



Proximity Probes, Extension Cables and Accessories

3300 Series

5mm, 8mm, 11mm

3309 Focus View Series

5mm

3000 Series

0.190 (5mm), 0.300 (8mm)

Extension Cables Proximity



Introduction to 8mm, 5mm Proximity Probe System

Introduction to proximity probe transducers

Proximity probe transducers (aka prox probes) are used to measure the static and dynamic distance between the target and the probe. Machine Saver series proximity probes measure the following:

- ✓ Radial vibration used for indicating bearing condition and measuring machine malfunctions such as rotor imbalance, misalignment, and shaft crack.
- ✓ Axial thrust position used for determining thrust bearing wear or potential bearing failure.
- ✓ Shaft radial position used for determining shaft position relative to rotor attitude angle, an indicator of rotor stability and shaft alignment.
- ✓ Vibration amplitude and phase angle used for diagnostic information in Polar and Bode formats or for vector monitoring.
- ✓ Eccentricity used to measure the shaft bow during startup of large turbine machinery.
- ✓ Phase reference used for measuring shaft rotation speed and phase angle of shaft vibration for monitoring and diagnostic purposes.

The Machine Saver MS series proximity probe systems are designed to meet API 670 standards. Each system consists of a probe, extension cable, and a probe signal conditioner. The signal conditioner, also called proximitors, probe driver and transmitters (4-20mA) directly interface with the prox probe and extension cable.

Components of proximity probe transducers Probe

The 8mm and 5mm prox probes are designed for long life cycles and are suitable for harsh environments. Machine Saver realizes one of the most significant problems in proximity probe installations are ground loops and loss of isolation due to damaged cable jackets. Machine Saver's custom rugged cable jacket prevents the probe cable from breaking and tearing and is highly resistive to corrosive environments.

The Machine Saver MS prox probe and extension cable are equipped with a standard protective rubber boot, which covers the connectors, prevents oil and dirt penetration and also prevents the connection from coming loose due to vibration movement.



The MS series prox probes come in 0.5m and 1.0m cable lengths, as well as, special lengths of 5.0m and 9.0m with an integrated probe and extension cable design.

The probe may be selected in English or metric threads, as well as, reverse mounting options. Reverse mount probes are used with probe housings for hazardous areas.

Extension Cable

Machine Savers MS series extension cable design results in better system performance and a longer life cycle.

One may select various extension cable lengths based on the probe cable length. The total length of the probe and the extension cable need to be 5m or 9m in total length.

The connector on the extension cable is also an API 670 standard, allowing compatibility with other manufacturers' proximity probe systems.

Probe Driver, Proximitor, Proximity Transmitter

The probe driver, proximitor or 4-20mA transmitter are used to power the proximity probe systems. The circuit isolation from ground is a standard feature for all our probe drivers. The total length of cable between the probe and the driver should be 5m or 9m. The distance between the driver and the vibration monitor, PLC or DCS may be up to 300m (1,000 ft). A multi-conductor shielded cable from the probe driver should be used to connect to a vibration monitor.

Hazardous Area

Machine Saver proximity probe transducers have hazardous area approvals. Please consult Machine Saver for further information

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MS Series 3300

Bently Nevada* Compatible

System Specifications

Electrical

Power

Supply:

Voltage: -23 to -30VDC
Current: < 12mA

Linear Range:

2.0mm (80mil) begins at 0.25mm (10mil) from probe face (AISI4140)
Range is 0.25 - 2.25mm (10 - 90mils)

Sensitivity:

7.87 mV/um (200mV/mil) ± 5%

Temperature Sensitivity (Normal and High):

Probe and 5 meters cable, from -51°C to 177°C for 3300 Compatible, tolerance is within ±0.3% °C in the middle of the linear range. At 2.25mm (90mil), nominal ±0.5%/°C

Linearity (deviation from straight line):

Within ±0.0254mm (±1.0mil) of a straight line, when calibrated as a system.
±0.038mm (±1.5mil) typical including interchangeability errors

Frequency Response (±3db):

0 - 10.0 KHz

Minimum Target Size:

15mm (0.6 inch) in diameter

Environmental

Probe Driver Temperature:

Operation: -51°C to +100°C
Storage: -51°C to +110°C

Probe Temperature:

Operation/Storage: -51°C to +177°C

Extension Cable Temperature:

Operation/Storage: -51°C to +177°C

Humidity:

100% non-condensing

Approval:

ATEX: II 1 G, Ex ia IIC T4@Ta=-40°C to +80°C KEMA06ATEX0217X

CSA: Intrinsically safe.

