MSHDA-TE Series Tubular Enclosures

For MINI-SCREEN® MSXLHD Series, and EZ-SCREEN® Point and Grid Sensors Mounted in Washdown Environments

Figure 1. Assembled enclosure

CAUTION... Reduced Sensing Range

Sensing Range is reduced 50% due to tubular construction.

WARNING...

Maintain Required Separation Distance

The light screen produced by the optical safety system sensors must be placed at a minimum safe distance from the dangerous motion of the machine being guarded. This necessary minimum distance is called the separation distance, and is discussed in Section 3 of the appropriate instruction manuals. **Failure to calculate this distance correctly and to maintain minimum separation distance can result in serious injury.**

Features

- FDA-grade polycarbonate tubing and acetal end caps
- Stainless steel mounting components
- Brackets and fasteners included
- Ideal for high-pressure washdown applications
- NEMA 4X, IP67
- 10 models available to accommodate Heavy-Duty MINI-SCREEN® sensors 24" to 80" long, plus EZ-SCREEN® Point and Grid sensors.

Banner MSHDA-TE Series Tubular Enclosures are designed specifically for use with Banner Heavy-Duty MINI-SCREEN and EZ-SCREEN Point and Grid emitters and receivers. The enclosures are constructed of FDA-approved rugged polycarbonate tubing with FDA-approved acetal end caps. The enclosures are mounted with stainless steel mounting brackets and fasteners. The enclosures are available in 10 lengths.

Use of the enclosure affects the sensing range of the sensor used: when used in pairs, range can be reduced by 50%.

Figure 4 shows how the enclosure is assembled. Components are bagged together for easier assembly.

Models

Enclosure Model	Enclosure Height (Figure 2)	For Heavy-Duty MINI-SCREEN Sensor Models	For EZ-SCREEN Point or Grid Sensor Models
MSHDA-TE-6	389 mm (15.3")	–	**SP..1**
MSHDA-TE-24	846 mm (33.3")	**MSXLHD..2412Y**	–
MSHDA-TE-32	1049 mm (41.3")	**MSXLHD..3212Y**	**SG..2-500** **SG..2-584**
MSHDA-TE-40	1252 mm (49.3")	**MSXLHD..4012Y**	**SG..3-400**
MSHDA-TE-48	1455 mm (57.3")	**MSXLHD..4812Y**	**SG..3-533** **SG..4-300**
MSHDA-TE-56	1659 mm (65.3")	**MSXLHD..5612Y**	–
MSHDA-TE-64	1862 mm (73.3")	**MSXLHD..6412Y**	–
MSHDA-TE-72	2065 mm (81.3")	**MSXLHD..7212Y**	–
MSHDA-TE-80	2268 mm (89.3")	**MSXLHD..8012Y**	–
MSHDA-TE-88	2471 mm (97.3")	**MSXLHD..8812Y**	–

