

# ANEMOMETER

*WINDSENSOR P2546C-OPR*



MODEL - Nº	ELECTRICAL OUTPUT	ELECTRICAL SUPPLY	HEATING SUPPLY	MODEL IN EOL MANAGER
Windsensor P2546C-OPR	-	Maximum switching 30 V	No heating	<b>RISO P2546</b>

### APPLICATION

The WindSensor P2546C-OPR Cup Anemometer combines unrivaled performance with the only IEC 61400-12-1 compliant classification on the market.

The WindSensor P2546C-OPR Cup Anemometer is ideally suited for wind resource assessment and power performance studies.

- Wind resource assessment
- Meteorological studies
- Environmental monitoring

### CONSTRUCTION AND MODE OF OPERATION

The WindSensor P2546C-OPR Cup Anemometer is constructed with durable anodized aluminum and stainless steel.

The WindSensor P2546C-OPR Cup Anemometer is a sturdy device that senses wind speed with a three-cup rotor assembly. Permanent magnets mounted on the shaft cause a switch to close and open two times per revolution.

The switch has no bounce and is equipped with a special mechanism that reduces the variation in operating time over the frequency range. This feature facilitates obtaining instantaneous wind speed by measuring the time interval of each revolution.

## TECHNICAL DATA

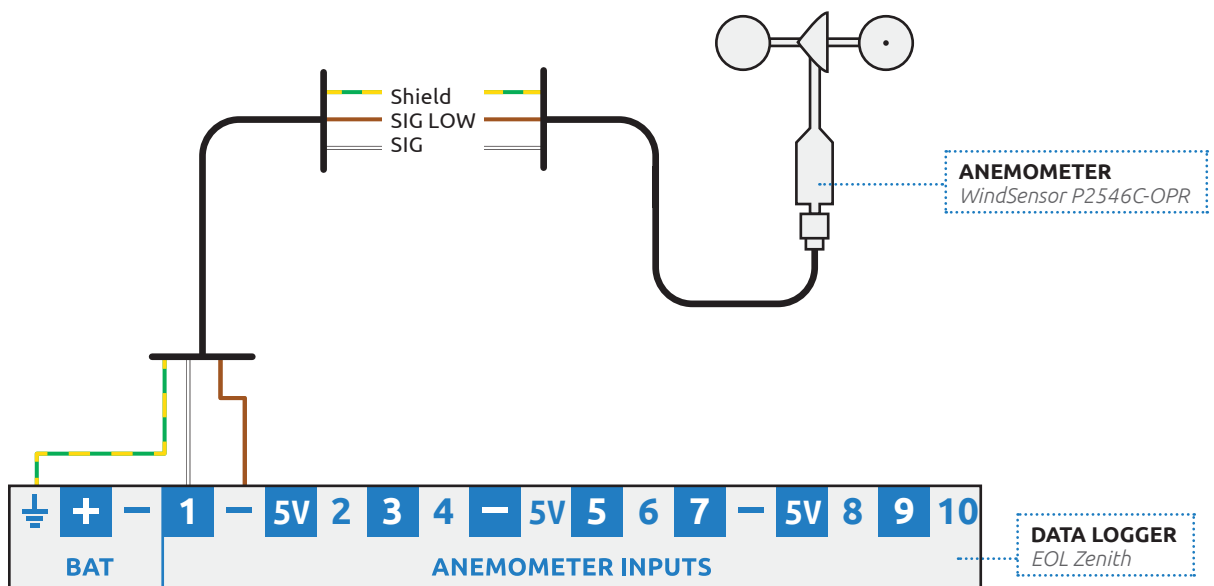
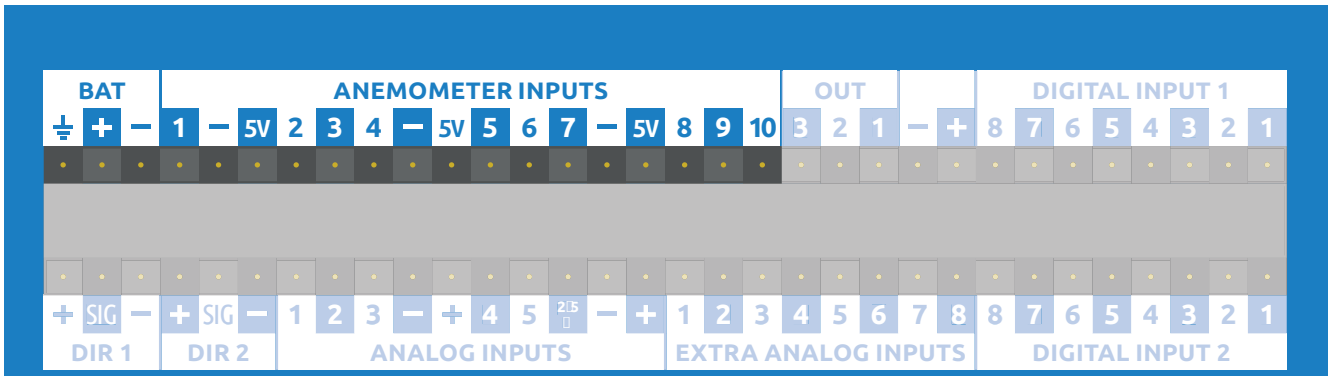
