

FT205 LIGHTWEIGHT



ACOUSTIC RESONANCE WIND SENSOR

DESIGNED FOR UAVs

The FT205 wind sensor weighs only 100g (3.5oz) and has been specifically designed for use on drones and unmanned aerial vehicles (UAV). An integrated electronic compass makes it ideal for use on a moving platform.

The FT205's compact size and shape makes it physically strong. It is resistant to electrical interference and is also fully-sealed and water-resistant. It is able to operate at altitudes up to 4000m and at temperatures between -20°C and +70°C.

With low power requirements, reading up to 75m/s the FT205 Lightweight Wind Sensor is ideal for UAV flight control systems and environmental monitoring from drones.

The FT205 has been designed to fit either to a pole or flat surface and the sensor includes the parts to convert it to a pole mount device. It can also be mounted upside down.



DIMENSIONS

A. Sensor height.....	55.1mm
B. Sensor diameter.....	56.4mm
C. Mounting surface to cavity centre.....	20.4mm
D. Connector width.....	16.3mm
E. Recommended mounting surface hole.....	20mm

SPECIFICATIONS AT A GLANCE

WEIGHT
100 g

WIND SPEED
0-75 m/s

POWER USAGE
30 mA

FT205 LIGHTWEIGHT



WIND SPEED ¹

Range.....	0-75m/s.....	0-270km/h.....	0-145knots
Resolution.....	0.1m/s.....	0.1km/h.....	0.1knots
Accuracy.....	±0.3m/s (0-16m/s)		
	±2% (16-40m/s)		
	±4% (40-75m/s)		

WIND DIRECTION ¹

Range.....	0 to 360°
Resolution.....	1°
Accuracy.....	4° RMS
Compass accuracy.....	5° RMS ⁴

SENSOR PERFORMANCE ¹

Measurement principle.....	Acoustic Resonance (automatically compensates for variations in temperature, pressure & humidity)
Units of measure.....	Metres per second, kilometres per hour or knots
Altitude.....	0-4000m operating range
Temperature range.....	-20° to +70°C (operational), -40° to +85°C (storage)
Humidity.....	0-100%

POWER REQUIREMENTS ³

Supply voltage.....	6V to 30V DC operating range
Supply current.....	30mA typical

PHYSICAL

I/O connector.....	Molex CLIK-Mate (connector part 505405-0860)
I/O cable.....	Molex CLIK-Mate (600mm cable part 15135-0806)
Sensor weight.....	100g
Sensor material.....	3D printed graphite and nylon composite
Mounting method.....	Surface-Mount with compressed gasket and 3x screw fit. An adaptor is provided for pole-mounting (the pole is not supplied)

DIGITAL SENSOR

Interface.....	RS422 (full-duplex), RS485 (half-duplex), UART (full-duplex)
Format.....	ASCII data, polled or continuous output modes, Polar and NMEA 0183
Data update rate.....	10Hz
Error handling.....	When the sensor detects an invalid reading an error flag is included in the wind velocity output message (see user manual for further details)
Overspeed Warning.....	The sensor has an optional overspeed warning scheme. This scheme is disabled by default but can be enabled at the factory if requested. With the scheme enabled, if the sensor detects a wind speed greater than 75m/s a character is set in the wind velocity output message (see user manual for further details).

¹ All specifications subject to change without notice. Specifications calculated with the default settings and filters enabled. Kmph and knots are only available when using NMEA 0183 mode.

² Refer to user manual for further details.

³ A suitable PSU capable of providing up to 0.2A maximum is recommended. RS422 current load is dependent on topology and resistor values – RS422 in 'always enabled' mode may draw higher currents. Refer to the user manual for further details.

⁴ Requires user calibration, refer to the user manual for further details.

ACOUSTIC TEMPERATURE ^{1,2}

Resolution.....	0.1°C
Accuracy.....	±2°C
Under the following conditions:	
Speed Range.....	5m/s - 60m/s
Operating Range.....	-20°C to +60°C
Temperature Difference.....	<10°C between the air temperature and the actual temperature of the sensor.