Class 1, Div. 1, Groups A, B, C and D, T4

Class 1, Zone 0, Ex ia IIC T4

Non-incendive

Class 1, Div. 2, Groups A, B, C and D

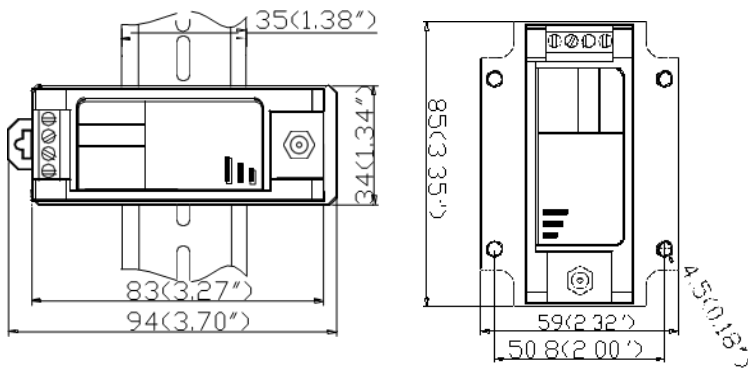
PCEC: Ex ia IIC T4

GOST R: 0ExiaIIC T4

Probe and Cable Approval:

ATEX: II1G, ExiaIIC T4@Ta=-55°C to +115°C, II2G, ExiaIIC T2@Ta=-55°C to +232°C KEMA07ATEX0110X

CSA: Class I, Div 1, Grps ABCD, ExiaIIC T4



Physical

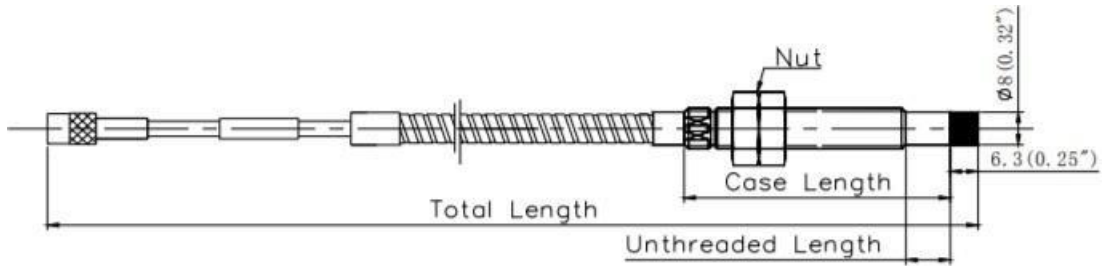
Driver Height: 75mm (2.95")

Driver mounting: 35mm DIN rail mount or Plate mount

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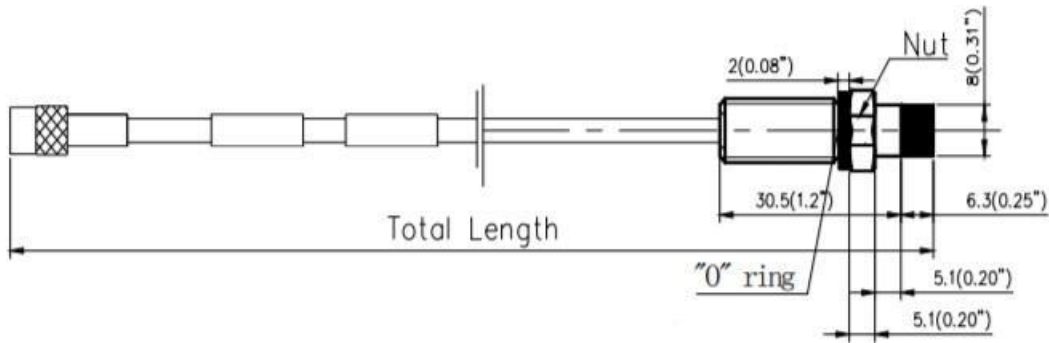


