



kintech
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DATASHEET

K308TH

TEMPERATURE & HUMIDITY SENSOR

Temperature & Humidity sensor developed and manufactured by Kintech Engineering specifically for wind & solar resource assessment applications.

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DESCRIPTION

The K308TH Temperature and Humidity sensor is developed and manufactured by Kintech Engineering specifically for wind & solar resource assessment applications. It's a solid and highly reliable PT1000 (Class A) temperature sensor offering a measurement accuracy of $\pm 0.3^{\circ}\text{C}$ at 20°C combined with a highly stable humidity sensor with direct transducer output.

Benefits

- High accuracy PT1000 (class A) temperature sensor
- Stable humidity sensor with direct transducer output
- Very low power consumption
- Signal integrity guaranteed at hub height measurements thanks to its highly buffered output adequate for long cables
- Strong aluminum sensor housing
- Double louvred high impact U.V stable polycarbonate radiation plates with matt black undersides that reduce solar radiation influxes
- Durable white polyester powder coating

APPLICATIONS

Wind resource assessment, solar resource assessment, solar PV monitoring. The sensor output is used for energy density calculations; monitoring air temperature; calculating atmospheric stability conditions; identifying icing conditions in cold climates.

Temperature

Sensor	Pt1000 RTD element (DIN A)
Analogue output	0...5 V
Accuracy	$\pm 0.3^{\circ}\text{C}$ at 20°C / $\pm 0.5^{\circ}\text{C}$ at $-30..70^{\circ}\text{C}$
Measurement range	$-30...+70^{\circ}\text{C}$
Transfer function	Slope = 20, Offset = -30

Humidity

Analogue output	0...1 V
Accuracy	$\pm 2\%$
Measurement range	0...100%
Transfer function	Slope = 100, Offset = 0

General

Supply voltage	5...30VDC
Current consumption	0.85mA
Housing	Aluminum
IP	IP65
Sensor protection	Sintered porous metal filter
Cable recommendation	Signal cable 6x0.25 mm ² + shield (up to 150 meters)
Cable length	4 m
Compatibility	All Kintech Engineering data loggers
Manufacturer	Kintech Engineering

Radiation shield

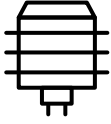

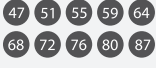


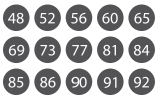
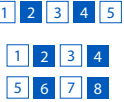

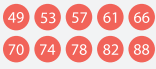








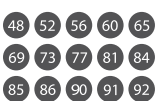




Material	Highly resistant thermoplast
Dimension	120 mm x 140 mm
Mounting	Attaches to mast with included support brackets

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CABLE RECOMMENDATION

Signal cable up to 150m: **6x0.25 mm² + shield**. For longer cable, please consult sensor manufacturer.

SENSOR WIRING TABLE

Sensor Model	Kintech Cable Colors			Orbit 360			EOL Zenith	
				Section	Terminal	Type	Section	Terminal
		Green	Temp (-)	Analog Channels		(-)	Analog Inputs	
		Yellow	Temp (+)	Analog Channels		Signal	Analog Inputs Extra Analog	
		Pink	Supply (+)	Analog Channels		*(+)	BAT	
		Brown	Supply (-)	Analog Channels		(-)	BAT	
		White	RH (-)	Analog Channels		(-)	Analog Inputs	
		Grey	RH (+)	Analog Channels		Signal	Analog Inputs Extra Analog	
	Yellow Green	Shield	Power Input		BAT		BAT	

Note: *(+) = Bat+ with current limited (12mA). Only 1 sensor must be powered.

REQUIRED DATA LOGGER VERSION

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

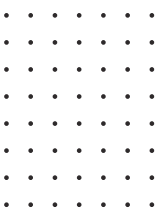
Minimum **firmware** required: **2.35**. If your data logger has an older firmware version (<2.35), please configure the sensor as a generic sensor (voltage) in both Atlas software and the data logger. Remember to fill in both the slope and the offset for both the temperature and the humidity sensor (see table above on page 2 for slopes and offsets).

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: Temperature
- Sensor Model: **K308TH**
- Group: Analog channels
- Sensor Type: Relative Humidity
- Sensor Model: **K308TH**

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.



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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	< 2.35	Temperature	01	milliVolts
		Relative humidity	01	milliVolts
	≥ 2.35	Temperature	10	TEMP K308-TH
		Relative humidity	40	HUM K308-TH
EOL ZENITH	any	Temperature	01	miliVolts
		Relative humidity	01	miliVolts

Keep in mind: if the sensor channel has been configured as milliVolts, the output values on data logger display will always be shown in milliVolts. Remember to fill in both the slope and the offset for both the temperature and the humidity sensor to see real sensor values in °C and % in your datasets during a real-time connection with the data logger (from either Atlas or Atlas Mobile).

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:

TEMPERATURE

- Group: Analog Inputs
- Sensor Type: Voltmeter
- Sensor Model: **Generic Voltimeter**
- Slope: 20
- Offset: -30

RELATIVE HUMIDITY

- Group: Analog Inputs
- Sensor Type: Voltmeter
- Sensor Model: **Generic Voltimeter**
- Slope: 100
- Offset: 0

Last modified: 02.06.2021

