genuine BINDICATOR®

For Bulk Material Handling and Process Control

RADIO FREQUENCY SERIES

POINT LEVEL SENSORS

1-step calibration and test... only from Bindicator

Bindicator Radio Frequency (RF) level controls eliminate many of the steps that were formerly necessary to calibrate and test level controls. They're used in thousands of applications, from bulk solids to slurries and liquids.

If you cannot calibrate and test properly, you could be faced with material spillage and thousands of dollars in clean up. With Bindicator RF level controls, you can minimize the risk of overflow conditions in one simple step.

Calibration is easy with Bindicator's one-step patented EZ-CAL® calibration. With competitive units, calibration can be difficult and inaccurate. But with EZ-CAL®, you can calibrate accurately anywhere, every time, without product present.

Bindicator's patented "Test-In-Place" feature. It allows you to test your level control in place without removing the cover, even from a remote location. This is especially important for hazardous applications and where fugitive emissions release must be prevented. A quick glance at externally visible alarm and calibration LED indicators shows whether your unit is working properly.

How RF Technology Works

An RF level control senses the material in a vessel by utilizing frequency phase shift technology. The electronics generate a small RF signal on the probe. This alternating sine wave signal is at a high frequency in the Radio Frequency spectrum. The probe acts as one plate of a capacitor, the vessel wall or probe housing as the other capacitor plate.

When there is no material in contact with the probe of the RF control, the dielectric (material between plates) is air. When material touches the probe, the dielectric is the material. All solids, powders, and liquids that contact the probe cause the amount of probe capacitance to increase as it displaces the air. The electronics will sense this increased capacitance value and change the state of the output relay contacts.

The RF Series will indicate the presence or absence of material at the level or "point" at which the RF is installed, which eliminates the risk of overflow condition. The DP/DT relay output indicates when a vessel, tank, bin or silo is full or empty.

RF Features

Two Year Warranty

RF-9200

- Red "Alarm" Light
- Green "Status" Light
- Bolt-On Cover with "Captive" Bolts
- NEMA 4X Enclosure (See Note 1)
- Polyester Coating
- 1-1/4" NPT Aluminum Mount (shown) or 3/4" NPT Stainless Steel
- Insulation Materials: Ryton®, Polysulfone, Kynar® and Teflon® - Coatings Available
- PRO-GUARD®
- 316 Stainless Steel Sensing Element
- Calibration/Test Fob

Note 1: Explosion-proof Enclosure with Intrinsically Safe Probe Available

A Wide Array of Features and Benefits

Bindicator's complete line of RF level sensors, featuring 1-step calibration and "Test-In-Place," saves you time and money. Quality, wave-soldered solid-state electronics and high-pressure injection molded probes with PRO-GUARD® are just two unique manufacturing features that make this level sensor reliable. Matched with Bindicator's seventy years of experience in level control engineering and manufacturing, you are assured of receiving the best level control system available.

Test-In-Place
This patented feature allows you to test the RF level sensor without removing the cover while it is installed in the vessel. **These controls are the only Radio Frequency units on the market that can be safely tested in place, in a hazardous environment, without removing the cover.** Test-In-Place can be accomplished by pushing a button, turning a key, using a magnetic fob or through your computer. This feature could save you thousands of dollars in the cost of a material spill and EPA fines for emitting fugitive emissions.

EZ-CAL® Calibration

The patented EZ-CAL® feature allows you to calibrate your sensor without moving the material in and out of the vessel. It can be accomplished in less than 30 seconds by one of the many calibration options available. This digital calibration may also be accomplished through your computer.

Calibration Options:

A. Two-Step Manual

B. One-Step Pushbutton

C. Magnetic Fob

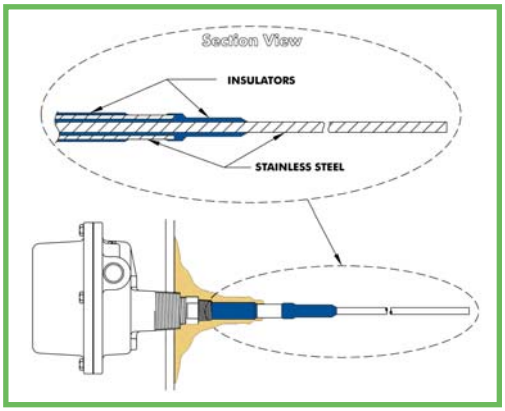
D. One-Step Remote Pushbutton

E. One-Step Remote Keyswitch

Calibration Indication Output Relay
When calibration conditions change from their optimum setting on the RF-9100/9200/11000 and RF-12000 due to extreme temperature or heavy material coating, the external green calibration light will blink to notify the operator that the original cal setting has changed and to recalibrate the unit. The unit will continue to function properly, however the cal indication relay will **not** actuate at this point.

If the calibration condition continues to change, the green LED will go out and the cal indication relay **will** change state alerting the operator of the need to recalibrate the unit.

PRO-GUARD®
The PRO-GUARD® section of the probe cancels out the effects of material coating on the probe, preventing false indications. The PRO-GUARD® disregards the effects of probe coating due to sticky, dusty or clinging materials. The RF control will alarm only when the actual level of material (either dry or liquid) comes in contact with the probe.



Calibration and Alarm Lights
Bindicator's unique cover design allows you to determine the alarm or functional status of the level sensor without removing the cover. An illuminated green LED tells you that the unit is properly calibrated and is ready to sense the level of material. The red LED, when illuminated, indicates that the unit is alarmed. A blinking green LED signals a calibration change. A "no-light" condition is evidence that power has been lost or the unit needs calibration.

Agency Listing
Some select models of the RF-92000 and RF-12000 series are approved for use in hazardous areas and meet CE and ATEX directives. Consult factory for information on approved models, equipment group, equipment category, and certification code.

A variety of Radio Frequency Level Sensors comply with 3A sanitary standard requirements. They can be easily installed and dismantled for cleaning and inspection. They are constructed of stainless steel and FDA approved components, which meet or exceed 3A sanitary standards for liquid level sensing devices.

RF 11000 Electronics

RF 9100

Probe Selection

A wide variety of probe designs, modified probes and probe attachments are available to satisfy even the most difficult applications. Our standard probes are rated from temperatures -40°F to +450°F (-40°C to +232°C). Ceramic Probes are available for temperatures to +1000°F (+538°C).

Bindicator RF probes are manufactured from a variety of materials, which are compatible with most processes. The Ryton® and 316 Stainless Steel probe is most widely used. Ryton® is an extremely durable engineering plastic developed by Phillips 66 for use with many aggressive materials. If Ryton® and stainless steel are not compatible with the material in your storage vessel, then the Kynar®, Teflon®, or Polysulfone coated probes are available.

The RF sensors may be mounted from the top and extended by using a tip extension to a maximum of 5 feet. The probes may also be further extended through the use of pipe extensions. The RF-8000 cable probe can extend to a maximum of 45 feet.

Other RF Series Features

- Two-Year Warranty
- Sanitary (CIP) Configurations
- CAL/TEST Printed Enclosures on RF-9100/9200 and RF-11000/12000
- Two-wire Unit That is Intrinsically Safe When Used With Approved Barriers (RF-6000)
- Anti-static Protection
- Field Adjustable Failsafe Setting
- DIP Switch Sensitivity and Time Delay Settings
- 1-1/4" or 3/4" NPT or Tri-cover
- Field Extendible Probes
- Remote Electronics for High Temperature and Vibration Applications
- Intrinsically Safe Probe Design on Explosion-proof Units

Probe Attachments

1 1/4" Teardrop
For Cut Probe or Tip Sensitivity
(3/4" Teardrop Also Available)

Rigid Tip Extension
For Heavy Duty Probes Only

1-1/4" Sensitivity Sleeve
For Full Length Probes-For Light or Dry Materials
(3/4" Sensitivity Sleeve Also Available)

Flexible Tip Extension
For Heavy Duty Probes Only

When attached to RF probes, these attachments increase sensitivity for low dielectric materials or when probe has been shortened.

