

# WiSen: D-Tilt Node



This internally battery powered sensor node allows measurement of tilt in 2 axis from a horizontal plane and a distance upto 33m away without a reflector. With a wide tilt range ( $\pm 30^\circ$ ), very high accuracy ( $\pm 0.01^\circ$ ) and precision ( $\pm 0.001^\circ$ ) in addition to medium range (0.1m ~ 33m) distance measurement with high accuracy ( $\pm 0.5\text{mm}$ ) and precision ( $\pm 0.1\text{mm}$ ) this sensor is very versatile.

The node also includes an integrated temperature sensor and wireless mesh radio transmitter via the external antenna.

The battery lifespan is +5 years at hourly readings.

Sensors communicate via mesh radio technology can be up to 400m from each other or the SmartGateway. The sensors mesh together and automatically form a network relaying data off each other (up to 9 sub mesh levels of data hop) and back to a central data hub called a SmartGateway which contains the data logging functions, radio mesh control systems and external communication to the WiSenMeshNet cloud based datacentre.

## Features

- WiSen Mesh Node
- Upto 1 second frequency
- Dual axis tilt  $\pm 30^\circ$  range
- End user configurable
- $\pm 0.0025^\circ$  precision
- Rugged housing
- Intelligent node/repeater
- IP66
- Battery life +5 years



Interface accessible via the internet



Call **03 9823 1533** for more information  
[survey.crkennedy.com.au](http://survey.crkennedy.com.au)



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Tilt Range	
<b>Basics</b>	<b>1F06: D-Tilt (2-Axis)</b>
Battery Power	Qty. x 1 (3.6V Lithium primary D-Cell ER34615)
Accuracy Stop Voltage	2.7VDC
Mesh Stop Voltage	2.1VDC
Battery Connection	Standard Aluminium Battery Holder
Working Current (DC)	Max. 500mA (Typ. 220mA)
Local Storage	Min. 450 Messages during Meshing
L x W x H	100 x 100 x 60mm
Weight	<= 0.65kg
<b>Primary Sensor</b>	
Sensor Type	Distance
Laser Class	Class 2
Laser Range	0.05m-33m
Laser Accuracy	Better than +/-1.0mm (Typical 0.5mm)
Laser Precision	0.1mm
Laser Lens Durability	>= 500Hrs@3Hz@50°C or 2500Hrs@3Hz@25°C
<b>Standard System Parameter</b>	
Tilt Sensor	A-axis; B-axis Tilt Values
Tilt Range	Range: -30°- +30°; Accuracy: 0.04° (144µ or 0.700mm/m); Precision: 0.0025° (9µ or 0.0436mm/m);
Long Term Stability	< 0.014° (50µ or 0.2443mm/m)
Temperature	Range: -40 to 85°C; Accuracy: +/-1°C; Precision: 0.1°C
Voltage	Accuracy: +/-0.1V
<b>WSN Interface</b>	
WSN Protocol	WISENMESHNET® Protocol
<b>Re-Calibration Method</b>	
Inspection Period	Every 3 Years by Manufacturer (or inspected by arranged methods)
<b>Industrial Standard</b>	
Casing and Painting Materials	Aluminium-Alloy Die Castings 12 (Epoxy Polyester Powder Coating)
IP Rating	>= IP66
Operating Temperature	-10 to 50°C
Fire Proof	Approved
Certificates	CE



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