



kintech
engineering



DATASHEET

K360V

WIND VANE

The wind vane is designed for use in wind resource assessment and is built from high strength anodized aluminium.

The K360V sensor is a high precision wind vane with no dead band, a resolution of just 0.35° and accuracy of $\pm 1.4^\circ$.

DESCRIPTION

The K360V sensor is a high precision wind vane with continuous 360° rotation and no dead band and a resolution of just 0.35°. Repeatability is a key factor in the production process of a wind vane meant to be used in wind resource assessment. The K360V wind vane has such a high repeatability that no individual calibration is required for each individual wind vane which means that data logger settings can be left with the factory slope and offset. The wind vane is designed for use in wind resource assessment, solar resource assessment as well as meteorology and environmental monitoring.

The K360V wind vane features a very low starting threshold of less than 0.4 m/s, an accuracy of +/- 1.4° and is built from high strength anodized aluminium and stainless steel. The wind vane is designed for mounting on a 25 mm (or 1") diameter tube.

Optional two per box packages to reduce the transpost costs.

Main characteristics:

- No dead band
- High resolution of 0.35°
- Threshold < 0.4 m/s
- High accuracy of +/- 1.4°
- High quality materials
- High manufacturing repeatability

APPLICATIONS

Wind resource assessment, solar resource assessment as well as meteorology and environmental monitoring.

FEATURES

Electrical characteristics

Sensor type	Tunnel Magneto Resistance
Output signal	Analog
Output range	0...5 V (0...360°)
Supply voltage	6...22 V
Power consumption	< 0.75 mA
Dead band	None
Resolution	0.35°
Accuracy	+/- 1.4°
Miswire protection	Temperature fuse

Response characteristics

Starting threshold	< 0.4 m/s according to ASTM standards D5366-96
Delay distance	< 1.7 m/s

Sensor compatibility

Compatible with	Orbit 360, EOL Zenith, all NRG loggers, Ammonit, Campbell
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Operating range

Measurement range	0 - 360°
Temperature	-40...+60 °C
Humidity	0...100 % RH
Survival speed	60 m/s

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Physical dimensions

Weight	0.250 kg
Height	265 mm
Body diameter	39.5 mm
Rotor diameter	330 mm

Materials

Wing	Anodized aluminium
Body	Corrosion resistant anodized aluminium
Bearing	Highly resistant ball bearings

