

SWITCHING ANEMOMETER - A100R-01/A100R-02 (A100R)

A100R (A100R-01/-02) SWITCHING/PULSE ANEMOMETER

The A100R is a member of the well-proven Vector A100 Series high-quality/accuracy Cup Anemometer line-up, and uses the same high-performance/durable body-shell, precision bearings and 3-cup rotor as other models in the A100 Series. A magnetic actuator inside the A100R-01 anemometer causes a reed switch to make and break contact once per revolution of the rotor (twice for A100R-02 variant). This volt-free contact allows easy connection to data-loggers and no power is required apart from that necessary to detect contact closure, making it ideal for battery/solar operated remote installations. Every rotor is tested at a single wind speed by comparison with a set of reference rotors which are themselves traceable to national standards and an individual calibration figure is provided.

OPTIONS:

- ▶ MEASNET/IEC calibration certificate is available.
- ▶ /SE marine/severe environment version is available with enhanced sealing
- ▶ /HE4 anti-icing heater version is available.
- ▶ 405 Series Mounting Adaptors, and 415 Universal Mounting Arm
- ▶ A100R/K option for "First Class" rotor (calibration differs from standard A100R)
- ▶ A100R/K/PRO option - as above but with MEASNET Cal/Certificate & 405 mount.

INTENDED PRODUCT APPLICATIONS/USE

This instrument is intended for use in various meteorological wind measurement applications, mounted on a mast or pole and connected to a data-logger, signal conditioner or similar measuring equipment.

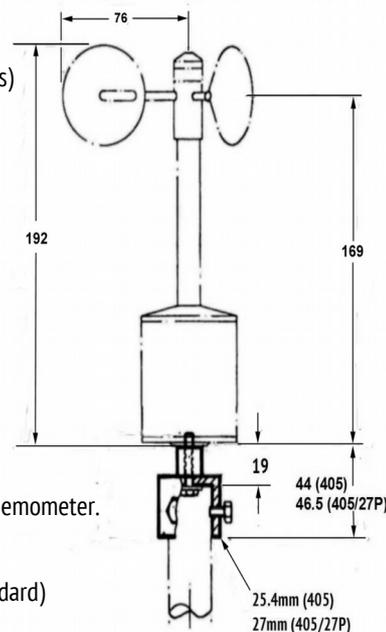
Note: The A100R-01 and A100R-02 anemometers **contain no mercury** and are an updated version of the original A100R anemometer model which has a long track-record of reliable operation in the field. The A100R-01 can replace the original A100R in almost all applications. Modern Data-loggers & measuring equipments are capable of handling the "contact bounce" of a non-mercury (dry) reed switch, however the (0.05mS typical) contact bounce is normally largely suppressed/filtered sufficiently by the internal circuit and cable where an A100R-01 replaces an original A100R. The absence of mercury allows operation down to a lower temperature compared to the original A100R model.

Specification Summary

Performance:	Threshold:	0.2m/s typ.
	Maximum windspeed:	≥ 75m/s
	Standard Measuring range:	0 to 75m/s
Rotor:	Type:	R30, 3-cup rotor (R30/S for A100R, R30/K for A100R/K)
	Distance constant:	2.3m ± 10%
Output Signal:	Rotor wind speed measurement:	reed switch closed by magnetic actuator, 1 pulse per rotor revolution (2 pulses for A100R-02 variant)
	Accuracy:	±1% of reading (10..55m/s) ±2% of reading (55m/s-75m/s) ±0.1m/s (0.3..10m/s)
Calibration:	A100R-01: 0.8 revs/metre nominal = 1 pulse per 1.25m = 0.8Hz per m/s (=typ. 60Hz at 75m/s)	
	A100R-02: 0.8 revs/metre nominal = 1 pulse per 0.625m = 1.6Hz per m/s (=typ. 120Hz at 75m/s)	
	(A100R-01/K: 0.777 revs/metre nom. = 1 pulse per 1.29m = 0.78Hz per m/s typ.)	
	(A100R-02/K: 0.777 revs/metre nom. = 1 pulse per 0.645m = 1.55Hz per m/s typ.)	
	Non-linearity:	typ. 0.4% full range output frequency (correction curve supplied)
Electrical:	Switching voltage:	Rated 72VDC max., recommended : 1 to 5 V
	Switching current:	Rated 40mA max., recommended : 1mA max.
	Switch life:	Rated >10 ⁹ operations (@ 0.1mA) - equivalent to at least 10 years of normal operation.
	Duty Cycle:	50% ± 25%
	Impedance:	120Ω ±20% series resistor plus 10nF ±20%capacitor across line for interference/bounce suppression.
General:	Operating temperature range:	-40 to +70°C
	Standard cable:	3m long 4 core braided shield, 7/0.2mm cores, PVC outer sheath (other lengths ≤115m to order)
Connections:	Green = reed switch terminal 1, Yellow = reed switch terminal 2, Screen = not connected at anemometer. (Red, Blue, unused in standard version but used for heater in /HE4 & /SE versions)	
Mechanical:	Mounting:	0.25 inch BSW / UNC screw into base (standard tripod fitting) (optional 405 series mounts are shown in photo/diagram, not included as standard)
Dimensions/Weight (with 3m cable) packed:		330 x 160 x 80mm / 750g, Instrument+Rotor+Cable Weight: 500g



DIMENSIONS IN MM (Shown with optional 405 & 405/27P mount)



Vector Instruments

Vector Instruments (Windspeed Limited),
115 Marsh Road, Rhyl, North Wales, LL18 2AB, United Kingdom.
Tel: +44 (0) 1745 350700 Fax: +44 (0) 1745 344206
E-mail: sales@windspeed.co.uk
Website: <http://www.windspeed.co.uk>

All dimensions/weights are approximate.

Specification and Prices subject to change at any time without notice, contact our sales office for latest pricing and availability details.

E&OE. All information herein is believed to be correct at time of writing but may change without notice. Contact us to confirm latest information.

All information is provided in Good Faith and Windspeed Limited (and its employees) shall NOT be responsible for any errors, omissions, injury, loss or damages of any kind howsoever caused.