Sensitivity Guidelines

If the material you are sensing exhibits low dielectric constants or low density, the sensing area may have to be increased. The guidelines shown below will assist you in selecting the correct electronic unit and/or optional probe attachments for the probe selected.

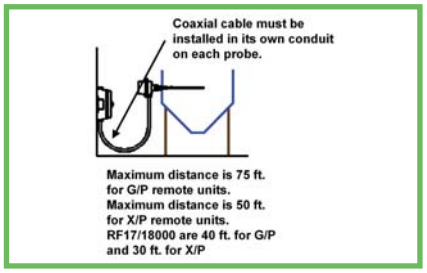
This chart assumes materials with dielectric constant of 3 or greater.

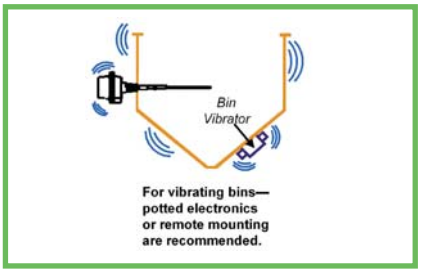
Sensitivity Guidelines

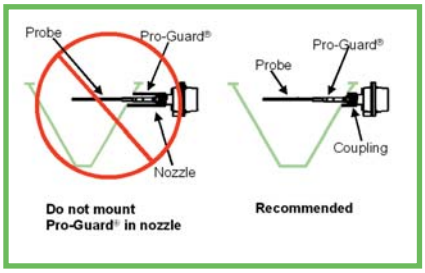
Density	1% Moisture		3% Moisture
35 lbs/ft.³	Either sensitivity sleeve or teardrop and standard (1 pF) electronics	Standard probe and standard electronics	Standard probe and standard electronics
20 lbs/ft.³	1-1/4" sensitivity sleeve or teardrop and (.5 pF) electronics	Either sensitivity sleeve or teardrop and standard (1 pF) electronics	Standard probe and standard (1 pF) electronics
15 lbs/ft.³	Consult factory	1-1/4" sensitivity sleeve or 1-1/4" teardrop and standard (1 pF) electronics	Either sensitivity sleeve or teardrop and standard (1 pF) electronics
8 lbs/ft.³	Consult factory	Consult factory	Consult factory
	Not recommended-Consult factory for applicable unit	Not recommended-Consult factory for applicable unit	Not recommended-Consult factory for applicable unit

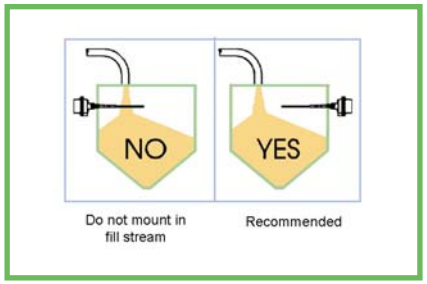
Mounting Configurations

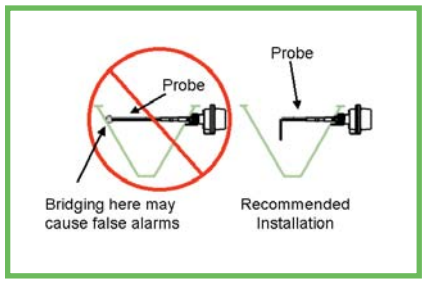
For reliable operation the RF controls must be installed properly. The following drawings will help identify correct mounting.

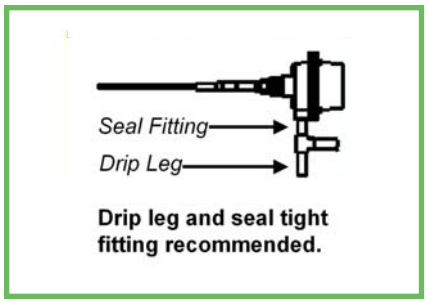


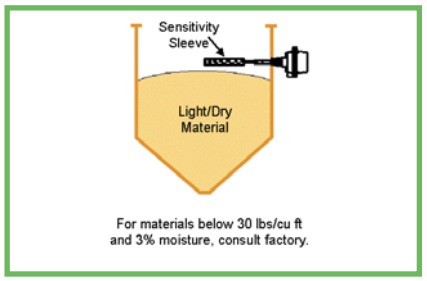


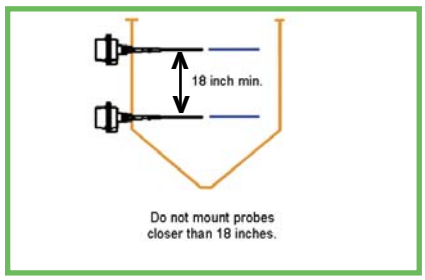


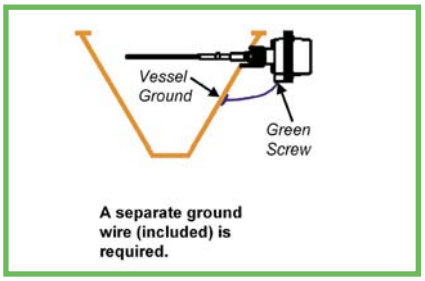












In choosing the proper RF control for your application, consider the following:

Vessel Conditions
Pressure/Temperature/Vibration-Check to insure that the sensor you select is within the temperature and pressure ratings of your applications. Temperature specifications range from -40°F to +1000°F (-40°C to +538°C) depending on the probe selected.

The electronics are capable of sustaining operational temperatures up to 160°F (71°C). If your ambient temperatures exceed 160°F (71°C), or there's vibration at the vessel, we suggest our RF-10000, RF-11000, RF-12000, RF-17000 or RF-18000 remote sensing units.

Hazardous Areas
Bindicator explosion-proof level controls meet applicable agency requirements as a total assembly. The electrical housing is rated explosion-proof and the sensing probe is rated intrinsically safe.

Agitation
Material agitation in liquid service can cause erratic operation due to intermittent contact. For best results, either consider increasing the time delay or installing the probe in a stilling well.

Aeration
Please consult with our application engineering department when there is significant aeration of material.

Variations in the RF Series

RF Series	Remote/ Integral Unit	Mode of Calibration	External Cal. and Alarm Lights	Remote Calibration	Test-In-Place	Type of Output
RF-4000	Integral	Manual	NO	NO	NO	SP/DT relay
RF-6000	Integral	Manual	YES*	NO	YES/Fob	4 or 20 mA
RF-8000	Integral	Manual	NO	NO	NO	DP/DT relay
RF-8200	Integral	Manual	YES**	NO	YES/Fob	DP/DT relay
RF-9000	Integral	Push-Button	NO	YES	YES/Push-Button	DP/DT relay
RF-9100	Integral	Spring-Magnet	YES	NO	YES/Fob	DP/DT relay
RF-9200	Integral	FOB Magnet	YES	NO	YES/Fob	DP/DT relay
RF-10000	Remote	Push-Button	NO	YES	YES/Push-Button	DP/DT relay
RF-11000	Remote	Spring-Magnet	YES	NO	YES/Spring	DP/DT relay
RF-12000	Remote	FOB Magnet	YES	NO	YES/Fob	DP/DT relay
RF-17000	Remote	Manual	NO	NO	NO	DP/DT relay
RF-18000	Remote	Manual	YES	NO	YES/Fob	DP/DT relay

NOTE: *Green LED on RF-6000 is a loop power indicator
**Does not include external calibration

All relays utilize fail-safe logic.