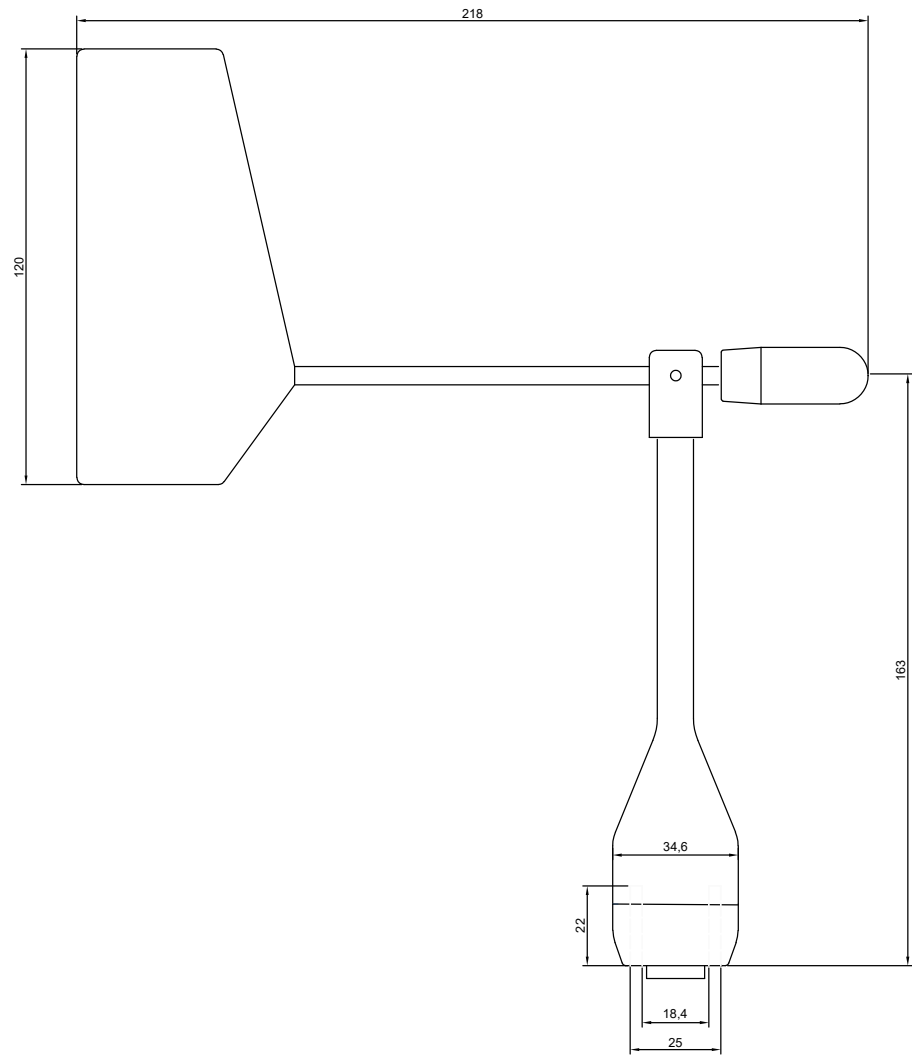
Installation



Mounting	Onto a 25 mm tube
Connection	4 pin aviation plug
Cable recommendation	Signal cable 4x0.5 mm2 + shield
Tools required	3 mm allen wrench, electrical tape

Note: Male to Female Aviation Connector Socket.

SENSOR DIMENSIONS

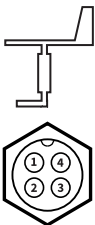













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CABLE RECOMMENDATION

Signal cable up to 150m: **4x0.5 mm² + shield**. For longer cable, please consult sensor manufacturer.

SENSOR WIRING TABLE

Sensor Model	Sensor Pin		Kintech Colors		Orbit 360			EOL Zenith	
					Section	Terminal	Type	Section	Terminal
 <p>Base sensor view / Soldering connector view.</p>	1	REF		Yellow	Analog Channels	<div>47 51 55 59 64</div> <div>68 72 76 80 87</div>	(-)	DIR	
	2	SIG		White	Analog Channels	<div>48 52 56 60 65</div> <div>69 73 77 81 84</div> <div>85 86 90 91 92</div>	Signal	DIR	
	3	Us (+)		Green	Analog Channels	<div>49 53 57 61 66</div> <div>70 74 78 82 88</div>	* (+)	BAT	
	4	GND		Brown	Analog Channels	<div>47 51 55 59 64</div> <div>68 72 76 80 87</div>	(-)	BAT	
	Shield			Yellow-Green	Power Input			BAT	

Note:

Data logger hardware version < 3, (+) = Bat+ with current limited (12mA). Only 1 sensor must be powered.

Data logger hardware version ≥ 3, (+) = Bat+ with current limited (50mA). Only 1 sensor must be powered.

Remember maximum power supply of this sensor is 22V.

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REQUIRED DATA LOGGER VERSION

Minimum data logger required: **ORBIT 360 BASIC PLUS**.

Minimum **firmware** required: **any**

HOW TO CONFIGURE IN ATLAS

Start Atlas and open the data logger you are working on. Now go to *Site settings* and scroll down to the *Channels* section and select the following type and model:

- Group: Analog channels
- Sensor Type: Windvane
- Sensor Model: **Output 0-5V: Thies TMR / K360V**

Important! Please make sure you are working with the latest version of Atlas. To check for new updates click the *Check for updates* button in the left-hand menu located in the main dashboard.

HOW TO CONFIGURE THIS SENSOR ON SITE

We recommend performing the entire sensor configuration using Atlas at the office before installing sensors onsite. Once the sensor is correctly setup in Atlas, use the *Upload settings* tool, to upload the sensor configuration to the data logger.

In case you are already on site and need to configure the sensor directly on the data logger, follow these steps:

1. Turn on the data logger.
2. Using the keypad on the data logger, navigate the menu until you see *Sensor model*, then click the “right arrow” on the keypad.
3. Now scroll down to the channel you are going to connect the sensor to, and click the “right arrow” on the keypad.
4. Now click “Set” on the keypad and scroll up in the menu to set the sensor model type according to the table here below. Once you have found the correct sensor model, click the “right arrow” key twice to select it and save.
5. Click the “left arrow” several times to go back to the main menu.

Data logger model	Firmware version	Sensor model type on data logger		
		Magnitude	Number	Name
ORBIT 360	any	Wind direction	18	VANE Output 0-5V
EOL ZENITH	any	Wind direction	08	Output 0-5V

HOW TO CONFIGURE IN EOL MANAGER

Open EOL Manager and go to *Settings* of the data logger you are working on. Open the *Inputs* tab and select the following type and model:

- Group: Wind Vanes / Analog Inputs
- Sensor Type: Windvane
- Sensor Model: **Output 0-5V**

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