PROCAP
Capacitance Level Sensors


- 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
PROCAP Capacitance Probes

**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.

**“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.

**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.

**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.
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.
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.

Dectes 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!

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.

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, decreases lead times, and allows stocking of one 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.

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.

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
- Cement
- Coal
- Chemicals
- Feed
- Fly Ash
- Food
- Rubber
- Grains
- Oils
- Paints
- Paper Pulp
- Pellets
- Plastics
- Pharmaceuticals
- Sand
PROCAP I:
- Power: 24 to 240 VAC or VDC
- Universal Power Supply
- Ambient Temperature: -20°F to +145°F (-28°C to +62°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: Dual delay covered/uncovered 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
- 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, extended, lagged

PROCAP II:
- Power: 115/230 VAC
- 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: Dual delay covered/uncovered 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
- Status Indicator: Visual LED indicates sensor status: uncovered, covered, and power failure
- Probe Options: Delrin, Teflon, food grade, flush mount, stubby shielded, extended shielded, lagged

PROCAP IX:
- Power: 24 to 240 VAC or VDC
- Universal Power Supply
- Ambient Temperature: -20°F to +145°F (-28°C to +62°C)
- Output Relay: DPDT 10 Amp at 250 VAC
- Probe: 250°F Delrin/Bare (121°C) 500°F Teflon (260°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: Dual delay covered/uncovered 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
- Status Indicator: Visual LED indicates sensor status: uncovered, covered, and power failure
- Probe Options: All Delrin sleeved style probes
### PROCAP I-FL & II-FL

**Power**
- PROCAP I: 24 to 240 VAC or VDC
- PROCAP II: 115/230 VAC

**Ambient Temperature**
- PROCAP I: -20°F to +145°F (-28°C to +62°C)
- PROCAP II: -40°F to +158°F (-40°C to +70°C)

**Output Relay**
- PROCAP I: DPDT 10 Amp at 250 VAC
- PROCAP II: DPDT 10 Amp at 250 VAC

**Probe**
- PROCAP I: 150°F Standard (65°C) 450°F High Temp (232°C)
- PROCAP II: 250°F Delrin/Bare (121°C) 500°F Teflon (260°C)

**Pressure**
- PROCAP I: 250 psi, flush mount
- PROCAP II: 500 psi, 3/4” mount

**Sensitivity**
- Adjustable sensitivity to < 1 picofarad

**Calibration**
- “Quick Set” Coarse/fine single turn potentiometers

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

**Time Delay**
- Dual delay covered/uncovered up to 30 seconds

**Enclosure**
- Die cast aluminum, bolt-on cover FDA recognized powder coat finish

**Conduit Entry**
- 3/4” NPT

**Mounting**
- Flush Mount Non-Invasive

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

**Approval Rating**
- Listed NEMA 4X, 5 & 12 Intrinsically Safe

**Electronics**
- Listed Class II, Group E, F & G NEMA 4X, 5 and 12

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

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

### PRO REMOTE

**Power**
- 120/240 VAC, 50/60 Hz ±15%, 5VA

**Ambient Temperature**
- -40°F to +185°F (-40°C to 85°C)

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

**Probe**
- -40 to 240°F (-40 to 116°C)

**Pressure**
- 500 psi, 3/4” mount

**Sensitivity**
- Adjustable sensitivity to < 1 picofarad

**Calibration**
- Multi-turn potentiometers

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

**Time Delay**
- Adjustable 1 to 30 seconds

**Enclosure**
- PVC

**Mounting**
- 1” NPS (1-1/4” NPS adapter available)

**LED**
- Indicates material presence or absence

### COMPACT PRO

**Power**
- 120 VAC, 230 VAC, or 24 VDC

**Ambient Temperature**
- -40°F to 185°F (-40°C to 85°C)

**Output Relay**
- SPDT 5 amp at 250 VAC

**Probe**
- -40 to 240°F (-40 to 116°C)

**Pressure**
- 500 psi, 3/4” mount

**Sensitivity**
- Adjustable sensitivity to < 1 picofarad

**Calibration**
- Multi-turn potentiometers

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

**Time Delay**
- Adjustable 1 to 30 seconds

**Enclosure**
- NEMA 4, dust tight, water resistant

**Mounting**
- 1” NPS (1-1/4” NPS adapter available)

**LED**
- Indicates material presence or absence
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/cm²)
- 1-1/4" NPT
- 500 psi (35 kg/cm²)
- 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, 1/2"/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.

