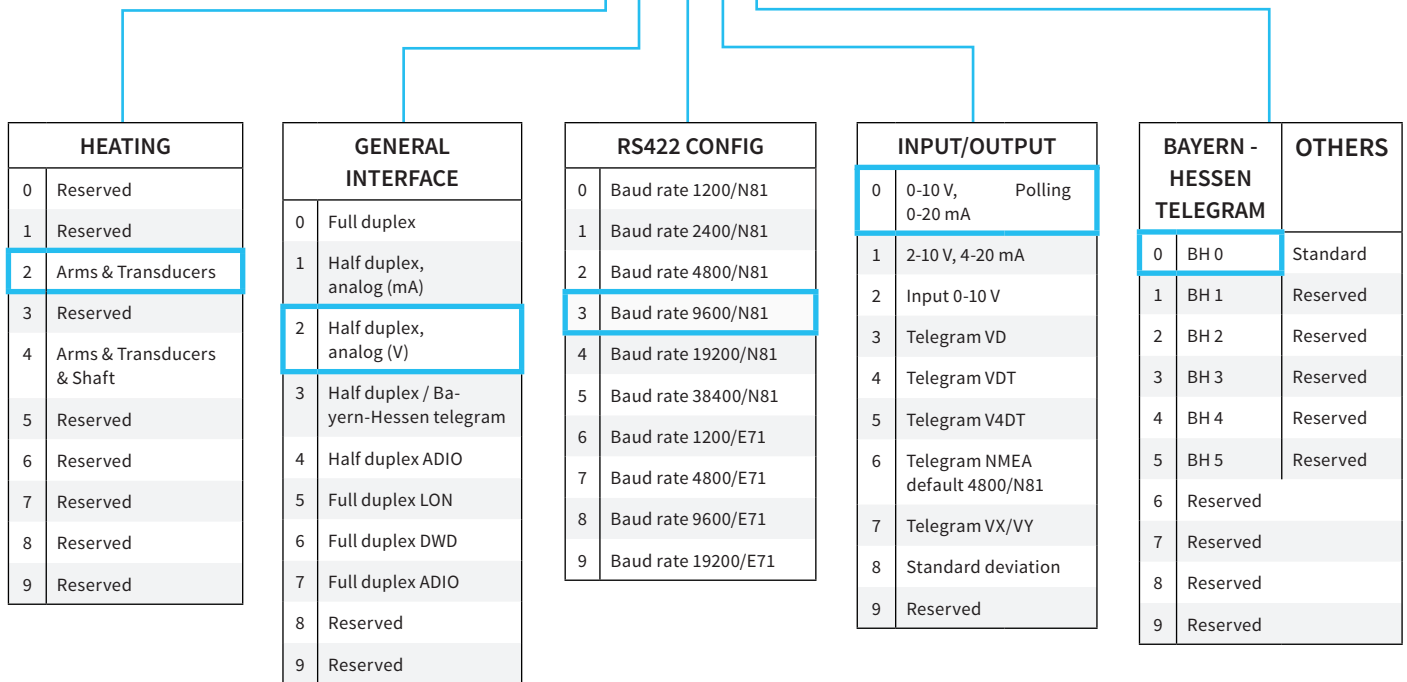# THIES 3D | ULTRASONIC ANEMOMETER

ORDER KEY

Kintech Engineering recommend using only known and recognized manufacturers of ultrasonic instruments like Gill, Thies Clima or Vaisala.

4 . 3 8 3 0 . 2 2 . 3 0 0   *Recommended Order Nº by Kintech Engineering

HEATING	
0	Reserved
1	Reserved
2	Arms & Transducers
3	Reserved
4	Arms & Transducers & Shaft
5	Reserved
6	Reserved
7	Reserved
8	Reserved
9	Reserved

GENERAL INTERFACE	
0	Full duplex
1	Half duplex, analog (mA)
2	Half duplex, analog (V)
3	Half duplex / Bayern-Hessen telegram
4	Half duplex ADIO
5	Full duplex LON
6	Full duplex DWD
7	Full duplex ADIO
8	Reserved
9	Reserved

RS422 CONFIG	
0	Baud rate 1200/N81
1	Baud rate 2400/N81
2	Baud rate 4800/N81
3	Baud rate 9600/N81
4	Baud rate 19200/N81
5	Baud rate 38400/N81
6	Baud rate 1200/E71
7	Baud rate 4800/E71
8	Baud rate 9600/E71
9	Baud rate 19200/E71

