

ANEMOMETER

VECTOR A100L2 & VECTOR A100LK & VECTOR A100LM

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ORDER - N°	ELECTRICAL SUPPLY	HEATING SUPPLY	MODEL IN EOL MANAGER
A100LK & A100LM	4.75..28 VDC max 1.3 mA	No heating	VECTOR A100L2/LK
A100L2	6.5..28 VDC max 2 mA	No heating	

APPLICATION

This anemometer was developed from the proven A100 Por-ton™ instrument and R30 rotor design in response to demand for an anemometer offering pulse/frequency and analogue voltage outputs while consuming little supply current.

It presents low power consumption, wide power supply range and choice of pulse/frequency and analogue voltage output signals make this anemometer. Used for applications such as general meteorology and wind power site.

CONSTRUCTION AND MODE OF OPERATION

A slotted disk interrupting a light beam is used to detect the motion of the calibrated R30 series 3-cup rotor and hence determine the wind speed. The internal electronics condition this pulse signal for output as a 5 V square wave and use it to generate an analogue voltage proportional to the wind speed.

Construction is from anodized aluminum alloys, stainless steels and weather resisting plastics for exposed parts. Precision corrosion resistant ball-races and a stainless steel shaft enable the R30 rotor response to produce a highly sensitive yet robust instrument suitable for continuous exposure to the weather.

Vector Instruments A100L2 Anemometers has Class 1 performance ("First Class") according to the requirements of IEC and MEASNET standards.

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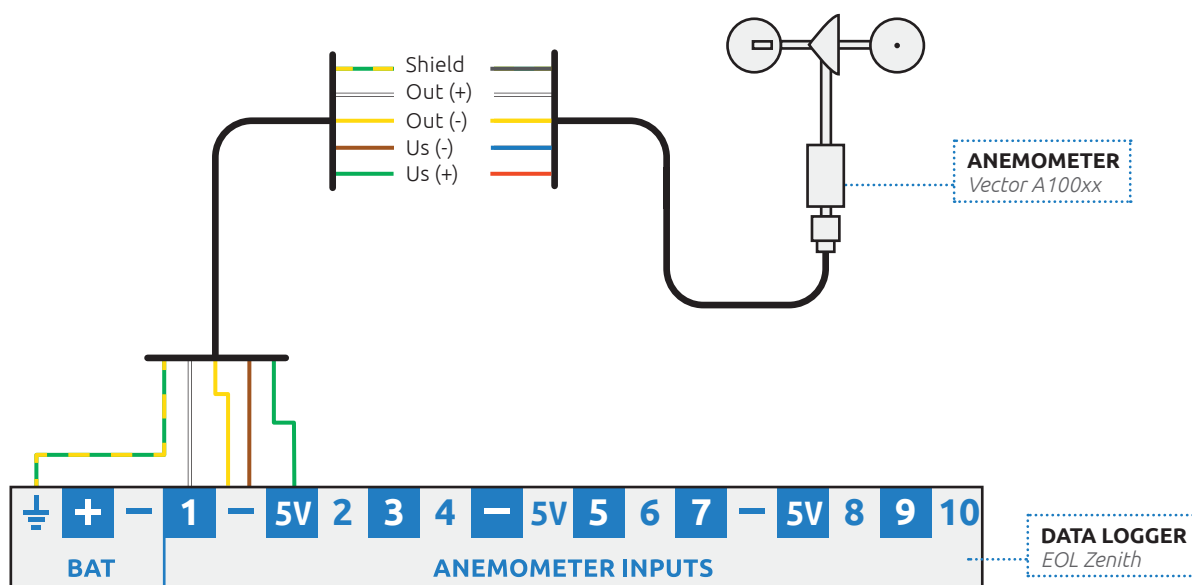
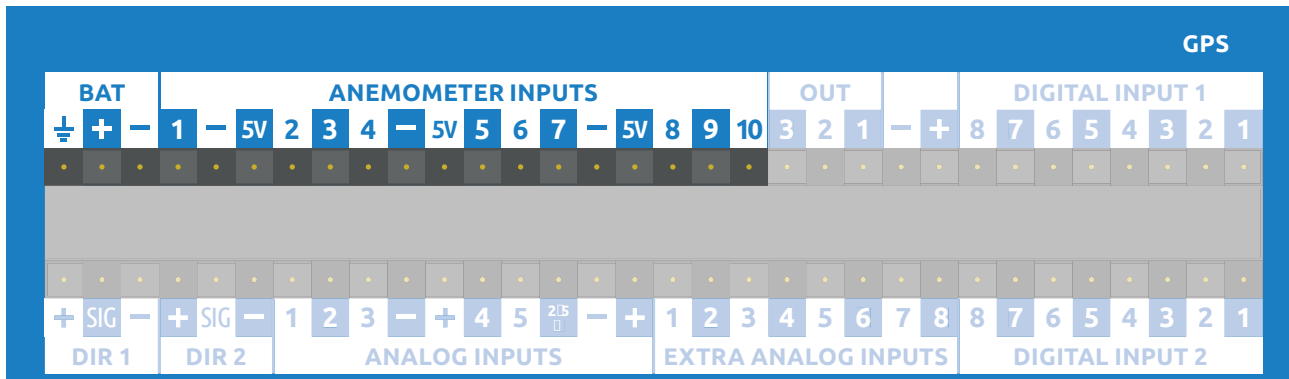
TECHNICAL DATA