3300 Compatible Series 8mm Probe System Table Selection



MS	-XXXXXX	-XX	-XX	-XX	-XX	-XX
3300 Series 8mm Probe	Probe Type	Unthreaded Length	Case Length	Total Length	Connector Type	Hazardous Area Certification
3/8-24 UNF without armor	-330101	Standard: 00 (0.0 in) Increment: 05 (0.5 in) Maximum unthreaded length 8.8 in Minimum unthreaded length 0.0 in Example: 04 = 0.4 in	Standard: 30 (3.0 in) Increment: 05 (0.5 in) Minimum: 10 (1.0 in) Maximum: 95 (9.5 in) Maximum case length: 9.6 in Minimum case length: 0.8 in Example: 24 = 2.4 in	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
3/8-24UNF with armor	-330102					
M10x1 without armor	-330103	Standard: 00 (0 mm) Increment: 01 (10 mm) Maximum unthreaded length 230mm Minimum unthreaded length: 0 mm	Standard: 05 (50 mm) Increment: 01 (10 mm) Minimum: 02 (20 mm) Maximum: 25 (250 mm) Maximum unthreaded length: 230mm Minimum unthreaded length: 0 mm Example: 06 = 60 mm	05 (0.5m) 10 (1.0m)		
M10x1 with armor	-330104	Example: 06 = 60 mm				

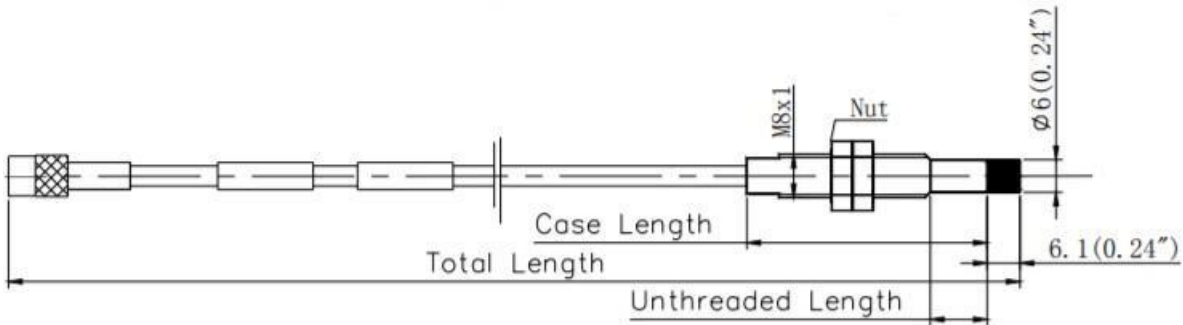
3300 Compatible Series Reverse Mount for 8 mm Probe System Table Selection



MS	-XXXXXX-XX-XX	-XX	-XX	-XX
3300 series 8mm Probe	Probe Type	Total Length	Connector Type	Hazardous Area Certification
3/8"-24UNF Reverse Mount without armor	-330105-02-12 (inches)	-05 (0.5m)	-01 connector with connector protector	-00 None
M10x1 Without Armor Reverse Mount	-330106-05-30 (mm)	-10 (1.0m)	-02 with connector	-05 Multiple hazardous area approvals



