

# Small Size – Engineered Plastics

## XM/XT-300 Engineered Plastics Series Brings Continuous Output to Shallow Tanks

Your most complete line of small, polysulfone liquid level sensors...all from Gems Sensors.

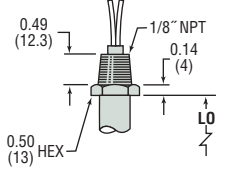
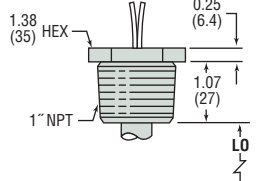
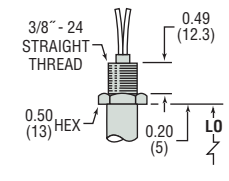
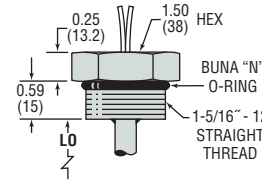
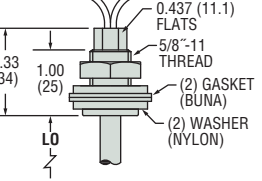
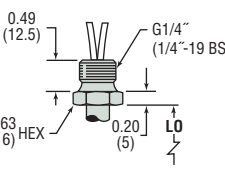
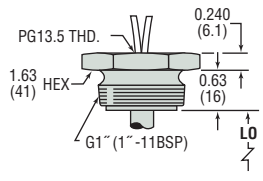
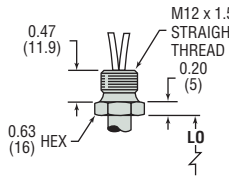
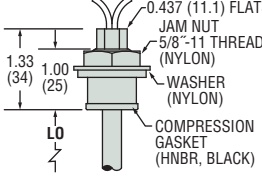
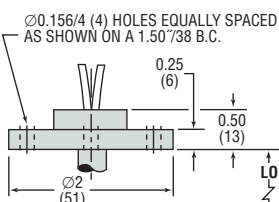
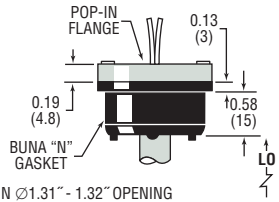
- ▶ All-Plastic Wetted Parts
- ▶ 4mm Resolution
- ▶ Indicating Length to 14" (35.5 cm); Stem Length to 20" (50 cm)
- ▶ U.L. Pending

Designed for the high quantity needs of the OEM, XM/XT-300 Series transmitters are the ideal level sensor for shallow tanks and reservoirs. Compact and versatile, these plastic level sensors offer a broad choice of mountings and float materials. The following pages illustrate the various design parameters available to configure custom XM/XT-300 Series Sensors.

### 1. Mounting Types

Each mounting type can be configured with stem lengths ( $L_0$ ) and float materials indicated in this bulletin.





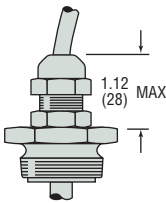
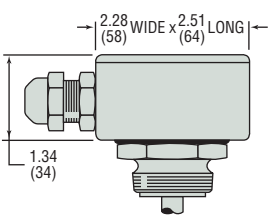
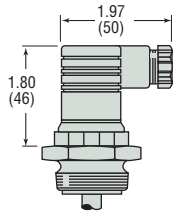
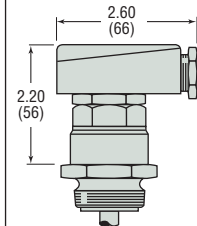
| NPT Threads  |  | Straight Threads  |  |  |
|--|--|---|--|--|
| <b>Type 21</b><br>1/8" NPT                 | <b>Type 22</b><br>1" NPT               | <b>Type 31</b><br>3/8" - 24                   | <b>Type 32</b><br>1-5/16" - 12  | <b>Type 33</b><br>5/8" - 11  |
| Metric Threads   |  | Compression Types   |  | Type 11<br>No Mounting   |
| <b>Type 41</b><br>G 1/4" (1/4" - 19 BSP)  | <b>Type 42</b><br>G 1" (1" - 11 BSP)  | <b>Type 51</b><br>M12 x 1.5 Straight Thread  | <b>Type 71'</b><br>5/8" - 11   |  |
| Flange Mountings <sup>2</sup>  |  |   |  |  |
| <b>Type 61</b><br>2" O.D. Flange          |  | <b>Type 63</b><br>Pop Flange               |  |  |

|   |  |
|---|--|
| <b>Stem, Mounting and Collar Material</b> | Polysulfone or Noryl®                                    |
| <b>Max Length (<math>L_0</math>)</b>      | 20 inches (50 cm), Tolerance of $L_0 = \pm 1/16"$ (2 mm) |
| <b>Mounting Position</b>                  | Vertical $\pm 30^\circ$ Inclination                      |

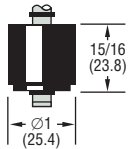
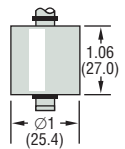
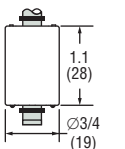
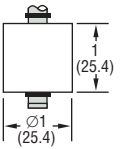
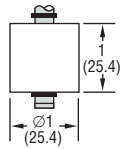
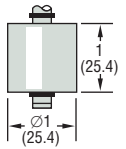
Notes:  
1. Type 71 mounting to be used with 3/4" diameter float only.  
2. Not recommended for pressure applications.

