

Capacitance Level Probe for Liquids



measuring
•
monitoring
•
analyzing

NRF-1F



- Measurement of Fuels and Solvents with Bare Stainless Steel Probe
- Measurement of Water Based Solutions with PFA Clad Stainless Steel Probe
- Compact Tube Design
- Accuracy: $\pm 1\%$ of Span
- Connection: 3/4" NPT or 1-1/2" NPT
- Continuous Loop Powered 4-20 mA Operation
- Heavy Duty Industrial Design
- Max. Temperature: 350 °F
- Optional LCD Display or Remote DIN Rail Mounted Transmitter



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Description

The KOBOLD NRF-1F series are highly reliable capacitance level transmitters specifically designed for tough applications requiring level measurement of low dielectric liquids, such as fuels and solvents, or high dielectric, water based solutions in tanks. The probe measures the change in capacitance that occurs as the level changes in the tank. The micro-processor based electronics convert the change in capacitance into a highly accurate, linear output signal. The design is both compact and easy to install. The advanced signal conditioning circuitry and integral (concentric) stilling well provide the high sensitivity required for measuring low dielectric liquids. It features a standard 4-20 mA loop powered transmitter mounted in 4 different housing options, a 3/4" or 1-1/2" NPT fitting, and a concentric probe for measuring ranges up to 10 feet. The sensing probe is 316 stainless steel and comes bare or clad in PFA. Options include an LCD display or optional remote mounted DIN rail transmitter, which can be connected to the level sensor via a cable up to 1,000 feet. The remote transmitter option provides an easy set-up when access to the probes electrical enclosure is limited. Calibration is accomplished via 4 buttons located on the transmitter. Common bare rod (low dielectric) applications include: diesel fuel tanks, vegetable oils and solvents.



Technical Details

- Accuracy:** ± 1% of Span
(Constant Liquid Dielectric)
- Repeatability:** ± 0.1% of Span
- Max. Measuring Length:** 10 feet
- Temperature Range**
 - Process:** -100...350 °F
 - Ambient:** -58...140 °F
- Max. Pressure:** 100 PSIG @ 77 °F
50 PSIG @ 212 °F
14.5 PSIG @ 350 °F
- Wetted Materials**
 - Fitting:** 316 SS, 3/4" NPT or 1-1/2" NPT
 - Probe:** 316 SS or PFA-clad
 - Spacers:** PTFE



Electrical Specifications

- Input Power:** 12-36 VDC, Polarity Protected
- Output:** 4-20 mA, 2-wire
- Calibration:** Via 4 Push Button Switches
- Dampening Adjust:** 0...30 Seconds

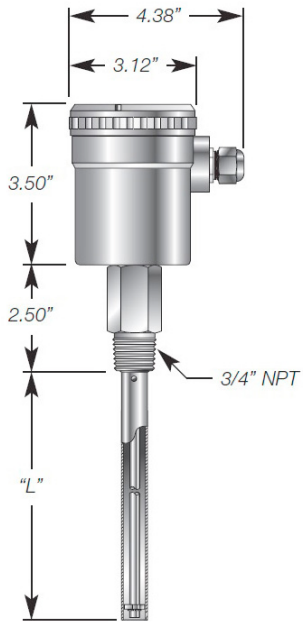
Order Details (Example: NRF-1F 312 L=24")

Model	Housing	Fitting	Probe	Option	Probe Length
NRF-1F.. = Level Probe	..1.. = Polyamide ..2.. = 316 SS ..3.. = Aluminum ..4.. = Aluminum* (Option A Only)	..1.. = 3/4" NPT ..5.. = 1-1/2" NPT	..1 = Concentric 316 SS Tube, 3/4" Dia., PFA-clad ..2 = Concentric 316 SS Tube, 3/4" Dia., Bare Rod	..R = Level Probe with Remote DIN Rail Module ..A = LCD Display (Housing Code 4 Only)*	L = Specify Probe Length (in Inches)

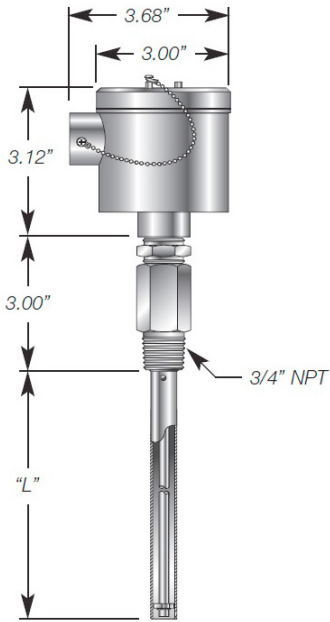
*Please reference the dimensional information for housing details and note that the LCD option is only available with housing option 4

Dimensions

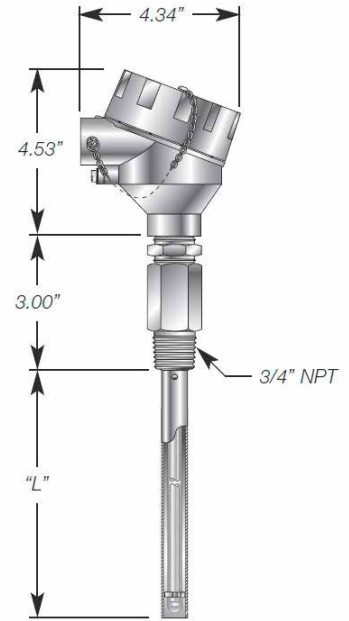
Polyamide Housing
(Code ..1..)



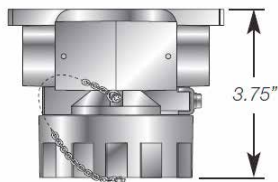
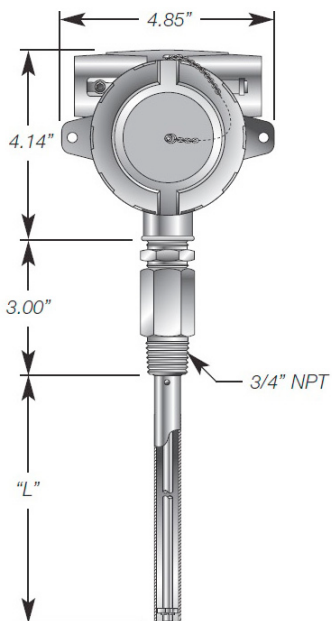
Cast SS Housing
(Code ..2..)



Aluminum Housing
(Code ..3..)



Aluminum Housing
(Code ..4.. or with LCD Option ..A)



DIN Rail Remote Transmitter
(Option ..R)

