

# Fan Inlet Sensor with Face Mount

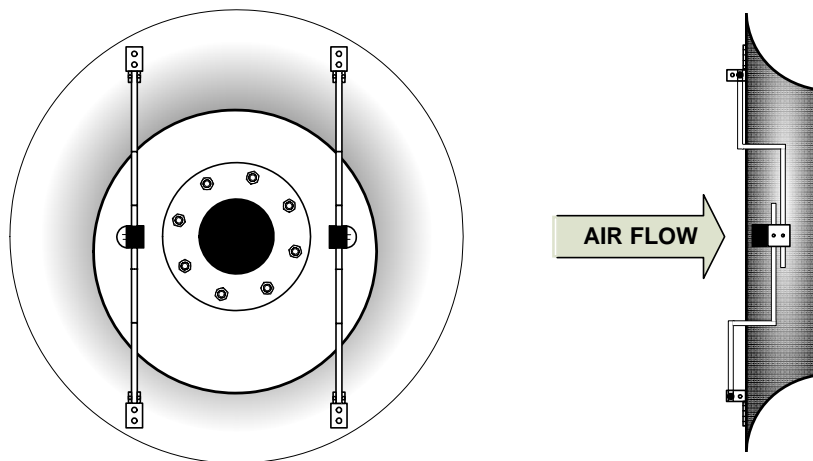
## Installation Guide

### -F Fan Inlet Sensors

with Face Mount Brackets (Part number 700-40xx)

For use with Gold Series GF2 and  
Hybrid Series HF1/SF1 Fan Inlet Sensors

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Fan Inlet Sensor Face Mount

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### 1 OVERVIEW

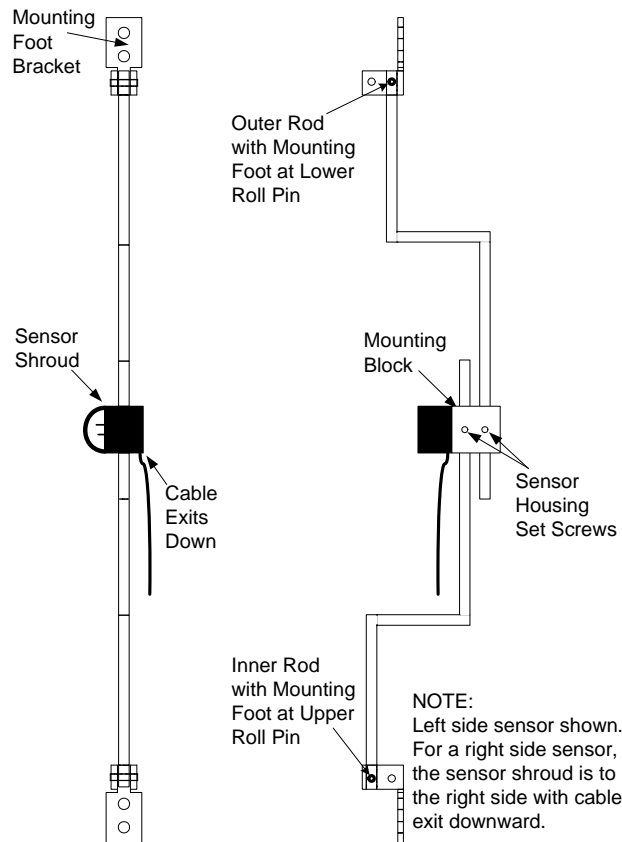
This document provides the instructions necessary to install Fan Inlet Sensors supplied with Face Mount Brackets (P.N. 700-40xx) as shown in Figures 1 and 2.

For DWDI (Dual Wheel Dual Inlet) and SWSI (Single Wheel Single Inlet) applications, sensors are always factory specified in pairs at the inlet opening. **Only on Fan Array applications may single sensors be specified by the factory for single left or single right installation.** Table 1 shows standard Face Mount Sizes available. Face mount mounting rods have an offset bend and brackets for mounting on the face of fans as shown in Figure 2.