INPUT/OUTPUT	
0	0-10 V, Polling 0-20 mA
1	2-10 V, 4-20 mA
2	Input 0-10 V
3	Telegram VD
4	Telegram VDT
5	Telegram V4DT
6	Telegram NMEA default 4800/N81
7	Telegram VX/VY
8	Standard deviation
9	Reserved

BAYERN - HESSEN TELEGRAM		OTHERS
0	BH 0	Standard
1	BH 1	Reserved
2	BH 2	Reserved
3	BH 3	Reserved
4	BH 4	Reserved
5	BH 5	Reserved
6	Reserved	
7	Reserved	
8	Reserved	
9	Reserved	

CABLE RECOMMENDATION

Signal cable up to 150m: **2x0.5 mm² + shield**. For longer cable, please consult sensor manufacturer.

Supply/heating cable cross-section should be calculated based on the power system requirements (Volts and Amps) and the cable length. Recommended order by Kintech Engineering (4.3830.22.300) has 150W of power consumption. Please use a wire sizing tool for selecting the most suitable cable.

SENSOR WIRING TABLE

Sensor Model	Sensor Pin		Kintech Cable Colors		Orbit 360		
					Section	Terminal	Type
	1			Do not connect			
	2	TX- / RX-	○	White	RS485	34 38 42	B1, B2, B3
	3	ADIO	● (yellow)	Yellow	Heating SIGNAL control		
	4			Do not connect			
	5	TX+ / RX+	● (brown)	Brown	RS485	33 37 41	A1, A2, A3
	6	AGND	● (green)	Green	Heating REF control		
		Shield	◐ (yellow/green)	YellowGreen	Power Input	⏚	
	7	Supply & Heating (+)	● (brown)	Brown	Independent power supply 24 AC/DC		
	8	Supply & Heating (-)	● (blue)	Blue			

Base sensor view / Soldering connector view.

Note: *Sensor pin 3 & 6 are used for remote heating control. Use a signal cable of 4x0.5 mm² + shield up to 150m. If you need more information about this feature and its wiring to Orbit 360, please contact our technical support.*

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THIES 3D | ULTRASONIC ANEMOMETER

Sensor Model	Sensor Pin		Kintech Cable Colors		ADAM	Charge regulator	*EOL Zenith	
							Section	Terminal
	1			Do not connect				
	2	TX- / RX-	⚪	White	DATA-			
	3			Do not connect				
	4			Do not connect				
	5	TX+ / RX+	🟤	Brown	DATA+			
	6			Do not connect				
		Shield	🟡🟢	Yellow -Green			BAT	⊥
	7	Supply & Heating (+)	🟤	Brown	Vs (+)	Load (+)	Independent power supply 24 AC/DC	
	8	Supply & Heating (-)	🔵	Blue	GND	Load (-)		
						BAT (+)	BAT	+
						BAT (-)	BAT	-

Base sensor view / Soldering connector view.

Note: This sensor has to be preconfigured before it is configured in Atlas software.

EOL Zenith should have the Ultrasonic Module installed by Kintech Engineering beforehand.

REQUIRED DATA LOGGER VERSION
Minimum data logger required: **ORBIT 360 PREMIUM.**
Minimum **firmware** required: **2.17**

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. The variables from the digital output signal can be chosen (or assigned) to either a frequency or an analog channel according to the list here below.

Example:

Serial bus 1 baud rate: 9600bps

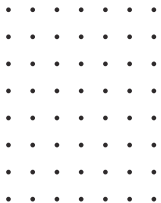Bus: Serial 1 >>> ID: A >>> Sensor model: Thies ultrasonic >>> Name: Thies ultrasonic_SERIAL1_A

- Group: Frequency channels
- Sensor Type: Serial device
- Sensor Model: **Thies ultrasonic_SERIAL1_A**
    - Sensor Model: **Horizontal Speed**

- Group: Analog channels
- Sensor Type: Serial device
- Sensor Model: **Thies ultrasonic_SERIAL1_A**
    - Sensor Model: **Windvane**
    - Sensor Model: **Vertical Speed**
    - Sensor Model: **Temperature or Obukhov lenght**

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 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: Anemometer/Frequency
- Sensor Type: Ultrasonic
- Sensor Model: **Thies A**

- Group: Analog Inputs
- Sensor Type: Ultrasonic
- Sensor Model: **Thies A Windvane**
- Sensor Model: **Thies A Vert Anemo**
- Sensor Model: **Thies A Temperature**

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