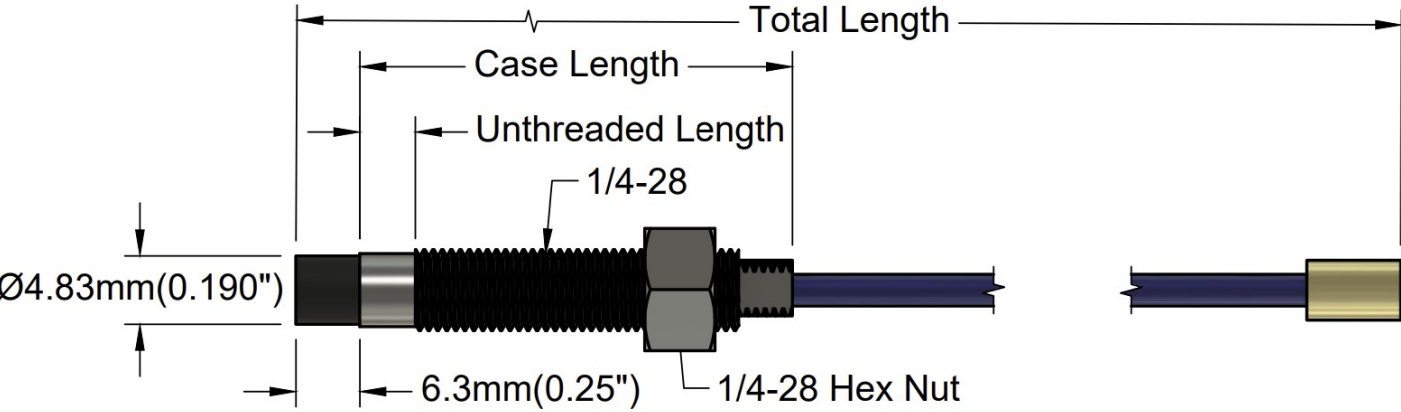


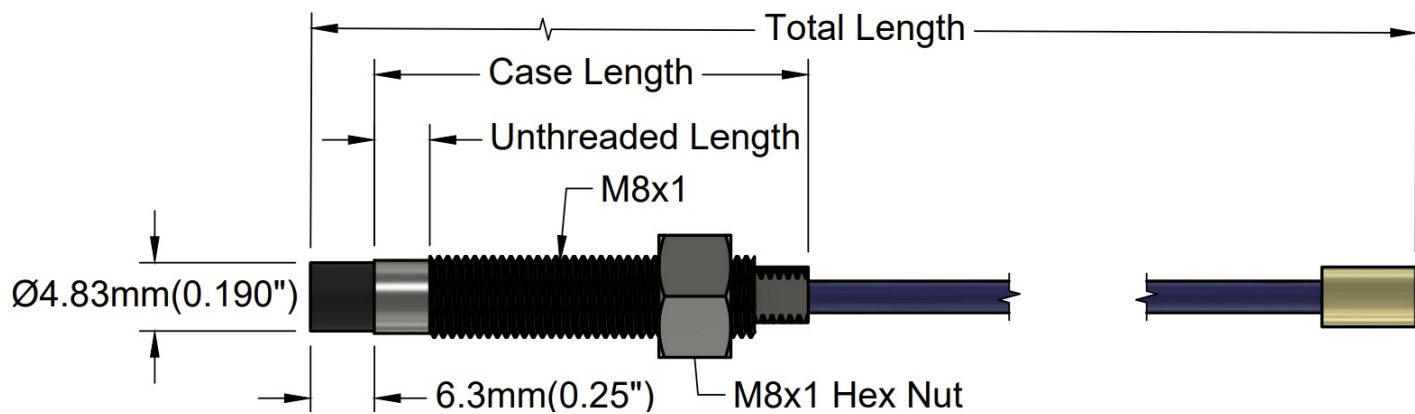
# 3000 Series

- [3000 Specifications and Dimensions](#)
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# 3000 Specifications and Dimensions