**Table 1. Face Mount Standard Sizes**

Standard Size Code	Inlet Face Diameter				Rod Pack Part Number (2 rods per pack)	Rod Pack Part Number (4 rods per pack)
	is greater than or equal to		and is less than			
	inches	Mm	inches	mm		
1	11	279.40	13	330.20	700-4155	700-4055
2	13	330.20	18	457.20	700-4156	700-4056
3	18	457.20	25	635.00	700-4157	700-4057
4	25	635.00	35	889.00	700-4158	700-4058
5	34	863.60	50	1270.00	700-4159	700-4059
6	47	1193.80	77	1955.80	700-4160	700-4060

"D" Inlet Face Diameter - Measure Across Flat Face at Flare Edge



**Figure 1. Fan Inlet Sensor with Face Mount Kit Components**

### 2 PREPARATION FOR INSTALLATION

- Determine the specified location for the Fan Inlet Airflow Sensor as indicated on the engineer's plans. Ensure that the cable supplied with the sensor is of sufficient length to reach the planned transmitter installation site. It is recommended that the sensor be installed first to ensure that the included cable will reach the transmitter after routing and securing the cable.
- Carefully open the Fan Inlet Sensor and Face Mount Installation Kit packages and inspect for damage. If damage is noted, immediately file a claim with carrier.
- Face mount sensors are supplied with rods that have an offset bend and brackets for mounting on the face of plenum fans as shown in Figure 2. Verify that the proper rods have been supplied for the intended application using Table 1 before proceeding with installation.



#### CAUTIONS/WARNINGS

Select suitable hardware for the installation and ensure that the hardware will not interfere with the moving parts of the fan. Failure to properly secure the fan inlet sensor can result in personal injury and damage to sensors and fan.

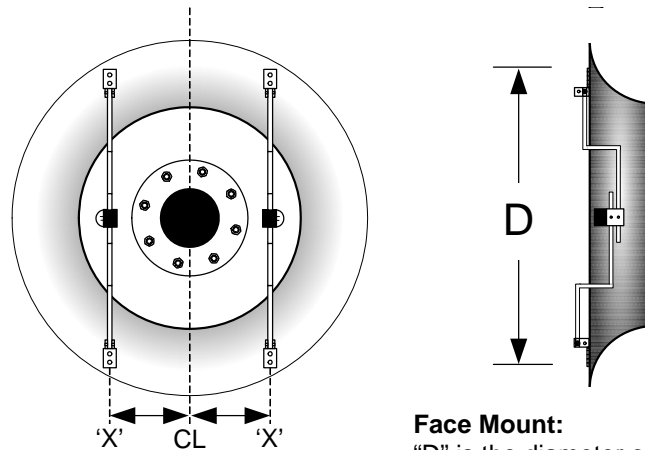
Setting the specified rod length is essential for proper installation and sensor performance.

The cable ordered must be of sufficient length for the distance between the transmitter and the furthest sensor probe as well as any necessary cable routing at the site.

Improper or excessive lubrication of the fan bearings can result in lubricant carry over and build up of foreign material on the sensor.

Avoid placement in the absorption area of humidifiers which will adversely affect performance.

Failure to properly install, set up and/or secure the Fan Inlet sensor assembly can result in sensor and/or fan damage.