Dimensions expressed as:  $\frac{\text{inches}}{\text{millimeters}}$

**2. Electrical Connections**

|                                    | Type 1 Leadwire   | Type 2 Cable  | Type 3 Liquid-Tight Cable   | Type 4 Junction Box Assembly   | Type 5 DIN43650 Plug  | Type 6 DIN43651 Plug  |
|------------------------------------|---|---|---|--|---|---|
|                                    |  |  |  |  |  |  |
| <b>Compatible Mounting Type(s)</b> | All   |   |   | 42   | 42  | 42  |
| <b>Protection Rating</b>           | IP64  |   | IP68  | IP65   |   |   |
| <b>Extended Leads</b>              | #22 AWG PVC Wire, 24" (610mm) Min.  | #22 AWG PVC Jacketed Cable, 24" (610mm) Min.                                      |   | Terminal Box (7 Terminals)   | 3 Poles   | 6 Poles   |

**3. Float Types**

| Float Material                              | Buna N  | Polysulfone   | Polypropylene   |  | PVDF  |   |
|---|---|---|---|--|---|---|
|   |   |   | Solid Foamed  | Hollow – 20% Glass Filled  |   |   |
| <b>Float Dimensions</b>                     |  |  |  |  |  |  |
| <b>Part Number</b>                          | <b>39048</b>  | <b>39005</b>  | <b>231500</b>   | <b>119455</b>  | <b>145730</b>   | <b>174515</b>   |
| <b>Float Material Suitable for...</b>       | Oil, Fuels  | Water-based Liquids   | Broad Chemical Use  |  | Low Specific Gravity Liquids  | Broad Chemical Use  |
| <b>Operating Temperature<sup>1</sup></b>    | Water: to 180°F (80°C)<br>Oil: -40°F to +221°F (-40°C to +105°C)                    | -40°F to +221°F (-40°C to +105°C)   | -40°F to +212°F (-40°C to +100°C)   |  | -40°F to +221°F (-40°C to +105°C)   | -40°F to +250°F (-40°C to +121°C)   |
| <b>Pressure, psi (bar) Max.<sup>2</sup></b> | 250 (17)  | 50 (3.5)  | Atmospheric   | 250 (17)   | 50 (3.5)  | 50 (3.5)  |
| <b>Min. Media Specific Gravity</b>          | 0.45  | 0.75  | 0.95  | 0.90   | 0.60  | 0.86  |

Notes:

1. Operating temperature range based on float ratings.
2. When used with mounting Type 21, 32 or 22 only; Mounting Type 61, and 63 are not recommended for pressure applications. Pressures are derated with increasing temperature above 70°F

Dimensions expressed as:  $\frac{\text{inches}}{\text{millimeters}}$

*Offered by:*



*Specialists in Valves, Controls, Pneumatics, Fluid Measurement*

**Also Available**

XM/XT-350 Combination Siphon and Level Transmitter

## Small Size – Alloys

### XM/XT-700 Series Combines Durability of Metal With a Compact Design for Restricted Spaces

- ▶ Stainless Steel or Brass Mountings and Stems
- ▶ 4mm Resolution
- ▶ Indicating Length to 14" (35.5 cm); Stem Length to 20" (50 cm)

These compact units feature the rugged durability of stainless steel or brass construction in a lightweight package. Ideal for tanks less than 2 feet.

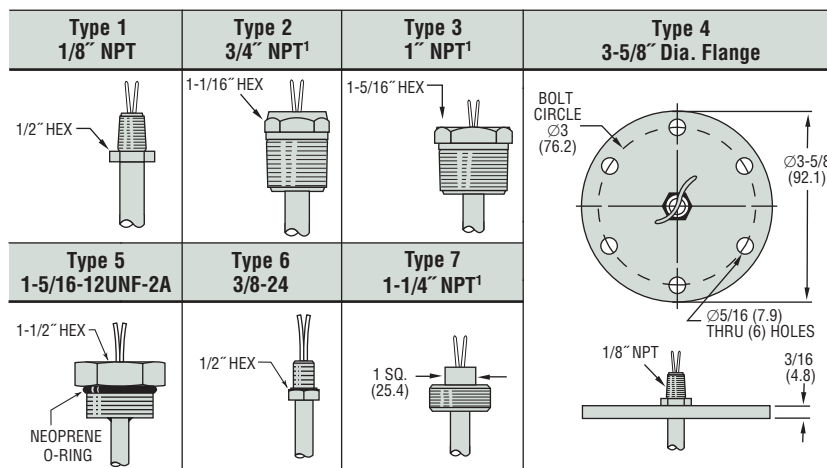
XM/XT-700 Series transmitters are exceptionally versatile because of the many useful options available.