Probe Cable Specifications	50 ? coaxial, fluoroethylene propylene (FEP) insulated probe cable
Probe Case Material	AISI 303 or 304 stainless steel (SST).
Extension Cable Material	95 ? coaxial, fluoroethylene propylene (FEP) insulated extension cable
System Length	15 ft or 20 ft.
Extension Cable Armor (optional)	Flexible AISI 302 SST with/without FEP outer jacket.
Tensile Strength (maximum rated)	220 N (50 lb) probe case to probe lead. 220 N (50 lb) at probe lead to extension cable connectors. 220 N (50 lb) probe case to stainless steel armor.
Connector material	Gold-plated brass
Recommended Connector Torque	Hand tightened
Maximum torque	0.56 N•m (5 in•lb)
Minimum bend Radius (with or without SS armor)	25.4 mm (1.0 in)





**MS190 XX - AXX - BXX - CXX - DXX**

**MS19000** 1/4-28 UNF thread, no armor

**MS19001** 1/4-28 UNF thread, with armor

**MS19008** M8x1, with armor

#### Unthreaded Length

English  
Standard: 00 (0.0")

Increment: 05 (0.5")

Maximum: 10 (1.0")

Metric  
Standard: 00 (0 mm)

Increment: 01 (10 mm)

Maximum: 02 (20 mm)

#### Case Length in increments of 0.5"

English  
Standard: 30 (3.0")

Increment: 05 (0.5")

Minimum: 11 (1.1")

Maximum: 96 (9.6")

Metric  
Standard: 07 (70 mm)

Increment: 01 (10 mm)

Minimum: 02 (20 mm)

Maximum: 25 (250 mm)

#### Total Length

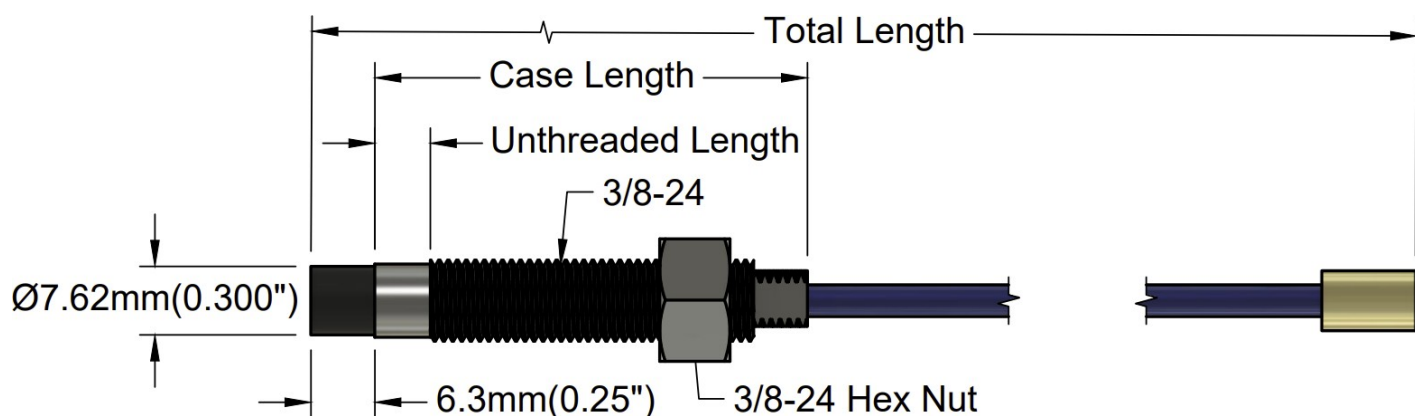
Minimum: 06  
6"

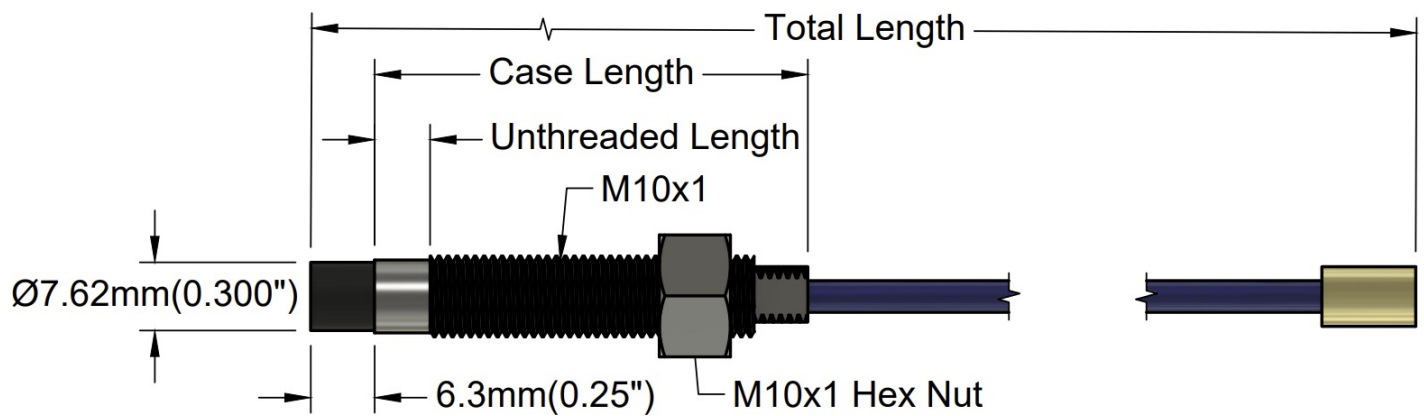
Maximum: 36  
36"

