

RO-1-VW-READ VIBRATING WIRE READOUT - VWREAD

Datasheet RO-1-VW-READ



Description

The VWread is a handheld readout that reads most commercially available geotechnical Vibrating Wire (VW) sensors and built-in thermistor temperature sensors.

With a default wide sweeping range of 400 - 6000 Hz, the VWread is very versatile and easy to use.

The VWread uses an FFT-based reading algorithm which makes it more immune to the common interferences associated with VW sensor readings.

Features

- **Portable and rugged**
- **Compatible with nearly all VW sensors**
- **Realtime display of VW sensor readings in Hz, Hz²/1000 and period**
- **FFT-based data reading algorithm**
- **Reads with the default full sweep frequency range (400-6000Hz) or any user definable range**
- **Reading and displaying parameters can be fully configured**
- **Long battery life; powered by a NiMH rechargeable battery**
- **User selectable display backlight; auto shutdown**

Benefits

- **Easy to carry and operate in all site conditions**
- **Readings are accurate, repeatable and interference free**
- **Taking readings is simple, fast and error free**
- **Selectable higher 15V excitation ensures quality readings for sensors with long cables**



Comprehensive information about this product and our full range is available at www.soil.co.uk
If you would like to speak with someone directly please call +44 (0)1825 765044 or email sales@soil.co.uk

Operation

The operation of VWread is driven by the onboard menu.

The main menu gives access to all VWread functions, including:

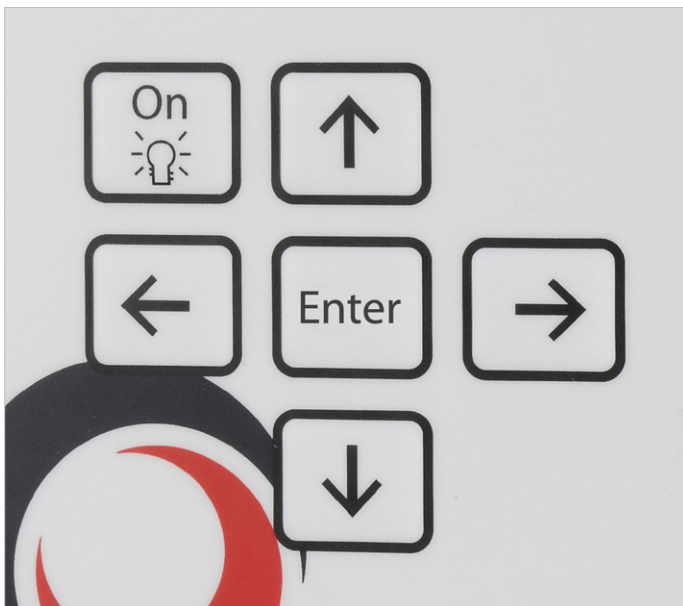
- **READ** - take a reading of the VW sensor currently connected to VWread.
- **SENSOR SETUP** - configure sensor reading parameters such as sweep range, frequency units, temperature units and excitation voltage.
- **DEVICE SETUP** - configure display parameters, such as contrast, backlight and auto off.
- **DEVICE INFO** - displays the info of the device, such as firmware version, battery voltage and board temperature.

Applications

The VWread can be used to read Vibrating Wire sensors for geotechnical and structural monitoring.

Typical applications include:

- Pore pressure monitoring
- Water level monitoring
- Strain monitoring
- Displacement monitoring
- Crack monitoring
- Load monitoring
- Pressure cell monitoring



Associated products

For details on:	Catalogue code:
VW Piezometers	W9
VW Strain Gauges	ST1 - ST5
VW Pressure Cells	P6 & P9
VW Crackmeters	J2
VW Jointmeters	J1 & J3
VW Load Cells	L2

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THE TECHNICAL RATING FOR THIS PRODUCT:

As the correct installation of any monitoring sensor or system is vital to maximise performance and accuracy, Soil Instruments makes the following recommendations, for the skill level of the installation contractor.

ADDITIONAL SUPPORT

We offer installation and monitoring services to support this system. For more information please email : sales@soil.co.uk or call : **+44 (0) 1825 765044**

BASIC 

ADVANCED 

INTERMEDIATE 

BASIC 

The installer is trained and experienced in the installation of this type of instrument or systems, and is ideally a specialist Instrumentation and Monitoring contractor.

The installer already has previous experience and/or training in the installation of this instrument or system.

As a minimum the installer has read and fully comprehends the manual, and if possible has observed these instruments or systems being installed by others.

Specifications

Vibrating Wire Inputs

Sweeping frequency	default 400 - 6000 Hz
Reading algorithm	Fast Fourier Transformation (FFT) based
Resolution	0.01Hz
Accuracy	0.01% of full scale
On-board excitation	5V and 15V square wave (user selectable)

Temperature Inputs

Temperature sensor	NTC 3K Ω
Measurement range	-50 to +150°C
Resolution	0.01°C
Accuracy	$\pm 0.1^\circ\text{C}$

Power

Power supply	nominal 6V DC, using a Nickel Metal Hydride (NiMH) rechargeable battery
Low battery voltage warning	4.1V
Current consumption	55mA on standby, 200mA while reading sensor at 5V
With backlight on	additional 8mA
Battery life	30 hours continuous without backlight, 15 hours with backlight
Auto-off timer	6 minutes of inactivity

Display

Display	16 x 2 character LCD display with backlight
Display units	Hz, Hz ² /1000 and period
User interface	6 key membrane keypad

Physical Properties

Size	L 190mm x W 140mm x D 40mm
Weight	0.95kg including bag
Operating temperature	-10 to +50°C

Ordering Information

VWread

RO-1-VW-READ	VWread – Vibrating Wire Handheld Readout using Fast Fourier Transformation (FFT) Reads VW instruments and thermistors and includes a manual, calibration certificate, Nickel Metal Hydride (NiMH) rechargeable battery, sensor flylead and carry case.
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Flyleads

RO-1-VW-2.7	Terminal box flylead VW and temperature readout to terminal box RO-T
RO-1-VW-2.8	Cable plug flylead VW and temperature logger to cable plug CA-4.6

VWread

MAN-238	VWread - Vibrating Wire Readout
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