CHARACTERISTIC	DESCRIPTION / VALUE
Threshold	0.15 m/s
Starting speed	0.2 m/s
Stopping speed	0.1 m/s
Maximum wind speed A100LK & A100L2 A100LM	75 m/s 77.17 m/s
Temperature range	-30...+70 °C
Accuracy	1% of reading between 10.29 m/s and 56.59 m/s (2% above 56.59 m/s, 0.1 m/s below 10.29 m/s)
Non-linearity	0.4% full-range output frequency (correction curve supplied)
Distance constant	2.3 m +/-10% (R30 rotor)
Temperature stability	+/-2% of output (over -30...+40 °C range)
Overall non-linearity	0.9% FRO (0...77.17 m/s, at const. temp/supply voltage, rotor+ratemeter correction curve supplied)
Supply voltage A100LK & A100LM A100L2	4.75...28 V (maximum 1.3 mA, average is typically 1 mA) 6.5...28 VDC (maximum 2 mA, average is typically less than 1 mA)
Pulse output signal A100LK & A100L2 A100LM	10 Hz per Knot (per 0.51 m/s) (i.e. 0...1500 Hz = 0-150 Knots = 77.17 m/s) 10 Hz per m/s (i.e. 0...750 Hz = 0-75 m/s)
Resolution A100LK & A100L2 A100LM	5.15 cm 10 cm
Rotor	3-cup R30K (standard)
Weight	490 g
Cable	3 m long, 7x0.2 mm ²

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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.

