EWS SWITCH-VWT
Vibrating Wire Telemetry

Overview

The EWS VWT (Vibrating Wire Telemetry) presents a versatile multi-channel option, multi-communication enabled IoT device designed specifically for remote Geotechnical and Structural monitoring applications. Connect to any Vibrating Wire sensor such as VWP's, Strain Gauges and Crack Meters, and transmit data from anywhere utilising either 4GLTE or Satellite connectivity. The device comes as a single-channel, 4-channel or 8- channel option which makes it ideal for singular instrument sites as well as grouped instrument sites such as nested piezometer bores.

Features

- ☑ Multi-communications option; Send data via satellite (Iridium, Swarm, Myriota) or LTE.
- ☑ Read all Vibrating Wire Sensors.
- ☑ Single Channel, 4 Channel and 8 Channel options available.
- ☑ Adjustable sweep range to suit different VW Sensor types.
- ☑ Internal rechargeable battery pack or long-life non rechargeable options.
- ☑ Input for external battery pack or direct to solar (Internal Solar regulator).
- ☑ Utlra-Low power draw with internal battery backup.
- ☑ Configure using Bluetooth mobile app (available on Apple and Android).
- ☑ Remotely change settings with two way comms including over Iridium.
- ☑ Rugged and robust for harsh environments.
- ☑ Encoding scheme for compression of data packet size.
- ☑ Automatic upload to Orion Cloud
- ☑ Internal storage of up to 260,000 events.

Benefits

- ☑ Connects to all standard VW sensors commonly used in geotechnical and structural monitoring.
- ☑ Compact and discreet, reducing installation time and footprint.
- ☑ Designed and Manufactured in Australia.
- ☑ Rugged and robust - deigned for harsh remote environments.
- ☑ Plug and play setup on site.
- ☑ Very straightforward and scalable for fast deployments and large monitoring roll outs.
- ☑ No risk of Single-Point-Failure - Each device transmits independently.
- ☑ Ideal for tailings dam monitoring.
- ☑ Perfect for new and retrofit instrumentation projects.

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Specifications subject to change without notice.

COMMUNICATIONS INTERFACE

Telemetry	
Number Available	Single channel either Iridium SBD or LTE Cat NB1
MODBUS	
Number Available	Single powered bus with up to 10 addressable devices
4-20mA Analogue	
Number Available	Up to 1 (shared with pulse on same port)
Range	0mA to 25mA
Sensitivity	7µA
Accuracy	0.50%
Pulse Input	
Number Available	Up to 1 (shared with 4/20mA on same port)
Pulse Width	5ms to 1 sec
Polarity	Active low

CONVERTOR INTERFACE

Measurement Interval	1 second to 24 hours
Sensor Type	Vibrating wire and thermistor (for temperature)
Channels	4 x VWP and 4 x temperature, option of additional 4 VWP's
Accuracy (VW)	±0.1% of full scale
Accuracy (temperature)	±0.1°C
Excitation voltage for VW sensor	Automatically set 5V or 12V
Sweeping frequency range	Automatically configured 450-6000 Hz
Temperature sensor	Thermistor (3KΩ resistance)
Connections	Phoenix Contact COMBICON MSTB, 10 Way Pluggable Terminal Block

COMMUNICATIONS

4G / Iridium Satellite	LTE, Iridium Sat freq
Internal antenna (external option available)	MINI 3G/4G/Iridium PCB

OTHER FEATURES

Processor	32 bit Arm Cortex M4 processor
Clock	Internal real-time clock w/battery backup
Reed Switch	Swipe to activate
Connectivity	USB/Blue Tooth

MECHANICAL

Dimensions	L 150mm x W 60mm x D 60mm
Weight	250 grams

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ENVIRONMENTAL

Temperature	-20°C	to	+60°C functionality
Humidity	0-95%		Non-condensing

ELECTRICAL

Input Voltage	+12.5V to +24V
Battery	Rechargeable +7.4V, 1.8A/hr or non-rechargeable +9.2V, 1.4A/hr *Extender pack available
Current Consumption	0.4mA standby type (all sensors unpowered)
Iridium Transmission	0.7A @ +12 Volts
Power Connection	M8 connector
SDI-12 Port	3 position terminal strip
Modbus	2 position terminal strip
Red Warning LED	Indicates operation error
Green Heartbeat LED	Indicates unit operating properly
Blue Interface LED	Indicates interface communication