CHARACTERISTIC	DESCRIPTION / VALUE
Sensor type	3-cup anemometer
Sensor range	0...75 m/s
Signal type (sensor output) WindSensor P2546C-OPR	Low level AC sine wave, frequency linearly proportional to wind speed Anemometer Transfer Function → Refer to individual calibration report for transfer function Output voltage at threshold → 80 mV pk-pk minimum Output voltage at 60Hz → 14 V* pk-pk typical * output amplitude NOT proportional to wind speed
Calibration	Each anemometer individually calibrated, calibration reports provided via electronic download Nonlinearity <0.04 m/s Standard deviation of slope 0.027 m/s Standard deviation of offset 0.014 m/s
Output signal range	0...112 Hz WindSensor
Uncertainty	IEC 61400-12-1 Classification Class 1.32A Class 3.71B
Threshold	<0.4 m/s
Distance constant (63% recovery)	1.81 ± 0.04 m
Moment of inertia	1.01 ×10 <sup>-4</sup> kg*m <sup>2</sup>
Swept diameter of rotor	87 mm
Operating temperature range	-35...+60 °C
Operating humidity range	0...100% RH
Weight	0.36 kg
Dimensions	3 cups of conical cross-section 70 mm diameter 282 mm overall assembly height
Cups Body Shaft Bearing Magnet	Robust one-piece injection molded polycarbonate/glass blend Anodized aluminum Stainless steel Stainless steel ball bearings One permanent ring magnet