RF-4000 Series

- Bindicator reliability at a very affordable price
- PRO-GUARD® sensor ignores coating
- Multiple operating voltages
- No vessel filling or emptying for calibration
- Senses most liquids, solids, and slurries
- Polypropylene or Polysulfone probes
- Integral design is easily installed
- Off-The-Shelf delivery

Specifications and Ordering Information

Electrical Specifications

Line Voltage	100-120VAC ± 10%, 240VAC ± 15%, 50/60 Hz, 12-24VDC ± 10%
Power	4 Watts
Output Relay	SP/DT, 5amps at 120VAC
Temperature Range	-40°F to + 150°F (-40°C + 65°C)
Sensitivity Settings	>2 Picofarads
Time Delay	1-5 Seconds (Adjustable)
Calibration	Two-Step Manual, "Dry" probe

The RF-4000 will sense the level of liquids or slurries with a dielectric above 5.0 or solids with bulk densities above 30 lbs./ft³ (480kg/m³) and 3% moisture.

Model Selection:

Refer to Probe Selection Guide

RF4- ____ - ____ - ____ - ____ - ____

RF-4000 Radio Frequency Series

Electronics
O = Standard (>2 pF)

Probe Type
2 = Food Grade
P = Polypropylene (N - assembly configuration only)
O = Ryton

Enclosure Type
G = General Purpose NEMA 4X

Voltage
1 = 100-120VAC, 240VAC, 12-24VDC(selectable)

Assembly Configuration
A = 3/4" NPT S.S. & 1 1/4" NPT Aluminum
N = 1 1/4" NPT Aluminum Only

RF-6000 Series

Specifications and Ordering Information

Electrical Specifications

Line Voltage	24VDC Nominal - Can operate from 15VDC through 32VDC
Power	Current Draw When Indicating: 17mA Current Draw When Not Indicating: 6mA Output Logic is Field Selectable
Temperature Range	-40°F to 160°F (-40°C to +71°C) Medium & Low Sensitivity Setting -20°F to +125°F (-20°C to +52°C) High Sensitivity Setting
Sensitivity Settings	2 Through 11 Picofarads (Adjustable)
Time Delay	1, 2, 5 Seconds (Selectable)
Calibration	Two-Step Manual

- Two-wire device
- Unit is Intrinsically safe when used with FM approved barriers
- Function test electronics
- Analog output (4 or 20mA)
- PRO-GUARD®
- Variable time delay
- External power and alarm LEDs
- Dual mounting 3/4" or 1 1/4" NPT

Note 1: For 3A Sanitary Certification, add "3A" at end of the Model Code. Configuration "S" must be used and either "Type 2" Food Grade probe or "Type 4" Stub probe.
Note 2: All models are intrinsically safe when used w/approved barriers.

External Loop Power Supply Required (24VDC).
External Test "fob" must be ordered as a separate part (LRF130190).

Consult factory before applying the RF-6000 in temperatures over 160°F (71°C). Consult factory for application approval.

Kynar®-Trademark of Pennwalt.
Ryton®-Trademark of Phillips Chemical. Co., Subsidiary of Phillips Petroleum.

Model Selection:

Refer to Probe Selection Guide

RF6- ___ - ___ - ___ - ___

Assembly Configuration
A = 3/4" S.S. & 1 1/4" Aluminum & Flush Mount
S = Sanitary Fitting 1" or 1 1/2" tri-clamp size (See Note 1)
N = 1 1/4" Alum. Only (NEMA 4X ONLY) (Consult factory for agency listing)
H = 3/4" Hastelloy C (for Teflon® probes only)

Enclosure Type
G = General Purpose NEMA 4X FM Approved (See Note 2)
S = NEMA 4X Stainless Steel

Probe Type (Note 1)
0 = Standard
1 = Standard, Kynar® Coated (Max. length 60" or 1524mm)
2 = Food Grade
4 = Stub
5 = Heavy Duty
6 = Heavy Duty Kynar® Coated
8 = Flush (Use "A" Configuration Only)
A = Armored Food Grade (Use "A" Configuration Only)
T = Teflon® Jacketed Standard Probe
U = Teflon® Jacketed Heavy Duty Probe
F = Fly Ash Probe

Electronics
C = Standard 2 pF With Function Test
D = Sensitivity Modification With Function Test

RF-6000 Radio Frequency Type Series

RF-8000 Series

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC ± 4VDC, 12VDC ± 4VDC
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +71°C) Medium & Low Sensitivity Setting -20°F to +125°F (-20°C to +50°C) High Sensitivity Setting
Sensitivity Settings	2 through 9 Picofarads- "0" Electronics 1 through 8 Picofarads- "A" Electronics
Time Delay	1, 7, 14 Seconds (Selectable)
Calibration	Two-Step Manual

- Best priced sensor
- Dual Mounting- 3/4" or 1 1/4" NPT
- Manual 2-step calibration
- Single board electronics
- RF8-*_*_*_*_N- 1 1/4" NPT mount for dry material only-general purpose only
- Potted electronics for high vibration applications
- 3A sanitary certification available

Note 1: Not for use with assembly configuration "N".
Note 2: UL approved to CSA standards.
Note 3: For 3A Sanitary Certificate, add "3A" at end of the Model Code. Configuration "S" must be used, and either "Type 2" Food Grade Probe or "Type 4" Stub probe.

Consult factory before applying the RF-8000 in temperatures over 160°F (71°C).

Consult factory for application approval.

Model Selection:

Refer to Probe Selection Guide

RF8 - - - - - -

Assembly Configuration
A = 3/4" S.S. & 1 ¼" Aluminum & Flush Mount
B = Pipe Ext. Probe, S.S. Coupling
C = Pipe Ext. Probe, Plated Coupling
S = Sanitary Fitting 1" or 1 1/2" Tri-clamp Size (See Note 3)
N = 1 1/4" Alum. Only (Enclosure Type G or D Only)
(Consult factory for agency listing)
H = 3/4" Hastelloy C (for Teflon® probes only)

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC

Enclosure Type
G = General Purpose NEMA 4X
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL Listed (See Note 1 and 2)
D = Dust Ignitionproof for "J" Probe Only

Probe Type (Note 1)
0 = Standard
1 = Standard, Kynar® Coated (Max. Length 60" or 1524mm)
2 = Food Grade
4 = Stub
5 = Heavy Duty
6 = Heavy Duty Kynar® Coated
8 = Flush (Use "A" Configuration Only)
A = Armored Food Grade (Use "A" Configuration Only)
J = Jumbo Probe (Use "N" Configuration Only) (Enclosure Type G or D Only)
T = Teflon® Jacketed Standard Probe
U = Teflon® Jacketed Heavy Duty Probe
F = Fly Ash Probe

Electronics
O = Standard (2 pF)
A = Sensitivity Modification (1 pF)
H = Potted Electronics (2 pF)
I = Potted Electronics (1 pF)

RF-8000 Radio Frequency Type Series

RF-8000 & RF-8200
Cable Probe Series

- Unit can be extended to a maximum of 45 feet
- Manual 2-step calibration
- Similar to RF-8000

Note 1: Not for use with assembly configuration "N".
Note 2: UL approved to CSA standards.
Note 3: Maximum length 45 feet (13.71m) or 540 inches (13716mm).

