



kintech
engineering



DATASHEET

THIES FC ADVANCED CUP ANEMOMETER

The Thies First Class Advanced cup anemometer is designed for wind resource assessment, site calibration and power performance studies.

4.3351.10.000

4.3351.00.000 (heated)

THIES FC ADVANCED | CUP ANEMOMETER

DESCRIPTION

The Thies First Class anemometer is designed for the acquisition of the horizontal component of the wind velocity and is ideal for both wind resource assessment, site calibration as well as power performance. The cup anemometer is classified according to the requirements of the IEC61400-12-1 (2005.12).

Class A classification result: A0.9

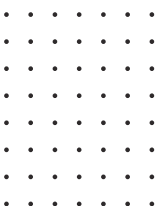
Class B classification result: B3.0

Class S classification result: S0.5

Heated version: The Thies First Class Advanced II anemometer can be supplied in a heated version to improve performance under cold climate conditions.

APPLICATIONS

Wind resource assessment, solar resource assessment, site calibration, power performance studies, solar monitoring and meteorology.



FEATURES

Technical Data

| | |
|----------------------------|---|
| Measuring range | 0 ... 75 m/s |
| Accuracy | < 1 % of meas. value (0.3 ... 50 m/s) |
| | or < ±0.2 m/s |
| Linearity | r > 0.99999 (4 ... 20 m/s) |
| Inclined flow | < 0.1% (mean deviation from cosinus line at 12 m/s ; ±20 °) |
| Delay distance | < 3 m (acc. to ASTM D 5096-96) |
| Data output digital | |
| Frequency | 1082 Hz @ 50 m/s |
| Power supply (electronics) | 5V DC It should be noted that the sensor must be powered using the continuous 5V DC terminals available on the Orbit 360 data logger. 130 µA at 5V |
| Power supply (heating) | 24 V AC/DC, max 25 W |
| General | |
| Ambient temp. | -50 ... +80 °C |
| Electr. connection | 8 pol. plug connection |
| Mounting | onto mast tube Ø 1 1/2" |
| Protection | IP 55 |
| Survival speed | 80 m/s (min. 30 minutes) |
| Weight | 0.5 kg |
| Fixing boring | Ø 35 x 25 mm |
| Material housing | aluminium, anodised |
| Material cup star | carbon-fiber glass reinforced |



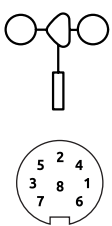


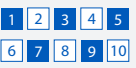




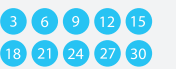






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CABLE RECOMMENDATION

Signal cable up to 150m: **3x0.5 mm² + shield**. For longer cable, please consult sensor manufacturer.

Heating cable cross-section should be calculated based on the power system requirements (Volts and Amps) and the cable length. Please use a wire sizing tool for selecting the most suitable cable.

SENSOR WIRING TABLE

| Sensor Model | Sensor Pin | | Kintech Cable Colors | | Orbit 360 | | | EOL Zenith | |
|--|------------|-------------|--|----------------|-----------------------------------|--|--------|-------------------|---|
| | | | | | Section | Terminal | Type | Section | Terminal |
|  <i>Base sensor view / Soldering connector view.</i> | 1 | Signal |  | White | Frequency Channels |  | Signal | Anemometer Inputs |  |
| | 2 | Reference |  | Brown | Frequency Channels |  | (-) | Anemometer Inputs |  |
| | 3 | Us (+) |  | Green | Frequency Channels |  | 5V * | Anemometer Inputs |  |
| | 4 | | | Do not connect | | | | | |
| | 5 | | | Do not connect | | | | | |
| | 6 | | | Do not connect | | | | | |
| | Shield | |  | Yellow Green | Power Input |  | | BAT |  |
| | 7 | Heating (+) |  | Brown | Independent power supply 24 AC/DC | | | | |
| | 8 | Heating (-) |  | Blue | | | | | |

***It should be noted that the sensor must be powered using the continuous 5V DC terminals available on the Orbit 360 data logger.**

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: Frequency channels
- Sensor Type: Anemometer
- Sensor Model: **Thies First Class Advanced**

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:

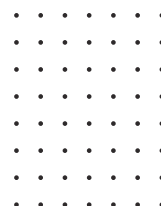
1. Turn on the data logger.
2. Using the keypad on the data logger, navigate the menu until you see *Sensor model*, then click the “right arrow” on the keypad.
3. Now scroll down to the channel you are going to connect the sensor to, and click the “right arrow” on the keypad.
4. Now click “Set” on the 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 | any | Wind speed | 27 | Thies FC ADVANCED |
| EOL ZENITH | any | Wind speed | 27 | Thies_FC_ADVANCED |

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: Anemometers/Frequency
- Sensor Type: Anemometer
- Sensor Model: **THIES FC Advanced**



Last modified: 13.11.2025