ENCARDIO RITE
METASENSING FOR MEGA STRUCTURES

VIBRATING WIRE INDICATOR

MODEL EDI-54V

DATASHEET

OVERVIEW

The Encardio Rite model EDI-54V is an advanced micro-processor-based vibrating wire indicator designed to log data from a range of vibrating wire sensors. The indicator utilizes an Android smartphone as the readout unit, featuring a user-friendly application for configuration, data retrieval, and viewing. The smartphone's computational and image processing power allows for the display of logged data in tables and graphs, enabling immediate on-site verification and investigation of any anomalies. The measured readings can be viewed in terms of time period, frequency, or directly in relevant engineering units.

The EDI-54V indicator can store calibration coefficients for more than 10,000 vibrating wire sensors, allowing the measured parameter values to be shown directly in proper engineering units. For sensors with an internal YSI 44005 or equivalent 3 kOhms thermistor, the sensor temperature is displayed directly in degrees Centigrade or Fahrenheit.

The indicator is powered by an internal 6 V rechargeable sealed maintenance-free battery, providing nearly 100 hours of operation on a single charge. It includes a universal battery charger for charging from any AC mains supply. The EDI-54V is housed in a splash-proof plastic enclosure with weatherproof connectors for the vibrating wire transducer and the battery charger.

The power ON/OFF push button cum status indicator has multiple functions. Different statuses, such as battery charging, Bluetooth modem activity, and sensor scanning, can be easily recognized by the indicator's blinking speed or counts.

FEATURES

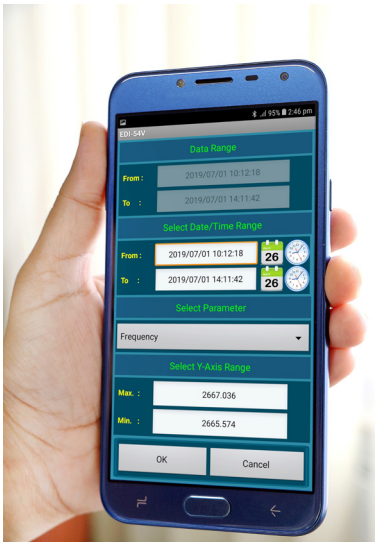
- **Robust and User-Friendly:** Designed to be robust, easy to operate, and cost-effective. Housed in a splash-proof plastic enclosure with weatherproof connectors.
- **Non-linearity correction:** Provides non-linearity correction using polynomial constants.
- **Connectivity:** Includes a USB data cable for connecting to an IBM-compatible PC.
- **Mobile integration:** Uses a smartphone as the readout unit, featuring a user-friendly application for viewing and analyzing recorded data.
- **Battery life:** Offers nearly 100 hours of operation on a single charge.
- **Data storage:** Can store around 525,000 readings with date and time stamps.
- **Calibration storage:** Can store calibration coefficients for over 10,000 sensors.
- **Automatic data logging:** Functions as an automatic single-channel datalogger, storing readings either manually or through scheduled scans.
- **Data transfer:** Logged sensor data files can be uploaded to a remote server via the smartphone's internet connection using GPRS/3G/4G/Wi-Fi.
- **Real-time data analysis:** Allows immediate on-site verification and investigation of anomalies through the smartphone application.
- **Temperature measurement:** Displays sensor temperature directly in degrees Centigrade or Fahrenheit for sensors with an internal YSI 44005 or equivalent 3 kOhms thermistor.
- **Comprehensive software features:** The application provided with the indicator can display logged data as tables or various types of graphs, enabling thorough data analysis.

SYSTEM COMPONENTS

EDI-54V Vibrating Wire Indicator:

Indicator Unit: The core unit of the EDI-54V, designed to log data from a range of vibrating wire sensors. It features a micro-processor-based system for data processing and storage.

Readout Unit: Uses an Android smartphone as the readout unit, featuring a user-friendly application for configuration, data retrieval, and viewing. The smartphone's computational and image processing power allows for displaying logged data in tables and graphs.



SPECIFICATIONS

Input:

Suitable for input from two-wire vibrating wire transducers with 110 to 150 Ohms (nominal) sensor coil. Input from equivalent sensors of other manufacturers is also acceptable.

Thermistor Input:	For sensors with integral 3 kOhm (@ 25°C) R-T curve matched YSI 44005 or equivalent thermistor.
Excitation:	Swept frequency excitation, 5 V (typical) peak-to-peak square wave.

Frequency measurement

Range:	400 – 6000 Hz
Measurement time:	128 cycles
Measured parameter:	Time period
Resolution:	0.01 micro-seconds (in time period display mode)
Accuracy:	Period measurement ± (0.006% of reading + 0.004 µsec)
Displayed parameters:	Time period, frequency and engineering units

Temperature measurement (Only for sensors provided with 3 kOhm thermistor)

Measurement range:	-20 to + 100°C
Resolution:	0.1°C
Memory:	64 MB flash memory, sufficient for about 525,000 readings.
Real Time Clock:	Provides time and date stamping of stored data with an accuracy of ± 30 seconds/ month over the operating temperature range.
Input/Output Connectors:	Circular splash-proof 7-pin connector for sensor input and 6-pin connector for battery charger.
Power Supply:	Internal rechargeable 6 V, 4 Ah sealed Valve Regulated Lead Acid (VRLA) battery, providing nearly 100 hours of operation on a single charge. A universal battery charger is included for charging the battery from any AC mains supply.
Housing:	Impact-resistant plastic molded housing with dimensions of 220 mm (W) x 190 mm (H) x 100 mm (D). The housing is splash-proof with weatherproof connectors for the vibrating wire transducer and battery charger.
Battery Charger:	Input: 100 – 240 V AC, 50 or 60 Hz, 500 mA max; Output: 9 VDC nominal, 2 A max.

**All specifications are subject to change without prior notice*

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