

THREAD DETECTION (THREAD SENSOR) PROBES

Automate manufacturing with thread detection sensors that identify threaded vs. unthreaded holes.

Thread Detection probes are specialized versions of our standard eddy-current displacement probes. They have extended sensing tips to allow easier penetration of tapped/untapped holes and to allow the sensing field to more easily engage the sides of the holes.

Selecting the right probe is dependent on the material type (ferrous vs. nonferrous) and the tapped hole size. The charts below identify the probe model required for your specific sensing needs.



Features

- Easy Installation and Setup
- Reliable, Repeatable Performance
- Ferrous and Nonferrous Materials
- Cut and Roll-Formed Threads
- Optional Probe Crash Protection
- IP67 Rating (Probes)
- -25°C to +125°C Operating Temperature

T-Series for Threads

T-Series probes sense tapped threads in ferrous materials (cast iron, steel, etc.) and tapped or roll-formed threads in nonferrous materials (aluminum, zinc, copper, etc.)

Ferrous Materials

Use T-Series probes with the ECA100 Driver: Adjustable analog voltage output and adjustable switched output.

Nonferrous Materials

Use T-Series probes with the ECL100 Driver: User adjustable analog voltage output

T-Series; Tapped Threads in Ferrous Materials

Probe	Metric	Inch
T5BZ	M6 x 1	1/4-20
	M7 x 1	1/4-28
T6BZ	M8 x 1	5/16-18
	M8 x 1.25	5/16-24
T7BZ	M10 x 1.25	3/8-16
	M10 1.5	3/8-24
T8BZ	M12 x 1.25	7/16-20
	M12 x 1.75	1/2-13
T10BZ	M14 x 1.5	9/16-12
	M14 x 2	9/16-18
T12BZ	M16 x 1.5	5/8-11
	M16 x 2	5/8-18

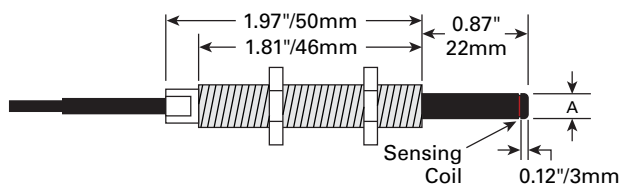
T-Series: Tapped and Roll-Formed Threads in Nonferrous Materials

Probe	Metric	Inch
T5BZ	M5x0.8	—
T6BZ	M6x1	1/4 – 20
		1/4 – 28
T7BZ	M7x1	5/16 – 18
T8BZ	M8x1	5/16 – 24
	M8x1.25	
T10BZ	M10x1.25	3/8 – 16
	M10x1.5	3/8 – 24
T12BZ	M12x1.25	7/16 – 20
	M12x1.75	1/2 – 13
T16BZ	M16x1.5	—
	M16x2.0	

Mechanical Specifications

Probe	Dimension "A"	Body Thread
T5BZ	0.13" / 3.3mm	M8x1
T6BZ	0.16" / 4.1mm	
T7BZ	0.20" / 5.1mm	
T8BZ	0.23" / 5.8mm	
T10BZ	0.30" / 7.5mm	M12x1
T12BZ	0.37" / 9.3mm	
T16BZ	0.52" / 13.1mm	M18x1

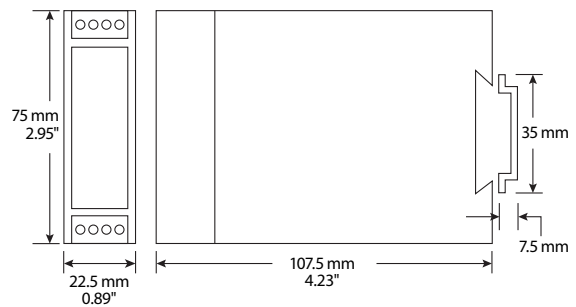
Thread Detection Probe Mechanical Details



Thread Detection Drivers

ECA100 & ECL100 Driver Specifications

Driver Input Power		+12 to +24VDC 130mA @ 15V
Driver Outputs	Voltage	0-10VDC
	Switch (ECA100 Only)	Closed contact above adjustable threshold 400V max, 100mA max
Operating Temperature	Std. Probes	-25°C to +125°C
	Ext. Temp Probes	-25°C to +200°C
	Driver	0°C to +65°C
Probe Cables	Length	3 meters
	Jacket Material	Standard Temp. PUR Extended Temp. TEFLON
Ratings	Driver	IP40
	Probes	Standard Temp. - IP67 Extended Temp. - IP63
Driver Dims.	Height	75mm / 2.95"
	Width	22.5mm / 0.89"
	Depth	107.5mm / 4.23"
	Weight	103g / 3.7oz.



Probe Operating Environment

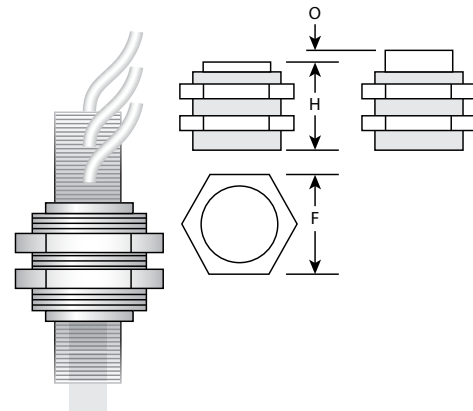
-25°C to +125°C IP67

Probe Cables

Standard probes have PUR (polyurethane) jackets. High-Temperature probes have FEP jackets. FEP cables can be custom ordered for standard temperature range probes.

Mounting Accessories

To minimize the chance of probe damage due to broken taps or misalignment, use mounting cushions for mounting probes. Size is selected to match the probe.



Model Number	SN-08	SN-12	SN-18
Internal Thread (must match probe)	M8x1 (T5-8)	M12x1 (T10-12)	M18x1 (T16)
External Thread	M16x1.5	M22x1.5	M30x1.5
Maximum Extension	0.35" (8.9mm)	0.41" (10.4mm)	0.49" (12.4mm)

Dimensions	22.0mm 0.87"	28.6mm 1.12"	35.8mm 1.41"
Dimension "F"	22.0mm 0.87"	28.6mm 1.12"	35.8mm 1.41"
Dimension "H"	22.1mm 0.87"	22.1mm 0.87"	8.38mm 0.33"
Dimension "O"	8.89mm 0.35"	10.4mm 0.41"	12.4mm 0.49"

Ordering Information

Please contact Lion Precision for ordering information. We can be reached via email at info@lionprecision.com, or via telephone at (651)-484-6544.



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