



**kintech**  
engineering



## DATASHEET

# THIES FC ADVANCED II CUP ANEMOMETER

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

**4.3352.10.000**

**4.3352.00.000** (heated)

# THIES FIRST CLASS ADVANCED II | 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 IEC 61400-12-1 Edition 2.0.

Class A classification result (Heating ON): A 1.8

Class B classification result (Heating ON): B 2.0

Class C classification result (Heating ON): C 1.8

Class D classification result (Heating ON): D 2.0

Class S classification result (Heating ON): S 0.9

Class A classification result (Heating OFF): A 2.3

Class B classification result (Heating OFF): B 2.7

Class C classification result (Heating OFF): C 4.4

Class D classification result (Heating OFF): C 4.6

Class S classification result (Heating OFF): S 1.7

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.

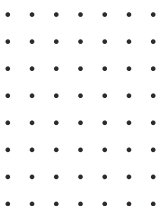


# THIES FIRST CLASS ADVANCED II | CUP ANEMOMETER

## 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 ( aac. to ASTM D 5096-96 )
Data output digital	
Frequency	1082 Hz @ 50 m/s
Operating voltage	
Electronic	3.3 ... 48 V DC <b>It should be noted that the sensor must be powered using the continuous 5V DC terminals available on the Orbit 360 data logger.</b>
	130 µA from 3,3 ... 15 V 180 µA > 15 V ... 48 V
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` `
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



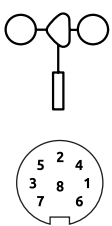


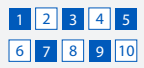




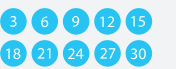






# THIES FIRST CLASS ADVANCED II | CUP ANEMOMETER

## CABLE RECOMMENDATION

Signal cable up to 150m: **3x0.5 mm<sup>2</sup> + 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	
 <p>Base sensor view / Soldering connector view.</p>	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							

## 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.



## THIES FIRST CLASS ADVANCED II | CUP ANEMOMETER

### 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: 22.12.2022