



WiSe

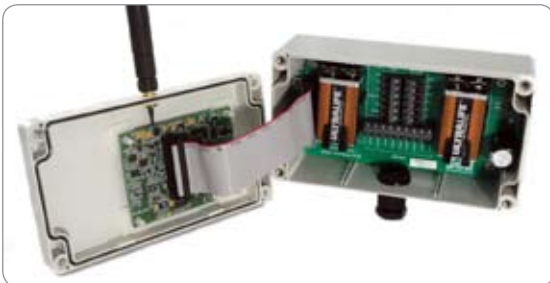
Key Benefits

- Wireless Mesh Network datalogging solution
- Compatible sensor types include, Vibrating Wire, 4-20mA, Voltage Output, Electrolevel and Resistance
- Wireless monitoring of bridges, tunnels, excavations, landslides, earth structures, railways, buildings and dams
- Rapid deployment of flexible, robust monitoring systems within difficult environments
- Quick and simple installation, robust, power efficient operation and a highly scalable monitoring solution



Technical Applications

The WiSe system from Soil Instruments is a low cost Wireless Mesh Network datalogging solution capable of reading all sensors in the Soil Instruments product range. Applications include the wireless monitoring of bridges, tunnels, excavations, earth structures, railways, buildings and dams. It is also ideal for the rapid deployment of flexible, robust monitoring systems within difficult environments where a cabled solution is not possible.



Containing a full suite of signal processors, ADCs, flash memory, ancillary device drivers and self diagnostic facilities. The Module can be easily and rapidly adapted to measure almost any sensor type required.

Each WiSe Module reads and stores data from a wide variety of engineering and geotechnical sensors. Data output is via the WiSe Gateway.

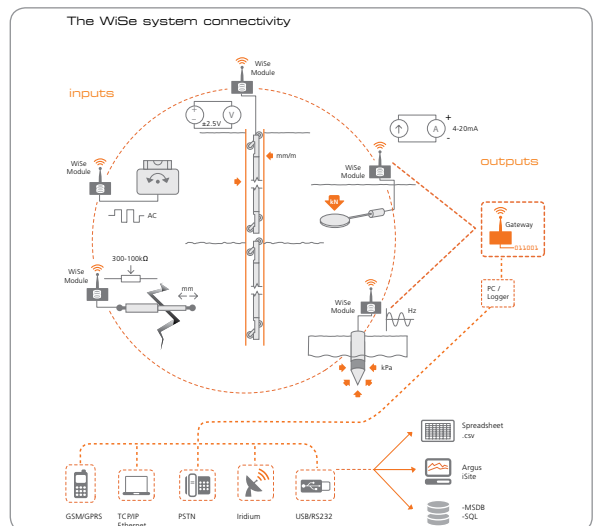
The network is self-healing and automatically configures itself to the changing site environment, ensuring communication is maintained and data not lost.



Features

- Automation of manually read sensor systems
- Secure logging of 65,000+ data points at each sensor location
- On board real time clock (RTC)
- Straight forward, simple to use operation
- User defined sampling intervals
- ADC resolution: 24 bit

The WiSe Gateway collects sensor data on site and makes it available either locally or via the internet. The system enables quick and simple installation, robust, power efficient operation and a highly scalable monitoring solution.



FOR FURTHER INFORMATION PLEASE CONTACT:

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Specifications

SENSOR

SENSOR TYPE	VW	THERMISTOR 3K	RATIO METRIC	MV	mA
Range	450-5000Hz	-50 to +150°C	n/a	±2500 mV	0 to 25mA
Accuracy	±1Hz	±0.5°C	infinity	0.5mV	0.01A
Resolution	0.05Hz	0.1°C	1:30000	76µV	0.001mA
On-board excitation ¹	5Vsq w	n/a	2500mV	2500mV ²	Ext supply
Sustained input voltage	n/a	n/a		±40Volts	±40Volts
Common mode range	n/a	n/a	n/a	±2.5Volts	n/a
Analogue integration	n/a	n/a		10ms, 120ms, 25ms (50Hz), 20ms (60Hz)	

¹ Able to source up to 10mA of current

² Or external supply

EXCITATION

ANALOGUE EXCITATION	RANGE	ACCURACY	MAX CURRENT
DC excitation	0 - 2500mV	0.01%, 4ppm/°C	±10mA
AC excitation	0 - 2500mV	0.01%, 4ppm/°C	±10mA

COMMUNICATION

COM PORT		GATEWAY MODULE	SENSOR MODULE
		RS232 external	RS232 internal
RADIO	FREQUENCY	2.4GHz (license free)	
	TX POWER	Maximum 1mW	
	RANGE	30 – 120 metres ¹	
	ANTENNA	External 3dB Omni directional with SMA connector	
	CHANNELS	16 (user selectable)	
PROTOCOL		Custom ASCII-format AT-style	

¹ Site conditions and sensor module positions dependant

POWER

	GATEWAY MODULE	SENSOR MODULE
Battery	Optional 1 PP3 lithium 9V ¹	1 or 2 PP3 lithium 9V
External power	6 to 16 Vdc	Optional 6 to 16 Vdc
Current	Active	60mA
	Sleep	< 0.07mA
Expected battery life ³	n/a	18 months +

¹ Only to be used temporarily for site setups, not recommended for permanent usage

² Varies per sensor type

³ Varies per sensor type, reading interval and transmission power settings

CONTROLLING

- On board low side power switch available to switch on external power to sensors or peripherals prior to measuring

NETWORKING

- Recommended maximum network size of 100 sensor Modules
- Mesh network with auto routing of data and network commands
- Gateway controlled time synchronisation

Ordering Information

PART NO. DESCRIPTION

WiSe STARTER KIT

D5-1.1 Comprises of: 3 no. WiSe Modules (with batteries), 1 no. WiSe Gateway, WiSeView CD and serial lead

WiSe MODULES & GATEWAYS

D5-2.1 WiSe Module (with batteries)

D5-4.1 WiSe Gateway, (includes WiSeView CD, serial lead and USB power cable)

POWER SUPPLY

D5-3.2 WiSe Gateway USB power cable

D5-3.3 WiSe Gateway power supply

ADDITIONAL EXTRAS

D5-5.1 WiSe View CD

D5-5.2 Serial lead - 2 metre length

D5-5.3 Long serial lead - 7 metre length

W6-10.1 Spare batteries

WiSe Modules and Gateways are supplied with an instruction manual and quick set up guide.