

**ORDER IT!**

Ordering is Easy! See Instructions on Page H-4.

## Small Size – Alloys

### XM/XT-800 Series – Compact Analog Sensors

- ▶ Stainless or Brass
- ▶ 1/4" Resolution – See Below for Higher Resolutions.
- ▶ Lengths to 144 inches

These compact transmitters feature the rugged durability of stainless steel or brass construction. The XM-800 series provides analog output, and combine with GEMS Digital Meter Receiver Stations and compact Level Cubes described in this catalog. Our versatile XT-800 Series adds a choice of signal conditioning for use with GEMS digital bargraph receivers or other digital instrumentation and control equipment.

### Approvals

XM-800 and XT-800 Series transmitters may carry the following commercial approvals:

FM Approved, Explosion-Proof.

UL-Recognized.

UL-Approved

XM-800 Series transmitters only:

CSA Listed.



### Tanks to 12" Get Higher Resolutions with Two New Transmitter Series

For superb accuracy in small tanks, GEMS introduces two new XM/XT Series. For OEM applications of these high resolution units, please call GEMS for further information. 1-800-321-6070.

XM/XT-825 Series: (1/10" Resolution), Max. Overall Length = 12" (305 mm)

XM/XT-830 Series: (1/8" Resolution), Max. Overall Length = 12" (305 mm)



## 1. Mounting Types

Type 1 1/2" NPT	Type 2 1-1/4" NPT	Type 3 2" NPT	Type 4 3" 150# Flange	Type 6 2-1/2" Sanitary Flange

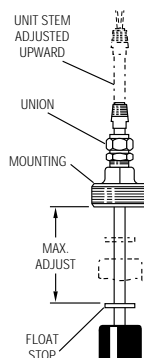
Stem Material	Brass or 316 Stainless Steel	316 Stainless Steel	
Mounting Material	Brass or 316 Stainless Steel	Carbon Steel or 316 Stainless Steel	316 Stainless Steel
Float Stop Material	Brass Units: Beryllium Copper Grip Rings; Stainless Steel Units: S.S. ARMCO PH-15-7MO Grip Rings		
Operating Temperature* With J. Box Mounted or XM Signal Conditioners	Oil: -40°F to +230°F (-40°C to 110°C), Water to +180°F (82.2°C)—Buna N Float -40°F to +230°F (-40°C to 110°C)—Stainless Steel Float		
With Stem Mounted Signal Conditioners	+5°F to +160°F (-15°C to +70°C)		
Operating Pressure	Dependent on Float Type; See Next Page		
Overall Length, Max.	72" (183 cm) Tubing; 144" (366 cm) Pipe (Types 3 & 4 only)		

\* Consult factory for higher temperature ranges.

### Adjustable Versions for XM/XT-800 Series

A special cinch-nut on the mounting allows the stem to travel up or down for fine tuning the actuation points. The extent of adjustment depends on unit length and distance from mounting to highest float stop.

Adjustable mountings can be supplied for Types 3 and 4 transmitters in this section.



### 2. Float Types

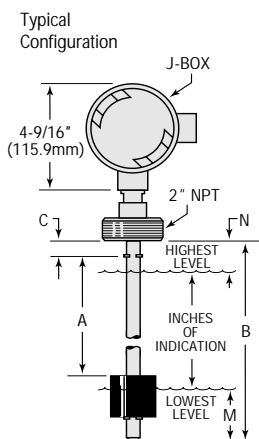
Based on the overall length required by your tank, select from two main subsets of floats below; further refine selection based on material and performance parameters.

Float Material	For Overall Lengths To 72"				For Lengths Greater Than 72" (144" Max.)	
	Buna N		Stainless Steel		Buna N	Stainless Steel
Float Dimensions						
Part Number	164255 <sup>†</sup>	43359	156490	43590	69654	52084
Min. Liquid Specific Gravity	.55	.55	.70	.75	.55	.75
Operating Pressure, Max. *	150 PSI (10 bar)	150 PSI (10 bar)	80 PSI (6 bar)	300 PSI (21 bar)	150 PSI (10 bar)	300 PSI (21 bar)
Operating Temperature, Max.	Water: 180°F (82°C) Oil: 230°F (110°C)		300°F (149°C)		Water: 180°F (82°C) Oil: 230°F (110°C)	300°F (149°C)

\*@ Ambient Temperature

<sup>†</sup>Recommended for Type 2 mounting only.

### 3. Dimensions



- A: Float Travel = Indicating Length + 3/8" (9.5mm)
- B: Overall Length (Not to exceed 144 inches):  
Overall Length = Inches of Indication + C + X
- (See Table at Right)
- C: Distance From Bottom of Mounting to Float Stop =  
1/4" (6.4mm) Min.; 1-1/4" (31.8mm) Min. on Type 1 (XT only); specified by customer.
- N: Distance From Float Stop to Highest Indication Level:  
See Column "N" in Factor Table (right).
- M: Distance From Lowest Indication Level to End of Stem:  
See Column "M" in Factor Table (right)

- Notes:
1. Distances for highest and lowest level indicated are based on use in liquid with specific gravity of 1.0, and are approximate values.
  2. Indicating length must be specified in even increments of 1/2".
  3. Resolution is 1/4" (6.4mm) except for first and last 3/4" (19.1mm) of indication.
  4. Consult factory if moisture protection is required.

### Factor Table

Float Part Number	X	N	M
164255	2" (50.8)	3/4" (19.1)	1 1/4" (31.8)
43359	2 1/2" (63.5)	1 3/16" (30.2)	1 5/16" (33.3)
156490	2 1/16" (52.4)	13/16" (20.6)	1 1/4" (31.8)
43590	3 7/16" (87.3)	1 1/4" (31.8)	2 3/16" (55.6)
69654	2 11/16" (68.3)	1 3/16" (30.2)	1 1/2" (38.1)
52084	3 5/8" (92.1)	1 1/8" (28.6)	2 1/4" (57.2)

Inch (mm)

#### 4. Input/Output

For XM-800 Series, no special output designation is necessary.