Consult factory before applying the RF-8000 in temperatures over 160°F (71°C**).**

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60, Hz
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to 71°C) Medium & Low Sensitivity Setting -20°F to + 125°F (-29°C to +52°C) High Sensitivity Setting
Sensitivity Settings	2 through 9 Picofarads (Adjustable)
Time Delay	1, 7, 14 Seconds (Selectable)
Calibration	Two-Step Manual

Model Selection:

Refer to Probe Selection Guide

RF8- ___ - ___ - ___ - ___ - ___ - ___ - ___

RF-8000 Radio Frequency Type Series
8 = RF8000
82 = RF8200

Electronics
L = Cable Probe Electronics

Probe Type
0 = Standard
2 = Food Grade
4 = Stub
5 = Heavy Duty Ryton®

Enclosure Type
G= General Purpose NEMA 4X
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL Listed (See Note 1 and 2)

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC

Assembly Configuration
A= 3/4" S.S. & 1 1/4" Aluminum
S = Sanitary Fitting 1" or 1 1/2" tri-clamp size
N= 1 1/4" Alum. Only (NEMA 4X Only)

Cable Probe Assembly
0 = No Cable Assembly Required or
__= Specify Insertion Length of Cable Probe Assembly in inches (Note 3)

Cable Probe Material
O= No Cable
S = Stainless Steel
N = Nylon
T = Teflon®

RF-8200 Series

- Manual 2-step calibration
- Fob activated function test
- Alarm "LED" on cover

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC ± 4VDC, 12VDC ± 4VDC
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +71°C) Medium & Low Sensitivity Setting -20°F to +125°F (-29°C to +52°C) High Sensitivity Setting
Sensitivity Settings	2 through 9 Picofarads- "C" Electronics 1 through 8 Picofarads- "D" Electronics
Time Delay	1, 7, 14 Seconds (Selectable)
Calibration	Two-Step Manual and fob activated Function Test

Model Selection:

Refer to Probe Selection Guide

RF8 - - - - - -

Assembly Configuration
A = 3/4" S.S. & 1 1/4" Aluminum & Flush Mount
B = Pipe Ext. Probe, S.S. Coupling
C = Pipe Ext. Probe, Plated Coupling
S = Sanitary Fitting 1" or 1 1/2" tri-clamp size (See Note 3)
N = 1 1/4" Alum. Only (Enclosure Type G or D Only)
H = 3/4" Hastelloy C (for Teflon® probes only)

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC

Enclosure Type
G = General Purpose NEMA 4X
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL Listed (See Note 1 and 2)
D = Dust Ignitionproof for "J" Probe Only

Probe Type
0 = Standard
1 = Standard, Kynar® Coated (Max. Length 60" or 1524 mm)
2 = Food Grade
4 = Stub
5 = Heavy Duty
6 = Heavy Duty Kynar® Coated
8 = Flush (Use "A" Configuration Only)
A = Armored Food Grade (Use "A" Configuration Only)
J = Jumbo Probe (Use "N" Configuration Only) (Enclosure Type G or D Only)
T = Teflon® Jacketed Standard Probe
U = Teflon® Jacketed Heavy Duty Probe
F = Fly Ash Probe

Electronics
C = Standard (2 pF) with Function Test (See Comment)
D = Sensitivity Modification (1 pF) with Function Test (See Comment)

RF-8200 Radio Frequency Type Series

Note 1: Not for use with assembly configuration "N".
Note 2: UL approved to CSA standards.
Note 3: For 3A Sanitary Certification, add "3A" at end of the Model Code. Configuration "S" must be used, and either "Type 2" Food Grade or "Type 4" Stub Probe.

Consult factory for application approval.

Consult factory for details on agency listing.

External test fob must be ordered as a seperate part (LPD130004).

RF-9000 Series

- EZ-CAL® - pushbutton calibration
- Dual mounting - 3/4" or 1 1/4" NPT
- Remote calibration option - up to one mile away
- "Test-In-Place" function test electronics
- Thirteen sensing probe options
- 3A sanitary certification available

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +71°C)
*Sensitivity Settings	DIP Switch Selectable 1 through 15 pF
Time Delay	DIP Switch Selectable 1, 2, 4, 7 seconds
Calibration	Pushbutton Electronics with Remote Capability

*Unit has a high sensitivity electronic board with .5 pF rating when choosing model "D"Electronics.

Model Selection:

Refer to Probe Selection Guide

RF9 - - - - - -

Assembly Configuration
A = 3/4" S.S. & 1 1/4" Aluminum & Flush Mount
B = Pipe Ext. Probe, S.S. Coupling
C = Pipe Ext. Probe, Plated Coupling
S = Sanitary Fitting 1" or 1 1/2" tri-clamp size (See Note 3)
N = 1 1/4" Alum. Only (Enclosure Type G or D Only)
H = 3/4" Hastelloy C (for Teflon® probes only)

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC

Enclosure Type
G = General Purpose NEMA 4X
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL Listed (See Note 1 and 2)
S = NEMA 4X, 304 S.S.
B = Explosion-proof NEMA 7, 9
D = Dust Ignitionproof for "J" Probe Only
E = NEMA 4X, Epoxy

Probe Type
0 = Standard
1 = Standard, Kynar® Coated (Max. Length 60" or 1524mm)
2 = Food Grade
4 = Stub
5 = Heavy Duty
6 = Heavy Duty Kynar® Coated
7 = Dome Flush mount (Configuration "A" Only-Spec.Thickness) (See Note 4)
8 = Flush Mount (Use "A" Configuration Only)
A = Armored Food Grade (Use "A" Configuration Only)
J = Jumbo Probe (Use "N" Configuration Only) (Enclosure Type G or D Only)
T = Teflon® Jacketed Standard Probe
U = Teflon® Jacketed Heavy Duty Probe
F = Fly Ash Probe

Electronics
C = Standard Sensitivity With Function Test (1 pF, 4 pF and 10 pF)
D = Sensitivity Modification (.5 pF) with Function Test

RF-9000 Radio Frequency Type Series

Note 1: Not for use with assembly configuration "N".
Note 2: UL approved to CSA standards.
Note 3: For 3A Sanitary Certification, add "3A" at end of the Model Code. Configuration "S" must be used, and either "Type 2" Food Grade probe or "Type 4" Stub probe.
Note 4: Thickness of probe must be specified: 3/8", 1/2", 5/8", or 3/4" wall thickness.

Consult factory before applying the RF-9000 in temperatures over 160°F (71°C).

Consult factory for application approval.

Consult factory for details on agency listing.

RF-9100 &
RF-9200 Series Integral Unit

RF-9100

RF-9200

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC (factory options)
Power	4W @ 120VAC, 4W @ 24VDC, 5W @ 28 VDC
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +71°C)
*Sensitivity Settings	DIP Switch Selectable 1 through 15 pF
Time Delay	DIP Switch Selectable 1, 2, 4, 7 seconds
Calibration	External Spring Magnet on RF-9100 or fob magnet on RF-9200

*Unit has a high sensitivity electronic board with .5 pF rating when choosing model "D" Electronics.

RF-9100 Series

- Spring mounted calibration magnet (fob magnet required for test feature)
- "Test-In-Place" and EZ-CAL® without removing the cover
- Standard function test electronics
- Calibration "LED" on cover
- Alarm "LED" on cover
- 3A sanitary certification

RF-9200 Series

- Calibration and test are accomplished with "fob" magnet
- "Test-In-Place" and EZ-CAL® without removing the cover

Note 1: Not for use with assembly configuration "N".
Note 2: UL approved to CSA standards.
Note 3: For 3A Sanitary Certification, add "3A" at end of the Model Code. Configuration "S" must be used, and either "Type 2" Food Grade probe or "Type 4" Stub probe.
Note 4: External calibration fob for "Type 2" calibration, C, D, M & N electronics must be ordered as a separate part (LRF130119).
Note 5: Thickness of probe must be specified: 3/8", 1/2", 5/8", or 3/4" wall thickness.
Note 6: External calibration and test is inoperable with stainless steel enclosure.

Consult factory before applying the RF-9100 or RF-9200 in temperatures over 160°F (71°C).

Consult factory for application approval.

Consult factory for details on agency listing.

