



# **PROCAP**

## **Capacitance Level Sensors**

**Simple. Rugged. Reliable.**

- Triple thread screw on/off cover - No more bolts!
- Unsurpassed sensitivity and stability
- No interference from RF signals
- Switch selectable high/low fail-safe
- "Quick-Set" calibration
- Dual conduit entrance for improved wiring access
- Hazardous location approval standard
- Wetted parts are all 316 stainless steel
- Powder coat finish
- Dual timer covered/uncovered flexibility

***BIN* MASTER®**

[www.binmaster.com](http://www.binmaster.com)

# PROCAP Capacitance Probes

## *No plant equipment interference from RF signals*

### **Innovative Design**

PROCAP capacitance probes use advanced integrated circuit technology operating at a low frequency to achieve both high sensitivity and stable calibration. The probe uses a simple timing technique that compares the discharge time of the probe capacitance to that of a reference capacitance. The probe's outstanding stability results from several factors.

- A single integrated circuit makes the critical timing comparison. Temperature variations have an equal effect on the timing of both the probe and reference capacitance and, therefore, cancel.
- The time interval at which the discharge comparison is repeated is not involved in the sensing process, making calibration independent of oscillator frequency and stability.
- Both the probe and the reference capacitance discharge are from a common voltage level. This makes calibration insensitive to power supply voltage variations.
- Equal internal capacitance in both the probe and reference circuitry make any temperature dependent changes to these component values cancel. In addition, these internal capacitors have zero temperature coefficients and are physically located together to assure they are at equal temperatures.

New calibration stability, along with static discharge survival, and RF immunity are three of the main reasons why BinMaster probes outperform the competition.

### **Interference Free**

BinMaster's PROCAP capacitance sensors provide high sensitivity and accurate level detection without using radio frequency (RF) signals. According to the Federal Communications Commission, signals in excess of 9 KHz are classified as "RF" and are prone to radiate. Competitive capacitance sensors which emit RF signals may interfere with nearby electronic plant equipment. Conversely, some competitive sensors utilizing RF are themselves susceptible to interference from other RF sources and may not function properly when a device such as a two-way radio is operated near them. BinMaster PROCAP capacitance probes are completely immune to such interference issues.

### **"Quick-Set" Calibration**

Calibrating PROCAP sensors is made simple and precise with the Quick-Set design using two single-turn potentiometers. One labeled "coarse" is used to compensate for the capacitance of the empty vessel. The other potentiometer labeled "fine" is set to the desired sensitivity for the vessel material. However, material does not need to be present when calibrating PROCAP sensors. Two quick turns and the sensor will maintain precise calibration and dependable operation even throughout extreme climate changes.

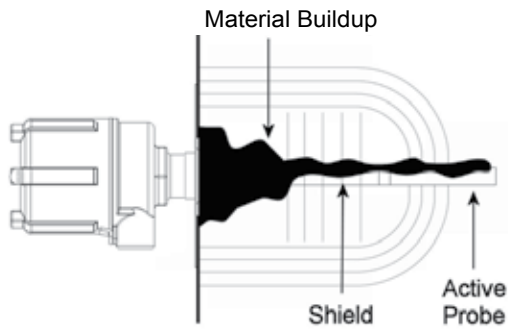
### **Principle of operation**

BinMaster's PROCAP capacitance sensors detect the presence or absence of material in contact with the probe by sensing a change in capacitance caused by the difference in the dielectric constant of the vessel material and air. These sensors must be able to sense very small changes in capacitance, typically one picofarad. To sense such a small capacitance change, competitive manufacturers often use electronic circuits incorporating frequency shift oscillators and balanced bridges that must operate at high frequencies in the RF range. Most capacitance sensor manufacturers use frequencies between 100 KHz and 2 MHz.

BinMaster's capacitance probes use a unique discharge time constant detector circuit which allows sensing capacitance changes less than one picofarad without the need for radio frequencies. PROCAP capacitance sensors operate at approximately 6 KHz, well below the RF level and therefore are not subject to FCC regulation. Plus, because the PROCAP sensors operate at such a low frequency, they will not interfere with nearby electronic plant equipment and are not susceptible to interference from other equipment.



# Quality Construction, Reliable Performance



## Accurate & reliable level detection even in the harshest conditions

### Pro-Shield Prevents False Readings

PROCAP sensors feature PRO-Shield to guard against false readings from buildup on the probe or bridging between the sidewall and the probe. The shield is a portion of the probe that emits a non-sensing signal that forces the active signal to examine a large area around the probe. The PRO-Shield allows the PROCAP sensors to be used in vessels storing a wide variety of dusty, sticky, or clinging materials.

### Time Delay Minimizes False Signals

The time delay feature minimizes false signals from sudden material shifts or splashing liquids caused by process activities. The time delay operates by "delaying" a set period of time prior to acknowledging the signal for a change in the presence or absence of material. The time delay is simple to adjust and may be set up to 30 seconds. BinMaster also offers a dual timer capacitance probe with a flexible time delay for covered and uncovered conditions.

### New Fail-Safe Protection Eliminates Process Accidents

PROCAP capacitance sensors feature fail-safe protection to eliminate process accidents caused by a power failure. A high/low selectable switch allows the sensor to be set for fail-safe high or fail-safe low.



