VERTICAL ANEMOMETER

YOUNG GILL PROPELLER 27105T & 27106T

KINTECH ENGINEERING

VERTICAL ANEMOMETER | YOUNG GILL PROPELLER 27105T & 27106T

ORDER - N°	ELECTRICAL SUPPLY	HEATING SUPPLY	MODEL IN EOL MANAGER
GILL Propeller 27105T	Self-powered	-	**PROPELLER 27105**
GILL Propeller 27106T	Self-powered	-	**PROPELLER 27106**

APPLICATION AND MODE OF OPERATION

The Gill Propeller Anemometer is a low threshold precision air velocity sensor employing a fast response helicoid propeller. The instrument uses a high quality tech-generator transducer which converts propeller rotation to a DC voltage that is linearly proportional to air velocity.

The output signal is suitable for a wide range of signal translators and data logging devices. Airflow from any direction may be measured, however, the propeller responds only to the component of the air flow which is parallel to the axis of its rotation. Off-axis response closely approximates a cosine curve with appropriate polarity.

With perpendicular air flow, the propeller does not rotate. For detailed studies of low air speeds, optional propeller shaft extensions improve response in the 90° stall region by improving symmetry and reducing the stall angle. A rugged cable connector provides both electrical and mechanical connection. A dust cap is provided to protect the connector when the instrument is removed.

TECHNICAL DATA

CHARACTERISTIC	DESCRIPTION / VALUE
Range, axial flow	0…40 m/s
Range, all angles	0…35 m/s
Propeller	20 cm diameter 4-blade helicoid propeller molded of carbon fiber thermo-plastic
Pitch	30 cm air passage per revolution
Distance Constant	2.1 m
Threshold Sensitivity	0.4 m/s
Signal output 27105T 27106T	Analog DC voltage proportional to axial wind component Polarity reverses with reverse rotation 1800 rpm (2400 mV) = 9.0 m/s 1800 rpm (500 mV) = 9.0 m/s
Power Requirement	Anemometer is self-powered
Operating Temperature	-50…+50°C

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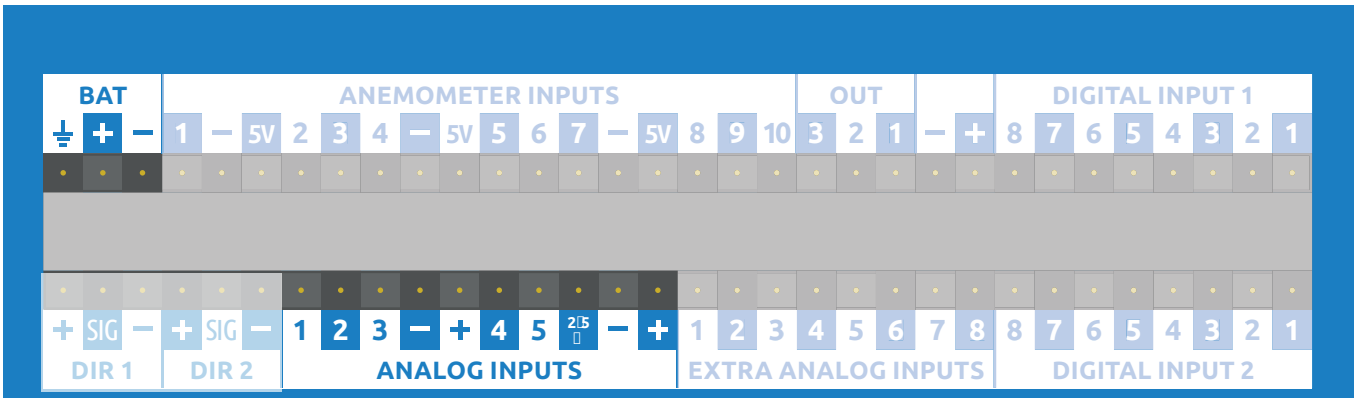
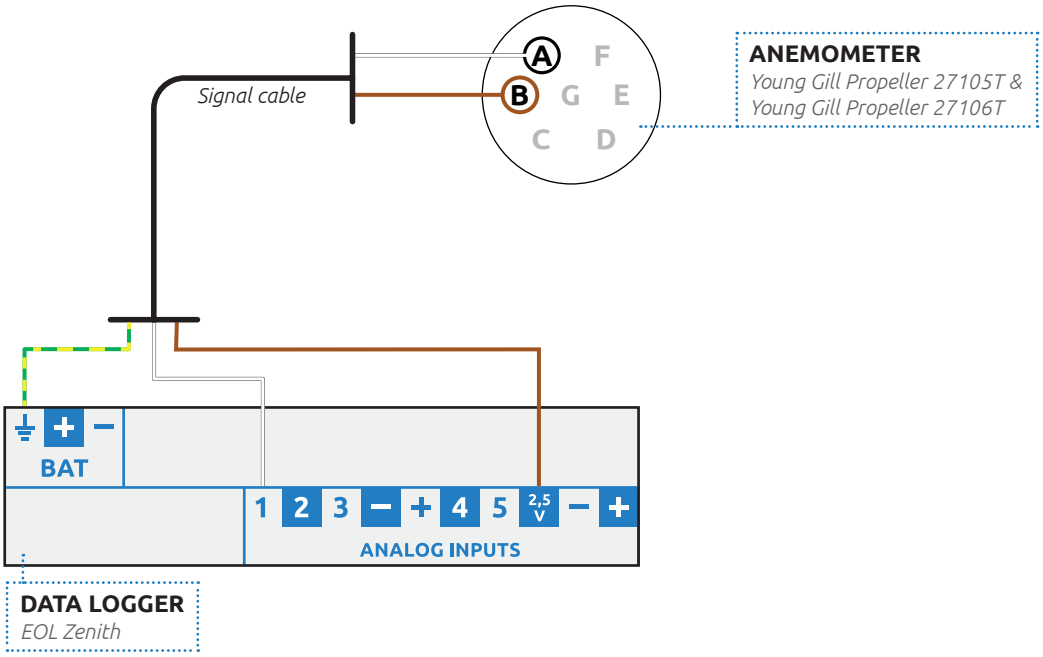
INSTRUCTIONS