Model Selection:

Refer to Probe Selection Guide

RF9 - - - - - - -

Assembly Configuration
A = 3/4" S.S. & 1 1/4" Aluminum & Flush Mount
B = Pipe Ext. Probe, S.S. Coupling
C = Pipe Ext. Probe, Plated Coupling
S = Sanitary Fitting 1" or 1 1/2" tri-clamp size (See Note 3)
N = 1 1/4" Alum. Only (Enclosure Type G or D Only)
H = 3/4" Hastelloy C (for Teflon® probes only)

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC

Enclosure Type
G = General Purpose NEMA 4X
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL Listed (See Note 1 and 2)
B = Explosion-proof (ATEX Only 9200)
D = Dust Ignitionproof for "J" Probe Only
E = NEMA 4X, Epoxy
S = NEMA 4X, 304 S.S. (See Note 6)

Probe Type
0 = Standard
1 = Standard, Kynar® Coated (Max. Length 60" or 1524mm)
2 = Food Grade
4 = Stub
5 = Heavy Duty
6 = Heavy Duty Kynar® Coated
7 = Dome Flush mount (Configuration "A" Only-Spec. Thickness) (See Note 5)
8 = Flush Mount (Use "A" Configuration Only)
A = Armored Food Grade (Use "A" Configuration Only)
J = Jumbo Probe (Use "N" Configuration Only) (Enclosure Type G or D Only)
T = Teflon® Jacketed Standard Probe
U = Teflon® Jacketed Heavy Duty Probe
F = Fly Ash Probe

Electronics
C = Standard Sensitivity With Function Test
D = Sensitivity Modification (.5 pF) with Function Test
M = Calibration Indication Output Relay - Standard Sensitivity w/Function Test
N = Calibration Indication Output Relay - .5 pF Sensitivity w/Function Test

Type of Calibration (See Note 4)
1 = External Spring Calibration
2 = "Fob" Calibration and Function Test

RF-9100/9200 Radio Frequency Type Series

RF-10000 Series Electronics

RF-10000

- Remote Version of the RF-9000. For high temperature applications - 1000°F (538°C)
- For high vibration applications

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +72°C)
*Sensitivity Settings	DIP Switch Selectable 1 through 15 pF
Selectable Time Delay	DIP Switch Selectable 1, 2, 4, 7 seconds
Calibration	Pushbutton Electronics with Remote Capability

*Unit has a high sensitivity electronic board with .5 pF rating when choosing model "D" Electronics.

Note 1: UL approved to CSA standards.
Note 2: The total length of cable can not exceed 75 feet (23m) from the electronics.
Note 3: Maximum cable distance between electronics and probe on explosion-proof is 50 feet (15.24m).

Consult factory for application approval.

Model Selection:

Refer to Probe Selection Guide

RF10 - E - - - - -

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC

Enclosure Type
G = General Purpose NEMA 4X (See Note 2)
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL (See Note 1 and 3)
S = NEMA 4X, 304 Stainless Steel
E = NEMA 4X, Epoxy

Probe Requirement
1 = Single Probe
2 = Dual Probe

Electronics
C = Standard Sensitivity With Function Test
D = Sensitivity Modification (.5 pF) with Function Test
K = Standard (1 pF) with Function Test and for "Type 7" Probe Only

Electronic Unit
(Probe and Cable Are Separate Items)

RF-10000 Radio Frequency Type

RF-11000 &
RF-12000 Series Electronics

RF-11000 Electronics

RF-12000 Electronics with Fob

- Remote Version of the RF-9100 and RF-9200. For high temperature applications - 1000°F (538°C)
- For high vibration applications

Note 1: External calibration "fob" must be ordered as a separate part (LRF130115).
Note 2: UL approved to CSA standards.

Consult factory for details on agency listing.

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +72°C)
*Sensitivity Settings	DIP Switch Selectable 1 through 15 pF
Selectable Time Delay	DIP Switch Selectable 1, 2, 4, 7 seconds
Calibration	External Spring Magnet on RF-11000 or Fob Magnet on RF-12000

*Unit has a high sensitivity electronic board with .5 pF rating when choosing model "D"Electronics.

Model Selection:

Refer to Probe Selection Guide

RF1 - - E - - - - -

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC

Enclosure Type
G = General Purpose NEMA 4X
X = Explosion-proof NEMA 7/9 - UL Listed/C-UL Listed (See Note 2)
E = NEMA 4X, Epoxy

Probe Requirement
1 = Single Probe
2 = Dual Probe

Electronics
C = Standard Sensitivity With Function Test
K = Standard (1 pF) with Function Test and for "Type 7" Probe Only
M= Calibration Indication Output Relay - Standard Sensitivity w/Function Test
N = Calibration Indication Output Relay- .5 pF Sensitivity w/Function Test

Electronic Unit
(Probe and Cable Are Separate Items)

Type of Calibration (See Note 1)
1 = External Spring Calibration
2 = "Fob" Calibration

RF-11000/12000 Radio Frequency Type Series

RF 17000 & RF-18000 Series Electronics

RF-17000 Electronics

RF-18000 Electronics with Fob

RF-17000 Series

- Best price sensor
- Manual 2-step calibration
- Single board electronics
- For high temperature applications - 1000°F (538°C)
- For high vibration applications
- Easily accessible
- Eleven optional sensing probes

RF-18000 Series

- Fob activated Function Test
- Alarm "LED" on cover

Note 1: The total length of cable is not to exceed 40 feet (12.19m) from the electronics.
Note 2: UL approved to CSA standards.
Note 3: External test and alarm "fob" must be ordered as a separate part (LPD130005).
Note 4: Maximum cable distance between electronics and probe on explosion-proof unit is 30 feet (9.14m).

Specifications and Ordering Information

Electrical Specifications

Line Voltage	120VAC ± 15%, 240VAC ± 15%, 50/60 Hz, 24VDC ± 4VDC, 12VDC ± 4VDC
Power	4 Watts
Output Relay	DP/DT, 5 amps at 120VAC
Temperature Range	-40°F to +160°F (-40°C to +71°C) Medium and Low Sensitivity Setting -20°F TO +125°F (-20°C to + 52°C) High Sensitivity Setting
Sensitivity Settings	2 through 9 Picofarads - "0" Electronics for RF-17000 and "C" Electronics for RF -18000
Time Delay	1, 7, 14 seconds (Selectable)
Calibration	Two-Step Manual for RF-17000 and fob activated function test on RF-18000

*Unit has a high sensitivity electronic board with .5 pF rating when choosing model "D"Electronics.

Model Selection:

Refer to Probe Selection Guide

RF - E - - - - -

Voltage
1 = 120VAC
2 = 240VAC
3 = 24VDC
4 = 12VDC
5 = 24VAC
6 = 48VAC
7 = 100VAC

Enclosure Type
G = General Purpose NEMA 4X (See Note 1 and 2)
X = Explosion-proof NEMA 7, 9 (See Note 4)

Probe Requirement
1 = Single Probe

Electronics
C = Standard Sensitivity With Function Test (RF-18000 Only)
K = Standard (2 pF) with Function Test and for "Type 7" Probe Only (RF-18000 Only)
O = Standard Sensitivity (RF-17000 Only)
G = Standard (2 pF) for "Type 7" Probe Only (RF-17000 Only)

Electronic Unit
(Probe and Cable Are Separate Items)

RF-17000/18000 Radio Frequency Type Series
17 = RF-17000 Radio Frequency Type Series
18 = RF-18000 Radio Frequency Type Series (See Note 3)

RF-10000, RF-11000, RF-12000, RF-17000 and RF-18000 Probe Selection

Ordering Information

Probe Selection

Refer to Probe Selection Guide

RF10 - P - - - - - 1

Enclosure Material
1 = Bindicator Standard Enclosure

Enclosure Type
G = General Purpose NEMA 4X
X = Explosion-proof (See Note 7) - UL Listed/C-UL Listed (See Note 2)
S = NEMA 4X, 304 S.S.
D = Dust Ignitionproof for "J" Probe Only
E = NEMA 4X, Epoxy

Probes
0 = Standard
1 = Standard, Kynar® Coated (Max. Length 60" or 1524mm)
2 = Food Grade
3 = Ceramic (Use "D" Configuration Only)
4 = Stub
5 = Heavy Duty
6 = Heavy Duty Kynar® Coated
7 = Dome Flush mount (Config. "A" and Electronics "K" Only, Thickness to be specified) (See Note 1)
8 = Flush (Use "A" Configuration Only)
A = Armored Food Grade (Use "A" Configuration Only)
T = Teflon® Jacketed Standard Probe
U = Teflon® Jacketed Heavy Duty Probe
F = Fly Ash Probe
M= Mini Ceramic (Use "D" Configuration Only)

