

# 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" (356 mm)
- ▶ U.L. Pending

Designed for the 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 the versatile 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.



LEVEL SENSORS – CONTINUOUS

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

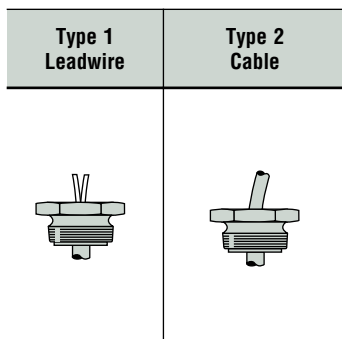
<b>Stem, Mounting and Collar Material</b>	Polysulfone
<b>Max Length (<math>L_0</math>)</b>	20 inches (508 mm), Tolerance of $L_0 = \pm 1/16"$ (1.6 mm)
<b>Mounting Position</b>	Vertical $\pm 30^\circ$ Inclination

Notes:

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

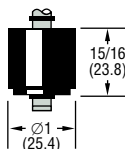
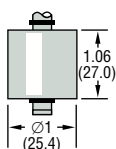
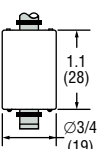
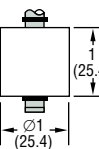
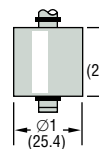
Dimensions expressed as: inches (millimeters)

2. Electrical Connections



<b>Compatible Mounting Type(s)</b>	All	
<b>Protection Rating</b>	IP64	
<b>Extended Leads</b>	#22 AWG PVC Wire, 24" (610mm) Min.	#22 AWG PVC Jacketed Cable, 24" (610mm) Min.

3. Float Types

Float Material	Buna N	Polysulfone	Polypropylene		PVDF	
			Solid Foamed	Hollow – 20% Glass Filled		
<b>Float Dimensions</b>						
<b>Part Number</b>	245900	39005	231500	119455	259125	174515
<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) 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	0.65	0.86

Notes:

- Operating temperature range based on float ratings.
- 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: <sup>inches</sup> (millimeters)

LEVEL SENSORS – CONTINUOUS

Also Available

XM/XT-350 Combination Siphon and Level Transmitter  
Contact Gems for more details. **800-378-1600**

**FAX IT!**  
**860-747-4244**

**Photocopy This Form**  
Use one form for each product type you are selecting.

This form may also be completed online at [gemssensors.com](http://gemssensors.com) for RFQ.

This is a Request for a Quote Name \_\_\_\_\_  
Order P.O. \_\_\_\_\_ Company \_\_\_\_\_

Quantity Needed \_\_\_\_\_ Street \_\_\_\_\_

Date Required \_\_\_\_/\_\_\_\_/\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_ Zip \_\_\_\_\_

Shipping Method: \_\_\_\_\_ Phone ( \_\_\_\_\_ ) \_\_\_\_\_

Partials Accepted: Yes \_\_\_\_\_ No \_\_\_\_\_ Fax ( \_\_\_\_\_ ) \_\_\_\_\_

## XM/XT-300 Engineered Plastics Custom Length, Float Type Level Transmitter Check List

### Operational Parameters

This information is essential to the accurate and proper operation of your GEMS configurable sensor. Please complete fully and accurately before ordering.

1. **Liquid Media:** \_\_\_\_\_
2. **Pressure:** Minimum \_\_\_\_\_ psig Maximum \_\_\_\_\_
3. **Temperature:** Minimum \_\_\_\_\_ °F Maximum \_\_\_\_\_  
°C
4. **Specific Gravity:** Minimum \_\_\_\_\_ Maximum \_\_\_\_\_
5. **Viscosity:** \_\_\_\_\_ SSU
6. **Tank Material:** \_\_\_\_\_
- Tank Depth:** \_\_\_\_\_
7. **Unit is Mounted In:** T – Top Mounted B – Bottom Mounted

### Product Parameters

#### 1. Mounting Type (select one):

- |                     |                                    |
|---------------------|------------------------------------|
| 11 – No Mounting    | 21 – 1/8" NPT                      |
| 22 – 1" NPT         | 31 – 3/8"-24 Straight Thread       |
| 32 – 1-5/16"-12     | 41 – G1/4" (1/4"-19BSP)            |
| 42 – G1" (1"-11BSP) | 51 – M12 x 1.5 Straight Thread     |
| 61 – 2" O.D. Flange | 33 – 5/8"-11                       |
| 63 – Pop Flange     | 71 – 5/8"-11 with 3/4" floats only |

#### 2. Electrical Connections:

✓*	Type	Description	Compatible Mounting Types
1		Lead Wires, 24" to 26" (610mm, Min.)	All
2		Cable, 24" to 26" (610mm, Min.)	All

\* Select one

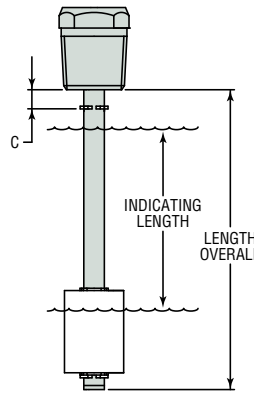
#### 3. Float Type (select one):

- Buna-N – P/N 245900
- Polysulfone – P/N 39005
- Solid Foamed Polypropylene – P/N 119455
- Solid Foamed Polypropylene – P/N 231500
- Hollow Polypropylene – P/N 259125
- PVDF – P/N 174515

Please contact GEMS Sensors Inc. for any configuration or special requirements not covered on this form. **800-378-1600**



#### 4. Dimensions:



Note: For Proportional values of "0" no upper grip ring is installed. Float stops at bottom of mount.

C: Minimum distance from bottom of mounting to upper float stop.

Mounting	C Dim. Value per Output Type (Inches)		
	Proportional	Volt	Current
11	0.5	1.5	2.25
21	0	0.75	1.5
22	0	0.19	0.94
31	0	0.63	1.38
32	0	0.63	1.38
33	0	0.19	0.94
41	0	0.81	1.56
42	0	0.63	1.38
51	0	0.81	1.56
61	0	1.25	2
63	0	0.63	1.38
71	0	0.19	0.94

Provide values for both items and check the box next to the most critical value.

Indicating Length \_\_\_\_\_ Inches      Millimeters  
Length Overall \_\_\_\_\_ Inches      Millimeters

#### 5. Output:

**XM-300**  
Proportional Voltage \_\_\_\_\_  
Resistive (Quantity Dependent - Contact Factory)  
Planned Input Voltage \_\_\_\_\_

**XT-300**  
2-Wire, Loop Powered 4-20mA Output (Insert Mounted)  
3-Wire, 0-5 VDC (Insert Mounted)  
3-Wire, 0-10 VDC (Insert Mounted)