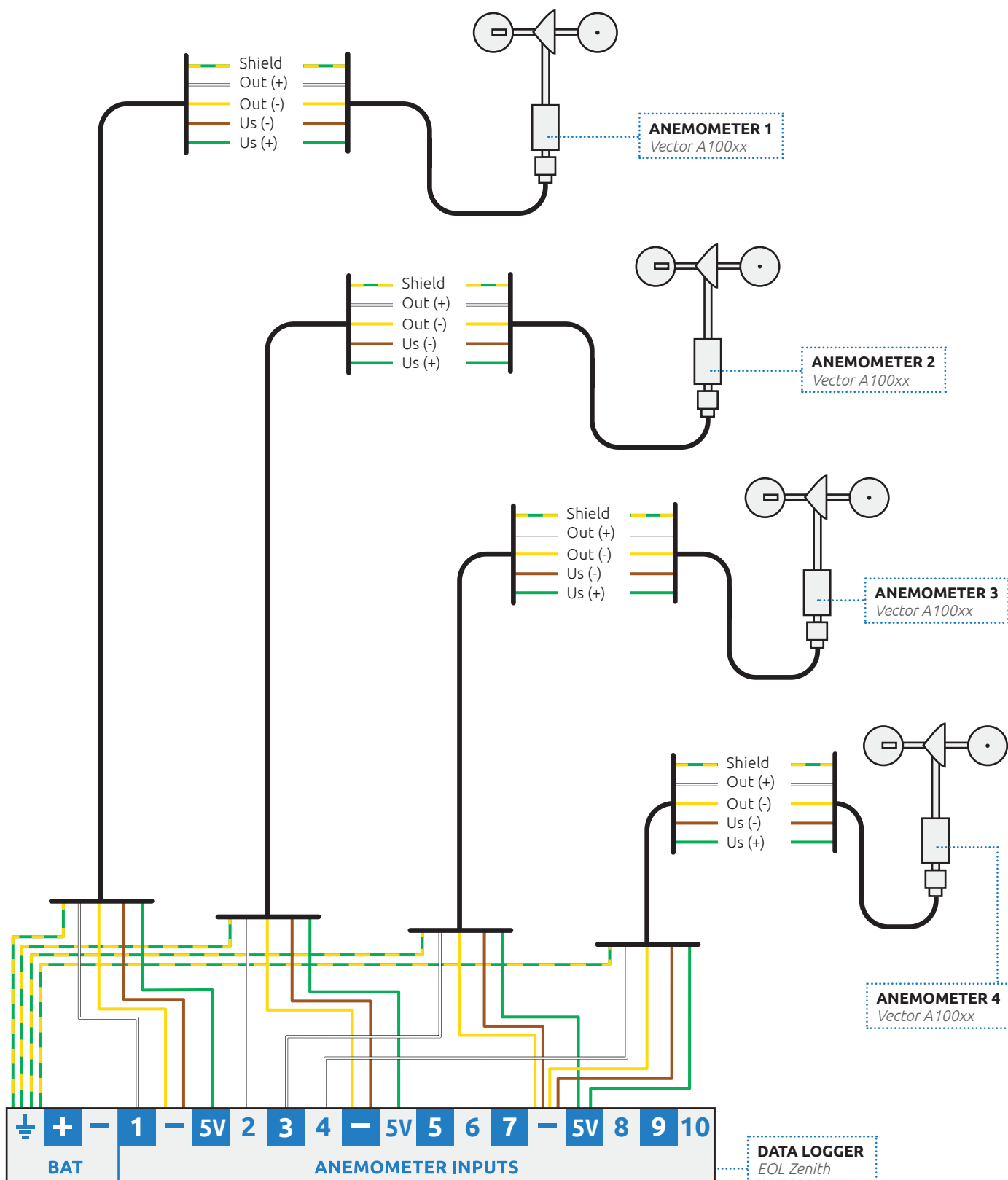


SENSOR PIN DESCRIPTION		DATA LOGGER INPUT CHANNEL	
Us(+)	Supply (+)	Anemometer Inputs	5V
Us(-)	Supply (-)	Anemometer Inputs	(-)
Out(+)	Pulse Output	Anemometer Inputs	1
Out(-)	Reference	Anemometer Inputs	(-)
-	Shield	BAT	GND

KINTECH COLOR CODES		MANUFACTURER COLOR CODES	
● Green	Green	● Red	Red
● Brown	Brown	● Blue	Blue
○ White	White	○ White	White
● Yellow	Yellow	● Yellow	Yellow
● Yellow-Green	Yellow - Green	● Black	Black