Configuration
A = Standard 3/4" & 1 1/4" Threaded Connector & Flush Mount (See Note 6)
B = Pipe Extended Probe - S.S. Parts (See Notes 4 and 6)
C = Pipe Extended Probe - Plated Parts (See Notes 4 and 6)
D = Lagged Probe - S. S. Connector/Plated Coupling (See Notes 5 and 6)
S = Sanitary Fitting 1" or 1 1/2" tri-clamp size (See Note 3)
H = 3/4" Hastelloy C (for Teflon® only)

Remote Probe Assembly
(Electronics & Cable Are Separate Items)

RF-Remote Radio Frequency Type

Note 1: Thickness of probe must be specified: 3/8", 1/2", 5/8", or 3/4" wall thickness.
Note 2: UL approved to CSA standards.
Note 3: For 3A Sanitary Certification, add "3A" at end of the Model Code. Configuration "S" must be used, and either "Type 2" Food Grade probe or "Type 4" Stub Probe.
Note 4: Order extensions as a separate item.
Note 5: Order lagging as a separate item.
Note 6: Order remote cable as a separate item.
Note 7: Units have been listed as complete assembly by UL for use in Class 1, Div 1 Groups C & D, Class II Div 1, Groups E, F, and G. These probes contain intrinsic safety barriers and can only be used with electronics which are designated explosion-proof, even if the electronics are in an area that is non-hazardous.

Consult factory for application approval.

Consult factory for details on agency listing.

Accessory and Attachment Ordering Information

Remote Cable Assembly

Factory Assembled for RF-10000, RF-11000, RF-12000, RF-17000 and RF-18000 remote units. Exact length required because cable is factory terminated.

**RFC - - **

- **Length in Feet**
- **Cable Type**
  - A = High Temperature (+450°F) (+232°C)
  - B = Low Temperature (+160°F) (+71°C)
- **Remote Cable Model Assembly**

Special Note: Individual conduit is required for each cable assembly.

DO NOT INSTALL MORE THAN ONE CABLE ASSEMBLY in a conduit or raceway or along with other conductors. The maximum distance between the electronics and probe on explosion-proof units is 50 feet (15.24m) and on general-purpose units is 75 feet (23m).

Bulk Remote Cable --- Undetermined

For the RF-10000, RF-11000, RF-12000, RF-17000 and RF-18000 remote units. Order bulk cable plus one termination kit per remote unit.

Product Code	Description
LUC035208	Low Temperature (+160°F) (+71°C)
LUC035209	High Temperature (+450°F) (+232°C)
LRF110039	Termination Kit

Lagging Model Assembly

Lagged probe assemblies for the RF-10000, RF-11000, RF-12000, RF-17000 and RF-18000 assembly configuration.

**RFL - - **

- **Pipe Lagging Length in INCHES**
- **Material**
  - A = Galvanized Pipe - High Temperature Cable (+450°F) (+232°C)
  - B = Galvanized Pipe - Low Temperature Cable (+160°F) (+71°C)
- **Lagging Model Assembly**

Probe Pipe Extension

Probe pipe extension information for RF-9000, RF-9100, RF-10000, RF-11000, RF-12000, RF-17000 and RF-18000 with assembly configurations B & C.

**RFE - - **

- **Extension Length in INCHES**
- **Material**
  - A = Galvanized Pipe - High Temperature Cable, 300°F (148°C) (See Note 1)
  - B = Galvanized Pipe - Low Temperature Cable (+160°F) (+71°C)
  - C = 316 S.S. Pipe - High Temperature Cable (See Note 1)
  - D = 316 S.S. Pipe - Low Temperature Cable (+160°F) (+71°C)
- **Extension Model Assembly**

Note 1: Consult factory for applications between 300°F (148°C) and 460°F (238°C).

Pipe extended models can mount only in a 1 1/4" NPT coupling.

Because the pipe extended unit is mounted in 1 1/4" NPT coupling, the maximum pressure rating is 50 psi (3.5Kg/cm^2).

Accessory and Attachment Ordering Information

Probe Attachments
(For Heavy Duty Probes Only)

Product Code	Description
LHF110030	Rigid Tip Extension - 12" (300mm)
LHF110031	Rigid Tip Extension - 24" (600mm)
LHF110032	Rigid Tip Extension - 36" (900mm)
LHF110033	Rigid Tip Extension - 48" (1200mm)
LHF110034	Rigid Tip Extension - 60" (1500mm)
LHF110035	Flexible Tip Extension - 12" (300mm)
LHF110036	Flexible Tip Extension - 24" (600mm)
LHF110037	Flexible Tip Extension - 36" (900mm)
LHF110038	Flexible Tip Extension - 48" (1200mm)
LHF110039	Flexible Tip Extension - 60" (1500mm)
LRF110851	Cable/Weight Tip Extension (84" Max) Specify Length in Inches

Probe Attachments

Product Code	Description
LRF110085	Sensitivity Sleeve - 3/4" Standard Probes
LRF110086	Sensitivity Sleeve - 1 1/4" Standard Probes
LRF110061	Proximity Plate Attachment
LRF110199	Sensitivity Sleeve - 3/4" Heavy Duty Probe
LRF110766	Sensitivity Sleeve - 1 1/4" Heavy Duty Probe
LRF120058	Tear Drop Sensitivity Attachment, Standard Probe - 1 1/4"
LRF120081	Tear Drop Sensitivity Attachment, Heavy Duty Probe - 1 1/4"
LRF120089	Tear Drop Sensitivity Attachment, Standard Probe - 3/4"
LRF120090	Tear Drop Sensitivity Attachment, Heavy Duty Probe - 3/4"
LRF120145	Tear Drop Sensitivity Attachment, Ceramic Probe - 1 1/4"

Remote Calibration Modules
For RF-9000 and RF-10000 Only

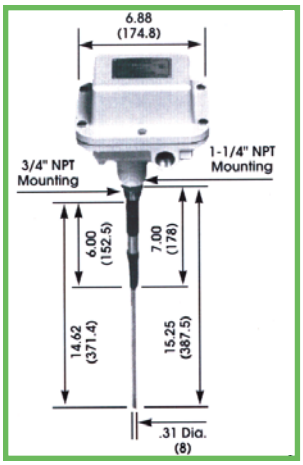
Product Code	Description
LRF110017	Remote Pushbutton Calibration Module
LRF110073	Remote Keyswitch Module*

*For use with Calibrate/Function Test Only

Probe Modifications
(Must Be Specified on Order)

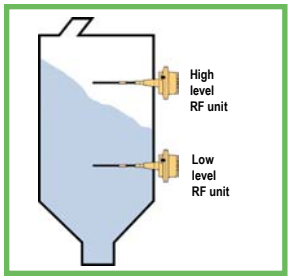
- Welded Tip Extension
- Bent Probe (Exact location and degree of bend required)
- Shortened Probe (Exact length required)
- Kynar® Coated - Tip Extension
- Teflon® Jacketed Welded Tip Extension

Probe Selection Guide



Standard Probe

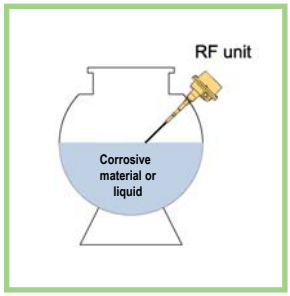
The Standard probe is a multi-purpose probe that works dependably with solids, powders and liquids. It has PRO-GUARD® element sensors that prevent false indications due to coating of probe with sticky materials.



Maximum temp:	450°F (232°C)
Max. pressure:	150 psi (10.5 kg/cm²) 3/4" NPT 50 psi (3.5 kg/cm²) 1 1/4" NPT
Probe Material:	316 S.S./Ryton®
Typical Applications:	Detecting bulk materials, liquids in tanks and bins.

Standard Probe, Kynar® Coated

Designed for use with corrosive liquids and solids. Entire probe is coated with corrosion-resistant Kynar®. Mounting threads are Teflon® coated for corrosion resistance. The unit has the same construction and operation features as the standard probe including PRO-GUARD®.

