

WISENMESHNET®

Sensor Network

Revolutionary wireless infrastructure monitoring equipment for the mining & civil engineering industry.

Wireless mesh networks can easily, effectively and wirelessly connect entire datalogging systems using inexpensive, existing technology. Traditional networks rely on a small number of wired access points or wireless hotspots to connect users. In a wireless mesh network, the network connection is spread out among dozens or even hundreds of wireless mesh nodes that "talk" to each other to share the network connection across a large area.

MESHNET RANGE

Our expanding product range currently offers:
Highly accurate tilt sensors

- Single or dual axis
- Horizontal or vertical mounting versions
- Standard or miniaturised node sizes

Interfaces to vibrating wire (VW) technologies, foil type strain gauges, laser sensor, etc.

- Single channel
- Four Channel
- Eight Channel
- Plank adapted gauges
- Compatibility with multiple major manufacturers VW gauges

The design of the system lends itself to rapid development of new interfaces, as the designed wireless module is common across the product range.



1C VW Node
with Weldable Strain Gauge



Standard & Miniaturised
Size



Dual Axis Tilt Sensors



4C VW Node



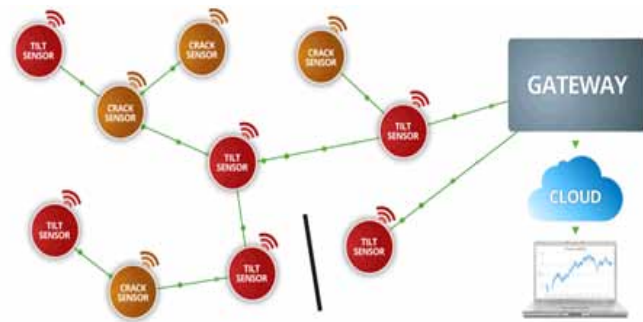
8C VW Node

COMMUNICATION GATEWAY HUB

Over 100 nodes can talk to a single gateway. Such an arrangement can put a large number of sensors into a relatively small area. Alternatively nodes can be strung out to multiple clustered areas from one central hub. The gateway is the central communications hub for the node arrays, however multiple gateways can be deployed in any constellation configuration.



Communication Gateway Hub



SPECIFICATIONS

Nodes Available:

- Vibrating Wire
- Tiltmeter
- Laser Distance & Tilt
- 4-20mA/1-5V
- Foil Strain Gauges
- Visual Node for Alarming

Tiltmeters:

- Uniaxial/Biaxial
- Standard & Mini tiltmeter
- MEMS Based technology
- Accuracy: 0.01 Deg
- Resolution: 0.0025 Deg

Vibrating Wire:

- Single/Four/Eight Channel Nodes
- Range: 400-6000Hz
- Accuracy: 0.015% at any reading
- Resolution: 0.002Hz @ 400Hz

Laser Distance & Tilt Node:

- No special reflector required, just a non-reflective surface.

Laser:

- Range: 0.05-33m
- Accuracy: +/-0.5mm
- Resolution: 0.1mm

Tilt:

- Accuracy: 0.04
- Range: -30 to 30
- Resolution: 0.0025

Communications:

- 2.4Ghz mesh network between nodes and gateway
- Uploads to a server via 4G/3G mobile signal
- Maximum of 10 hops to gateway
- Proven range of 0-120m between two points.

Data Storage:

- Enough data storage and buffering capability for 100 nodes reading at 1 minute interval over 18 months without loss of data
- Includes 8Gb MicroSD Card

IP Rating: IP66

Power:

- 6-12VDC (Mains adapter or battery power)
- Gateway:
 - Battery backup for up to 10 days
 - Optional power expansion (lasts for 1 year)
 - Solar Power option available
- Nodes:
 - Up to ten years battery life (theoretical)

Operating Temperature Range: -40 to 80 Deg