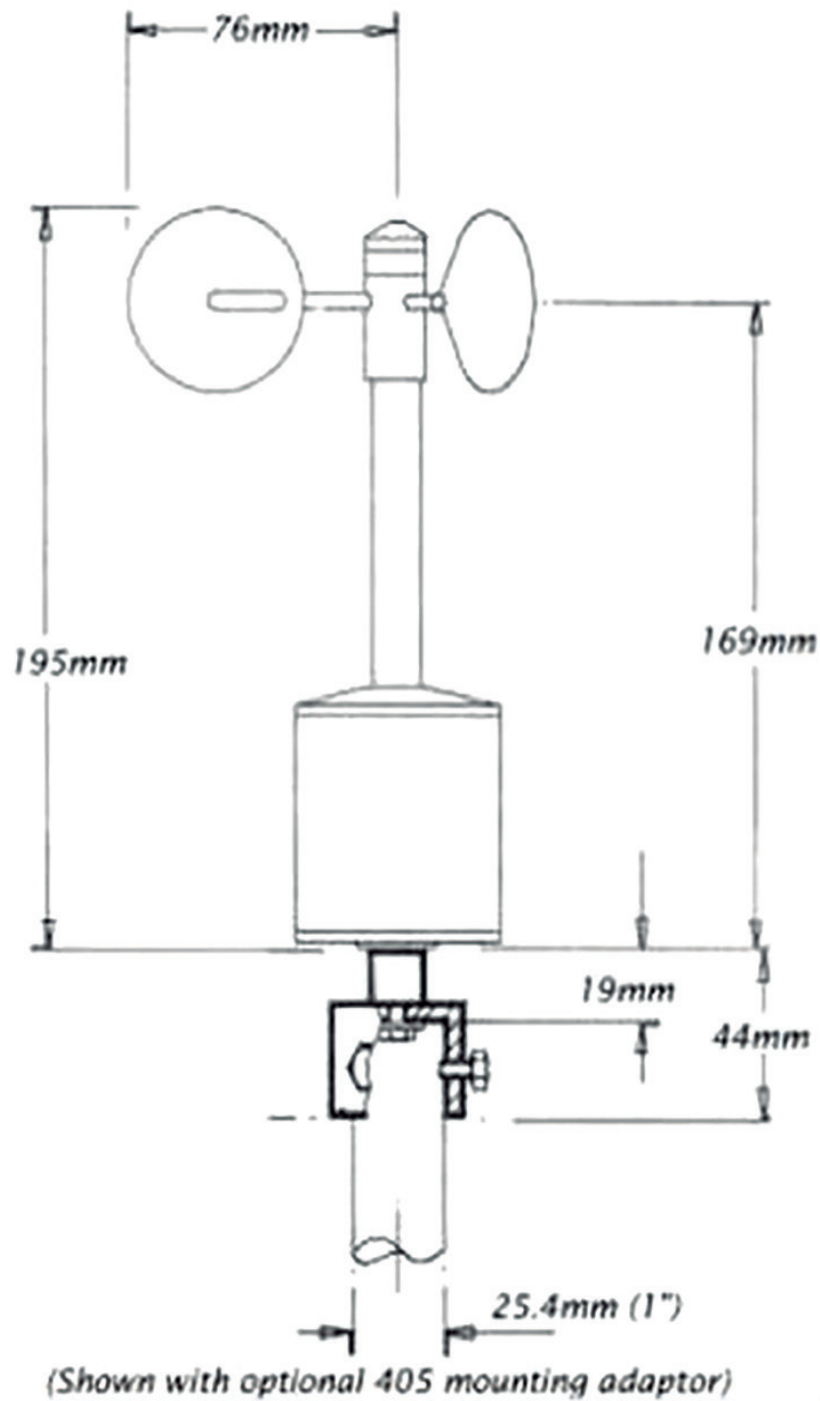
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HOW TO CONNECT MORE THAN ONE OF THIS SENSOR (EXAMPLE)



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SENSOR DIMENSIONS



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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: Anemometers/Frequency
- Type: Anemometer
- Model: VECTOR A100L2/LK

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.

Anemometers/Frequency

Ignore	Channel	Type	Model	Units	Serial Number	Height	Username	Std Cal	Slope	Offset	Std Dev	Max	Min
<input type="checkbox"/>	ANE1	Anemometer	VECTOR A100L2/LK	m/s		0	Anemo1	<input checked="" type="checkbox"/>	0,051000	0,250000	<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"/>
<input type="checkbox"/>	ANE3	Anemometer	-----	m/s		0	Anemo3	<input type="checkbox"/>	0,000000	0,000000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Diagram labels pointing to the table:

- SENSOR SELECTION (points to Type column)
- MODEL SELECTION (points to Model column)
- DATASHEET DOWNLOAD (points to Units column)
- STANDARD CALIBRATION (points to Std Cal column)

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.
- This wiring diagram can be used for the following anemometer types: A100LK / A100LM / A100L2.
- Cable recommendation (up to 150 m cable):

Sensor no heating	Signal cable 4x0.5 mm ²
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