# PROCAP Sensors

## Modular Design, Many Applications

### Applications

BinMaster's PROCAP capacitance sensors are designed for a wide array of applications. PROCAP sensors may be used in solid, liquid and slurry materials. The sensors may be used for high and low level detection in bins, silos, tanks, hoppers, chutes and other vessels where material is stored, processed or discharged.

### Detects Wide Range of Materials

Capacitance sensors are calibrated based on the dielectric constant of the material being detected. BinMaster's PROCAP sensors may be easily calibrated for detecting material with a dielectric constant ranging from 1.5 picofarad and greater. With the simple to use "Quick-Set" calibration, a PROCAP sensor can be set to detect your material in just a few seconds!



### OEM Models

The shielded, bare stainless steel probe was designed to allow customers to purchase one standard probe and adjust the length in the field. The probe can be cut down to 8" or extended to 8'. This will reduce cost, decrease lead times, and allow stocking of one probe.



### Extended Models

The flexible cable extension probe was designed for high, mid or low level detection when it is necessary to top mount the sensor. This probe is also very effective in aggregates, coal, or other lump materials that might damage a rigid probe. The maximum length of the cable is 35 feet. The cable can be cut to the desired length in the field.

### Sanitary Models

Sanitary versions for the food and pharmaceutical industries have no threads and feature a tri-clamp connection. These units are 3-A/USDA compliant and are food grade safe. Units are designed to operate in clean-in-place (CIP) applications in the food industry.



### Flush Mounted Models

This probe was designed for space constrained areas or applications where material flow or bridging may damage standard probes. The probe mounts flush on a vessel wall, conveyor housing or chute.



# PROCAP Series

## Mounting Flexibility, Various Configurations



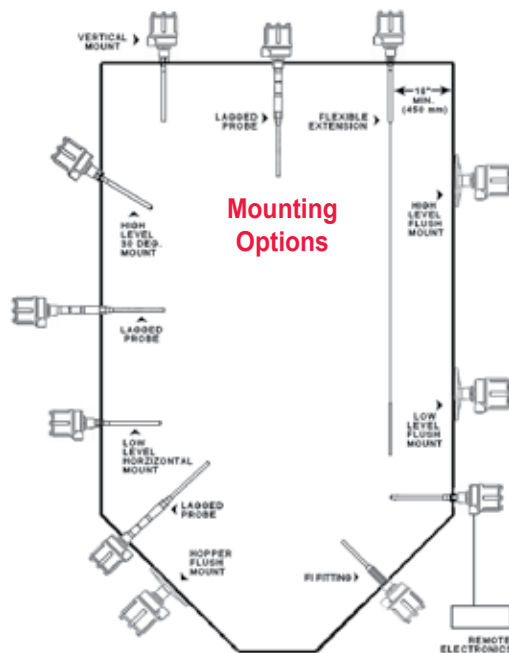
### Bendable Probe

This probe can be bent to avoid obstructions in a vessel while still allowing adequate probe surface area to detect presence or absence of material. The bendable probe can be used in most solid materials; one popular use is in smaller mixers or containers for food processing applications.



### Hazardous Locations

PROCAP IX & IIX capacitance sensors are specially designed for hazardous location applications. The sensor housing is explosion proof for Class I, Groups C & D and Class II, Groups E, F & G. This model is available with a standard or flush mount sensing probe.



### Remote Electronics

Specially designed for hostile applications with high temperature or vibration, the probe and electronics are housed in separate enclosures. With this unique "split" configuration, the sensor's electronics may be safely mounted up to 75' from the sensing probe.



### Auto-Calibration

The PRO AUTO-CAL calibration procedures take seconds and can be performed through the unit's cover with the use of a magnet. This unit also allows simulation of either covered or uncovered conditions without accessing the probe assembly or electronics.

## Common PROCAP Material Applications

Calcium	Grains
Cement	Oils
Coal	Paints
Chemicals	Paper Pulp
Feed	Pellets
Fly Ash	Plastics
Food	Pharmaceuticals
Rubber	Sand



## PROCAP I & II

## PROCAP IX & IIX

## PROCAP I 3-A & II 3-A

**PROCAP I:** 24 to 240 VAC or VDC  
**Power** Universal Power Supply

**Ambient Temperature:** -20°F to +145°F  
 (-28°C to +62°C)

**PROCAP II:** 115/230 VAC  
**Power** 50/60 Hz, 2.2VA

**Ambient Temperature:** -40°F to +158°F  
 (-40°C to +70°C)

**Output Relay:** DPDT 10 Amp  
 at 250 VAC

**Probe:** 250°F Delrin/Bare (121°C)  
 500°F Teflon (260°C)

**Pressure:** 500 psi, 3/4" mount

**Sensitivity Setting:** Adjustable sensitivity  
 to < 1 picofarad

**Calibration:** "Quick Set"  
 Coarse/fine single turn potentiometers

**Fail-Safe:** Switch selectable  
 high/low

**Time Delay:** Adjustable up to  
 30 seconds

**Enclosure:** Die cast aluminum,  
 threaded cover, FDA  
 recognized powder  
 coat finish

**Conduit Entry:** 3/4" NPT

**Mounting:** 1-1/4" NPT or  
 3/4" NPT 316 SS

**PRO-Shield:** Compensates for material  
 buildup on sensing probe

**Approval Rating:**  listed for Class II,  
 Groups E, F & G Hazardous  
 Locations. Enclosure  
 Type NEMA 4X, 5, 9 & 12.  
 CE Mark.