MSHDA-TE Series Tubular Enclosures

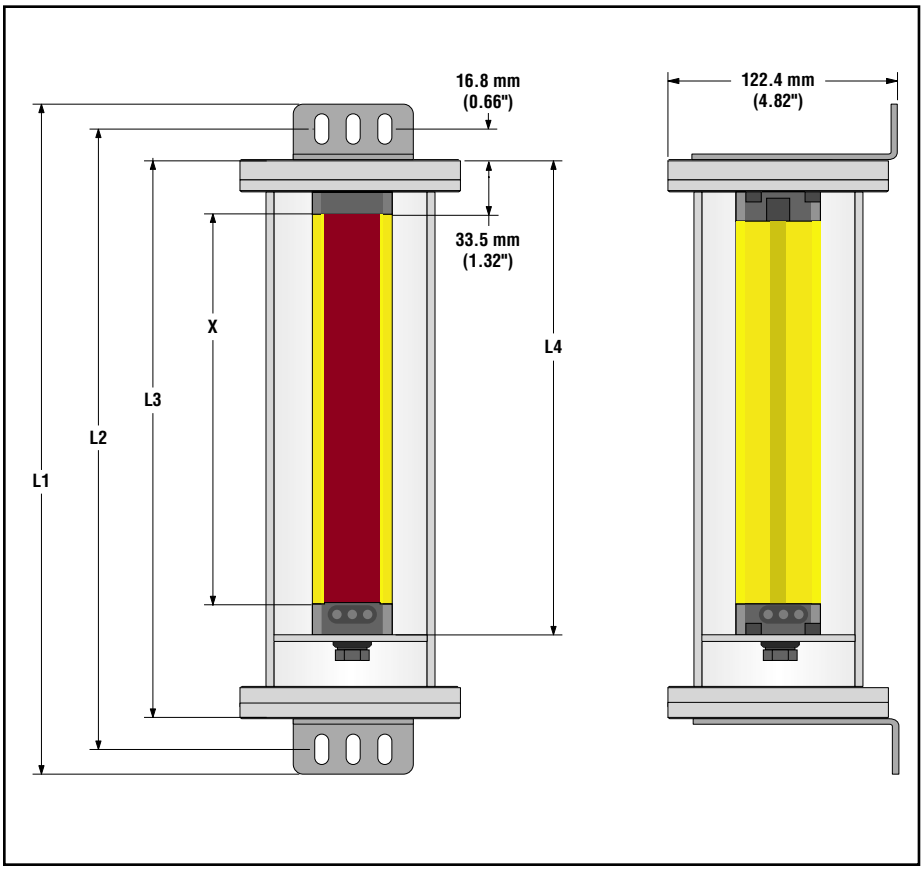

Figure 2. Enclosure/Heavy-Duty MINI-SCREEN dimensions

Included with Each MSHDA-TE Series Tubular Enclosure	Quantity
Spacer	1
Top End Cap	1
Bottom End Cap	1
Polycarbonate Tube	1
O-Ring (#153)	2
Mounting Bracket	2
M5 x 10 mm Screw	2
M5 x 8 mm Screw	2
M5 Internal Tooth Lockwasher	2
#6-32 Screw	8
#6 Split-Ring Lockwasher	8
#10-32 Screw	4
#10 External Tooth Lockwasher	4

Enclosure Model	L1	L2	L3	L4	X
MSHDA-TE-24	846 mm (33.3")	820 mm (32.3")	787 mm (31.0")	678 mm (26.7")	625 mm (24.6")
MSHDA-TE-32	1049 mm (41.3")	1024 mm (40.3")	991 mm (39.0")	881 mm (34.7")	826 mm (32.5")
MSHDA-TE-40	1252 mm (49.3")	1227 mm (48.3")	1194 mm (47.0")	1085 mm (42.7")	1029 mm (40.5")
MSHDA-TE-48	1455 mm (57.3")	1430 mm (56.3")	1397 mm (55.0")	1285 mm (50.6")	1229 mm (48.4")
MSHDA-TE-56	1659 mm (65.3")	1633 mm (64.3")	1600 mm (63.0")	1488 mm (58.6")	1433 mm (56.4")
MSHDA-TE-64	1862 mm (73.3")	1836 mm (72.3")	1803 mm (71.0")	1689 mm (66.5")	1633 mm (64.3")
MSHDA-TE-72	2065 mm (81.3")	2040 mm (80.3")	2007 mm (79.0")	1892 mm (74.5")	1836 mm (72.3")
MSHDA-TE-80	2268 mm (89.3")	2243 mm (88.3")	2210 mm (87.0")	2098 mm (82.6")	2037 mm (80.2")
MSHDA-TE-88	2471 mm (97.3")	2446 mm (96.3")	2413 mm (95.0")	2296 mm (90.4")	2240 mm (88.2")