Order in  
increments of  
6"

#### Connector & Cable-Type

02  
with connector





MS30000		XX	—	AXX	—	BXX	—	CXX	—	DXX
MS30000	3/8-28 UNF thread, no armor									
MS30001	3/8-24 UNF thread, with armor									
MS30011	M10x1, no armor									
MS30012	M10x1, with armor									
			Unthreaded Length		Overall Case Length		Total Length		Connector & Cable-Type	
			English		English					
			Standard: 00 (0.0")		Standard: 30 (3.0")		Minimum: 06 6"		02	
			Increment: 05 (0.5")		Increment: 05 (0.5")		Maximum: 36 36"		with connector	
			Maximum: 10 (1.0")		Maximum: 96 (9.6")					
			Metric		Metric		Order in increments of 6"			
			Standard: 00 (0 mm)		Standard: 07 (70 mm)					
			Increment: 01 (10 mm)		Increment: 01 (10 mm)					
			Maximum: 02 (20 mm)		Maximum: 25 (250 mm)					
			Maximum: 9.9"							

## Electrical

### Linear Range:

0.190" 1.43 mm (45 mils) Linear range begins at 0.25 mm (10 mils) to 1.40 mm (55 mils)

0.300" 1.53 mm (60 mils) Linear range begins at 0.25 mm (10 mils) to 1.78 mm (70 mils)

### Incremental Scale Factor (ISF):

7.87 V/mm (200 mV/mil) +/-10% error (including interchangeability error) when measured in 10 mil increments when measured in increments of 0.25 mm (10 mils) over the linear range.

### Deviation from best fit straight line (DSL):

15 ft. system length is less than  $\pm 0.05$  mm ( $\pm 2$  mil).

20 ft. system length is less than  $\pm 0.076$  mm ( $\pm 3$  mil).

**Frequency response:**

0 to 10kHz (-3 dB) typical, with up to 100 meters (300 feet) of field wiring.

**Target Size:**

Minimum flat: 25 mm (1.0 in) diameter

Minimum perpendicular to shaft 50mm (2 in.)

Recommended perpendicular to shaft 75mm (3 in.)

## Mechanical

**Probe Tip Material:**

Polyphenylene sulfide (PPS).

**Probe Case Material:**

AISI 303 or 304 stainless steel (SST).

**Probe Cable Specifications:**

50  $\Omega$  coaxial, fluoroethylene propylene (FEP) insulated probe cable.

**Extension Cable Material:**

95  $\Omega$  coaxial, fluoroethylene propylene (FEP) insulated extension cable.

**System Length:**

15 ft or 20 ft.

**Extension Cable Armor (optional):**

Flexible AISI 302 SST with/without FEP outer jacket.

**Tensile Strength (maximum rated):**

220 N (50 lb) probe case to probe lead. 220 N (50 lb) at probe lead to extension cable connectors.

220 N (50 lb) probe case to stainless steel armor.

**Connector material:**

Gold-plated brass.

**Recommended Connector Torque:**

Hand-tightened.

**Maximum torque:**

0.56 N•m (5 in•lb).

**Minimum bend Radius (with or without SS armor):**

25.4 mm (1.0 in).

## Environmental Limits

**Probe Temperature Range****Operating Temperature:**

-34°C to +125°C (-30°F to +257°F)

**Storage Temperature:**

-51°C to +125°C (-60°F to +257°F)

**Extension Cable Temperature Range****Operating and Storage Temperature:**

-51°C to +125°C (-60°F to +257°F).