**Status Indicator:** Visual LED indicates  
 sensor status: uncovered,  
 covered, and power failure

**Probe Options:** Delrin, Teflon, food grade,  
 flush mount, flexible  
 extension, stubby shielded,  
 extended shielded, bare  
 shielded, lagged

**PROCAP IX:** 24 to 240 VAC or VDC  
**Power** Universal Power Supply

**Ambient Temperature:** -20°F to +145°F  
 (-28°C to +62°C)

**PROCAP IIX:** 115/230 VAC  
**Power** 50/60 Hz, 2.2VA

**Ambient Temperature:** -40°F to +158°F  
 (-40°C to +70°C)

**Output Relay:** DPDT 10 Amp  
 at 250 VAC

**Probe:** 250°F Delrin/Bare (121°C)  
 500°F Teflon (260°C)

**Pressure:** 500 psi, 3/4" mount

**Sensitivity Setting:** Adjustable sensitivity  
 to < 1 picofarad

**Calibration:** "Quick Set"  
 Coarse/fine single turn  
 potentiometers

**Fail-Safe:** Switch selectable  
 high/low


**Time Delay:** Adjustable  
 up to 30 seconds

**Enclosure:** Die cast aluminum,  
 threaded cover, FDA  
 recognized powder  
 coat finish

**Conduit Entry:** 3/4" NPT

**Mounting:** 1-1/4" NPT or  
 3/4" NPT 316 SS

**PRO-Shield:** Compensates for material  
 buildup on sensing probe

**Approval Rating:**  listed for Class I,  
 Groups C & D and Class II,  
 Groups E, F & G, Hazardous  
 Locations. Enclosure Type  
 NEMA 4X, 5, 9 & 12.  
 CE Mark.

**Status Indicator:** Internal LED indicates  
 material in contact with  
 probe

**Probe Options:** Delrin, Teflon, food  
 grade, flush mount,  
 stubby shielded, extended  
 shielded, lagged

**PROCAP I:** 24 to 240 VAC or VDC  
**Power** Universal Power Supply

**Ambient Temperature:** -20°F to +145°F  
 (-28°C to +62°C)

**PROCAP II:** 115/230 VAC  
**Power** 50/60 Hz, 2.2VA

**Ambient Temperature:** -40°F to +158°F  
 (-40°C to +70°C)

**Output Relay:** DPDT 10 Amp  
 at 250 VAC

**Probe:** 250°F Delrin (121°C)

**Pressure:** 200 psi

**Sensitivity Setting:** Adjustable sensitivity  
 to < 1 picofarad

**Calibration:** "Quick Set"  
 Coarse/fine single turn  
 potentiometers

**Fail-Safe:** Switch selectable  
 high/low


**Time Delay:** Adjustable up to  
 30 seconds

**Enclosure:** Die cast aluminum,  
 threaded cover, FDA  
 recognized powder  
 coat finish

**Conduit Entry:** 3/4" NPT

**Mounting:** 1" or 2" Sanitary 316 SS  
 Fitting

**PRO-Shield:** Compensates for material  
 buildup on sensing probe

**Approval Rating:**  listed for Class II,  
 Groups E, F & G  
 Hazardous Locations.  
 Enclosure Type NEMA 4X,  
 5, 9 & 12. CE Mark.

**Status Indicator:** Visual LED indicates  
 sensor status: uncovered,  
 covered, and power  
 failure

**Probe Options:** All Delrin sleeved style  
 probes



### PROCAP I-FL & II-FL

<b>PROCAP I: Power</b>	24 to 240 VAC or VDC Universal Power Supply
<b>Ambient Temperature:</b>	-20°F to +145°F (-28°C to +62°C)
<b>PROCAP II: Power</b>	115/230 VAC 50/60 Hz, 2.2VA
<b>Ambient Temperature:</b>	-40°F to +158°F (-40°C to +70°C)
<b>Output Relay:</b>	DPDT 10 Amp at 250 VAC
<b>Probe:</b>	150°F Standard (65°C) 450°F High Temp (232°C)
<b>Pressure:</b>	250 psi, flush mount
<b>Sensitivity Setting:</b>	Adjustable sensitivity to < 1 picofarad
<b>Calibration:</b>	"Quick Set" Coarse/fine single turn potentiometers
<b>Fail-Safe:</b>	Switch selectable high/low
<b>Time Delay:</b>	Adjustable up to 30 seconds
<b>Enclosure:</b>	Die cast aluminum, threaded cover, FDA recognized powder coat finish
<b>Conduit Entry:</b>	3/4" NPT
<b>Mounting:</b>	Flush Mount Non-Invasive
<b>PRO-Shield:</b>	Compensates for material buildup on sensing probe
<b>Approval Rating:</b>	UL listed for Class II, Groups E, F & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12. Units also available in Class I, Groups C & D. CE Mark.
<b>Status Indicator:</b>	Visual LED indicates sensor status: uncovered, covered, and power failure
<b>Probe Options:</b>	Flush mounted probe; standard or high temp