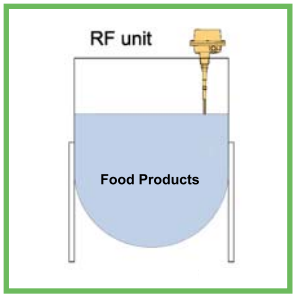


Maximum temp:	250°F (121°C)
Max. pressure:	50 psi (3.5 kg/cm²)
Probe Material:	316 S.S. with Kynar®
Typical Applications:	Detection of corrosive chemicals, powders, liquids or solids, petroleum and organic products.

Food Grade Probe

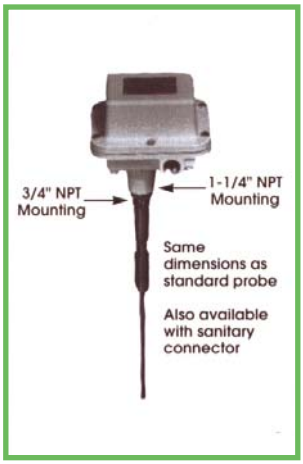
The food grade probe has the same reliable design features as the standard probe, but the unit is constructed with FDA approved material.

Optional 3A Sanitary probe complies with 3A sanitary standards.



Maximum temp:	300°F (149°C)
Max. pressure:	150 psi (10.5 kg/cm²) 3/4" mounting 50 psi (3.5 kg/cm²) 1 1/4" mounting
Probe Material:	316 S.S. with polysulfone
Typical Applications:	Measuring the level of food and pharmaceutical ingredients in storage tanks, production machines and hoppers. The 3A unit can be easily installed and dismantled for cleaning and inspection.

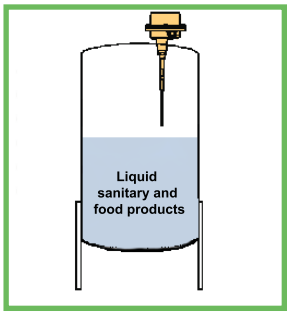
Probe Selection Guide

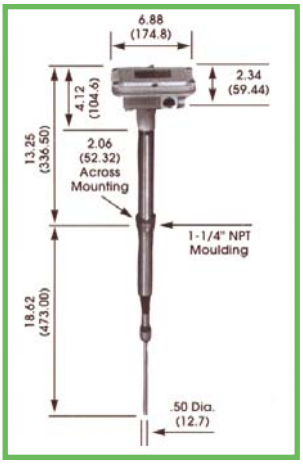


Armored Food Grade

The polysulfone of this food grade probe is covered by a stainless steel sleeve.

Maximum temp:	230°F (110°C)
Max. pressure:	150 psi (10.5 kg/cm^2)
Probe Material:	Polysulfone covered by 316 S.S. sleeve and Food Grade Epoxy
Typical Applications:	For use wherever material flow is abrasive to insulated portion of probe.



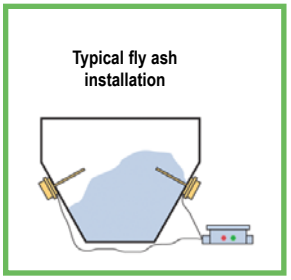


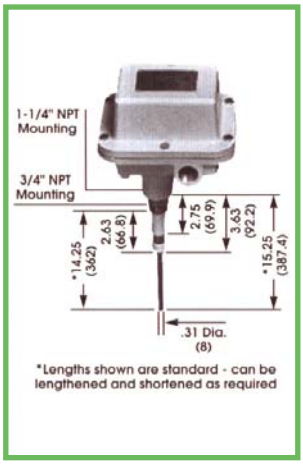
Ceramic

For applications where temperatures exceed 450°F (232°C). Provides protection as electronics are mounted remote from probe. Designed specifically for fly ash applications.

Maximum temp:	1000°F (538°C)
Max. pressure:	50 psi (10.5 kg/cm^2)
Probe Material:	316 S.S. & Ceramic

Mini-ceramic probe also available. Contact factory for details.

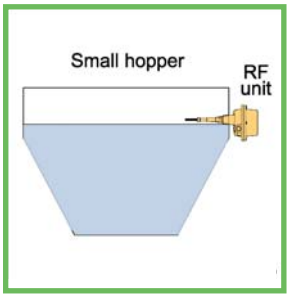


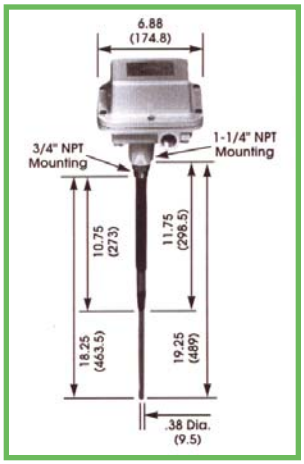


Stub

The Stub probe is especially designed for minimum projection into small hoppers and vessels or other tight quarters.

Maximum temp:	300°F (149°C)
Max. pressure:	150 psi (10.5 kg/cm^2) 3/4" mounting 50 psi (3.5 kg/cm^2) 1 1/4" mounting
Probe Material:	316 S.S. & polysulfone
Typical Applications:	The unit is designed to fit in small hoppers or other tight quarters.

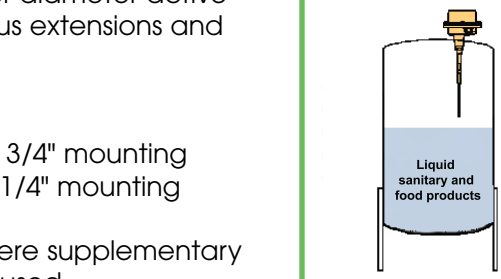




Heavy Duty

The heavy duty probe is longer with a larger diameter active section. The larger diameter accepts various extensions and attachments for special applications.

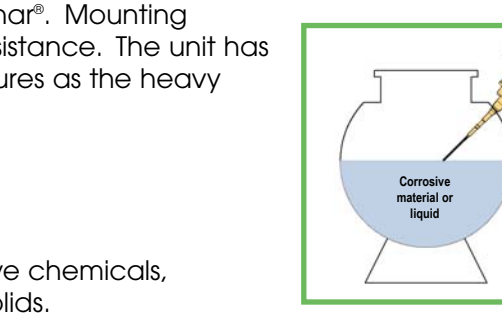
Maximum temp:	450°F (232°C)
Max. pressure:	150 psi (10.5 kg/cm^2) 3/4" mounting 50 psi (3.5 kg/cm^2) 1 1/4" mounting
Probe Material:	316 S.S. & Kynar®
Typical Applications:	Fly ash sensing or where supplementary tip extensions will be used.

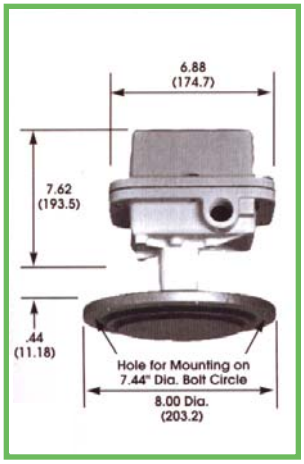


Heavy Duty - Kynar® Coated

Designed for use with corrosive liquids and solids. The entire probe is coated with corrosion-resistant Kynar®. Mounting threads are Teflon® coated for corrosion resistance. The unit has the same construction and operation features as the heavy duty probe including PRO-GUARD®.

Maximum temp:	250°F (121°C)
Max. pressure:	50 psi (3.5 kg/cm^2)
Probe Material:	316 S.S. with Kynar®
Typical Applications:	Detection of corrosive chemicals, powders, liquids or solids.