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## INSTRUCTIONS

Use the following input channels on the logger to connect this sensor. See highlighted 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.**

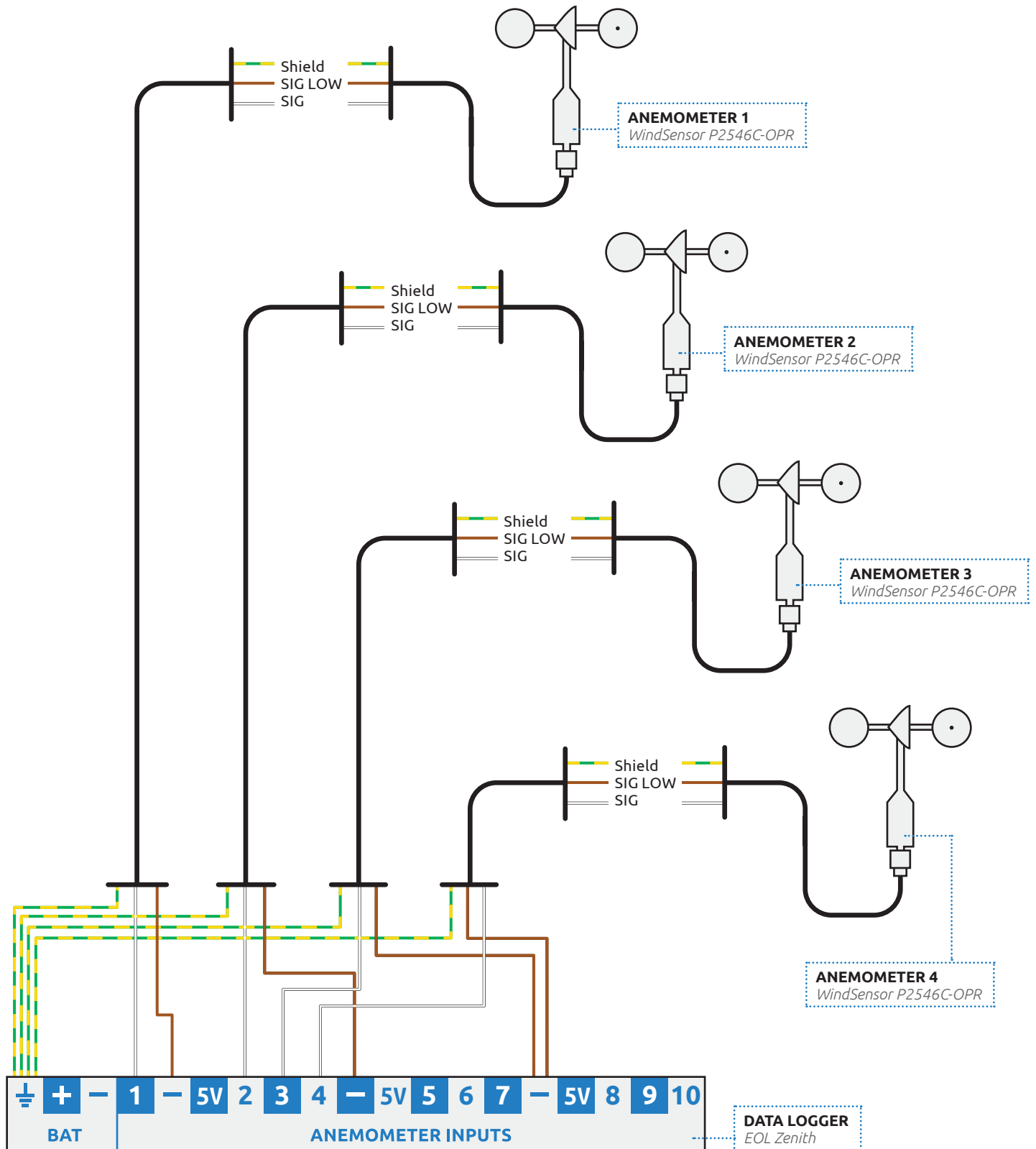


SENSOR PIN DESCRIPTION		DATA LOGGER INPUT CHANNEL	
SIG	Signal	Anemometer Inputs	1
SIG LOW	Reference	Anemometer Inputs	(-)
-	Shield	BAT	GND