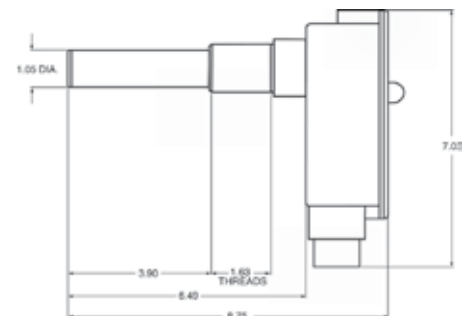
### PRO REMOTE

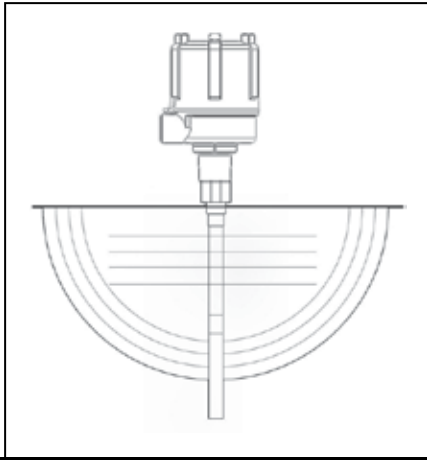
<b>Power Requirements:</b>	120/240 VAC 50/60 Hz ±15%, 5VA
<b>Ambient Temperature:</b>	-40°F to + 185°F (-40°C to +85°C)
<b>Output Relay:</b>	DPDT 10 Amp at 250 VAC status contacts: 3 Amps 240 VAC
<b>Probe:</b>	250°F Delrin/Bare (121°C) 500°F Teflon (260°C)
<b>Pressure:</b>	500 psi, 3/4" mount
<b>Sensitivity Setting:</b>	Adjustable sensitivity to < 1 picofarad
<b>Calibration:</b>	"Quick Set" Coarse/fine single turn potentiometers
<b>Fail-Safe:</b>	Switch selectable high/low
<b>Time Delay:</b>	Adjustable .25 to 10 seconds
<b>Enclosure:</b>	Cast aluminum, bolt-on cover FDA recognized finish
<b>Enclosure Electronics:</b>	Plastic
<b>Mounting:</b>	1-1/4" NPT or 3/4" NPT 316 SS
<b>PRO-Shield:</b>	Compensates for material buildup on sensing probe
<b>Approval Ratings Probe:</b>	UL Listed NEMA 4X, 5 & 12 Intrinsically Safe
<b>Electronics:</b>	UL Listed Class II, Group E, F, & G NEMA 4X, 5 and 12
<b>Status Indicator:</b>	Internal LED indicates material in contact with probe
<b>Probe Options:</b>	Delrin, Teflon, food grade, flush mount, flexible extension, stubby shielded, extended shielded, bare shielded, lagged



### COMPACT PRO

<b>Power Requirements:</b>	120 VAC, 230 VAC, or 24VDC
<b>Ambient Temperature:</b>	-40°F to 185°F (-40°C to 85°C)
<b>Output Relay:</b>	SPDT 5 amp at 250 VAC
<b>Probe:</b>	-40 to 240°F (-40 to 116°C)
<b>Enclosure:</b>	NEMA 4X, dust tight, water resistant
<b>Sensitivity Setting:</b>	Adjustable sensitivity to < 1 picofarad
<b>Calibration:</b>	Multi-turn potentiometer
<b>Fail-Safe:</b>	Switch selectable, high/low
<b>Time Delay:</b>	Adjustable 1 to 30 seconds
<b>Enclosure:</b>	PVC
<b>Probe:</b>	CPVC
<b>Mounting:</b>	1" NPS (1-1/4" NPS adapter available)
<b>LED:</b>	Indicates material presence or absence

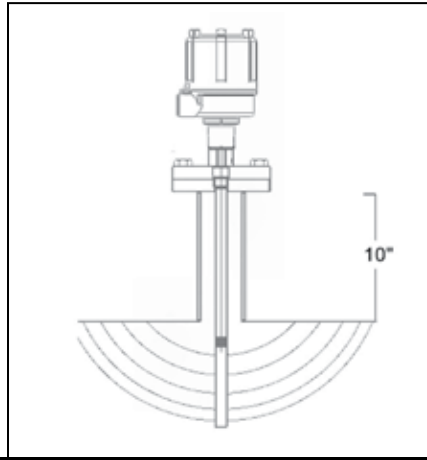




**Standard Shielded  
Delrin/Teflon  
Sleeved Probe**

The standard Delrin/Teflon sleeved probe is the most versatile all-purpose probe. It works reliably in bulk solids, powders, slurries, and liquids. It has a rugged 5/8" diameter 316 SS probe featuring "PRO-Shield" protection against false readings because of coating or buildup.

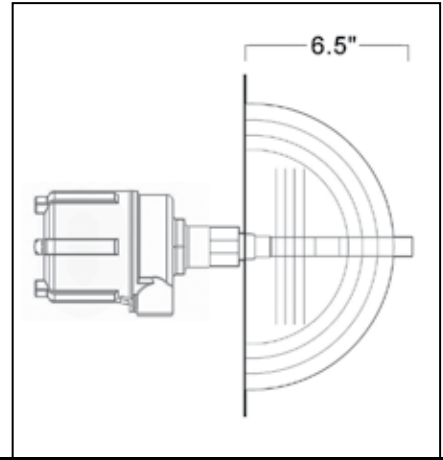
- Maximum Temp:** Delrin sleeved 250°F (121°C)  
Teflon sleeved 500°F (260 C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 5/8" diameter 316 SS  
Delrin/Teflon sleeved
- Lengths Available:** 10.63", 18", 24", 30",  
36", 48", and custom  
order lengths
- Fitting Options:** 3/4" NPT, 1-1/4" NPT,  
1" food grade,  
1 1/2"/3/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PROCAP IX & IIX  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection  
and process control  
for solid, liquid and  
slurry materials.  
Used in bins, tanks,  
chutes, and spouts.