**Storage Temperature:**

-51°C to +125°C (-60°F to +257°F).

### **Proximity Sensor Temperature Range**

#### **Operating Temperature:**

-35°C to +125°C (-31°F to +257°F).

#### **Storage Temperature:**

-51°C to +125°C (-60°F to +257°F).

#### **Relative Humidity:**

100% condensing, non-submersible when connectors are protected.

# 3000 Ordering

## 3000 Series, 190 Probes

MS Option	Description	XX
00	None	
01	1000	
02	2000	
03	3000	
04	4000	
05	5000	
06	6000	
07	7000	
08	8000	
09	9000	
10	10000	
11	11000	
12	12000	
13	13000	
14	14000	
15	15000	
16	16000	
17	17000	
18	18000	
19	19000	
20	20000	
21	21000	
22	22000	
23	23000	
24	24000	
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30	30000	
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36	36000	
37	37000	
38	38000	
39	39000	
40	40000	
41	41000	
42	42000	
43	43000	
44	44000	
45	45000	
46	46000	
47	47000	
48	48000	
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83	83000	
84	84000	
85	85000	
86	86000	
87	87000	
88	88000	
89	89000	
90	90000	
91	91000	
92	92000	
93	93000	
94	94000	
95	95000	
96	96000	
97	97000	
98	98000	
99	99000	

Model	AA: Unthreaded Length	BB: Overall Case Length	CC: Total Length	DD: Connector & Cable Type
MS19000 ¼-28 UNF thread, no armor	English	English	Minimum: 06 6 in.	02 with connector
MS19001 ¼-28 UNF thread, with armor	Standard: 00 (0.0 in.)	Standard: 30 (3.0 in.)	Maximum: 36 36 in.	
MS19007 M8x1, no armor	Increment: 05 (0.5 in.)	Increment: 05 (0.5 in.)	Increment: of 6 in	
MS19008 M8x1, with armor	Minimum: 00 (0.0 in.)	Minimum: 11 (1.1 in.)		
	Maximum: 10 (1.0 in.)	Maximum: 96 (9.6 in.)		
	Metric	Metric		
	Standard: 00 (0 mm)	Standard: 07 (70 mm)		
	Increment: 01 (10 mm)	Increment: 01 (10 mm)		
	Minimum: 00 (0.0 mm)	Minimum: 02 (20 mm)		
	Maximum: 02 (20 mm)	Maximum: 25 (250 mm)		

## 3000 Series, 300 Probes

MS Option	Description	XX
00	None	
01	100%	
02	200%	
03	300%	
04	400%	
05	500%	
06	600%	
07	700%	
08	800%	
09	900%	
10	1000%	

Model	AA: Unthreaded Length	BB: Overall Case Length	CC: Total Length	DD: Connector & Cable Type
MS30000 ⅜-28 UNF thread, no armor	English	English	Minimum: 06 6 in.	02 with connector



MS30001 3⁄8-24 UNF thread, with armor	Standard: 00 (0.0 in.)	Standard: 30 (3.0 in.)	Maximum: 36 36 in.	
MS30011 M10x1, no armor	Increment: 05 (0.5 in.)	Increment: 05 (0.5 in.)	Increment: of 6 in	
MS30012 M10x1, with armor	Minimum: 00 (0.0 in.)	Minimum: 11 (1.1 in.)		
	Maximum: 10 (1.0 in.)	Maximum: 96 (9.6 in.)		
	<b>Metric</b>	<b>Metric</b>		
	Standard: 00 (0 mm)	Standard: 07 (70 mm)		
	Increment: 01 (10 mm)	Increment: 01 (10 mm)		
	Minimum: 00 (0.0 mm)	Minimum: 02 (20 mm)		
	Maximum: 02 (20 mm)	Maximum: 25 (250 mm)		

## Extension Cable

Model	AA: Cable Length
MS2789-AXXX no armor	108 = 108 in / 9 ft
MS4454-AXXX with armor	120 = 120 in / 10 ft
	132 = 132 in / 11 ft
	144 = 144 in / 12 ft
	156 = 156 in / 13 ft
	168 = 168 in / 14 ft
	180 = 180 in / 15 ft
	192 = 192 in / 16 ft
	204 = 204 in / 17 ft