

Compact Ultrasonic Anemometer

General purpose, easy-to-use, high performance wind sensor

WindUltra is compact and can measure wind speeds up to 75m/s.

WindUltra is the smallest anemometer offered by Gill, measuring 84mm diameter. The space-efficient design provides high accuracy wind measurements across a wide wind speed range.

WindUltra is easy to set up and install. WindUltra is supported by easy-to-use PC software to configure the product. The innovative mounting system ensures the sensor can be installed and aligned quickly and accurately.

WindUltra is designed for a wide range of environments. WindUltra offers a configurable, low power heating system. The mechanical design has achieved excellent results across a range of industry accepted environmental tests.

Typical Applications

- Automatic weather stations
- Ventilation and building automation
- Marine and coastal locations including ports and data buoys
- Smart cities and IoT systems

Key Features

- Accurate wind speed and direction measurement, up to 75m/s
- Robust and compact, corrosion free design with configurable heating
- Data formats available include ASCII, Modbus, NMEA and SDI-12
- Innovative mounting design to ensure simple, secure installation.
- Support available including set-up software and easy-to-access technical support.

Benefits

- Able to provide high quality measurements in difficult environments
- Ideal for restricted locations with low profile, compact design
- Easy to set up, install, and align with free-to-use tools and features
- Suitable for use in environments where low level heating would be acceptable, with user defined heater activation temperature settings.



**WindUltra with
1-inch (25-26 mm)
twist-lock pole mount**



**WindUltra with
1.75-2 inch (44-51 mm)
band-clamp pole mount**

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| WIND SPEED | |
|---------------|--|
| Range | 0-75m/s (168mph, 270km/h) |
| Accuracy | 0-20m/s < 2% RMSE or 0.1m/s RMSE (whichever is greater) >20m/s < 3% RMSE |
| Resolution | 0.01m/s |
| Threshold | 0.01m/s |
| Response time | 0.125 seconds |

| WIND DIRECTION | |
|----------------|---------------------------------------|
| Range | 0-360° |
| Accuracy | 0-20m/s < 1° RMSE >20m/s < 2° RMSE |
| Resolution | 1° |

| DATA OUTPUT CONFIGURATION | |
|---------------------------|---|
| Output rate | Polled or 1, 2, 4 or 8Hz in continuous mode |
| Parameters | Polar wind and gust speed and direction, Signed U & V vectors, Supply voltage |
| Wind speed units | m/s, knots, mph, km/h, ft/min |
| Wind direction units | Degrees |

| PROTOCOLS & INTERFACES | |
|------------------------|---|
| Polled ASCII | RS-485, configurable output string |
| Broadcast ASCII | RS-485, configurable output string |
| Modbus RTU | RS-485, 32-bit float, 32-bit and 16-bit integer registers |
| NMEA 0183 | RS-422, configurable output string |
| SDI-12 | SDI-12 |
| Baud rate | 1200 to 115200 |

| CONNECTIVITY | |
|--------------------|-----------------|
| Primary connector | M12 8-way |
| Configuration port | USB 2.0 Micro B |

| POWER SUPPLY | |
|-------------------------|--|
| Voltage | 5 to 30 VDC, 12 VDC optimum |
| Power | < 100 mW to 800 mW @70m/s unheated < 7.6 W heated |
| Heating operation | M12 input: available 10 to 30 VDC, |
| Over voltage protection | To 38 VDC & reverse polarity |

| MECHANICAL | |
|------------|--|
| Materials | Thermoplastic and marine-grade stainless steel |
| Size | 84mm diameter With 1" pole mount: 189mm height or With 2" pole mount: 107mm height |
| Weight | With 1" pole mount: 270g or With 2" pole mount 260g |

| ENVIRONMENTAL | |
|-----------------------|-----------------|
| Operating Temperature | -40°C to +70°C |
| Storage Temperature | -40°C to +80°C |
| Operating Humidity | < 5% to 100% RH |
| Rainfall | 300 mm/hr |

| TEST & REGULATORY STANDARDS | |
|-----------------------------|--|
| Protection class | IP69k, IP68 & IP66 EN 60529:1992 |
| EMC | BS EN 61326 : 2013 BS EN 60945 : 2002 & FCC |
| Regional markings | CE, UKCA, FCC Part 15 |
| RoHS compliant | Yes |

