

# NRT-1 RIGID CAPACITANCE LEVEL SWITCH

## Features

- | Detecting a single point, tip sensitive or at any point along the probe
- | Detecting high or low level
- | Detecting level of liquids, solids, slurries or foam
- | Operating in any shape of metal type vessel
- | Detecting the level of any material with dielectric constant greater than 1.5
- | Operating in applications with temperatures up to 260°C ( 500 °F)

KOBOLD NRT-1 series level switches are highly reliable microprocessor based sensors designed to alarm on the high or low condition of liquids and certain dry bulk media in metal tanks.

The NRT-1 includes a transmitter housed in a rugged enclosure, a rigid probe up to 20 feet long and a fitting. Probe material is SS316, supplied bare or PFA jacketed. Additional standard features include and adjustable time delay, SPDT relay, LED relay status indication, and a simple push button calibration.

The NRT-1 senses level using RF capacitance measurement technique together with microcontroller technology for high resolution point level detection. A probe mounted in a vessel forms a capacitor with the vessel wall. The capacitance of the configuration is measured by the NRT-1 and is used to provide point level switch control. Hi and Low alarms are easily set with push-button convenience for differential level applications such as pump control. For vertical probes with a setpoint along the length of the probe, a consistent material dielectric will ensure a consistent and repeatable alarm point.



## KOBOLD NRT-1 Capacitance Level Switch

## Applications

NRT is suitable for level monitoring in powdery and fine grained bulk materials, oils and MEK solutions, water and water based liquids, acids and others. Selection of the probe is important.

### Teflon Coated Probe

- | water and water based liquids
- | acids
- | all conductive liquids and liquids corrosive to stainless 316

### Bare SS316 Probe

- | all non-conductive powders such as chalk, gypsum, cement and others
- | grain, flour, milkpowder, mixed animal feed and others
- | non-conductive liquids such as oil, MEK solutions, diesel fuel
- | Many others

## Electrical Specifications

### Supply Voltage

:12 VDC - 36 VDC

### Output

:Relay, SPDT 0.5A@240 VAC

### Calibration

:Via 2 push-button switches non-interactive settings

### Capacitance range

:10 pF to 3900 pF

### Sensitivity

:0.5 pF

### Accuracy

:±2 mm (±0.1") (constant dielectric)

### Repeatability

:±0.1% of setting

### Time delay

:0 - 30 sec

### Ambient Temperature

:-40 to 70 °C (-40 to 158 °F)

## Mechanical Specifications

### Enclosures

:NEMA4 (Nylon®)  
:Stainless 316, NEMA4  
:Epoxy-Coated Aluminum

### Mounting Thread

:3/4 NPT standard (others available)

### Process Temperature

:200°C max (392 F)-consult factory for higher temperatures

### Pressure Limits

#### SS316 Fitting

:500 psig (34 bar) @ 25°C (77 °F)  
:250 psig (17 bar) @ 150°C (302 °F)  
:14.5 psig (1 bar) @ 200°C (392 °F)

#### Teflon® Fitting

:100 psig (bar) @ 25°C (77°F)  
:0 psi (0 bar) @ 200°C (392 °F)

