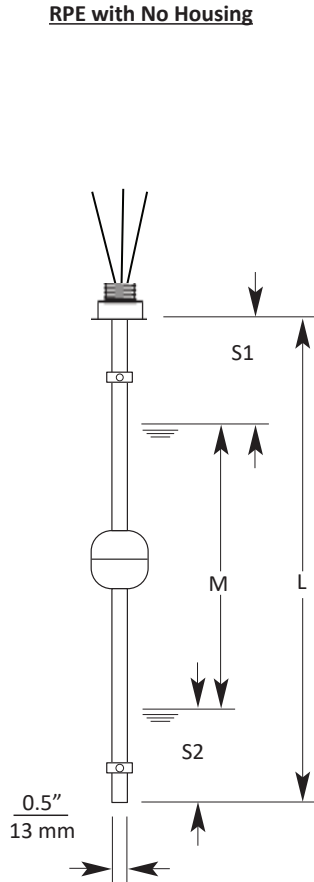
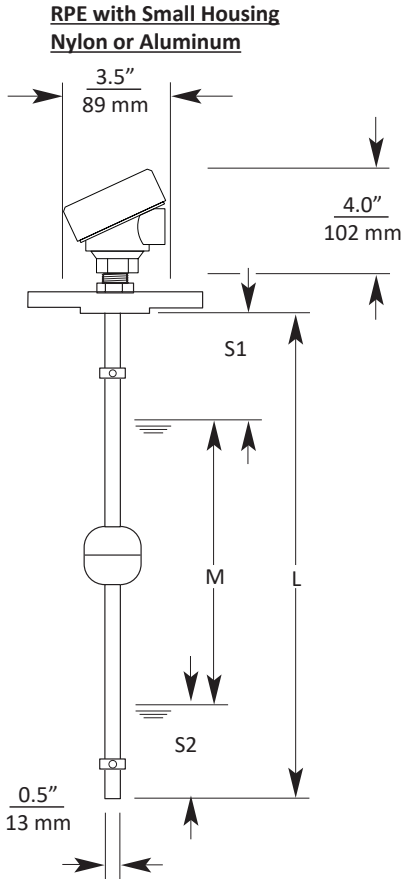


The Series RPX Hazardous Location and RPE General Use Resistive-Chain Probe Level Sensors are designed for use in the chemical, oil, shipping, food processing, waste treatment, and many other industries. Each RP is manufactured to the user's specifications, making it fit to work precisely according to the application requirements.

## Features

- Continuous level indication
- Durable float matched to liquid specific gravity
- Resistive chain or loop powered 4-20 mA output
- RPX hazardous location approvals - Explosion proof, Intrinsically safe, Non-incendive

# RP DIMENSIONS

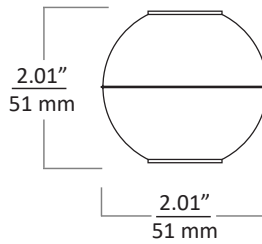


## Legend

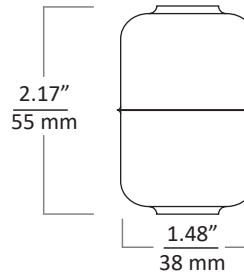
L = Total Stem Length  
M = Measured Length  
S1 = Top Deadband (1.75" / 44.5mm)  
S2 = Bottom Deadband (1.75" / 44.5mm)

$L = M + S1 + S2$        $M = L - S1 - S2$

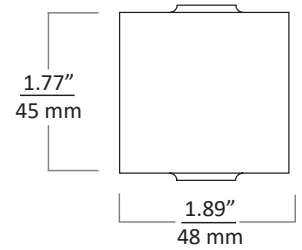
**Float E**



**Float F**



**Float G**



## RPX Outputs with Temperature and Power Requirements for Hazardous Locations

Output	Intrinsically Safe Class I, Div. 1 Groups C & D T3C	Explosion Proof Class I, Div. 1 Groups C & D T3; Class I, Zone 1 Ex/AEx d, IIB T3	Non-incendive Class I, Div. 2 Groups C & D T3	Class I, Div. 2 Groups C & D, T3.
<b>A - 4-20 mA, Hazardous</b>	--	12-24 VDC Supply -40° - 40° C / (-40° - 104°F)	12-24 VDC Supply; Install per dwg 9001932 -40° - 85° C / (-40° - 185°F)	12-24 VDC Supply -40° - 85° C / (-40° - 185°F)
<b>R - Resistive, Hazardous</b>	--	5-24 VDC Supply, 100 mA max -40° - 40° C / (-40° - 104°F)	5-15 VDC Supply, 100 mA max Install per dwg 9001932 -40° - 85° C / (-40° - 185°F)	5-15 VDC Supply, 100 mA max -40° - 85° C / (-40° - 185°F)

**I - 4-20 mA,  
Intrinsically  
Safe**      Loop powered 24 VDC;  
Install per dwg 9001930  
-40° - 85° C / (-40° - 185°F)

# RPX SPECIFICATIONS

## Performance

- Resolution: 0.25 in. (6 mm)
- Accuracy: ±0.12 in. (±3 mm)

## Connectivity

- Output: 4-20 mA; Resistive
- Internet: via RST-5003, 4-20 mA only

## Environmental

- Maximum Pressure: 72.5 PSI (5 bar)
- Enclosure Protection: NEMA 4 & 7, IP65

## Physical

- Housing: Aluminum Die Cast
- Stem Length: 96 in. (2440 mm) maximum
- Cable Entry: 3/4 in. NPT