**Extended Shield  
Delrin/Teflon  
Sleeved Probe**

Designed with a 10" extended PRO-Shield, used when mounting the probe through a nozzle or standpipe. This probe has all the same features as the standard probe.

- Maximum Temp:** Delrin sleeved 250°F (121°C)  
Teflon sleeved 500°F (260°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 5/8" diameter 316 SS  
Delrin/Teflon sleeved
- Lengths Available:** 15", 18", 24", 30",  
36", 48", and custom  
order lengths
- Fitting Options:** 3/4" NPT, 1-1/4"  
NPT, 1" food grade,  
1 1/2"/3/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PROCAP IX & IIX  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection  
and process control  
for solid, liquid and  
slurry materials.  
Used when mounting  
probe in a nozzle  
or standpipe. Also  
can be used when  
excessive sidewall  
buildup may occur.

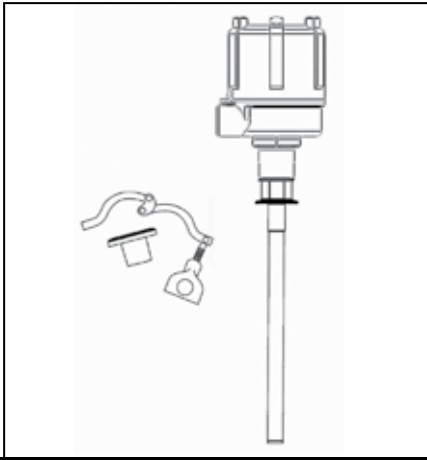


**Stubby Shielded  
Delrin/Teflon  
Sleeved Probe**

Designed with a 6.5" overall length while still providing the PRO-Shield protection. This probe is specially designed for low level applications where minimal projection is preferred due to restricted area or excessive weight that could damage a longer probe. This probe has all the same features as the standard probe.

- Maximum Temp:** Delrin sleeved 250°F (121°C)  
Teflon sleeved 500°F (260°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 5/8" diameter 316 SS  
Delrin/Teflon sleeved
- Lengths Available:** 6.5"
- Fitting Options:** 3/4" NPT, 1-1/4" NPT,  
1" food grade,  
1 1/2"/3/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PROCAP IX & IIX  
PRO Remotes  
PRO Auto-Cal
- Applications:** Low level where  
material load on  
probe may cause  
damage or when  
working in a restricted  
area or small vessel.

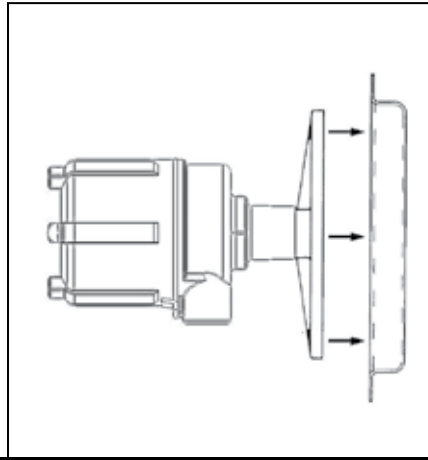




**Shielded  
Delrin Sleeved  
Sanitary/3-A Probe**

Sanitary probe meets 3-A and USDA standards, conforming to the food industry's most demanding requirements for material, surfaces, and clean-in-place construction. This probe is designed for quick disconnect from the tank to facilitate ease of inspection and cleaning.

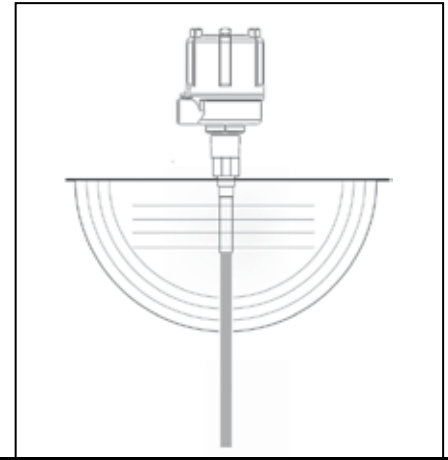
- Maximum Temp:** 250°F (121°C)
- Maximum Pressure:** 200 psi (14 kg/cm<sup>2</sup>)
- Probe Material:** 5/8" diameter 316 SS Delrin sleeved
- Lengths Available:** 4", 6.5", 10.63", 18", 24", 30", 36", 48", and custom order lengths
- Fitting Options:** 1" or 2" sanitary 316 SS fitting for use with tri-clamp
- Power Pac Options:** PROCAP I 3-A & II 3-A
- Applications:** Point level detection and process control for solid, liquid and slurry materials. Built specifically for dairy, pharmaceutical, and food grade applications where 3-A/ USDA sanitary standards apply. Used in bins, tanks, chutes, and spouts.