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**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/cm²)
- 1-1/4" NPT
- 500 psi (35 kg/cm²)
- 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, 3/4" NPT

**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.

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**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/cm²)
- 1-1/4" NPT
- 500 psi (35 kg/cm²)
- 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, 1/2"/3/4" 150#
Raised face flanges

**Power Pac Options:**
- PROCAP I & II
- PROCAP IX & IIX
- PRO Remote
- PRO Auto-Cal

**Applications:**
Low level where material load on probe may cause damage or when working in a restricted area or small vessel.
<table>
<thead>
<tr>
<th>Shielded Delrin Sleeved Sanitary/3-A Probe</th>
<th>Flush Mounted Shielded Probe</th>
<th>Bare Shielded OEM Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>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.</td>
<td>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&quot; diameter 316 SS probe featuring &quot;PRO-Shield&quot; protection against false readings because of coating or buildup.</td>
</tr>
<tr>
<td><strong>Maximum Temp:</strong> 250°F (121°C)</td>
<td><strong>Maximum Temp:</strong> 150°F (65°C)</td>
<td><strong>Maximum Temp:</strong> 250°F (121°C)</td>
</tr>
<tr>
<td><strong>Maximum Pressure:</strong> 200 psi (14 kg/cm²)</td>
<td><strong>Maximum Pressure:</strong> 450°F (232°C)</td>
<td><strong>Maximum Pressure:</strong> 50 psi (3.5 kg/cm²) 1-1/4&quot; NPT, 500 psi (35 kg/cm²) 3/4&quot; NPT</td>
</tr>
<tr>
<td><strong>Probe Material:</strong> 5/8&quot; diameter 316 SS Delrin sleeved</td>
<td><strong>Probe Material:</strong> Standard probe 5/8&quot; diameter 316 SS/Bare with Delrin insulator</td>
<td><strong>Probe Material:</strong> Standard probe 5/8&quot; diameter 316 SS/Bare with Delrin insulator</td>
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<tr>
<td><strong>Lengths Available:</strong> 4&quot;, 6.5&quot;, 10.63&quot;, 18&quot;, 24&quot;, 30&quot;, 36&quot;, 48&quot;, and custom order lengths</td>
<td><strong>Lengths Available:</strong> 7 inches to 8 feet</td>
<td><strong>Lengths Available:</strong> 7 inches to 8 feet</td>
</tr>
<tr>
<td><strong>Fitting Options:</strong> 1&quot; or 2&quot; sanitary 316 SS fitting for use with tri-clamp</td>
<td><strong>Fitting Options:</strong> 3/4&quot; NPT, 1-1/4&quot; NPT, 1&quot; food grade, 1/2&quot;/3/4&quot; 150# Raised face flanges</td>
<td><strong>Fitting Options:</strong> PROCAP I &amp; II PRO Remote PRO Auto-Cal</td>
</tr>
<tr>
<td><strong>Power Pac Options:</strong> PROCAP I 3-A &amp; II 3-A</td>
<td><strong>Power Pac Options:</strong> PROCAP I &amp; II PROCAP IX &amp; IXX PRO Remote PRO Auto-Cal</td>
<td><strong>Applications:</strong> 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.</td>
</tr>
<tr>
<td><strong>Applications:</strong> 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.</td>
<td><strong>Applications:</strong> 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.</td>
<td><strong>Applications:</strong> 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.</td>
</tr>
</tbody>
</table>
The Teflon sleeved flexible cable extension was designed for high, mid, or low level 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/cm²)

Probes:
- 316 stainless steel
- 1/4" diameter cable
- Teflon sleeve and insulator

**Lengths Available:** 16 inches to 25 feet
**Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1" 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. 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.

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The flexible cable extension was designed for high, mid, or low level 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)
**Maximum Pressure:** 50 psi (3.5 kg/cm²)

Probes:
- 316 stainless steel
- 1/4" diameter cable
- Delrin insulator

**Lengths Available:** 16 inches to 35 feet
**Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1" 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.

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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)
**Maximum Pressure:** 50 psi (3.5 kg/cm²)

Probes:
- Standard probe
- High temp probe

**Probes:**
- 316 stainless steel
- 1/4" diameter cable
- Delrin insulator (standard)
- Teflon insulator (high temp)

**Lengths Available:** 16 inches to 35 feet
**Fitting Options:** 3/4" NPT, 1-1/4" NPT, 1" food grade, 1" 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.
### 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 250ºF (121ºC)  
  Teflon sleeved 500ºF (260ºC)
- **Maximum Pressure:** 50 psi (3.5 kg/cm²)
  1-1/4” NPT
  500 psi (35 kg/cm²)
  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 250ºF (121ºC)  
  Teflon sleeved 500ºF (260ºC)
- **Maximum Pressure:** 50 psi (3.5 kg/cm²)
  1-1/4” NPT
  500 psi (35 kg/cm²)
  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:** 250ºF (121ºC)  
  Standard probe 500ºF (260ºC)  
  High temp probe
- **Maximum Pressure:** 50 psi (3.5 kg/cm²)
  1-1/4” NPT
  500 psi (35 kg/cm²)
  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.
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/cm²)

**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.

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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/cm²)

**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.

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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)

**Maximum Pressure:** 50 psi (3.5 kg/cm²)

**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.