3300 Compatible Series 5mm Probe System Table Selection

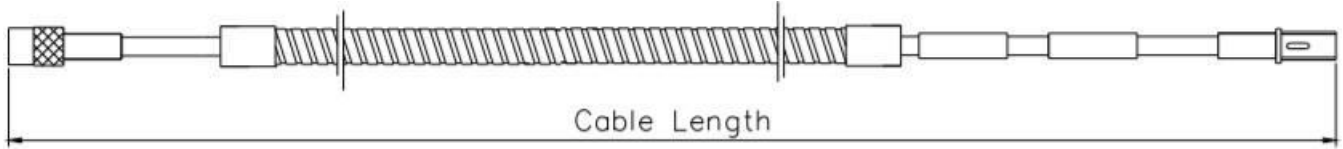


MS	-XXXXXX	-XX	-XX	-XX	-XX	-XX
3300 Series 5mm Probe	Probe Type	Unthreaded Length	Case Length	Total Length	Connector Type	Hazardous Area Certification
1/4"-28UNF without armor	-330171	Standard: 00 (0.0 in) Increment: 05 (0.5 in) Maximum unthreaded length 8.8 in Minimum unthreaded length 0.0 in Example: 04 = 0.4 in	Standard: 30 (3.0 in) Increment: 05 (0.5 in) Minimum: 10 (1.0 in) Maximum: 95 (9.5 in) Maximum case length: 9.6 in Minimum case length: 0.8 in Example: 24 = 2.4 in	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
1/4"-28UNF with armor	-330172					
M8x1 without armor	-330173	Standard: 00 (0 mm) Increment: 01 (10 mm) Maximum unthreaded length 230mm Minimum unthreaded length: 0 mm	Standard: 05 (50 mm) Increment: 01 (10 mm) Minimum: 02 (20 mm) Maximum: 25 (250 mm) Maximum unthreaded length: 230mm Minimum unthreaded length: 0 mm	05 (0.5m) 10 (1.0m)		
M8x1 with armor	-330174	Example: 06 = 60 mm	Example: 06 = 60 mm			



3300 Compatible Extension cable for 5mm or 8mm probe system

Bently Nevada Compatible

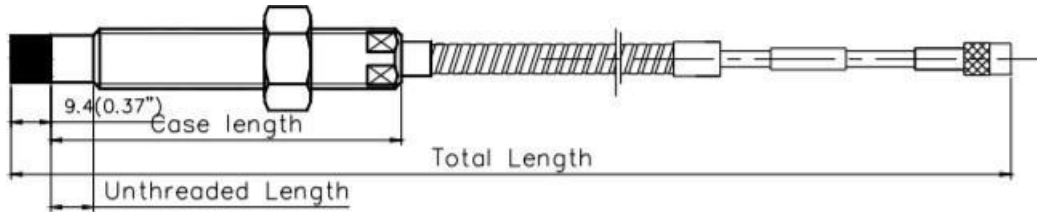


MS-330130-XX-XX-XX

MS	-330130	-XX	-XX	-XX
Extension cable for probe type	Model	Cable Length	Connector Protector	Hazardous Area Certification
3300 series compatible 5mm or 8mm probe tip diameter	-330130	-40 (4.0 m)	-00 standard cable	-00 None
		-45 (4.5 m)	-01 armored cable	-05 Multiple hazardous area approvals
		-80 (8.0 m)	-02 standard cable with connector protector	
		-85 (8.5 m)	-03 Armored cable with connector protector	

