

LOW POWER PULSE OUTPUT ANEMOMETER

A100LM

Demand for a low power, pulse output only version of the well proven A100L2 anemometer, capable of operating from a datalogger's nominal 5v supply output, led to this A100LM variant, which is suitable for use with many data loggers. This A100LM anemometer typically consumes as 1mA or less. The robust yet accurate First Class A100LM anemometer has achieved a long track record in the field, being a popular choice for wind-assessment applications. This anemometer uses the same body-shell and 3-cup rotor as others in the A100 Series Anemometer range. The rotor is tested 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/certificates are available.
- ▶ A marine/severe environment version is available with enhanced sealing
- ▶ An anti-icing heater (HE-4) version is available.
- ▶ 405 Series Mounting Adaptors (required for First Class performance)
- ▶ A100LM/PC3 variant includes anti-surge protection

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.

Specification Summary

Performance:

Threshold: 0.3Kts (starting speed: 0.4Kts, stopping speed: 0.2Kts)
Max. windspeed: ≥ 75 m/s
Standard Measuring range: 0 to 75 m/s

Rotor:

Type: R30, 3-cup rotor
Distance constant: $2.3m \pm 10\%$
Accuracy: 1% of reading (20-110Kts),
2% of reading (110-150Kts),
0.2Kts (0.2-20Kts)
Non-linearity: typ. 0.4% full range output frequency
(correction curve supplied)
Rotor wind speed measurement: By interruption of optical beam

IEC 61400-12-1 Classification:

First Class (when used with 405 series mounts & IEC compliant booms/poles)

Pulse/Frequency Output:

Output range: 0 to 750Hz for 0 to 75 m/s (10Hz per m/s nominal)
Resolution: 10 cm
4V Pulse output: High: 4.2v max., 3.6v min.
Low <0.2V,
Output Resistance: typ. 430 ohms.
Min. load resistance: 20K Ohms.
Rise/Fall time approx 25 μ s,
Duty Cycle: 50% ($\pm 25\%$)

Mechanical:

Mounting: 0.25 inch BSW / UNC screw into base, standard tripod fitting
(405 series mounts shown, available as options)

Dimensions/Weight (with 3m cable) packed: 330 x 160 x 80mm / 750g,
Instrument+Rotor+Cable Weight: 500g

General:

Operating Temperature Range: -30 to +70°C
Supply Voltage: 4.75V to 28V DC,
Power-up time: 2 sec
Current consumption: <1mA typical (1.3mA max.) with no output load
Standard Cable: 3m long, 6 core screened 7/0.2mm, PVC insulated (other lengths to order)

Notes:

The A100LM output frequency is roughly half of that of the A100L2 or A100LK models at the same wind speed – for better resolution consider the A100L2 or A100LM models.

Connections: Red = Supply positive, Blue = Supply negative, Green = Not Used, Yellow = Output -, White = Pulse output, Black = Base plate,
Cable screen not connected at anemometer. (Yellow & Green are both connected to the Blue wire inside the instrument)

Heated versions have 8-core cables, with the 2 additional cores used for the heater power connection (heated versions do not include a thermostat).

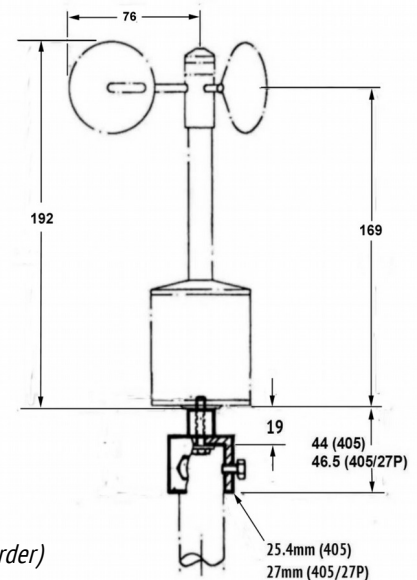
Pulse Amplitude: Check that the 4v nominal (3.6v minimum) pulses are sufficient for your datalogger under all conditions. Consider the A100L2 which provides 5V pulses if unsure.

Calibration: Calibration data for the anemometer and rotor are provided at one test speed to an accuracy of 1% at +15°C and +12V DC supply)

Anti-surge options: The A100LM/PC3 variant has an extra surge protection module containing series resistance elements and clamping devices fitted to the base of the electronics module in the standard anemometers. Note that these protection elements slightly affect certain specification parameters.



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



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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.

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