## Electrical

- Typical Current (Resistive Output)  
 $I = \text{Supply VDC} / (45\Omega * \text{Probe Length in inches})$

## Certification

- Class I, Division 1, Groups C & D T3 (Ta 40°C)  
Explosion Proof
- Ex d, IIB T3  
Class I, Zone 1, AEx d, IIB T3 (Ta 40°C)  
Explosion Proof
- Class I, Division 2, Groups C & D T3 (Ta 85°C)
- Class I, Division 2, Groups C & D T3 (Ta 85°C)  
Non-incendive
- Class I, Division 1, Groups C & D T3 (Ta 85°C)  
Intrinsically Safe
- Non-hazardous Use

# MODEL CONFIGURATION OPTIONS

Model Number: RPX -      -      -      - S6 -      -       
                                  A      B      C      D      E      F

## A. Output

- A** Hazardous, 4-20 mA output
- R** Hazardous, resistive output
- I** Intrinsic safety, 4-20 mA output

## B. Mounting Type, Option, and Size

- F** Flat Face ANSI Flange 150# (Size=1.5, 2, 2.5, 3, 4)
- R** Raised Face ANSI Flange 150# (Size=1.5, 2, 2.5, 3, 4)
- S** Tri Clamp (Size=2, 2.5, 3, 4)
- P** Externally-mounted NPT Plug 150#  
(Size=1.5†, 2, 2.5, 3, 4)
- N** None

## C. Mounting Connection

- W** Welded (fixed)
- S** Slide with Compression Fitting

## D. Material

- S6** 316L SS

## E. Float Type

- E** 316L SS 2.01 in. (53 mm) Round; 0.57 SG
- F** 316L SS 2.17h x 1.48w in. (55h x 38w mm); 0.65 SG
- G** Buna 1.77h x 1.89w in. (45h x 48w mm); 0.39 SG

## F. Stem Length in Inches

- Min. 11 in. - Max 96 in.

†Note: Size 1.5 NPT Externally-mounted (P1.5) requires float F.

# RPE SPECIFICATIONS



## Performance

- Resolution: 0.25 in. (6 mm)
- Accuracy:  $\pm 0.12$  in. ( $\pm 3$  mm)

## Connectivity

- Output: 4-20 mA; Resistive
- Internet: via RST-5003, 4-20 mA only

## Environmental

- Temperature: -40° to 85°C (-40° to 185°F)
- Maximum Pressure: 72.5 PSI (5 bar)
- Enclosure Protection:
  - Large Aluminum NEMA 4 & 7, IP65
  - Small Nylon IP65
  - Small Aluminum NEMA 4X, IP68

## Electrical

- Voltage and Current Max. Ratings:
  - Resistive 5 - 24 VDC, 100 mA (max)
  - 4-20 mA 12 - 24 VDC, 4-20 mA
- Typical Current (Resistive Output)  
 $I = \text{Supply VDC} / (45\Omega * \text{Probe Length in inches})$
- Hookup Wire: 22 AWG

## Certification

- No certifications

## Physical

- Housing:
  - Large Cast Aluminum
  - Small Nylon
  - Small Epoxy-painted Aluminum
- Stem Length: 153 in. (3890 mm) maximum
- Cable Entry:
  - Large Aluminum 3/4 in. NPT
  - Small Nylon 1/2 in. NPT
  - Small Aluminum 3/4 in. NPT

# MODEL CONFIGURATION OPTIONS

Model Number: RPE -      -      -      - S6 -      -      -      -      -     

A      B      C      D      E      F      G      H

### A. Output

- A** 4-20 mA output†
- R** Resistive output

### B. Mounting Type, Option, and Size

- F** Flat Face ANSI Flange 150# (Size=1.5, 2, 2.5, 3, 4)
- R** Raised Face ANSI Flange 150# (Size=1.5, 2, 2.5, 3, 4)
- S** Tri Clamp (Size=2, 2.5, 3, 4)
- P** Externally-mounted NPT Plug 150# (Size=1.5††, 2, 2.5, 3, 4)
- I** Internally-mounted NPT Plug 150#††† (Size=0.25, 0.375, 0.5, 0.75, 1, 1.25, 1.5)
- N** None

### C. Mounting Connection

- W** Welded (fixed)
- S** Slide with Compression Fitting

### D. Material

- S6** 316L SS

### E. Float Type

- E** 316L SS 2.01 in. (53 mm) Round; 0.57 SG
- F** 316L SS 2.17h x 1.48w in. (55h x 38w mm); 0.65 SG
- G** Buna 1.77h x 1.89w in. (45h x 48w mm); 0.39 SG

### F. Stem Length in Inches

- Min. 11 in. - Max 153 in.

### G. Housing, Cable Entry Size

- A** Large Aluminum, 3/4" NPT
- B** Small Nylon, 1/2" NPT
- C** Small Aluminum, 3/4" NPT
- W** Hookup wire (no housing)

### H. Hookup Wire Length

- 12** 12 in.
- 24** 24 in.
- Specify length in inches

†Note: Output A 4-20 mA requires Housing A Large Aluminum.

††Note: Size 1.5 NPT Externally-mounted (P1.5) requires float F.

†††Note: Mounting Type I Internally-mounted NPT Plug requires Housing W Hookup Wire and Output R Resistive.