**Flush  
Mounted  
Shielded Probe**

No probe intrusion, designed for space constrained areas or applications where material flow or bridging may damage standard probes. The probe mounts flush on a vessel wall, conveyor housing or chute. A special bin wall adapter is available when working with thick walls or angled hoppers to move the face of the probe flush or slightly protruding the inside of the vessel wall, eliminating false signals due to excessive buildup on the probe surface.

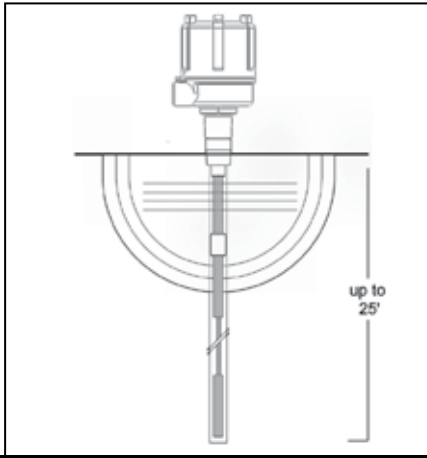
- Maximum Temp:** 150°F (65°C) standard probe  
450°F (232°C) High temp probe
- Maximum Pressure:** 250 psi (17 kg/cm<sup>2</sup>)
- Standard Probe Material:** Polyethylene High Temp Teflon
- Fitting Options:** 5.75" hole mounted on 7.00" bolt circle  
8.50" hole mounted on 9.50" bolt circle when using bin wall adapter
- Power Pac Options:** PROCAP I & II  
PROCAP IX & IIX  
PRO Remote  
PRO Auto-Cal
- Applications:** Detects presence of material or level of materials that may bend or break probes when material shifts. Works well in coal, aggregates, gravel, or other heavy and/or chunky materials.



**Bare  
Shielded  
OEM Probe**

This is a bare shielded probe whose length can be modified in the field. It can be cut back to 7 inches or extended up to 8 feet. It has a rugged solid 5/8" diameter 316 SS probe featuring "PRO-Shield" protection against false readings because of coating or buildup.

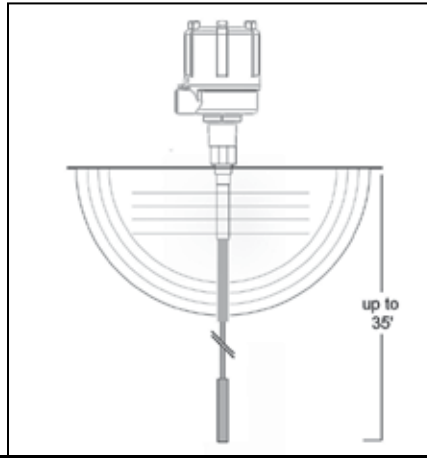
- Maximum Temp:** 250°F (121°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>) 1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>) 3/4" NPT
- Probe Material:** Standard probe 5/8" diameter 316 SS/Bare with Delrin insulator
- Lengths Available:** 8 inches to 8 feet
- Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1 1/2"/3"/4" 150# Raised face flanges
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection and process control for powders and dry bulk solid material that may have a tendency to build up and coat the probe. Used in bins, tanks, chutes, and spouts.



**Shielded Teflon  
Sleeved 316 SS Hanging  
Flexible Cable Extension**

The Teflon sleeved flexible cable extension was designed for high, mid, or low level detection when it is necessary to top mount. The flexible extension is also used in aggregates, coal or other lump materials that might damage a rigid probe or in materials that are not compatible with stainless steel. Maximum length of the cable and weighted probe end is 25 feet. The cable can be cut to length in the field.

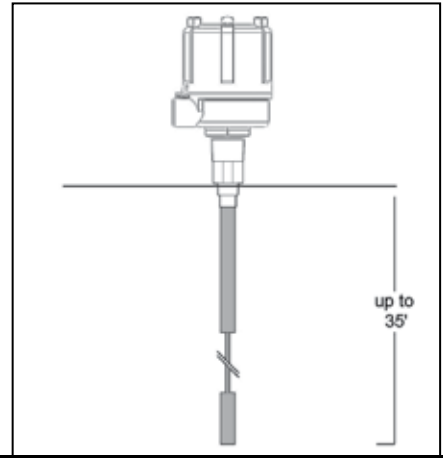
- Maximum Temp:** 500°F (260°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 316 stainless steel  
1/4" diameter cable with Teflon sleeve and insulator
- Lengths Available:** 16 inches to 25 feet
- Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1 1/2"/3 1/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PROCAP IX & IIX  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection and process control for various solid, liquid and slurry applications when top-mounting. This Teflon sleeved probe should be used in applications where conductive material may leave residue on the probe (most liquids for instance). Note: Any conductive residue which builds up from the vessel wall to the active portion of any unsleeved bare probe will short out the two conductors.



**Shielded Bare  
316 SS Hanging  
Flexible Extension**

The flexible cable extension was designed for high, mid, or low level detection when it is necessary to top mount. The flexible extension is also used in aggregates, coal or other lump materials that might damage a rigid probe. This flexible cable extension probe features "PRO-Shield" protection against false readings because of coating or buildup. The shielded probe also allows you to mount the probe in a standoff pipe or nozzle. Maximum length of the cable and weighted probe end is 35 feet. The cable can be cut to length in the field.