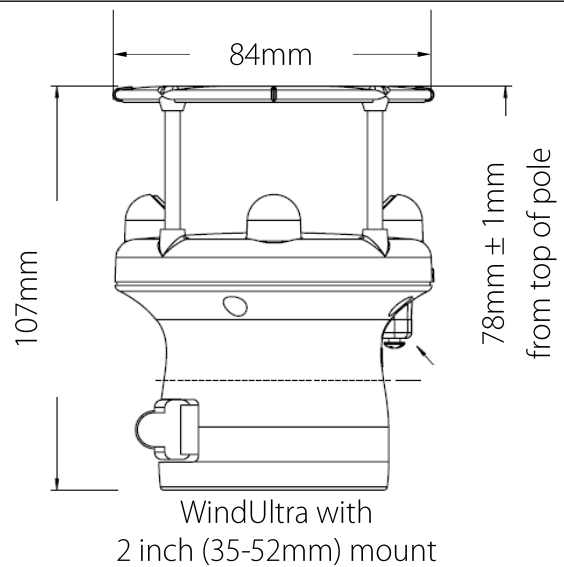
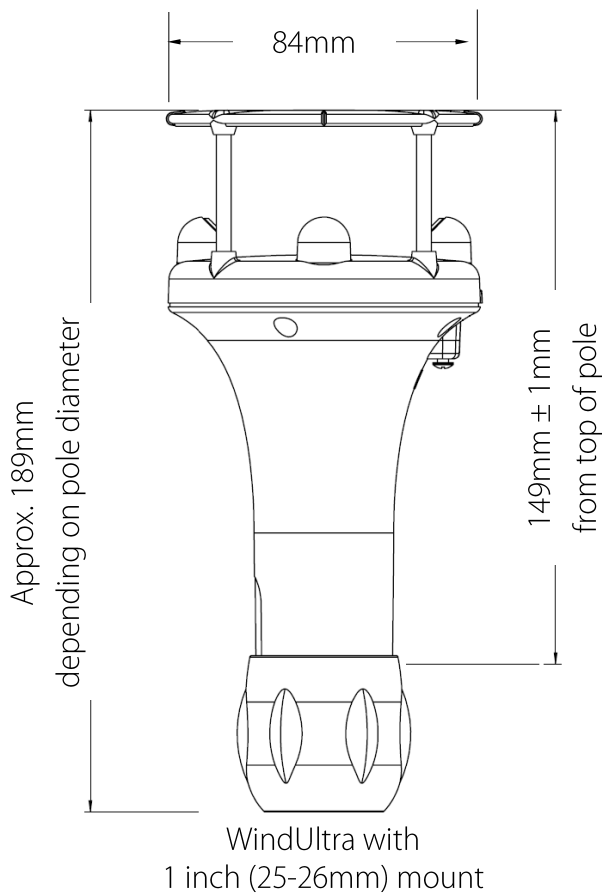
| COUNTRY OF ORIGIN | |
|-------------------|----------------|
| Country of Origin | United Kingdom |

| WARRANTY | |
|----------|-----------|
| Warranty | 24 months |

| SOFTWARE | |
|----------|--|
| WindSet | Free easy-to-use configuration tool |
| WindView | Free easy-to-use wind measurement visualisation and logging software |

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STANDARD EQUIPMENT (supplied with product)

| |
|--|
| WindUltra sensor head |
| Pole mount, 1" (25-26mm) or Pole mount, 2" (44-51mm), dependant on version |
| Connector, M12, 8 way, field wireable or Cable, 2m with integrated M12 connector, dependant on version |
| Cable, 0.8m M12 8-pin to USB configuration lead |
| WindUltra User Manual* |
| WindSet software* to configure WindUltra |
| * downloadable from Gill Instruments website |

WINDULTRA PART NUMBERS

| | |
|----------------|---|
| 1416-PK-210-00 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, |
| 1416-PK-210-01 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, M12 Connector |
| 1416-PK-210-02 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 2m Cable terminated with Connector |
| 1416-PK-210-10 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 1" (25-26mm) Mount |
| 1416-PK-210-11 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 1" (25-26mm) Mount, M12 Connector |
| 1416-PK-210-12 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 1" (25-26mm) Mount, 2m Cable terminated with Connector |
| 1416-PK-210-20 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 2" (44-51mm) Mount |
| 1416-PK-210-21 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 2" (44-51mm) Mount, M12 Connector |
| 1416-PK-210-22 | WU-2, Dual RS485 or RS422, SDI-12, USB, Heated, Black, 2" (44-51mm) Mount, 2m Cable terminated with Connector |

ACCESSORIES

Please refer to accessories datasheet document 1416-0003