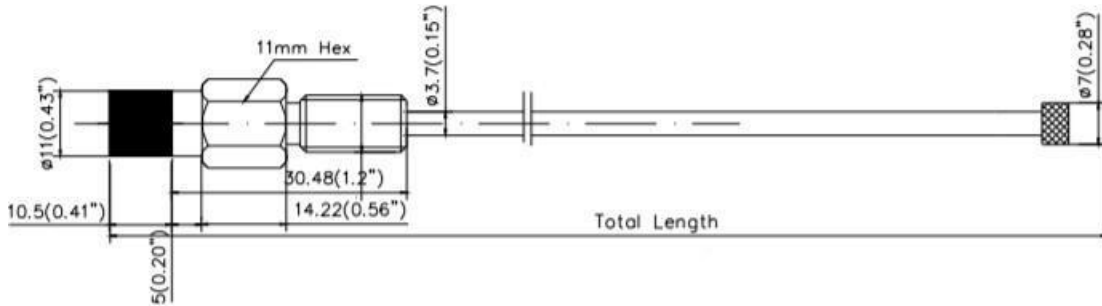


3300 Compatible Series 11mm Probe System Table Selection



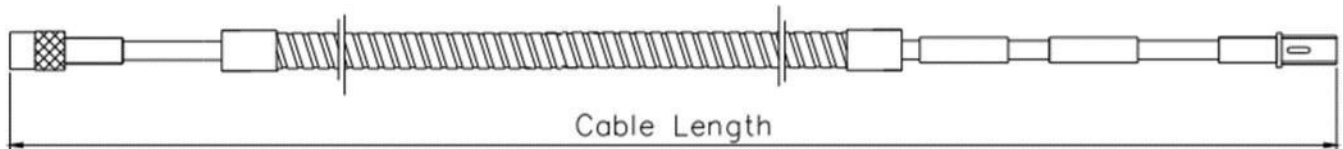
MS	-XXXXXX	-XX	-XX	-XX	-XX	-XX
3300 Series 11mm Probe	Probe Type	Unthreaded Length	Case Length	Total Length	Connector Type	Hazardous Area Certification
1/2-20UNF without armor	-330701	Standard: 00 (0.0 in) Increment: 05 (0.5 in) Maximum unthreaded length 8.8 in Minimum unthreaded length 0.0 in Example: 04 = 0.4 in	Standard: 30 (3.0 in) Increment: 05 (0.5 in) Minimum: 10 (1.0 in) Maximum: 95 (9.5 in) Maximum case length: 9.6 in Minimum case length: 0.8 in Example: 24 = 2.4 in	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
1/2-20UNF with armor	-330702					
M14x1.5 without armor	-330703	Standard: 00 (0 mm) Increment: 01 (10 mm) Maximum unthreaded length 230mm Minimum unthreaded length: 0 mm Example: 06 = 60 mm	Standard: 05 (50 mm) Increment: 01 (10 mm) Minimum: 02 (20 mm) Maximum: 25 (250 mm) Maximum unthreaded length: 230mm Minimum unthreaded length: 0 mm Example: 06 = 60 mm	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
M14x1.5 with armor	-330704					
5/8-18UNF without armor	-330707	Standard: 00 (0.0 in) Increment: 05 (0.5 in) Maximum unthreaded length 8.8 in Minimum unthreaded length 0.0 in Example: 04 = 0.4 in	Standard: 30 (3.0 in) Increment: 05 (0.5 in) Minimum: 10 (1.0 in) Maximum: 95 (9.5 in) Maximum case length: 9.6 in Minimum case length: 0.8 in Example: 24 = 2.4 in	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
5/8-18UNF with armor	-330708					
M16x1.5 without armor	-330709	Standard: 00 (0 mm) Increment: 01 (10 mm) Maximum unthreaded length 230mm Minimum unthreaded length: 0 mm Example: 06 = 60 mm	Standard: 05 (50 mm) Increment: 01 (10 mm) Minimum: 02 (20 mm) Maximum: 25 (250 mm) Maximum unthreaded length: 230mm Minimum unthreaded length: 0 mm Example: 06 = 60 mm	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
M16x1.5 with armor	-330710					

3300 Compatible Series Reverse Mount for 11 mm Probe System Table Selection



MS	-XXXXXX-XX-XX	-XX	-XX	-XX
3300 series 11mm probe	Probe Type	Total Length	Connector Type	Hazardous Area Certification
3/8"-24UNF Reverse mount without armor	-330705-02-18	-05 (0.5m)	-01 connector with connector protector	-00 None 05 Multiple hazardous area approvals
M10x1 Reverse mount without armor	-330706-005-045	-10 (1.0m)	-02 with connector	

3300 Compatible Series Extension Cable for 11 mm Probe System Table Selection



MS	-330730	-XX	-XX	-XX
Extension cable for probe type	Model	Cable Length	Connector Protector	Hazardous Area Certification
3300 series compatible 11mm probe tip diameter	-330730	-40 (4.0 m) -45 (4.5 m) -80 (8.0 m) -85 (8.5 m)	-00 standard cable -01 armored cable -02 standard cable with connector protector -03 Armored cable with connector protector	-00 None -05 Multiple hazardous area approvals