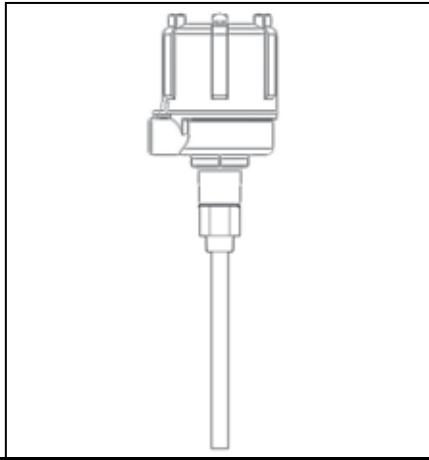
- Maximum Temp:** 250°F (121°C)  
Standard probe
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 316 stainless steel  
1/4" diameter cable with Delrin insulator
- Lengths Available:** 16 inches to 35 feet
- Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1 1/2"/3 1/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection and process control for various solid, liquid and slurry applications when top mounting.



**Unshielded Bare  
316 SS Hanging Flexible  
Cable Extension**

The flexible cable extension was designed for high, mid or low level detection when it is necessary to top mount. The flexible extension is also used in aggregates, coal or other lump materials that might damage a rigid probe. Maximum length of the cable and weighted probe end is 35 feet. The cable can be cut to length in the field.

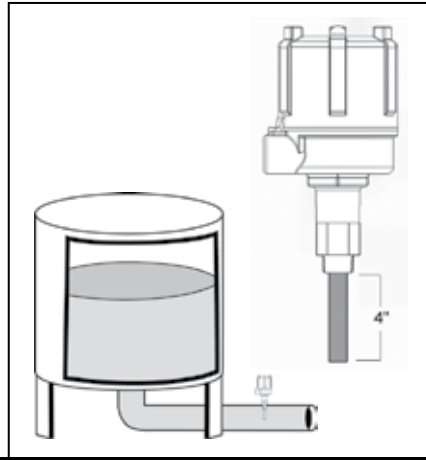
- Maximum Temp:** 250°F (121°C)  
Standard probe  
500°F (260°C)  
High temp probe
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** Standard probe  
316 stainless steel  
1/4" diameter cable with Delrin insulator  
High temp probe  
316 stainless steel  
1/4" diameter cable with Teflon insulator
- Lengths Available:** 16 inches to 35 feet
- Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1 1/2"/3 1/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection and process control for various solid, liquid and slurry applications when top mounting.



**Unshielded  
Delrin/Teflon  
Sleeved Probe**

The unshielded fully insulated Delrin/Teflon sleeved probe was designed to be a lower cost, yet versatile probe. This all-purpose probe works reliably in bulk solids, powders, slurries, and liquids. It has a rugged, solid 5/8" diameter 316 SS probe.

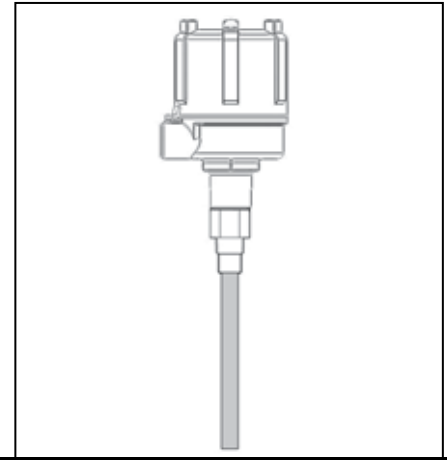
- Maximum Temp:** Delrin sleeved  
250°F (121°C)  
Teflon sleeved  
500°F (260°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 5/8" diameter 316 SS  
Delrin or Teflon sleeved
- Lengths Available:** 10.63", 18", 24", 30",  
36", 48", and custom
- Fitting Options:** 3/4" NPT, 1-1/4" NPT,  
1" food grade,  
1"/2"/3"/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PROCAP IX & IIX  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection  
and process control  
for solid, liquid and  
slurry materials. When  
working with powders  
and bulk solids, this  
probe works best if top  
mounted or side  
mounted in vessels  
with free-flowing  
material where  
excessive sidewall  
buildup is not present.  
Used in bins, tanks,  
chutes, and spouts.



**Stubby Unshielded  
Delrin/Teflon  
Sleeved Probe**

The stubby unshielded probe is designed for minimal insertion into pipes, small hoppers, and in vessels where excessive buildup is not present. Also designed for low level applications where minimal insertion is preferred due to restricted areas or excessive weight that could damage a longer probe.

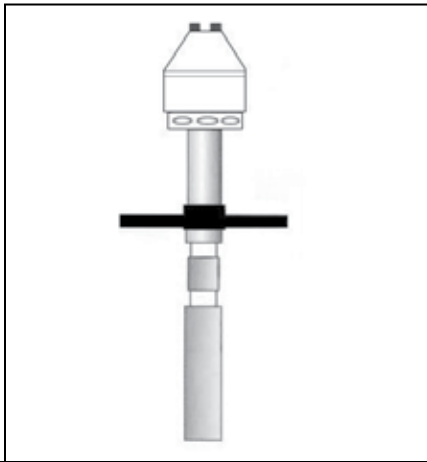
- Maximum Temp:** Delrin sleeved  
250°F (121°C)  
Teflon sleeved  
500°F (260°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** 5/8" diameter 316 SS  
Delrin or Teflon  
sleeved
- Lengths Available:** 4"
- Fitting Options:** 3/4" NPT, 1-1/4" NPT,  
1" food grade,  
1"/2"/3"/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Designed for minimal  
insertion into pipes,  
small hoppers,  
vessels, or other  
restricted areas.



