



kintech
engineering

SENSOR INSTRUCTIONS

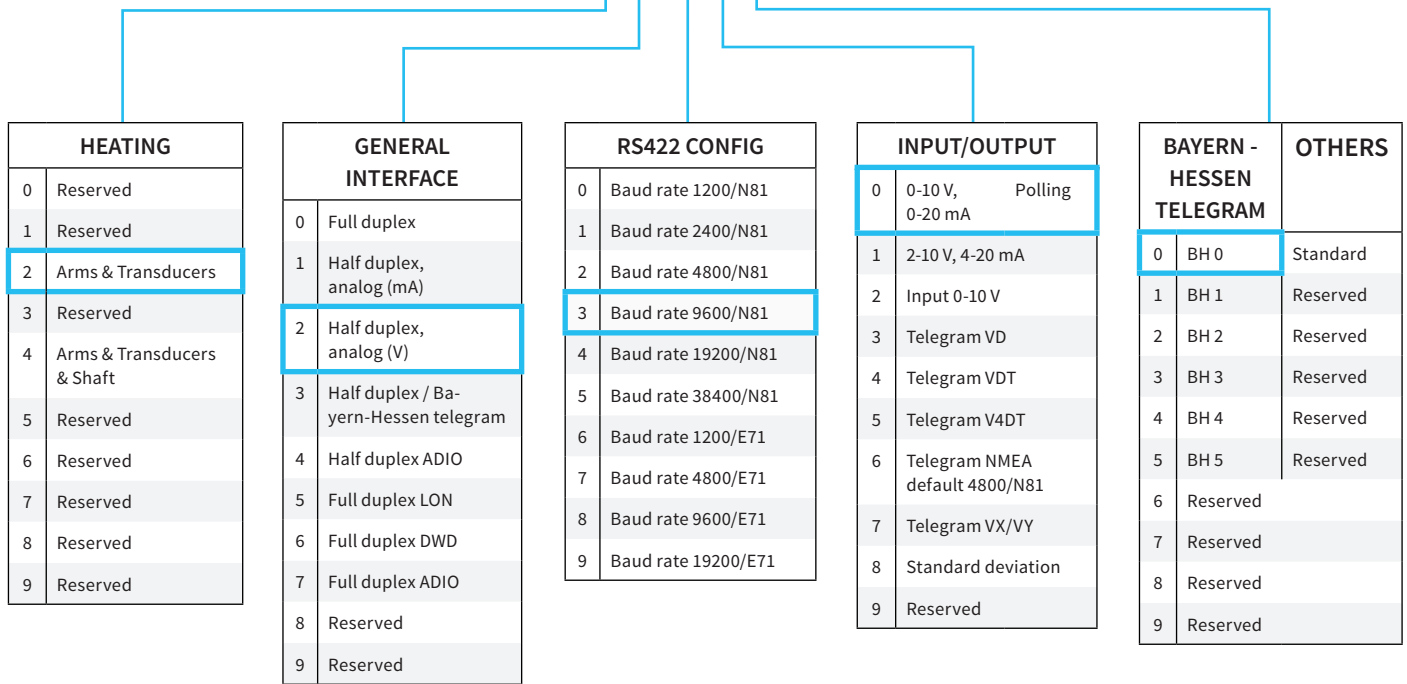
The following is a series of wiring diagrams for several different sensors. Please locate the sensor you are going to use in the list below and follow the corresponding wiring diagram and setup in either Atlas or EOL Manager.

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 N° by Kintech Engineering



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	Heating SIGNAL control		
	4	Do not connect				
	5	TX+ / RX+	Brown	RS485	33 37 41	A1, A2, A3
	6	AGND	Green	Heating REF control		
	Shield		YellowGreen	Power Input	⏏	
	7	Supply & Heating (+)	Brown	Independent power supply 24 AC/DC		
8	Supply & Heating (-)	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.

THIES 3D | ULTRASONIC ANEMOMETER

Sensor Model	Sensor Pin		Kintech Cable Colors		ADAM	Charge regulator	*EOL Zenith	
							Section	Terminal
 <p>Base sensor view / Soldering connector view.</p>	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	-	

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

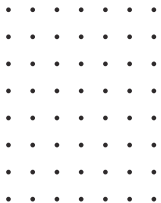
- Group: Frequency channels
- Sensor Type: Serial device
- Sensor Model: **Thies ultrasonic_SERIAL1_A**
 - Sensor Model: **Horizontal Speed**
- Group: Analog channels
- Sensor Type: Serial device
- Sensor Model: **Thies ultrasonic_SERIAL1_A**
 - Sensor Model: **Windvane**
 - Sensor Model: **Vertical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

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**



Last modified: 09.10.2023

THIES 2D | 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 2 0 . 3 2 . 3 0 0 *Recommended Order N° by Kintech Engineering


HEATING		GENERAL INTERFACE		RS422 CONFIG		INPUT/OUTPUT		BAYERN - HESSEN TELEGRAM		OTHERS	
0	Arms	0	Full duplex	0	Baud rate 1200/N81	0	0-10 V, Polling 0-20 mA	0	BH 0	Standard	
1	Reserved	1	Half duplex, analog (mA)	1	Baud rate 2400/N81	1	2-10 V, 4-20 mA	1	BH 1	Reserved	
2	Reserved	2	Half duplex, analog (V)	2	Baud rate 4800/N81	2	Input 0-10 V	2	BH 2	Reserved	
3	Arms & Transducers	3	Half duplex / Bayern-Hessen telegram	3	Baud rate 9600/N81	3	Telegram VD	3	BH 3	Reserved	
4	Arms & Transducers & Shaft	4	Half duplex ADIO	4	Baud rate 19200/N81	4	Telegram VDT	4	BH 4	Reserved	
5	Reserved	5	Full duplex LON	5	Baud rate 38400/N81	5	Telegram V4DT	5	BH 5	Reserved	
6	Reserved	6	Full duplex ADIO	6	Baud rate 1200/E71	6	Telegram NMEA default 4800/N81	6	Reserved		
7	Reserved	7	Full duplex LON	7	Baud rate 4800/E71	7	Telegram VX/VY	7	Reserved		
8	Reserved	8	Reserved	8	Baud rate 9600/E71	8	Standard deviation	8	Reserved		
9	Reserved	9	Reserved	9	Baud rate 19200/E71	9	Reserved	9	Reserved		

CABLE RECOMMENDATION

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

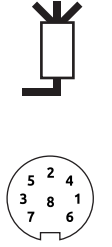
Supply/heating cable cross-section should be calculated based on the power system requirements (Volts and Amps) and the cable length. Recommended order by Kintech Engineering (4.3820.32.300) has 80W of power consumption. Please use a wire sizing tool for selecting the most suitable cable.

SENSOR WIRING TABLE

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8	Supply & Heating (-)	●	Blue	GND	Load (-)			
					BAT (+)	BAT	⊕	
					BAT (-)	BAT	⊖	

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

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- Group: Analog channels
- Sensor Type: Serial device
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- 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 Temperature**

Sensor response time: **43ms.**

The sum of the response times of all the sensors connected to the same bus must not exceed 850ms.

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