



MACHINERY TRANSMITTER - LOOP POWERED - IRD7400



The Vibration People



PRODUCT SPECIFICATION

Machinery Transmitter Loop Powered - (Vibration) Model IRD7400

The architecture of most control and instrumentation systems employs the standard 4-20mA signal from prime sensors and transmitters. The DCS (Distributed Control System) is the heart of the plant control system where loop power is widely understood and economic. Monitoring rotating machinery vibrations requires the AC signal to be converted to 4-20mA DC for interfacing to the DCS. Lower priority and multi-line machinery often does not require automated trip facilities so an economic signalling solution is more appropriate. In response to this need, IRD Mechanalysis developed the highly flexible model IRD7400 single channel Loop Powered Transmitter. DIN rail mounted and available in a variety of configurations, it is installed in local or marshalling cabinets, IP65 or explosion proof enclosures as required. A key feature of model IRD7400 is that the raw buffered signal is available for detailed FFT analysis or even a Diagnostic On-Line System (refer to model IRD9900 DOLS). The IRD7400 will interface with most accelerometers or inductive velocity sensors enabling easy calibration for ISO9000 compliance. The system offers greater value than the more expensive inflexible loop powered accelerometer. PLCs or the DCS can be configured for desired warning and trip annunciation. A flexible solution for the Control and Instrumentation Engineer and plant use.



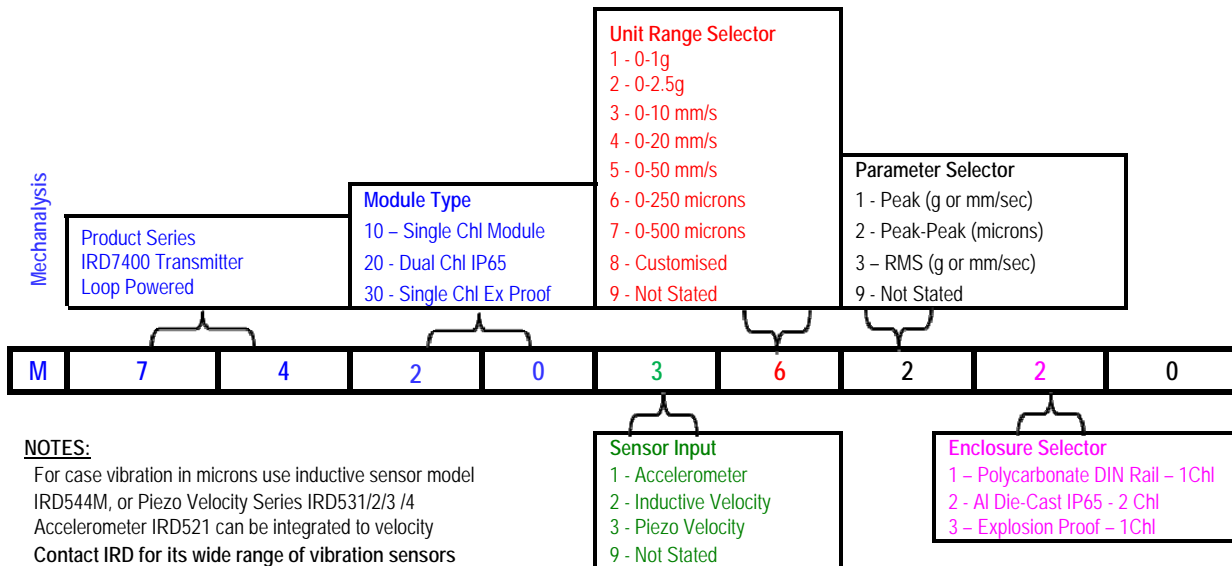
Single Channel DIN Rail Units

Features of the IRD7400 LPT:

1. Loop Powered from the DCS for each channel
2. Single channel, Compact and DIN Rail mounted for high density plant signals
3. Raw buffered signal output from BNC front sockets as well as +2.5V DC for local display (DPM)
4. Accepts most piezo accelerometer sensor types and sensitivities
5. Dual Channel IP65 enclosure with cap sealed Time Waveform signal output at BNC sockets for FFT analysis
6. Economic, saves additional junction box that is needed for loop powered accelerometers on site
7. Available 16 channel communications module DC to RS485 (model IRD9485)

The IRD Machinery Loop Powered Transmitter measures any one of three vibration parameters depending on the sensor selected. Below is a self selector part number chart to customise the transmitter for absolute casing vibration applications. At the time of placing the order, the client must specify the required scale and range or listed part number since each unit is calibrated to Traceable National Standards.

IRD Part Number Selector System



NOTES:

For case vibration in microns use inductive sensor model IRD544M, or Piezo Velocity Series IRD531/2/3 /4 Accelerometer IRD521 can be integrated to velocity Contact IRD for its wide range of vibration sensors

SAMPLE QUOTE DESCRIPTION WHEN ORDERING – (Select variables shown in BOLD)	PART NO.
Machinery Transmitter: Loop Powered, model IRD7400 series (4-20mA output): Dual Channel . Suitable for Piezo Velocity Vibration Sensor IRD532 , Range 0-250 microns , Parameter Peak-Peak , with TWF BNC Sockets in Al Die-Cast IP65 enclosure .	M742036220

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SPECIFICATION

Construction:	- Poly Carbonate
Mounting:	- DIN Rail
Channels:	- One per module
Measurement	- Acceleration 'g' or 'm/sec/sec' in Peak or RMS - Velocity 'mm/sec' or 'inch/sec' in Peak or RMS - Displacement 'microns' or 'mils' in Pk-Pk or PK - Customised as required
Sensor Input:	- Inductive or Piezo Velocity Sensors for Absolute Casing Vibration - Accelerometers, wide selection available for Absolute Casing Vibration
Frequency Response:	- 10Hz – 1,000Hz (Standard) - Can be customized as required.
Signal Outputs:	
Vibration Signal:	- Vibration Analyser Output (BNC connector)
DCS / PLC:	- 4-20mA on +24V DC Supply line.
DPM:	- 0-2.5V DC for local display
Accuracy:	- ±1% @ full scale
Power Supply:	- +24V DC from DCS Loop Power
Output Impedance:	250 ohms
Environmental:	
Operating temp:	- 0°C to 50°C ambient
Storage temp:	- -18°C to 65°C ambient
Humidity:	- 95% non-condensing
Weight:	- 0.15Kg/module
Dimensions mm:	- 1 Channel Module (L)x100(W)x80(D) - 2 Channel Die-Cast Enclosure IP65 160(L)x100(W)x80(D) (Example units illustrated below)



2 Chl Die-Cast Enclosure



2 Chl Die-Cast Enclosure Terminals



8 Chl Polycarbonate Enclosure



IRD9485 16Chl Comms Module

Optional Accessory: The IRD9485 Communications Module is Programmable for Triggered or Continuous acquisition of up to 16 channels unit 0-5 Volts DC and or 4-20mA to MODBUS / RS485 RTU, 16Bit data. DIN Rail mounted it requires an external power supply +24VDC. Also suitable for redundant RS485 applications. Up to 255 (x16 Chl) modules can be daisy chained in a single loop.

The **Vibration People** of IRD Mechanalysis can be contacted at :

Address: E8-14, Bhumi World Industrial Park, Thane - 421302, Maharashtra, India
 Telephone: +91-2522297023 (Monday to Friday 9:00 to 17:30 hours)
 Email: sales@irdmech.com

www.irdmechanalysis.com

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