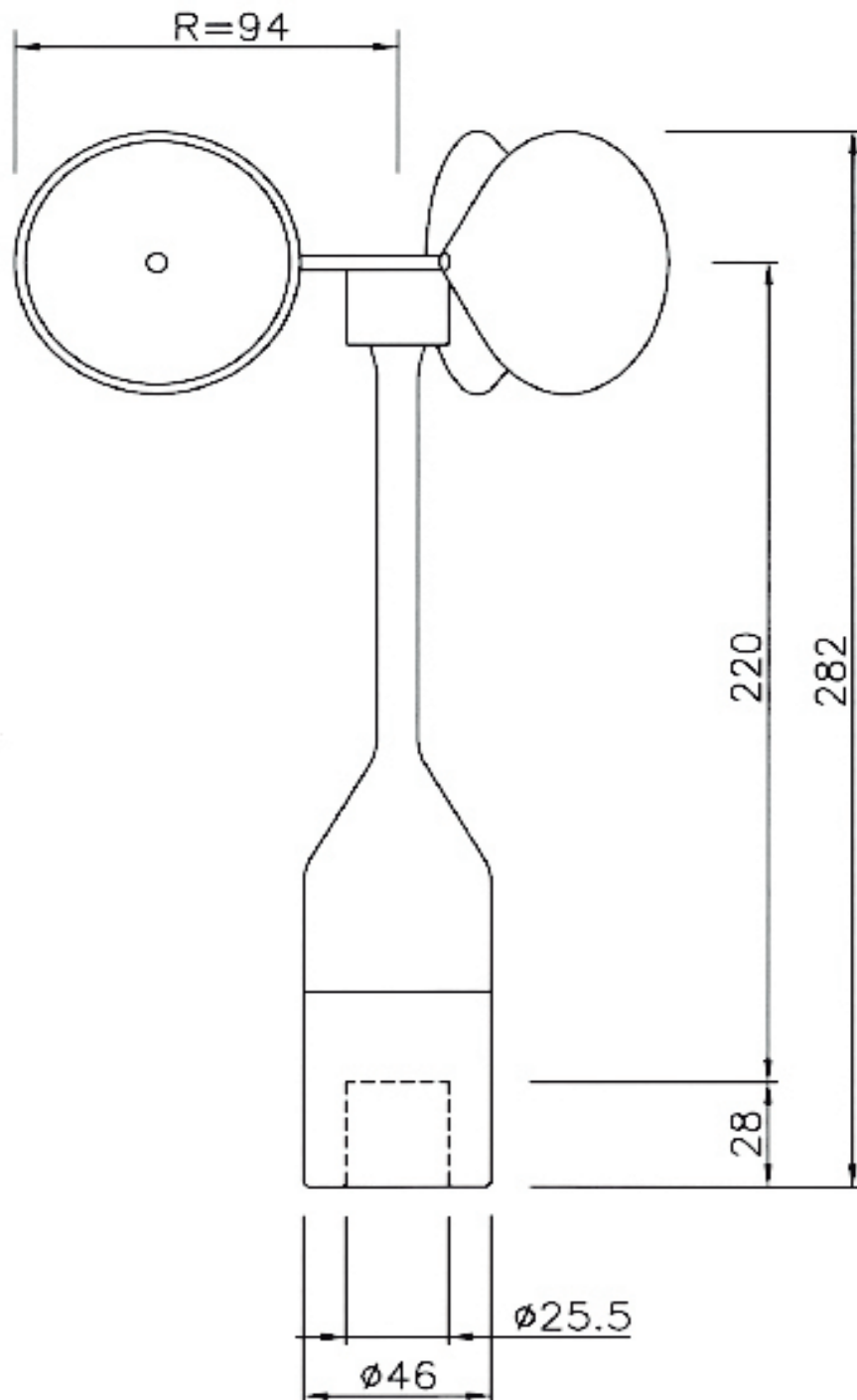
KINTECH COLOR CODES		MANUFACTURER COLOR CODES	
○	White	○	White
●	Brown	●	Brown
●	Yellow - Green	●	Yellow - Green

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## HOW TO CONNECT MORE THAN ONE OF THIS SENSOR (EXAMPLE)



SENSOR DIMENSIONS



# ANEMOMETER | WINDSENSOR P2546C-OPR

## 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: Anemometers/Frequency
- Type: Anemometer
- Model: RISO P2546

**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.

Ignore	Channel	Type	Model	Units	Serial Number	Height	Username	Std Cal	Slope	Offset	Std Dev	Max	Min
<input type="checkbox"/>	ANE1	Anemometer	RISO P2546	m/s		0	Anemo1	<input checked="" type="checkbox"/>	0,620100	0,270000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	ANE2	Anemometer	-----	m/s		0	Anemo2	<input type="checkbox"/>	0,000000	0,000000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

SENSOR SELECTION      MODEL SELECTION      DATASHEET DOWNLOAD      STANDARD CALIBRATION

## 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.
- The three 5V power supply outputs are completely independent and not associated to any of the signal inputs. The three 5V outputs can therefore be distributed according to needs.
- 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.
- Cable recommendation:

Sensor no heating	Signal cable 2x0.5mm <sup>2</sup>
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**KINTECH ENGINEERING**

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