**Unshielded  
Bare Stainless  
Steel Probe**

An unshielded probe whose length can be modified in the field. It can be cut back to 3 inches or extended to 8 feet. The probe will work reliably in a variety of powders and dry bulk solid materials.

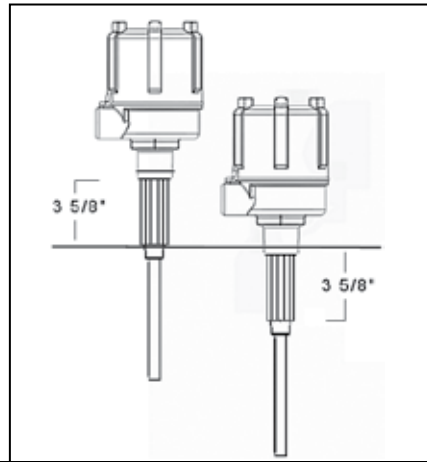
- Maximum Temp:** 250°F (121°C)  
Standard probe  
500°F (260°C)  
High temp probe
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>)  
1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>)  
3/4" NPT
- Probe Material:** Standard probe  
5/8" diameter 316 SS/bare  
with Delrin insulator  
High temp probe  
5/8" diameter 316 SS/bare  
with Teflon insulator
- Lengths Available:** 3", 4", 6", 10.19", 18",  
24", 30", 36", 48", 72",  
96", and custom
- Fitting Options:** 3/4" NPT, 1-1/4" NPT,  
1" food grade,  
1"/2"/3"/4" 150#  
Raised face flanges
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection  
and process control  
for powder and dry  
bulk solids. This probe  
works best when top  
mounted or side  
mounted in vessels  
with free-flowing dry  
material where  
excessive sidewall  
buildup is not present.  
Used in bins, tanks,  
chutes, and spouts.



**Shielded Bare Stainless Steel/Ceramic High Temperature Probe**

The high temperature PRO Remote capacitance probe is a heavy duty probe designed for applications that exceed 500°F (260°C). A stainless steel probe with ceramic inserts protects the probe from heat; remote electronics can be located up to 20 feet from the probe.

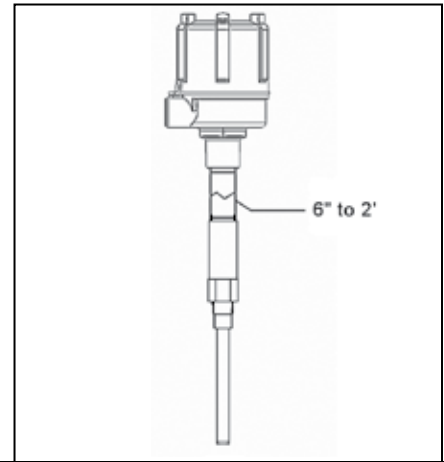
- Maximum Temp:** 1000°F (538°C)
- Maximum Pressure:** 100 psi (3.5 kg/cm<sup>2</sup>)
- Probe Material:** 1-1/8" diameter 316 SS with ceramic inserts
- Lengths Available:** 9" (230 mm)
- Fitting Options:** 1-1/4" NPT
- Power Pac Options:** Remote electronics only
- Applications:** Point level detection and process control for solid, liquid and slurry materials. Used in bins, tanks, chutes, and spouts.



**FI Fitting**

The PROCAP FI stainless steel fitting is used to extend the probe 3-5/8" beyond the vessel wall to get past excessive buildup or through a thick wall. It can also be used to lag the electronics away from a heat source or clear external insulation. The extended lag fitting works with bare and Delrin sleeved probes.

- Maximum Temp:** Delrin sleeved/Bare 250°F (121°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>) 1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>) 3/4" NPT
- Fitting Material:** 316 SS
- Lengths Available:** 3-5/8"
- Fitting Options:** 3/4" NPT to lag out, 1-1/4" NPT to lag in
- Probe Options:** All Delrin sleeved, bare, and flexible probes
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection and process control for solid, liquid and slurry materials. Used in bins, tanks, chutes, and spouts.



**Stainless Steel or Galvanized Lag**

The lagged probe fitting is used to extend the probe up to 2 feet through thick vessel walls or double-walled hoppers and bins. It can be used to lag the electronics away from a heat source or to clear external insulation. Available in stainless steel or galvanized pipe.

- Maximum Temp:** Delrin sleeved 250°F (121°C)  
Teflon sleeved 500°F (260°C)
- Maximum Pressure:** 50 psi (3.5 kg/cm<sup>2</sup>) 1-1/4" NPT  
500 psi (35 kg/cm<sup>2</sup>) 3/4" NPT
- Lengths Available:** 6" to 24"
- Fitting Options:** 3/4" NPT to lag out, 1-1/4" NPT to lag in
- Probe Options:** All Delrin sleeved, bare, and flexible probes
- Power Pac Options:** PROCAP I & II  
PRO Remote  
PRO Auto-Cal
- Applications:** Point level detection and process control for solid, liquid and slurry materials. Used in bins, tanks, chutes, and spouts.



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