Use the following input channels on the logger to connect this sensor. See highligted input channels marked here below. The wire colors used in the connection diagram below only applies in case the cable is supplied by Kintech Engineering.
For additional wiring & shielding information see the chapter "IMPORTANT" at the end of this dataheet.





SENSOR PIN DESCRIPTION			DATA LOGGER INPUT CHANNEL	
A F B G E C D	A	SIG	Analog Inputs	1
	B	Supply	Analog Inputs	2.5V
	-	Shield	BAT	GND

KINTECH COLOR CODES	
○	White
●	Brown
◐	Yellow - Green

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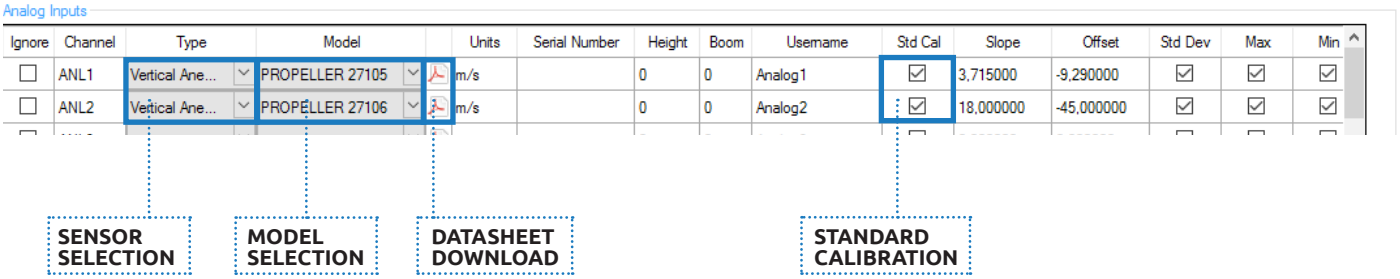
HOW TO CONFIGURE THIS SENSOR IN EOL MANAGER

Open EOL Manager and go to the data logger you are working on. Open the "inputs" tab and select the following type and model:

- **Section**: Analog Inputs
- **Type**: Vertical Anemometer
- **Model**:PROPELLER 27105
- **Model**:PROPELLER 27106

Calibration values: Tick the "Std Cal" to use this sensors standard slope and offset. If you have the Measnet calibration certificate for this sensor insert the slope and offset values from this certificate.



IMPORTANT

- After configuring the sensor in EOL Manager make sure to upload the configuration file to your EOL Zenith data logger. See the "Quick User Guide" how to upload configuration files to the data logger.
- All sensor wire shields must be connected to the data logger GND terminal.
- The data logger should always be connected to a separated ground rod. **Not** to the lightning rod of the tower.
- To store data such as Std Dev, Max and Min you should tick the corresponding boxes next to each anemometer channel when setting up your site file. Otherwise these parameters will not be stored.
- This sensor can be connected to "ANALOG INPUTS" or "EXTRA ANALOG INPUTS"of the logger.
- Installation recommendation:

Sensor installation	Wind flow		Voltage sensor wires
	↑	Upwards	{ SIG - Supply(+) } > 2.5V
	↓	Downwards	{ SIG - Supply(+) } < 2.5V

- Cable recommendation:

Sensor no heating	Signal cable 2x0.5 mm²

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