
DATASHEET

VIBRATING WIRE DATALOGGER (SINGLE CHANNEL)

MODEL ESCL-12VT



INTRODUCTION

Model ESCL-12VT single channel datalogger is designed for collecting data automatically from any vibrating wire sensor with integral thermistor. With telemetry option, it transfers the data to cloud server through in-built GPRS/GSM modem at set intervals. Automatic collection and wireless transmission of data helps in reducing field costs and provides easy access to near real-time data with early alarms.

The datalogger has the facility of two way communication. This further reduces field costs significantly as it provides remote access to configure, receive system status update, and carry out maintenance or diagnostics and preventive actions from office itself. This eliminates any need of site visit after installation.

FEATURES

- Provides near real time at your desk with telemetry option
- Two way communications allows remote access for configuration and managing
- Easy to install, simple to use with user friendly configuration application
- Large data storage memory
- Long battery life
- Weather resistant housing

APPLICATION

- Geotechnical applications - Metros, tunnels, underground cavities, Dams
- High rise buildings, historical monuments, bridges and other such structures
- Landslide monitoring
- Foundations, retaining structures, piles etc.



DESCRIPTION

ESCL-12VT is a compact rugged datalogger that can be used in a variety of application to provide accurate and reliable data from vibrating wire sensors. It features a wide operating temperature range, dependable standalone operation, low power consumption, compatibility with many telecommunication options and flexibility to support a variety of measurement and control applications. It has an on board 5-pin connector for rapid sensor connection. The durable construction makes it well-suited for unattended applications.

ESCL-12VT datalogger with built in 3G/4G modem has capability to upload data records directly to remote cloud server. Upload schedule can be set using this software for automatic data upload to FTP server. Schedule can be set as fast as 5 minutes. Datalogger with 2-way telemetry option can be configured remotely using internet connection. The datalogger has a number of power supply options.

The datalogger can store calibration coefficients, x-parameter, units of measurement etc. Data can be stored in engineering units. Each reading is stamped with date and time at which the measurement was taken. It has non-volatile flash memory to store up to 270,330 records.

The datalogger has Windows based application software with features that allow the user to set the sensor calibration coefficients, recording intervals, datalogger or location code (identification tag numbers), sensor serial number, real time clock time etc. of the datalogger conveniently.

User can monitor readings and GPRS signal strength for diagnostic purpose. User can start or stop scan or can manage data files, download data from the datalogger, perform data correction and save and export the data files.

DATA RETRIEVAL AND TRANSMISSION

Telemetry through GSM/GPRS modem

The datalogger has in-built modem and an in-built or separately mounted antenna. In a location covered by any GSM/GPRS service provider, the data from the datalogger can be transmitted remotely to a cloud server. The user needs to arrange a data SIM card.

Readout/data retrieval using laptop/mobile

The logged data from the datalogger in the field can be directly downloaded to a laptop/mobile running the supplied configuration/application software. Data can be transferred to the central PC or server from the laptop/mobile using either a USB pen drive or through Internet.