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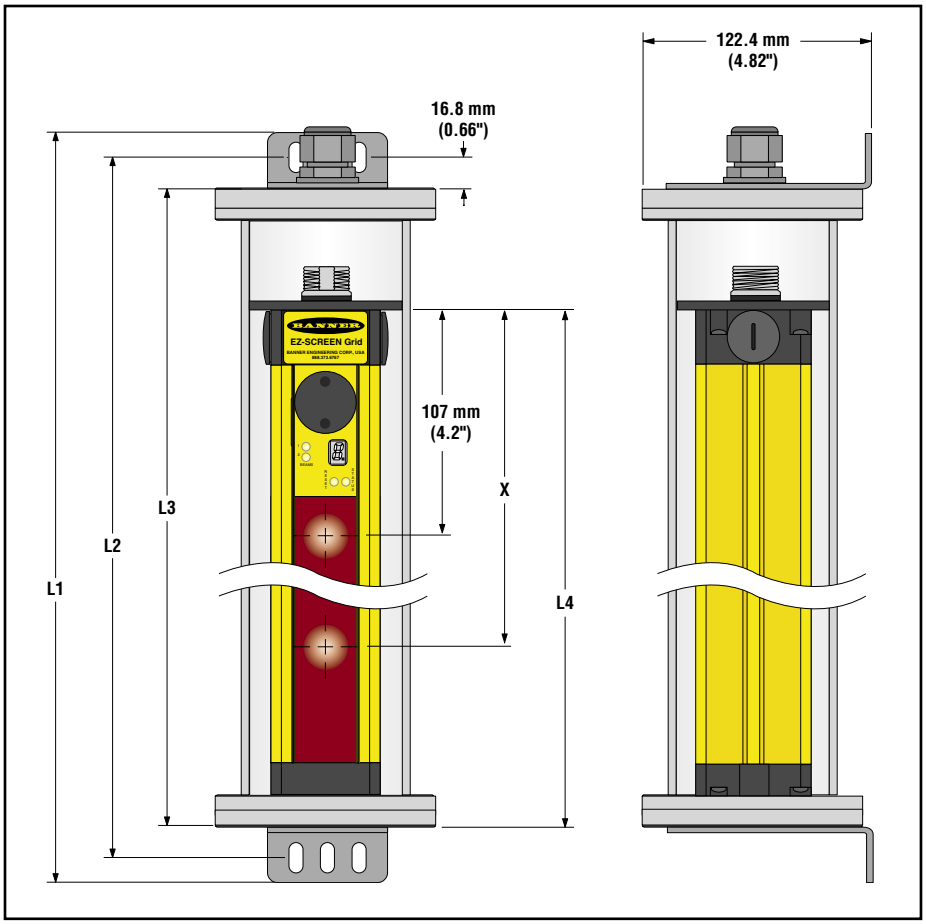

Figure 3. Enclosure/EZ-SCREEN Point and Grid dimensions

Included with Each MSHDA-TE Series Tubular Enclosure	Quantity
Spacer	1
Top End Cap	1
Bottom End Cap	1
Polycarbonate Tube	1
O-Ring (#153)	2
Mounting Bracket	2
M5 x 10 mm Screw	2
M5 x 8 mm Screw	2
M5 Internal Tooth Lockwasher	2
#6-32 Screw	8
#6 Split Ring Lockwasher	8
#10-32 Screw	4
#10 External Tooth Lockwasher	4

Enclosure Model	L1	L2	L3	L4	X (Distance to bottom beam)	For EZ-SCREEN Point or Grid Sensor Models
MSHDA-TE-6	389 mm (15.3")	363 mm (14.3")	330 mm (13.0")	168 mm (6.6")	–	**SP..1**
MSHDA-TE-32	1049 mm (41.3")	1024 mm (40.3")	991 mm (39.0")	701 mm (27.6")	607 mm (23.9")	**SG..2-500**
				800 mm (31.5")	691 mm (27.2")	**SG..2-584**
MSHDA-TE-40	1252 mm (49.3")	1227 mm (48.3")	1194 mm (47.0")	1001 mm (39.4")	907 mm (35.6")	**SG..3-400**
MSHDA-TE-48	1455 mm (57.3")	1430 mm (56.3")	1397 mm (55.0")	1102 mm (43.4")	1007 mm (39.6")	**SG..4-300**
				1267 mm (49.9")	1073 mm (46.2")	**SG..3-533**

