ENCARDIO **RITE**

ONE STOP MONITORING SOLUTIONS | HYDROLOGY | GEOTECHNICAL | STRUCTURAL | GEODETIC
Over 50 years of Excellence through ingenuity

--- **DATASHEET** ---

DIGITAL INDICATOR

MODEL EDI-53

OVERVIEW

Encardio-rite model EDI-53 series readout units is a micro-processor based read out unit which can be used with various type of sensors, like those with voltage output, current output, etc. The readout unit can display the measured parameter directly in applicable engineering units. Potentiometric and resistance strain gage based geotechnical transducer from most other manufacturers can also be read by the EDI-53.

FEATURES

- Robust, easy to operate and low cost.
- Can display the measured parameter directly in proper engineering units.
- Storage facility for calibration coefficients of up to 250 transducers.
- Data storage for either around 3600 readings from any one transducer or about

- 14 sets of readings from all the 250 transducers.
- RS-232C serial output for downloading data to a serial printer or IBM compatible PC.
- Powered with internal 6V rechargeable SMF battery.

The readout unit is available in following variants:

- EDI-53P for potentiometric displacement transducers with voltage output
- EDI-53L for resistive strain gage load cells
- EDI-53I for 4-20 mA DC current output transducer
- EDI-53UTM for tilt meters with voltage output
- EDI-53UTM-C for electrolytic level type tilt meters

Model EDI-53 digital indicator can store calibration coefficients of maximum 250 numbers of transducers. It can store either around 3600 readings from any one transducer or about 14 sets of readings from all the 250 transducers. 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 using the serial interface or can be printed out on any text printer equipped with a RS-232C serial communications interface. The setup information (calibration coefficients) for all the channels can also be printed out for verification. An internal 6 V rechargeable sealed maintenance free battery is used to provide power to the indicator. A separate battery charger is provided to charge the internal battery from 95 to 265 V AC mains.

The EDI-53 digital indicator is housed in a light weight splash proof plastic moulded enclosure with weather proof connectors for making connections to the transducer and the battery charger.

TECHNICAL SPECIFICATIONS

Model EDI-53P

Input: Potentiometric displacement transducers with 0-2 V DC output.

Excitation voltage: 5 V DC

Model EDI-53L

Input: Resistance strain gauge bridge load cell with 0…3 mV/V output.

Excitation voltage: 5 V DC

Min. L/C input resistance: 90 Ohms Preamplifier gain 100

Model EDI-53I

Input: 4-20 mA DC current input.

Input resistance: 50 ohms

Model EDI-53UTM

Input: Uniaxial tilmeter; 0-4 V DC output

Excitation voltage: 12 V DC (nominal)

Model EDI-53ELV

Input: EL tilt meter (voltage output)

Excitation voltage: 12 V DC (nominal)s

(Note: EDI-53ELV stores data in Volts. Value in engineering units can be calculated in Excel sheet using polynominal co-efficients given in individual test certificate of tilt meter)

GENERAL

(Specification common for all versions)

Analogue to Digital Converter

Measurement resolution: ± 20,000 counts resolution for 2 V input.

Display resolution: Recommended maximum 2000 counts for 2V at ADC input. ADC accuracy ± 0.1 % FS for 2 V DC input.

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

The indicator accepts linearization coefficients for linear scaling like $Y = BX + C$, or second order polynomial calculation like $Y = AX2 + BX + C$, where X is measured value and Y is converted value in engineering units. The indicator can store calibration coefficients A, B and C for up to 250 transducers.

Memory

32 KB EPROM program memory and 32 KB non volatile Data memory provides non volatile storage of 250 transducer calibration constants and 3600 sets of time stamped data readings. Each data set consists of one parameter reading together with date & time data was stored.

Environment

Operating temperature range: 0 to 45°C

Operating humidity range: 10% to 90% (no condensation)

Real time clock

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

RTC time keeping accuracy is ± 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 of the software.

Diagnostics

Power on self test plus additional diagnostic utilities are provided.

Power supply

Internal rechargeable 6 V, 4 Ah sealed maintenance free battery. An external 95 - 265 V AC input 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 composite high impact resistant plastic moulded housing. Dimensions: 277 mm (W) x 248 mm (H) x 70 mm (D).

RAM (NVRAM) data memory.

(Above specifications are valid for version 2.0 upwards)