3309 Focus View

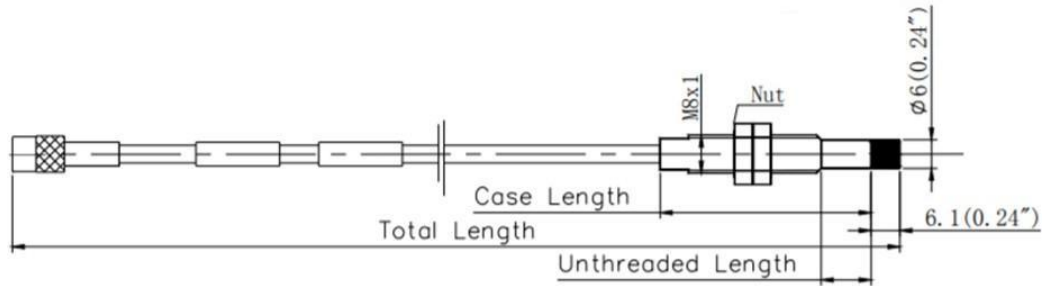
Bently Nevada Compatible NSv & RAM Series

The 3309 Focus View Proximity Transducer system is intended for use with centrifugal air compressors, refrigeration compressors, process gas compressors and other machines with tight installation requirements.

The lengths of the proximity probes and extension cables must combine for a system length of 5 or 7 meters.