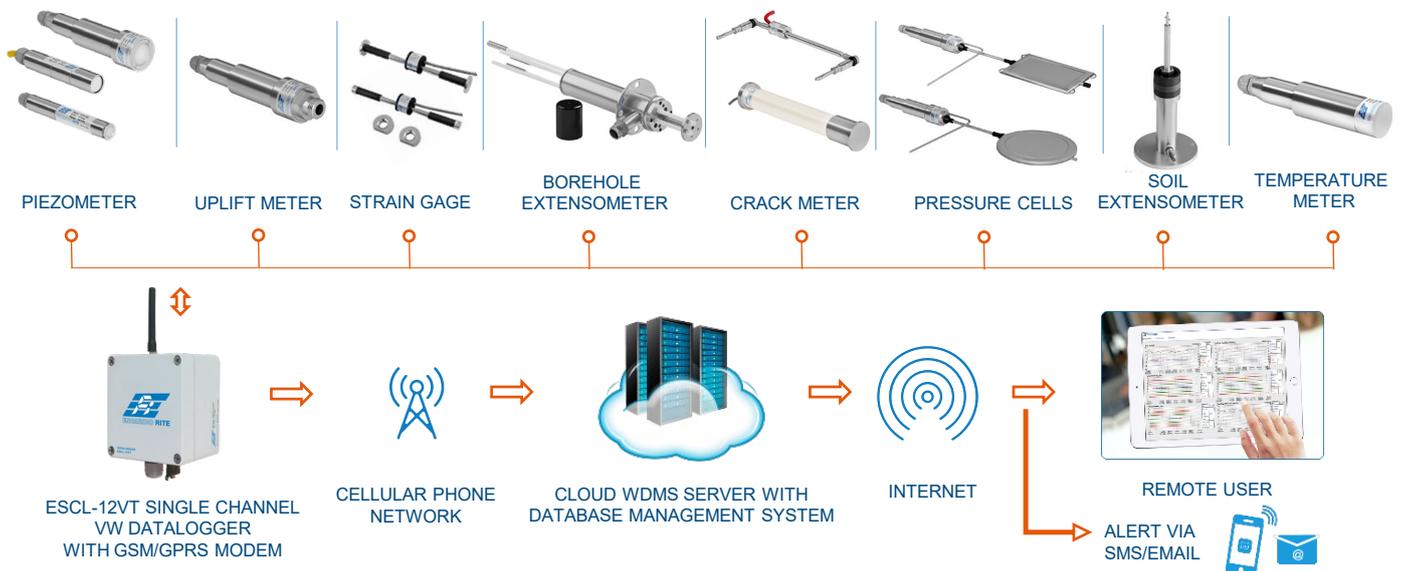
CONFIGURATION AND ALARMS

Configuration

- Using USB to RS-232 Cable with laptop
- Using Bluetooth with Android phone or laptop
- Remote configuration using telemetry (two way connection)

Alarms

- Upto 3 alarms can be programmed for sensor readings
- Alarm for low battery (10% and 2% capacity remaining)
- Above alarm via SMS up to 8 recipients





DATA PRESENTATION, ARCHIVING AND WORLD WIDE ACCESS THROUGH ENCARDIO-RITE PUBLIC CLOUD SERVICE

Encardio-rite offers public cloud based web monitoring service to its customers for retrieving data from ESCL-12VT dataloggers, archiving the retrieved data in a SQL database, processing the data and presenting the processed data in tabular and most suitable graphical forms for easy interpretation of logged data.

The data management system includes everything needed to publish monitored data in real time on internet. Users can interact with software using their web-browser, when connected to the internet, from any location in the world. It allows multiple authorized users at different locations to view any data or report from the same project site simultaneously. The real time display, graphs & reports can be viewed using popular web browsers like Microsoft Internet Explorer or Mozilla Fire Fox amongst others.

Data from Encardio-rite cloud based web monitoring service can be accessed from any type of device, like a desktop or laptop, tablet, smart phone, etc., that supports a standard web browser. The data management system can also be programmed to send SMS and email alert messages to selected users as soon as any sensor data crosses its predefined alarm level. It can also be programmed to send the health status of the system.

Encardio-rite cloud services work on a rental model. User has to pay a small setup fee for first time and then a monthly rental has to be paid for accessing the data over the cloud as long as required.

SPECIFICATIONS

Input	Any vibrating wire sensor with inbuilt thermistor
Measuring range	VW frequency range 400-6000 Hz; Temperature: Thermistor type, Dale 1C3001-B3, temperature range -40 to +100°C
Accuracy	Frequency: ± 0.01 % of reading Temperature: ± 0.1 °C (excluding sensor inaccuracy) Real time clock: ± 1 minute/month

Resolution	Frequency: 0.001 Hz Temperature: ± 0.01 °C Real time clock: 1 second
Scan interval	5 seconds to 168 hours
Data upload schedule	5 minutes to 168 hours
Memory capacity	FRAM (2-Mbit) & Flash Memory (64-Mbit); 3 Million data points
Communication port	RS-232 (standard) 115 kbps 3G: EHS6 4G: ELS61-AUS, ELS61-EU, ELS61-US
Wireless modem	4G: ELS61-AUS, ELS61-EU, ELS61-US
Data Transfer	Via RS232; Via 3G/4G cellular network
Antenna	Built-in Antenna Optional external whip Antenna Laptop with Windows OS, using RS-232 or Bluetooth ¹ Mobile phone with Android OS, via Bluetooth ¹ FTP, using 3G/4G cellular network
Configuration & Data Retrieval	¹ Note: Data transfer via Bluetooth requires add-on Bluetooth dongle for Datalogger
Remote configuration & data retrieval	Datalogger can be configured remotely by 2-way telemetry using 3G/4G cellular network
Operating temp. range	- 30 to 70°C
Humidity	100 %
Power supply	2 x D size 3.6 V/19 Ah Lithium cells 2 x D size 1.5 V/15 Ah Alkaline cells 12 V external power (AC mains/solar panels)
Battery Backup	>5 Years with 7.2 V Lithium Battery (with 4 scans/day and 1 upload/day) >3 Years with 3 V Alkaline Battery (with 4 scans/day and 1 upload/day)
Housing	Corrosion resistant weather proof polyester enclosure; IP65 protection
Box dimension	120 (L) x 122 (W) x 90 (H) (mm)

*All specifications are subject to change without prior notice

ENCARDIO-RITE ELECTRONICS PVT. LTD.