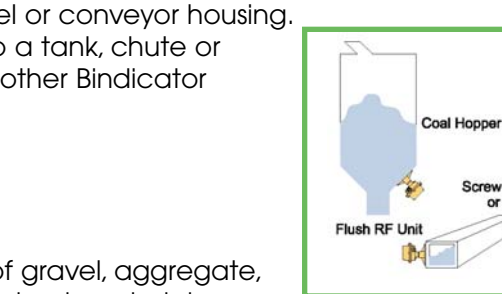




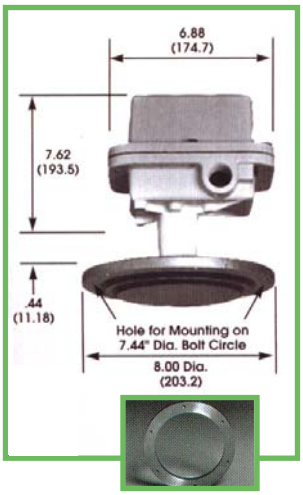
Flush

This low profile probe mounts flush on a vessel or conveyor housing. It minimizes protrusion of the sensing unit into a tank, chute or conveyor. It works on the same principle as other Bindicator probes.

Maximum temp:	200°F (93°C)
Max. pressure:	50 psi (3.5 kg/cm^2)
Probe Material:	316 S.S. & Epoxy
Typical Applications:	Detects flow or level of gravel, aggregate, lump coal, and other chunk materials. Ideal where bridged material may shear or bend other probes when material shifts. Used for plugged chute detection.



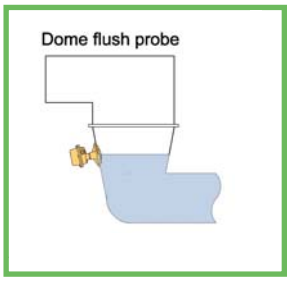
Probe Selection Guide



Dome Flush

This probe minimizes protrusion of the sensing unit into a tank, chute or conveyor. Also available is an adapter plate, Part LRF120139. This plate can be welded to vessel or chute to allow easy mounting of the dome flush probe. This plate also allows you to mount the unit to curved surfaces. Dome probes are available in the following thicknesses; 3/8", 1/2", 5/8", 3/4".

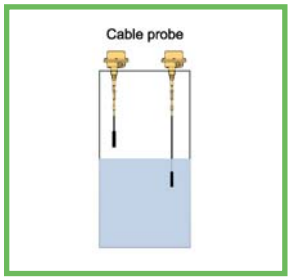
Maximum temp:	200°F (93°C)
Max. pressure:	50 psi (3.5 kg/cm^2)
Probe Material:	316 S.S. & Epoxy
Typical Applications:	Used for plugged chute detection. Ideal where bridged material may shear or bend other probes when material shifts. Used in wet coal applications or where slightly conductive coatings may occur.



RF-8000 Cable Probe

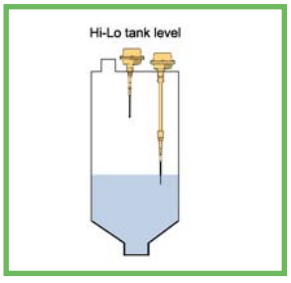
This cable probe was designed for high-, mid-, or low-level indication when top mounting is mandatory. Maximum length of cable plus weight should be 45 feet on RF-8000 Cable Probe Series.

Maximum temp:	300°F (149°C)
Max. pressure:	150 psi (10.5 kg/cm^2)
Probe Material:	316 S.S.
Typical Applications:	Used only as a top-mounted point level control for various liquids, slurries, and bulk solid applications.



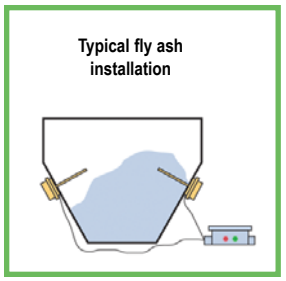
Pipe Extension

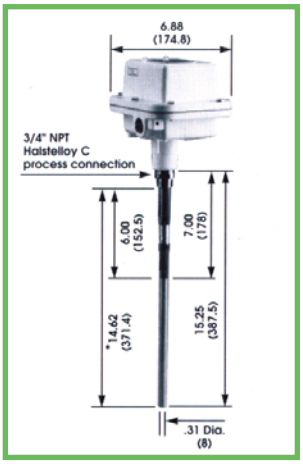
This type of probe mounting is used in deep tanks and/or vessels to sense low-level conditions. It may also be used to project probe through thick tank walls or insulation. Specifications should be according to the probe selected for extension.



Remote Electronics - Lagged Probe

Remote electronic unit is combined with pipe extension (lagging) for use in double-wall hoppers and bins. Protects electronics form high temperature environment. Lagging may be sized to fit wall thickness of hopper or bin.



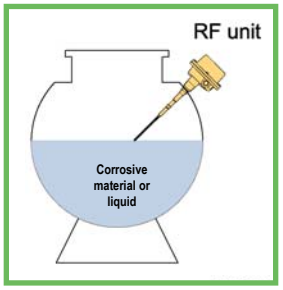


*For optional HD probe, refer to Heavy Duty probe specs.

Teflon® Jacketed Standard Probe
Also available: Teflon® Jacketed Heavy Duty Probe

Designed for use with materials that would attack or adhere to the probe. The assembly consists of a Hastelloy C process connection and a standard or heavy duty probe jacketed in Teflon®. This combination assures that the sensing unit will resist corrosive/harsh chemicals, even while exposed to high-temperature applications.

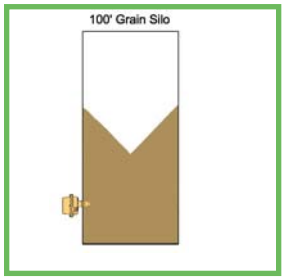
Maximum temp:	250°F (121°C)
Max. pressure:	50 psi (3.5 kg/cm^2)
Probe Material:	316 S.S. with Teflon® and a Hastelloy C process connection
Typical Applications:	Detection of corrosive/harsh chemicals and materials which would adhere to the probe.



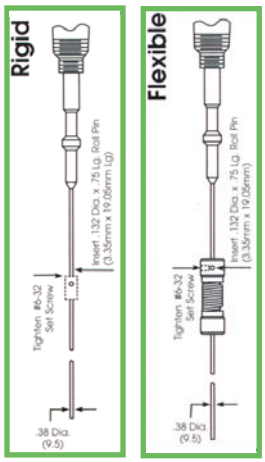
Jumbo Probe

Designed for use in dry materials only. Used primarily in extremely tall storage silos where standard probes would be sheered off due to weight on the sensing probe.

Maximum temp:	200°F (93°C)
Max. pressure:	50 psi (3.5 kg/cm^2)
Probe Material:	316 S.S. and Thermoset Epoxy
Typical Applications:	Detection of corn or grain and other such materials with mid to high moisture and material densities > 30lbs./cu. ft.



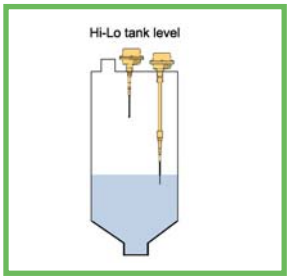
Probe Selection Guide



Rigid or Flexible Tip Extension Probe

Rigid or flexible extension is attached by means of coupling by a roll pin. The rigid extension is used where it is desirable to increase the probe's sensitivity. The flexible extensions are used in aggregate, coal, or other lump materials that might damage a fixed tip.

Lengths available for both rigid and flexible extensions are from 1 to 5 feet, in 1-foot increments.

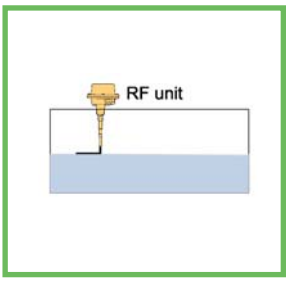


Modified Probes

This is a standard duty probe that can be bent or cut to solve specific requirements. All RF probes can be bent or cut.

Maximum temp:	450°F (232°C)
Max. pressure:	150 psi (10.5 kg/cm^2)
Probe Material:	316 S.S. & Ryton®
Typical Applications:	Inside hoppers, tanks, and vessels, where space is limited.

NOTE: Other modified probes are welded tip extensions and Kynar®-coated, welded-tip extensions with a maximum of 5 feet.



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