For XT-800 Series, specify the desired signal conditioning by Part Number.

Additional information about GEMS signal conditioning modules is found on Page H-8.

Series	Input Voltage	Output Signal	Part Number	Electrical Termination	Compatible Mountings		
					Type 1	Type 3	Type 4
XM-800	10 to 30 VDC	Proportional Voltage	–	Lead Wires (3), #22 AWG, 24" (60.9 cm), PTFE Jacket	•	•	•
XT-800	8 to 24 VDC*	0-5 VDC	51965	Lead Wires, #22 AWG, 24" (60.9 cm), PTFE Jacket	•	•	•
	14 to 30 VDC*	0-12 VDC	51970		•	•	•
	8 to 24 VDC	0-5 VDC	52536	Junction Box		•	•
	15 to 30 VDC	0-12 VDC	52537			•	•
	18 to 30 VDC**	0-12 VDC with Hi and Low Alarms	52544-1			•	•
			52555			•	•
10 to 40 VDC	4-20 mA	112300	Panel Mount with Plug-In Base	•	•	•	

\* Stem mounted.

\*\* Consult factory for other alarm functions.

**ORDER IT!**  
**860-747-4244**

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

Page# \_\_\_\_\_ Name \_\_\_\_\_  
 Company \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone (\_\_\_\_) \_\_\_\_\_ Fax (\_\_\_\_) \_\_\_\_\_  
 This is a  Request for a Quote  Order P.O.# \_\_\_\_\_  
 Quantity Needed \_\_\_\_\_ Date Required \_\_\_\_/\_\_\_\_/\_\_\_\_  
 Shipping Method: \_\_\_\_\_ Partial Accepted:  Yes  No

## Float Type Level Transmitters – Small Size Alloys (Pages H-5 to H-7)

### Application Environmental Conditions

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

1. **Liquid Media:** \_\_\_\_\_  
 2. **Pressure:** Minimum \_\_\_\_\_ psig Maximum \_\_\_\_\_ psig  
 3. **Temperature:** Minimum \_\_\_\_\_ °F Maximum \_\_\_\_\_ °F  
 4. **Specific Gravity:** Minimum \_\_\_\_\_ Maximum \_\_\_\_\_

5. **Viscosity:** \_\_\_\_\_ SSU  
 6. **Tank Material:** \_\_\_\_\_  
 Tank Depth: \_\_\_\_\_  
 7. **Unit is Mounted In:**  Tank Top  Tank Bottom  
 8. **Moisture Protection Required?**  Yes  No

#### 1. Series:

- XM/XT-800 (1/4" Resolution)  
 XM/XT-825 (1/10" Resolution)  
 XM/XT-830 (1/8" Resolution)

#### 2. Mounting Type:

- Type 1  Type 2  Type 3  Type 4  Type 6

#### 3. Materials:

- a. Stem:  
 Brass\*  316 Stainless Steel  
 b. Mounting:  
 Brass\*  316 Stainless Steel  
 Carbon Steel (Type 4 flange only)  
 \* (Type 1, Type 2 and Type 3 only)

#### 4. Float Type:

Match to Overall Length of Transmitter Stem

To 72 Inches	Over 72 Inches
<input type="checkbox"/> 164255 – Buna N*	<input type="checkbox"/> 69654 – Buna N
<input type="checkbox"/> 43359 – Buna N	<input type="checkbox"/> 52084 – Stainless Steel
<input type="checkbox"/> 156490 – Stainless Steel	
<input type="checkbox"/> 43590 – Stainless Steel	

\*Recommended for Type 2 mounting only.

#### 5. Dimensions:

Overall Length (complete one line only):

Float Selected	Indicating Length (Whole Inches)	+	C Dimension ±1/16" (1.6 mm)	+	Constant (x) Inch (mm)	=	Overall Length (70" {177.8 cm}; Max.)
164255		+		+	2 (50.8)	=	
43359		+		+	2-1/2 (63.5)	=	
156490		+		+	2-1/16 (52.4)	=	
43590		+		+	3-7/16 (87.3)	=	
69654		+		+	2-11/16 (68.3)	=	
52084		+		+	3-5/8 (92.1)	=	

Notes:

1. Indicating Length: 1/2" increments  
 2. C Dimension: 1/2" minimum length above 72".

#### 6. Input/Output:

- a. Optional 24 VDC Power Supply:  
 115 VAC input  230 VAC input  
 b. Signal Conditioners (XT-800 Series Only)  
 Output Shown in Parenthesis:  
 51965 (0-5 VDC)  
 51970 (0-12 VDC)  
 52536 (0-5 VDC)  
 52537 (0-12 VDC)  
 52555 (4-20 mA)  
 112300 (4-20 mA Remote Mounted)  
 52544-1 (0-12 VDC w/Alarms)

#### Optional Receivers – Section J

- The designated receiver is planned to be used with the transmitter specified above.

Receiver Part Number:

\_\_\_\_\_ - \_\_\_\_\_

Note: Spaces are not completely filled out in all cases.

Please contact GEMS Sensors Inc. for any configuration or special requirements not covered on this form. **800-321-6070**

Quote \$ \_\_\_\_\_ Date Quoted \_\_\_\_/\_\_\_\_/\_\_\_\_



**Gems Sensors Inc.**  
 One Cowles Road  
 Plainville, CT  
 06062-1198

tel 860.747.3000  
 fax 860.747.4244  
 www.gemssensors.com