### 1. Mounting Types

Each mounting type can be configured with stem lengths ( $L_0$ ) and float material indicated in this table.

Note: Sanitary flange mountings are also available, but not shown. Please contact factory.



Dimensions expressed as:  $\frac{\text{inches}}{\text{millimeters}}$

|   |  |    |
|---|--|----|
| <b>Stem and Mounting Material</b>             | Brass or 316 Stainless Steel   |    |
| <b>Max Length</b>                             | 20" (50 cm)  |    |
| <b>Mounting Position</b>                      | Vertical $\pm 30^\circ$ Inclination  |    |
| <b>Float Stops<sup>2</sup></b>                | Brass Units: Beryllium Copper Grip Rings; Stainless Steel Units: S.S. ARMCO PH-15-7MO Grip Rings |    |
| <b>Pressure Rating, PSI, Max.<sup>3</sup></b> | See Float Value on Following Page  | 50 |

Notes: 1. Mounting Types 2, 3 & 7 are available with a 1/2" MNPT conduit adaptor. This option can be selected on the checklist.  
 2. In some instances, concentrations of chlorine and other corrosive compounds in the media require the use of collar type float stops. Consult factory for details.  
 3. Mounting only. Maximum pressure rating for complete unit will be the lower of this pressure or the selected float pressure (see Float Types, on next page).

Mounting Options and Float Selection on following pages.

## 2. Float Types

|                              | Polypropylene                        |  |                                     |
|------------------------------|--------------------------------------|--|-------------------------------------|
| Float Materials              | Hollow                               | Foamed                                 | Molded                              |
| Compatible Mounting Types    | 1, 3, 4, 5, 6, 7                     | 1, 3, 4, 5, 6, 7                       | 1, 2, 3, 4, 5, 6, 7                 |
| Float Dimensions             |                                      |  |                                     |
| Part Number                  | 145730                               | 119455                                 | 231500                              |
| Operating Temperature        | -40°F to +221°F<br>(-40°C to +105°C) | -40°F to +221°F<br>(-40°C to +105°C)** | -40°F to +200°F<br>(-40°C to +95°C) |
| Pressure, PSI, Max.          | 50                                   | 250                                    | Atmospheric                         |
| Min. Liquid Specific Gravity | 0.65                                 | 0.90                                   | 0.95                                |

| Float Materials              | Buna N   | Nylon  | Polysulfone                            | 316/316L SS                            |
|------------------------------|--|--|--|--|
| Compatible Mounting Types    | 1, 3, 4, 5, 6, 7   | 1, 3, 4, 5, 6, 7   | 1, 2, 3, 4, 5, 6, 7                    | 1, 3, 4, 5, 6, 7                       |
| Float Dimensions             |  |  |  |  |
| Part Number                  | 39048  | 220488   | 39005                                  | 233580                                 |
| Operating Temperature        | Water: to 180°F (82.2°C)<br>Oil: -40°F to +300°F<br>(-40°C to 149°C) | Water: to 180°F (82.2°C)<br>Oil: -40°F to +300°F<br>(-40°C to 149°C) | -40°F to +221°F<br>(-40°C to +105°C)** | -40°F to +400°F<br>(-40°C to +204°C)** |
| Pressure, PSI, Max.          | 300*   | 50   | 50                                     | 275                                    |
| Min. Liquid Specific Gravity | 0.45   | 0.70   | 0.75                                   | 0.85                                   |

\* De-rated with temperature.

\*\* -40°F to 300°F (Standard Construction)

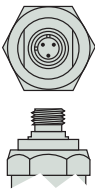
301°F to 400°F (Ceramic Potting Construction Required)

Dimensions expressed as:  $\frac{\text{inches}}{\text{millimeters}}$

### Options

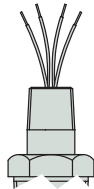
#### Integral Receptacle

3-5 Pin miniature receptacle for mounting Type 2, 3 or 7; eliminates splicing and eases connections.



#### Conduit Adapter

A 1/2" MNPT conduit is available for Mounting Type 2, 3, 4, 5 & 7. Select from list of options on the Check List.



Offered by:



*Specialists in Valves, Controls,  
Pneumatics, Fluid Measurement*

Also Available

XM/XT-750 Combination Siphon and Level Transmitter