MSHDA-TE Series Tubular Enclosures

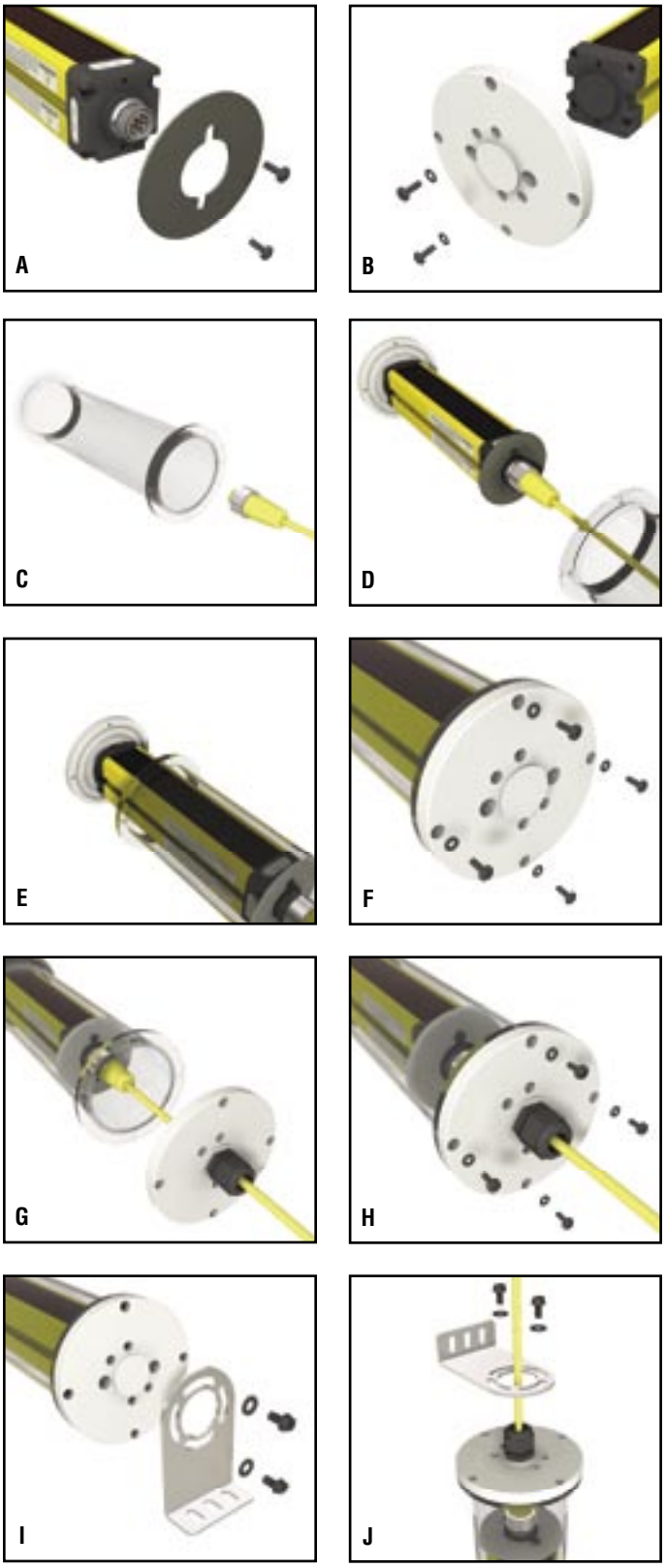

Figure 4. MSHDA-TE Series Tubular Enclosure assembly steps

Assembly Instructions

A. Place spacer disk on the QD end of the sensor housing, using the two M5 x 8 mm screws. Torque: 30 in-lbs max.

B. Screw the top cap onto the non-QD end of the sensor housing, using the two M5 x 10 mm screws and internal tooth lockwashers (make sure o-ring is in place on top cap). Torque: 6 in-lbs max.

C. Being careful not to scratch the tubular housing, slide the cable or terminated end of the cordset into the labeled end of the clear tube and push it through, so it comes out the other end.

D. Connect the cordset to the sensor housing.

E. Slide the sensor housing into the clear tube until the top cap mates with the tube flange. Make sure the o-ring seals against the flat surface of the flange.

F. Screw the top cap to the tube flange using four 6-32 screws and lockwashers. Torque: 15 in-lbs max.

G. Slide the bottom end cap over the unterminated end of the cordset, making sure the o-ring is in place on the bottom cap.

H. Screw the bottom cap to the tube flange, using four 6-32 screws and lockwashers. Make sure the o-ring seals against the flat surface of the flange. Torque: 15 in-lbs max. Tighten the strain relief nut over the cordset cable.

I. Place the mounting bracket on the top cap and secure with two 10-32 screws and external tooth lockwashers. Torque: 50 in-lbs max.

J. Place the mounting bracket over the cordset cable and to the bottom end cap; secure with two 10-32 screws and external tooth lockwashers. Torque: 50 in-lbs max.

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