**Face Mount:**  
"X" is the fan centerline to the sensor center dimension.

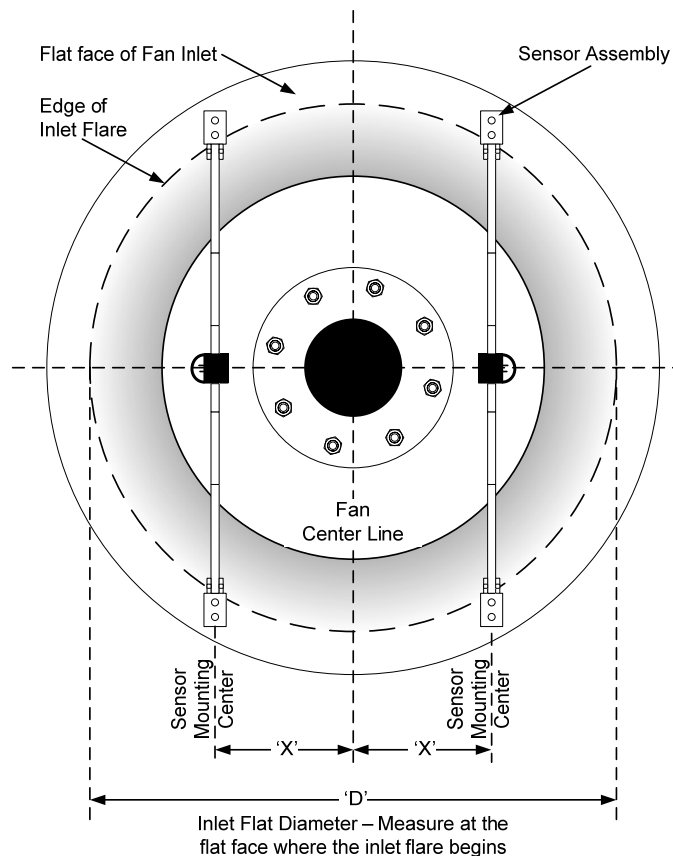
**Face Mount:**  
"D" is the diameter of the flat portion of the large inlet opening at the point where the flare begins.

Figure 2. Typical Application, Fan Inlet Sensor Face Mount

### 3 FAN INLET SENSOR WITH FACE MOUNT KIT INSTALLATION

For DWDI (Dual Wheel Dual Inlet) and SWSI (Single Wheel Single Inlet) applications, sensors are always factory specified in pairs at the inlet opening. **Only on Fan Array applications may single sensors be specified by the factory for single left or single right installation.** Sensors are marked for their intended location (INSIDE LEFT, INSIDE RIGHT) in the fan inlet, and all cables must exit downward. DWDI and SWSI inlet sensor pairs shall be parallel to one another. Check for obstructions at the fan inlet prior to installation. It may be necessary to rotate the orientation of the sensors to avoid any interfering obstructions in the fan inlet. Refer to Figures 1, 2 and 3 for installation detail. For specific installation questions, concerns or assistance, please contact EBTRON Applications Engineering Team at 800.2EBTRON (800.232-8766).

- a. Physically locate the fan where the air flow measuring station is to be installed on the engineer's plans.
- b. For sensors marked "INSIDE LEFT", insert an inner mounting rod (with mounting bracket attached at inner roll pin) into sensor mounting block inner rod hole with sensor oriented as in Figure 1.
- c. Insert outer mounting rod (with mounting bracket attached at outer roll pin) into sensor mounting block outer rod hole (Figure 1).
- d. For sensors marked "INSIDE RIGHT", repeat steps c and d with sensor shroud oriented to the right (opposite) as in Figure 1.
- e. Measure the diameter ('D') of the fan inlet FLAT FACE, measured at the flat portion of the flat face of the inlet at the point where the inlet flare just begins (Figure 3).



X = distance between fan center line and sensor center line

**Figure 3. Fan Inlet Face Mount Installation Detail**

- f. Locate Diameter 'D' and then DIMENSION 'X' in Table 2 to determine the fan inlet center line to sensor mounting center line for each sensor as shown in Figure 3.

