



kintech
engineering



DATASHEET

GALLTEC KPC 1/5

TEMPERATURE & HUMIDITY

This sensor is used for measuring relative humidity and temperature in both wind and solar resource assessment studies.

GALLTEC KPC 1/5 | TEMPERATURE & HUMIDITY

DESCRIPTION

The Galltec temperature & humidity sensors is a compact versatile sensor with a rod-type design. The sensor is available with a 1.5 m connecting cable (PC series), without cable (PK series) or with a robust aluminum connecting head and terminal screws (RC series).

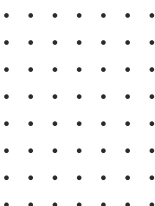
Note: The sensor should be mounted inside a radiation shield protecting the sensor against rain and direct radiation.

APPLICATIONS

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

IMPORTANT

Temperature and air pressure significantly affect the AEP (Annual Energy Production) which is why you should be careful not to touch the highly sensitive sensor element in case you screw the filter off. If necessary, soiled filters can be screwed off and rinsed. When you screw them back on, bear in mind that sensors will not measure accurately again until they are completely dry.



FEATURES

Relative humidity

Measure range	0...100% rh
Accuracy	(5...95% rh at +10...+40 °C) ±2% rh
Influence of temperature	<+10 °C, >+40 °C; <+0.1%/°C additional

Temperature

Measuring element (ref. DIN EN 60751)	Pt100 class B (class 1/3 DIN on request)
Measuring range	-30...+70 °C
Accuracy	0...1 V (-27...+70 °C) → ±0.2 °C
Influence of temperature	<+10 °C, >+40 °C; ± 0.007 °C/°C additional

General

Ambient temperature	-40...+80 °C
Degree of protection sensor/electronic	IP 30/IP 65
Operating voltage	6...30 V
Load resistance	≥2 kΩ
Power consumption	<1 mA
Minimum air speed always across the sensor	≥0.5 m/s
Self-heating Pt100	(v=2 m/s in the air); +0.2 °C/mW
Directive about electromagnetic compatibility 2004/108/EG	DIN EN 61326-1...issue10/06 DIN EN 61326-2-3...issue05/07
Weight	145 g PC series 81 g PC.S-ME series (meteorological)
Cable option	KPC: sensor with 5m cable KPK: sensor without cable
Filter option	1/5: membrane filter ZE20 1/6: sintered high-grade steel filter ZE21

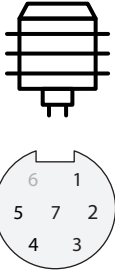


GALLTEC KPC 1/5 | TEMPERATURE & HUMIDITY

CABLE RECOMMENDATION

Signal cable up to 10m: **6x0.5 mm² + shield**. For longer cable, please consult sensor manufacturer.

SENSOR WIRING TABLE

Sensor Model	Sensor Pin Manufacturer Cable Colors				Kintech Cable Colors		Orbit 360			EOL Zenith	
	Section	Terminal	Type	Section	Terminal						
 <p>Base sensor view / Soldering connector view.</p>	5	Green	Temp (-)	Green	Analog Channels	47 51 55 59 64 68 72 76 80 87	(-)	Analog Inputs	-		
	7	Yellow	Temp (+)	Yellow	Analog Channels	48 52 56 60 65 69 73 77 81 84 85 86 90 91 92	Signal	Analog Inputs Extra Analog	1 2 3 4 5 1 2 3 4 5 6 7 8		
	4	Red	Supply (+)	Pink	Analog Channels	49 53 57 61 66 70 74 78 82 88	*(+)	BAT	+		
	1	Brown	Supply (-)	Brown	Analog Channels	47 51 55 59 64 68 72 76 80 87	(-)	BAT	-		
	2	Orange	RH (-)	White	Analog Channels	47 51 55 59 64 68 72 76 80 87	(-)	Analog Inputs	-		
	3	Black	RH (+)	Grey	Analog Channels	48 52 56 60 65 69 73 77 81 84 85 86 90 91 92	Signal	Analog Inputs Extra Analog	1 2 3 4 5 1 2 3 4 5 6 7 8		
	6			Do no connect							
	Shield				Yellow Green	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**.

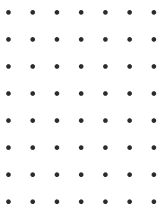
Minimum **firmware** required: **any**.

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: Temperature
- Sensor Model: **Galltec KPC 1/5**
- Group: Analog channels
- Sensor Type: Relative Humidity
- Sensor Model: **Galltec KPC 1/5**

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.



GALLTEC KPC 1/5 | TEMPERATURE & HUMIDITY

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:

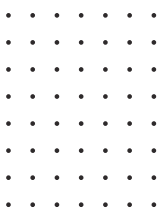
1. Turn on the data logger.
2. Using the keypad on the data logger, navigate the menu until you see Sensor model, then click the “right arrow” on the keypad.
3. Now scroll down to the channel you are going to connect the sensor to, and click the “right arrow” on the keypad.
4. Now click “Set” on the 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	Temperature	05	TEMP GALLTEC KPC1/5
		Relative humidity	37	HUM GALLTEC KPC1/5
EOL ZENITH	any	Temperature	05	TEMP GALLTEC_KPC1/5
		Relative humidity	37	HUM GALLTEC_KPC1/5

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: Analog Inputs
- Sensor Type: Temperature
- Sensor Model: **GALLTEC KPC 1/5**
- Group: Analog Inputs
- Sensor Type: Humidity
- Sensor Model: **GALLTEC KPC 1/5**



Last modified: 16.06.2021