

IRD544M

Inductive Velocity Vibration Sensor

Square Base, Top Exit, MIL 2-Pin Connector, for Continuous On-Line Machinery Protection

IRD
Mechanalysis

Introduction: IRD544M is an **inductive (moving-coil) velocity sensor** for continuous on-line machinery protection, especially at the steam end of turbines and on generator bearings, with an operating range up to **260 °C**. Its original design has been **in use since 1955**, and it remains one of the world's most widely used velocity sensors. It can be mounted horizontally or vertically at the bearing housing or other critical points on a machine.

The sensor **generates its own signal and needs no power supply**. Its high output, low impedance and frequency response suit most types of machinery protection. The case insulates the signal from the housing, eliminating false alarms from ground loops and power surges. The hard-anodised aluminium housing is **IP65** and suitable for **Class 1, Division 2** hazardous areas. Each sensor is calibrated to traceable national standards and supplied with a full frequency calibration certificate. **Warranty: 3 years.**



Specifications:

Technical Performance

Sensitivity	: 42.52 mV/mm/s $\pm 10\%$ (1080 mV/in/s $\pm 10\%$)
Frequency Response	: 25 to 1,000 Hz
Impedance	: R = 2 k Ω , L = 0.7 H at 21 °C
Maximum Amplitude	: 3,175 μ m (125 mils) pk-pk up to 70 Hz; 30 g above 70 Hz
Transverse Response	: Less than 5% (average)
Isolation	: Signal insulated from case

Mounting and Connection

Orientation	: Any (horizontal and vertical preferred)
Mounting	: 4 holes, $\varnothing 7.0$ mm on 50.8 $\times$ 50.8 mm centres
Connector	: 2-pin MIL-spec, top exit
Cable Length	: 1 to 1,000 m without a repeater

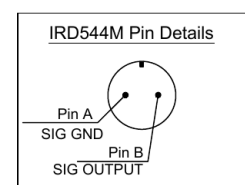
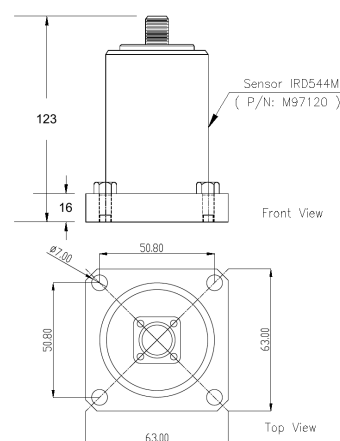
Environmental

Operating Temperature	: -40 °C to 260 °C
Ingress Protection	: IP65 (waterproof, dustproof)
Hazardous Area	: Class 1, Division 2

Physical

Weight	: 700 g
Dimensions	: Base 63.0 $\times$ 63.0 mm; height 130.0 mm overall (123 mm body incl. 16 mm base, excl. connector)
Construction	: Aluminium, hard anodised
Warranty	: 3 years

Dimensions (mm) & Connections:



Pin A: signal ground · Pin B: signal

Bill of Materials and Accessories:

Description	Qty	Part No.
IRD544M Inductive Velocity Vibration Sensor, Square Base, On-Line	1	M97120
Optional accessories (purchased separately)		
Magnetic deflecting shroud (reduces AC magnetic field by 100:1)		M24825
Cable assembly 10 m, PTFE 3.5 mm dia. (<260 °C), stainless steel conduit, MIL 2-pin connector with spade lugs at free end		M60101
Right-angle connector rated for continuous operation		M14797
Mounting pad, MS, 60 $\times$ 60 $\times$ 16 mm, M6 tapped, blackodised		M60015
Mounting block, MS (XY), 60 $\times$ 60 $\times$ 60 mm, M6 tapped, blackodised		M60014
Mounting bracket, MS (XY), for sensor		M60019