### Probe Mat'l

PFA Teflon jacketed, or bare SS 316

Order from: **C A Briggs Company**

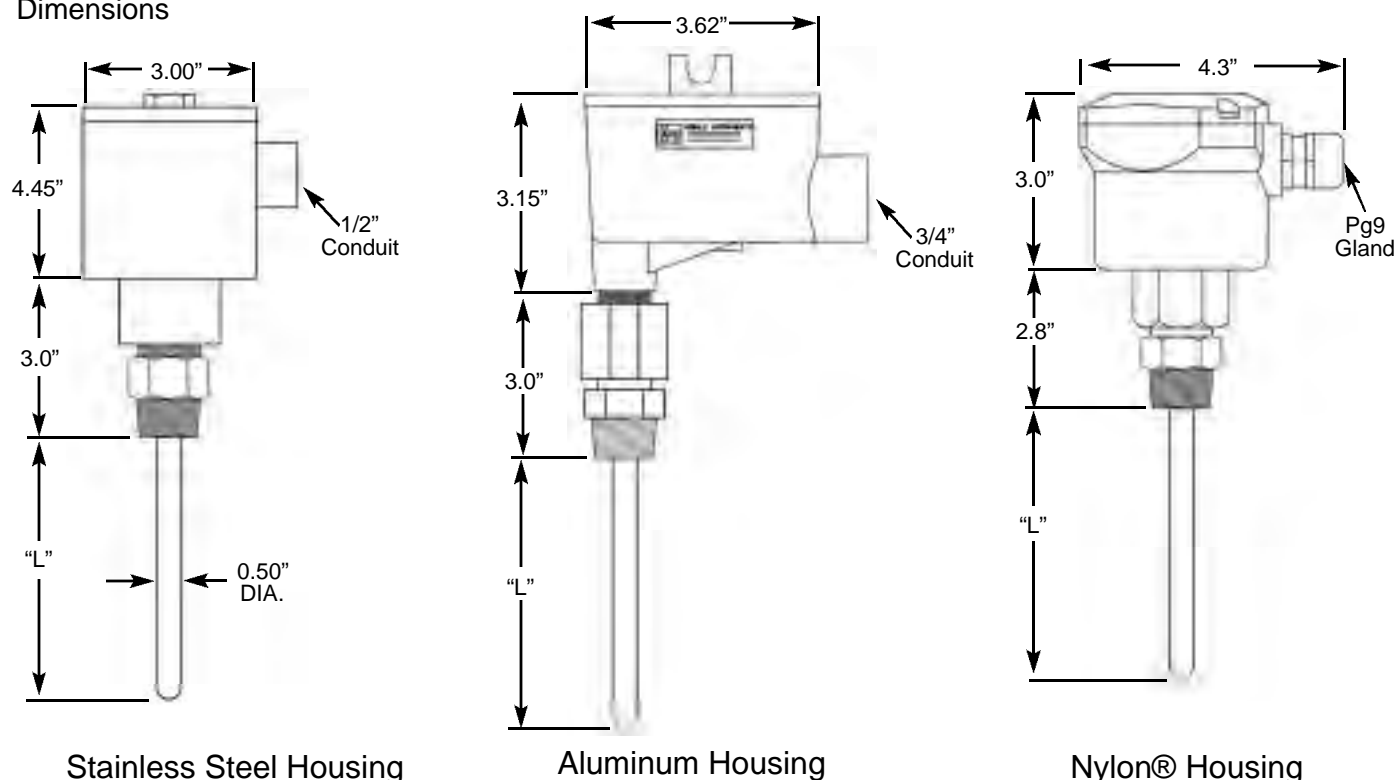
622 Mary Street, Suite 101; Warminster, PA 18974

Specifications subject to change without notice. Phone: 267-673-8117 - 800-352-6265; Fax: 267-673-8118

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# NRT-1 RIGID CAPACITANCE LEVEL SWITCH

## Dimensions



## NRT-1 Ordering Information

<b>NRT-1</b>	= Rigid Capacitance Level Switch				
	<b>-1</b>	= Nylon® (NEMA 4)			
	<b>-2</b>	= Stainless Steel			
	<b>-3</b>	= Epoxy Coated Aluminum			
	<b>-1</b>	= 3/4" NPT Stainless Steel			
	<b>-2</b>	= 3/4" NPT Teflon®			
	<b>-3</b>	= 1 1/2" Tri-Clamp®			
	<b>-4</b>	= 2" Tri-Clamp®			
	<b>-7</b>	= 2 1/2" Tri-Clamp®			
	<b>-8</b>	= 3" Tri-Clamp®			
	<b>-1</b>	= Rigid Probe, Teflon Clad			
	<b>-7</b>	= Rigid Probe 316 Stainless Steel Un-clad (non-conductive liquids only)			
	<b>-L</b>	= Probe Length			
<b>NRT-1</b>	<b>-1</b>	<b>-2</b>	<b>-1</b>	<b>L=60"</b>	<b>Sample NRT Part Number</b>

For each order or request for quotation, please complete the application datasheet at the end of this section.

Order from: **C A Briggs Company**  
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