**Table 2. Face Mount Dimension 'X' Determination**

Inlet Face Diameter "D" (in.)	X (in.)	Inlet Face Diameter "D" (mm)	X (mm)	Inlet Face Diameter "D" (in.)	X (in.)	Inlet Face Diameter "D" (mm)	X (mm)	Inlet Face Diameter "D" (in.)	X (in.)	Inlet Face Diameter "D" (mm)	X (mm)
11	3 6/16	279.40	85.73	34	11 8/16	863.60	292.10	57	19 10/16	1447.80	498.48
12	3 12/16	304.80	95.25	35	11 14/16	889.00	301.63	58	20	1473.20	508.00
13	4 2/16	330.20	104.78	36	12 4/16	914.40	311.15	59	20 6/16	1498.60	517.53
14	4 7/16	355.60	112.71	37	12 10/16	939.80	320.68	60	20 11/16	1524.00	525.46
15	4 12/16	381.00	120.65	38	12 15/16	965.20	328.61	61	21	1549.40	533.40
16	5 3/16	406.40	131.76	39	13 8/16	990.60	342.90	62	21 7/16	1574.80	544.51
17	5 8/16	431.80	139.70	40	13 10/16	1016.00	346.08	63	21 12/16	1600.20	552.45
18	5 14/16	457.20	149.23	41	14	1041.40	355.60	64	22 2/16	1625.60	561.98
19	6 3/16	482.60	157.16	42	14 4/16	1066.80	361.95	65	22 8/16	1651.00	571.50
20	6 8/16	508.00	165.10	43	14 11/16	1092.20	373.06	66	22 13/16	1676.40	579.44
21	6 14/16	533.40	174.63	44	15 1/16	1117.60	382.59	67	23 3/16	1701.80	588.96
22	7 4/16	558.80	184.15	45	15 7/16	1143.00	392.11	68	23 9/16	1727.20	598.49
23	7 10/16	584.20	193.68	46	15 12/16	1168.40	400.05	69	23 14/16	1752.60	606.43
24	8	609.60	203.20	47	16 2/16	1193.80	409.58	70	24 4/16	1778.00	615.95
25	8 5/16	635.00	211.14	48	16 8/16	1219.20	419.10	71	24 10/16	1803.40	625.48
26	8 11/16	660.40	220.66	49	16 13/16	1244.60	427.04	72	24 15/16	1828.80	633.41
27	9 1/16	685.80	230.19	50	17 2/16	1270.00	434.98	73	25 5/16	1854.20	642.94
28	9 6/16	711.20	238.13	51	17 8/16	1295.40	444.50	74	25 11/16	1879.60	652.46
29	9 12/16	736.60	247.65	52	17 14/16	1320.80	454.03	75	26	1905.00	660.40
30	10 2/16	762.00	257.18	53	18 4/16	1346.20	463.55	76	26 6/16	1930.40	669.93
31	10 8/16	787.40	266.70	54	18 9/16	1371.60	471.49	77	26 12/16	1955.80	679.45
32	11	812.80	279.40	55	18 15/16	1397.00	481.01				
33	11 3/16	838.20	284.16	56	19 4/16	1422.40	488.95				

Refer to detail in Figure 3 for "D" Inlet Diameter and "X" distance between fan center line and sensor center line.

- g. Adjust the inner and outer rods of the sensors to achieve the installation dimensions shown in Figure 3 and Table 2. Now, adjust the mounting block so that the sensor body is located exactly at the horizontal fan center line. Tighten the set screws using the hex wrench provided.
- h. If installing a left sensor, install sensor assembly labeled "INSIDE LEFT" at the left side of the flat face of the fan inlet as in Figure 3. Use suitable hardware for installation that does not hinder rotation of the fan.
- i. If installing a right sensor, install sensor assembly labeled "INSIDE RIGHT" at the right side of the flat face of the fan inlet as in Figure 3. Use suitable hardware for installation that does not hinder rotation of the fan.
- j. Strap down sensor cables to mounting rods using the tie wraps provided (minimum of two tie wraps per sensor).
- k. Route sensor cables to transmitter and secure with appropriate hardware. Sensor installation is complete. Refer to separate technical manual for transmitter connection and set up.
- l. For dual fan inlet applications, repeat steps c through l to install sensors at the other fan inlet opening.

For any application specific installation questions, concerns or assistance, please contact the Ebtron Applications team at 800.2EBTRON (800. 232-8766).