Standard Proximity Probe for 3309 Focus View Series

5mm Tip Diameter Only

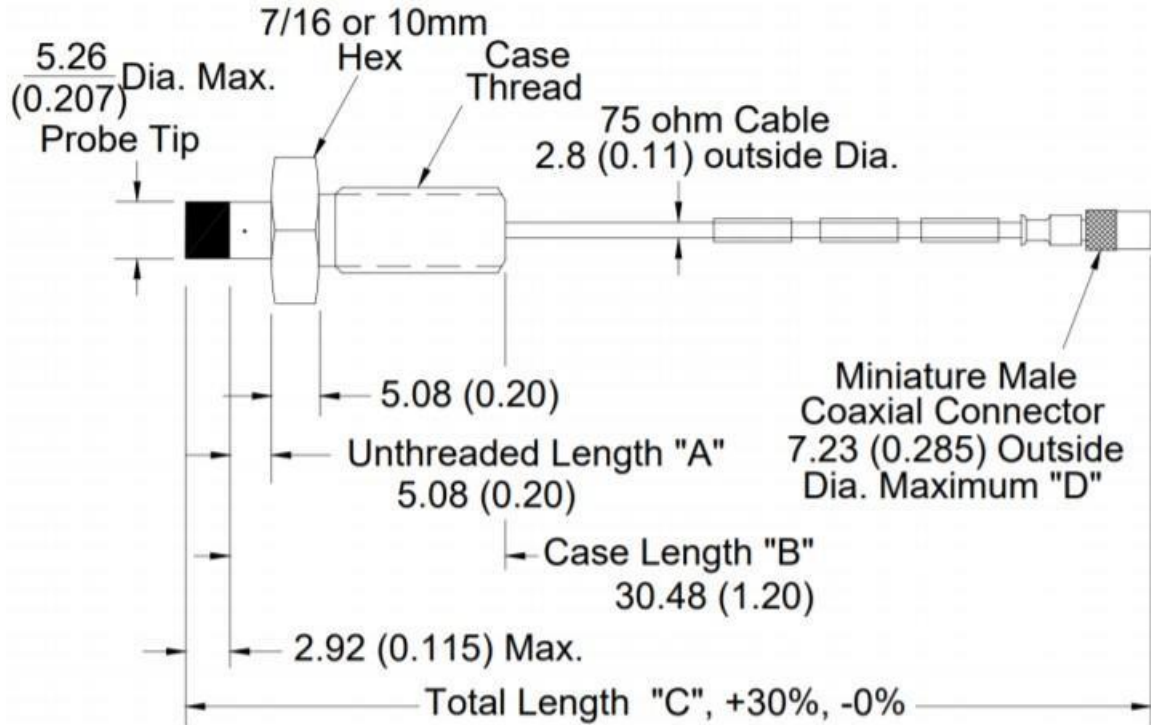


MS3309XX-XX-XX-XX-02-XX FOCUS VIEW

MS	-XXXXXX	-XX	-XX	-XX	-XX	-XX
3309 Series 5mm Probe	Probe Type	Unthreaded Length	Case Length	Total Length	Connector Type	Hazardous Area Certification
1/4"-28UNF without armor	-330901	Standard: 00 (0.0 in) Increment: 05 (0.5 in) Maximum unthreaded length 8.8 in Minimum unthreaded length 0.0 in Example: 04 = 0.4 in	Standard: 30 (3.0 in) Increment: 05 (0.5 in) Minimum: 10 (1.0 in) Maximum: 95 (9.5 in)	05 (0.5m) 10 (1.0m)	-01 connector with connector protector -02 with connector	-00 None -05 Multiple hazardous area approvals
1/4"-28UNF with armor	-330902		Maximum case length: 9.6 in Minimum case length: 0.8 in Example: 24 = 2.4 in			
M8x1 without armor	-330903	Standard: 00 (0 mm) Increment: 01 (10 mm) Maximum unthreaded length 230mm Minimum unthreaded length: 0 mm	Standard: 05 (50 mm) Increment: 01 (10 mm) Minimum: 02 (20 mm) Maximum: 25 (250 mm)	05 (0.5m) 10 (1.0m)		
M8x1 with armor	-330904	Example: 06 = 60 mm	Maximum unthreaded length: 230mm Minimum unthreaded length: 0 mm Example: 06 = 60 mm			



Reverse Mount Proximity Probe for 3309 Focus View Series

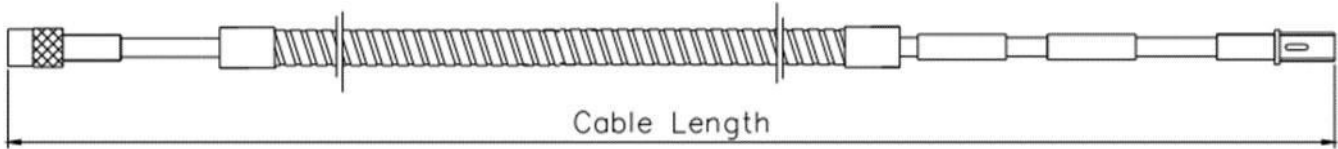


MS3309XX-XX-XX-XX-XX-XX

Focus View Extension Cable

MS	-XXXXXX-XX-XX	-XX	-XX	-XX
3309 series 5mm Probe	Probe Type	Total Length	Connector Type	Hazardous Area Certification
3/8"-24UNF Reverse mount without armor	-330906-02-12 (inches)	-05 (0.5m)	-01 connector with connector protector	-00 None
M10x1 Reverse mount without armor	-330907-05-30 (mm)	-10 (1.0m)	-02 with connector	-05 Multiple hazardous area approvals

Extension Cable for 3309 Focus View Series

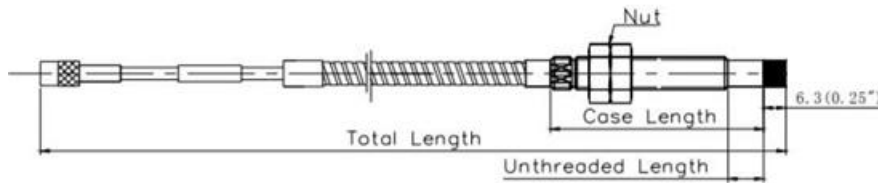


MS330930-XXX-XX-XX

MS	-330930	-XX	-XX	-XX
Extension cable for probe type	Model	Cable Length	Connector Protector	Hazardous Area Certification
3309 Focus view series compatible 5mm probe tip diameter	-330930	-40 (4.0 m) -45 (4.5 m) -80 (8.0 m) -85 (8.5 m)	-00 standard cable -01 armored cable -02 standard cable with connector protector -03 Armored cable with connector protector	-00 None -05 Multiple hazardous area approvals



3000 Series



(Typically used with MS2789 or MS4454 extension cable and 20929 Proximito)

