# ENCARDIO RITE

## VIBRATING WIRE INDICATOR

**MODEL EDI-51V**

### OVERVIEW

Encardio-rite model EDI-51V vibrating wire indicator is a micro-processor based unit which can be used with any Encardio-rite vibrating wire sensor. The indicator can display the measured frequency in terms of time period, frequency, frequency squared or the value of measured parameter directly in proper engineering units. For sensors provided with an internal YSI 44005 or equivalent 3 kOhms thermistor, the sensor temperature can be displayed directly in °C.



Model EDI-51V indicator can store calibration coefficients of maximum 500 number of sensors. It has capacity to store either 4500 readings from any one sensor or about 9 sets of readings from all 500 sensors. Each reading is stamped with date and time at which the measurement was taken.

The stored readings can either be uploaded to a host computer or printed out on any text printer using the serial interface. The uploading can be done using any common unitext software like Hyperterminal. The data can also be processed on any common available spreadsheet like Microsoft Excel.

An internal 6 V rechargeable sealed maintenance free (VRLA) battery is

### FEATURES

✦ Robust, easy to operate and low cost.

✦ Can display measured frequency in terms of time period, frequency, frequency squared or directly in proper engineering units.

✦ Storage facility for calibration coefficients of up to 500 sensors.

✦ Data storage for either around 4500 readings from any one sensor or about 9 sets of readings from all the 500 sensors.

✦ Provides non-linearity correction using polynomial constants.

✦ RS-232C serial output to connect IBM compatible PC or serial printer.

✦ Powered with an internal 6 V rechargable VRLA battery.

used to power the indicator. A separate compatable external universal 95 to 270 V AC input battery charger is provided with the EDI-51V indicator to charge the internal battery from AC mains.

The indicator is housed in a splash proof plastic molded enclosure with weather proof connectors for making connections to the sensor and battery charger.

## TECHNICAL SPECIFICATIONS

### Input

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

Thermistor input from sensors provided with integral 3kW (@ 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 micro-sec.)

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

### Display

LCD dot matrix alphanumeric display. 16 characters x 1 line. Red led provided for battery low indication.

### Keyboard

16 key environmentally sealed membrane keypad. Keys are multiple functions. Primary key function and numerical values are marked on keys.

### Engineering units display

Standard units are ue (micro-strain), ksc (kg/cm$^2$.), kg, t, mm, m, C and deg.

### Environment

Operating temperature range: 0 to 45 °C
Operating humidity range: 10% to 90% (no condensation)

### Memory

64 kB non volatile NVRAM (data memory).

Data memory provides non volatile storage for 500 sensors calibration constants and 4500 sets of time stamped data readings. Each data set consists of one parameter reading and corresponding temperature reading (for VW sensors with integral thermistor sensors only) together with date & time data was stored.

### Real time clock

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

RTC time keeping accuracy: ± 2 minutes/month, typical, over the operating temperature range with indicator powered on.

### RS-232C serial port

RS-232C serial output is provided to connect the indicator to a serial printer or IBM compatible PC equipped with a RS232C serial interface port.

Baud rate: 2400 baud fixed.
Format: 1 start bit, 8 data bits, no parity and one stop bit. Data file uploaded to computer is in comma delimited ASCII text file format acceptable to most third party software.

### Diagnostics

Power On Self Test plus additional diagnostic utilities are provided.

### Power supply

Internal rechargeable 6 V 4Ah VRLA lead acid battery.
A compatable external universal 95 to 270 V AC input 7 V DC output battery charger is supplied with the indicator for charging the batteries.

### Input/output connectors

Circular splash proof 7-pin connector for sensor input & RS-232C serial interface port (combined) & 3-pin connector for battery charger.

### Housing

ABS + PU impact resistant plastic moulded housing. Dimensions: 277 mm (W) · 248 mm (H) · 70 mm (D).

(Above specifications are valid for version 5.0 upwards)