

3-Axis Ultrasonic Anemometer

Key Features

- Precision 3-Axis sonic anemometer
- 32Hz output rate
- 0-65m/s wind speed
- 0-360° wind direction
- U, V, W vector outputs
- Sonic temperature output
- Stainless steel construction
- Optional custom calibration

The Gill WindMaster Pro is a precision anemometer offering three-axis wind measurement data. This instrument will monitor wind speeds of 0-65m/s and provides sonic temperature, speed of sound and U, V & W vector outputs at 32Hz as standard. The unit also features improved vertical (W) resolution and speed of sound accuracy and less distortion due to wind loading. Each WindMaster Pro can be calibrated with an optional Gill wind tunnel test to provide optimum performance. Optional analogue inputs and outputs plus a PRT are available with 14 bit resolution.

This anemometer is of stainless steel external construction and is particularly suitable for precision wind measurement applications requiring 3-axis data involving high wind speeds.



WIND SPEED

| | |
|------------|--------------------------|
| Range | 0 - 65 m/s |
| Resolution | 0.01 m/s |
| Accuracy* | <1.5% RMS @12 m/s |
| Accuracy* | <1% RMS @12 m/s (Custom) |

DIRECTION

| | |
|------------|-----------------------|
| Range | 0 - 360° |
| Resolution | 0.1° |
| Accuracy | 2° @12 m/s |
| Accuracy | 0.5° @12 m/s (Custom) |

SONIC TEMPERATURE

| | |
|------------|---|
| Range | -40°C to +70°C |
| Resolution | 0.01°C |
| Accuracy | -20°C to +30°C within ±2°C of ambient temperature |

SPEED OF SOUND

| | |
|------------|----------------|
| Range | 300-370 m/s |
| Resolution | 0.01 m/s |
| Accuracy | < ±0.5% @ 20°C |

MEASUREMENT

| | |
|----------------------|--------------------------------|
| Internal sample rate | 32 Hz |
| Output parameters | 1, 2, 4, 8, 10, 16, 20 & 32 Hz |
| Units of measure | m/s, mph, kph, knots, ft/min |
| Formats | UVW or Polar |

DIGITAL OUTPUT

| | |
|---------------|------------------------|
| Communication | RS232, 422, 485 Binary |
| Baud rates | 2400 - 57600 |
| Format | ASCII |

ANALOGUE OUTPUTS - OPTIONAL

| | |
|--------------------|---------------------------------------|
| Resolution 14 bits | 4 channels available |
| Selectable range | User selectable full scale wind speed |
| Output type | 0-20mA, 4-20mA, 0-5V, ±2.5V, ±5V |

ANALOGUE INPUTS - OPTIONAL

| | |
|--------------------|---|
| Resolution 14 bits | Up to 4 single ended or 2 differential plus PRT 100 input |
| Input type | ±5V |

POWER REQUIREMENT

| | |
|------------|--------------------------|
| Anemometer | 9-30 VDC (55mA @ 12 VDC) |
|------------|--------------------------|

MECHANICAL

| | |
|--------|---------------|
| Weight | 1.7 kg |
| Size | 750mm x 240mm |

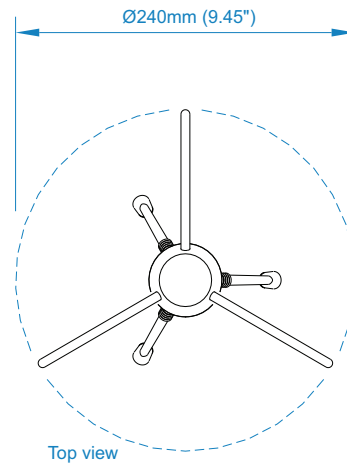
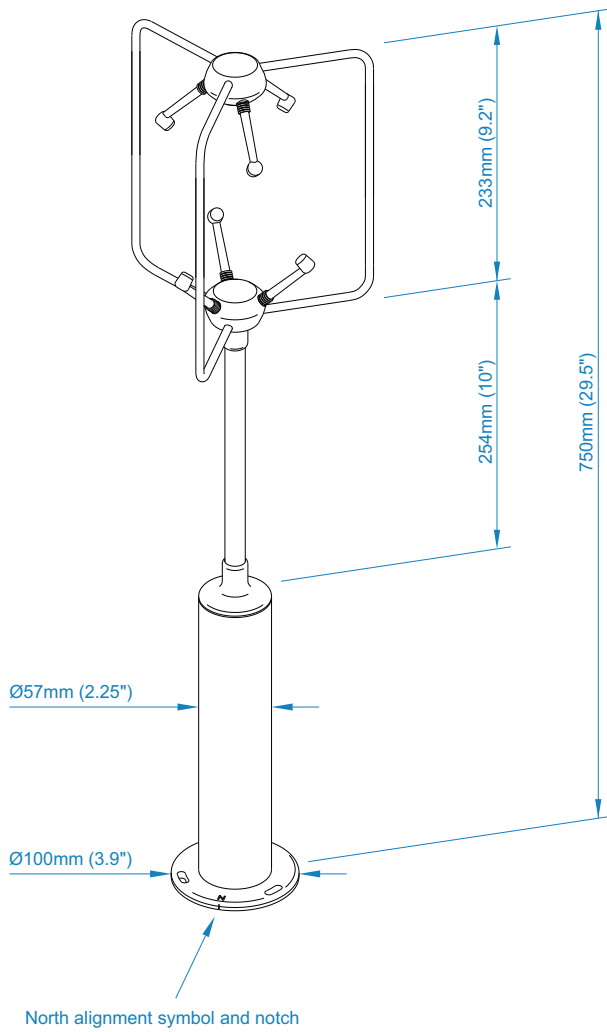
ENVIRONMENTAL

| | |
|------------------|---|
| Protection class | IP65 |
| Operating temp | -40°C to +70°C |
| Humidity | < 5% to 100% RH |
| Precipitation | 300mm/hr |
| EMC | BS EN 61000 - 6 - 3 (Emissions) BS EN 61000 - 6 - 2 (Immunity) |

*Accuracy spec applies for wind speed, and for wind incidence up to ±30° from the horizontal

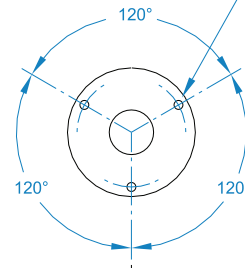
Typical Applications

- Meteorological Systems
- Flux Systems
- Structural Safety
- Wind Profiling
- Marine Research
- Wind Turbine Site Survey



Top view

Positions for three off bolt fixings with $\text{Ø}7.0\text{mm}$ (0.27") max. thread. on a p.c.d. of 85mm (3.35")



Specifications may be subject to change without prior notice.

GILL

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