** : 2X measured physical length inches

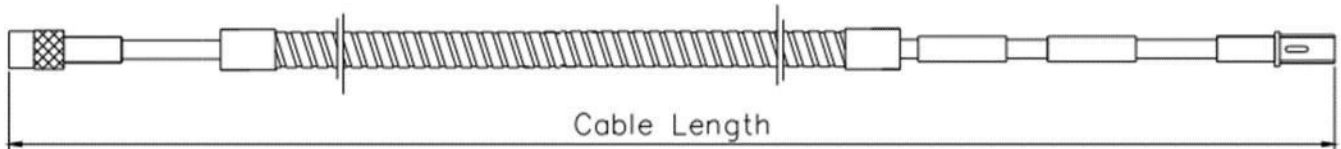
MS	-XXXXX	-XX	-XX	-XX	-02
3000 series 190 probe	Probe Type	Unthreaded Length	Case Length	Total Length	Connector Type
1/4"-28UNF; without armor	-19000	Standard: 00 (0.0 in) Increment: 05 (0.5 in)	Standard: 30 (3.0 in) Increment: 05 (0.5 in)	06 = Min 6in. 36 = Max 36in. 6 in. increments	02 (yes)
1/4"-28UNF; with armor	-19001	Maximum: Case length – 1.0 in	Minimum: 11 (1.1 in) Maximum: 96 (9.6 in)		
M8×1; without armor	-19007	Standard: 00 (0 mm) Increment: 01 (10 mm)	Standard: 07 (70 mm) Increment: 01 (10 mm)		
M8×1; with armor	-19008	Maximum: Case length – 20 mm	Minimum: 02 (20 mm) Maximum: 25 (250)		

(Typically used with MS2789 or MS4454 extension cable and 20929 Proximito)

** : 2X measured physical length inches

MS	-XXXXX	-XX	-XX	-XX	-02
3000 series 190 probe	Probe Type	Unthreaded Length	Case Length	Total Length	Connector Type
3/8"-24UNF; without armor	-30000	Standard: 00 (0.0 in) Increment: 05 (0.5 in)	Standard: 30 (3.0 in) Increment: 05 (0.5 in)	06 = Min 6in. 36 = Max 36in. 6 in. increments	02 (yes)
3/8"-24UNF; with armor	-30001	Maximum: Case length – 1.0 in	Minimum: 11 (1.1 in) Maximum: 96 (9.6 in)		
M10×1; without armor	-30011	Standard: 00 (0 mm) Increment: 01 (10 mm)	Standard: 07 (70 mm) Increment: 01 (10 mm)		
M10×1; with armor	-30012	Maximum: Case length – 20 mm	Minimum: 02 (20 mm) Maximum: 25 (250)		

Extension Cables for 3000 series probes



Cable length + 2 X probe physical length = the equivalent electrical length. All the units should be inches

MS	-XXXX	-XXX
Probe Type	Model	Cable Length (in inches)
Use with 3000 series probe, no armor	-2789	-108 108 inches or 9ft.
	-4454	-120 120 inches or 10 ft.
		-132 132 inches or 11 ft.
		-144 144 inches or 12 ft.
		-156 156 inches or 13 ft.
		-168 168 inches or 14 ft.
		-180 180 inches or 15 ft.
		-192 192 inches or 16 ft
-204 204 inches or 17 ft		

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About Machine Saver Inc.

Our broad product line offers modern and innovative solutions for every application, such as online protection systems for monitoring high value critical machinery, portable vibration data collectors for routine predictive maintenance and easy to use vibration analysis software for balance of plant equipment.

Rely on our vibration monitoring equipment to prevent machinery failures before they occur

In addition to minimizing the risk of facility unavailability, Machine Saver products are designed to increase the lifespan of your equipment, optimize its performance, and ensure that it complies with operational safety standards. Since faulty machinery is one of the most common causes of workplace accidents, it's of primary importance not to let the condition worsen to the irreversible stage and carry out maintenance at the right time. By analyzing the deviations of the parts that are vibrating, our monitors will help you predict when and what should be replaced or fixed to avoid disastrous consequences. VibraVista is capable of serving an extensive range of industries and supplying its revolutionary monitoring systems all over the world. When browsing through our product catalog, you can find something for:

- Steam Turbines
- Hydro Turbines
- Compressors
- BFP Pumps
- Large Motors
- Large Fans
- Any Large Rotating Machine with Oil Lubricated or Sleeve Bearing

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Machine Saver is all about the best value and customer service

If you're in the market for the most cost-effective vibration monitoring equipment, you can stop searching because you've already found it. Explore our assortment, take your pick, and let us provide you with the best price for it. Contact us to clarify details. Protect your machinery using cutting-edge condition monitoring solutions. With Machine Saver help navigating your machine vibration monitoring and or condition monitoring solution is right around the corner. Let us help you!

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