
DATASHEET

VIBRATING WIRE INDICATOR

MODEL EDI-54V



OVERVIEW

Encardio-rite model EDI-54V indicator is an advanced micro-processor based unit which can be used to log data from Encardio-rite range of vibrating wire sensors. The indicator uses a smartphone with Android OS as readout with a user friendly software for configuration, retrieving and viewing sensor data.

The huge computational and image processing power of smartphone allows the application to display the logged data as tables and graphs and keep a record of previous data. This allows the operator to verify the logged data and investigate any anomaly immediately at site. The measured reading can be viewed in terms of time period, frequency, frequency squared or directly in relevant engineering units.

FEATURES

- Robust, easy to operate and low cost.
- Mobile Phone as readout unit, with a user friendly application for viewing and analyzing the recorded data
- Data storage for around 525,000 readings stamped with the date and time
- Storage facility for calibration coefficients of over 10,000 sensors.
- Can display measured frequency in terms of time period, frequency, frequency squared or directly in proper engineering units.
- Provides non-linearity correction using polynomial constants.
- RS-232C serial output to connect IBM compatible PC or serial printer.
- Battery provides nearly 100 hours of operation on a single charge.



DESCRIPTION

Model EDI-54V indicator can store calibration coefficients of more than 10,000 vibrating wire sensors so that the value of the measured parameter from these sensors can be shown directly in proper engineering units. For sensors provided with an internal YSI 44005 or equivalent 3 kOhms thermistor, the sensor temperature is displayed directly in degree Centigrade or Fahrenheit.

The indicator has an internal non-volatile memory with sufficient capacity to store about 525,000 readings while scanning from any of the programmed transducer. Each reading is stamped with date and time.

EDI-54V has data logging feature and can be used as an automatic single channel datalogger also. Readings can be stored either manually by accepting reading from reading screen or can be stored automatically by running scheduled scan.

An internal 6 V rechargeable sealed maintenance free battery is used to provide power to the indicator. A fully charged new battery provides nearly 100 hours of operation on a single charge. A separate universal battery charger is provided with the EDI-54V indicator to charge the internal battery from any AC mains supply.

The EDI-54V indicator is housed in a splash proof plastic moulded enclosure with weather proof connectors for making connections to the vibrating wire transducer and the battery charger.

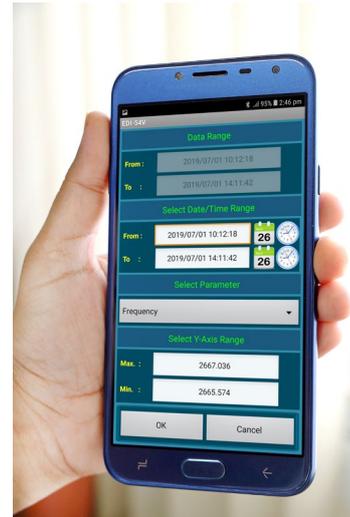
Power ON/OFF push button cum status indicator has multifunction. Different status like Battery charging status, Bluetooth Modem status, Sensor scanning etc. can be easily recognized by viewing indicator's blinking speed or counts.

Readout unit – Android Smartphone

The EDI-54V vibrating wire indicator uses an Android smartphone as a readout unit. The phone running on Android operating system provides a powerful platform to manage our configuration application efficiently. Since readout unit is a mobile phone, its operation is user friendly and convenient.

The stored readings can be downloaded from indicator's memory into phone readout unit in simple CSV file format. The application provided with the indicator, exploits the huge computational and image processing power of today's mobile phone to display the logged data as tables or various types of graphs commonly used at back end computers to visualize the data. This allows the operator to verify the logged data and investigate any irregularity immediately at site, as the previous data is already available in the memory.

Sensor data files are created automatically while saving sensor log. These files can be extracted from software database when needed. The logged sensor data files can be uploaded to remote server through mobile phone's internet connection via GPRS/3G/4G/Wi-Fi.



A choice of mobile phones can also provide the functions of camera to record photos or video clips of site conditions, view tutorial videos on site, or fix its geographic location using the inbuilt GPS receiver besides all the functions available in a mobile phone.

SPECIFICATIONS

Input

Suitable for input from all Encardio-rite make 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 from sensors provided with integral 3 kOhm (@ 25°C) R-T curve matched YSI 44005 or equivalent thermistor for temperature sensing.

Excitation

Swept frequency excitation, 5 V (typical) peak to peak square wave.

Frequency measurement

Range:	500 Hz - 5 kHz
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, frequency squared and engineering units.

Temperature measurement

(Only for sensors provided with 3 kOhm thermistor)

Measurement range:	-20 to + 100°C
Resolution:	1°C



Memory

64 Mb flash memory.

The indicator has an internal non-volatile memory with sufficient capacity to store about 525,000 readings from any vw sensor, with date and time.

Real time clock

A real time clock is provided for time and date stamping of stored data.

RTC time keeping accuracy: ± 30 seconds/month, typical, over the operating temperature range with indicator powered on.

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 battery (generally known as maintenance free battery). A suitable external battery charger is supplied with the indicator for charging the batteries.

Battery options: Exide (India) EP4-6 or Hitachi HP4-6 (6M4) sealed maintenance free battery or equivalent from other manufacturers

Internal safety fuse (F1) rating: 2 A Slow Blow

Housing

Impact resistant plastic moulded housing. Dimensions: 220 mm (W) x 190 mm (H) x 100 mm (D)

Battery charger

Input: 100 – 240 V AC, 50 or 60 Hz, 500 mA maximum

Output: 9 VDC nominal, 2 A maximum

(Above specifications are valid for version 0)