FT742-DM (DIRECT MOUNT)

ACOUSTIC RESONANCE WIND SENSOR

FT TECHNOLOGIES

DESIGNED FOR METEOROLOGY

The FT742 Direct Mount fits directly onto a 33.7mm pipe and reads wind speeds up to 75m/s. This makes it ideal for a wide range of meteorological applications and for wind resource assessment.

Small yet very rugged, it is easy to heat even at low power. With no moving parts to degrade or damage and resistant to shock and vibration, it is easy to transport and will perform consistently, time and time again. The hard anodised aluminium body is highly resistant to corrosion, sand, dust, ice, solar radiation and bird attack. The sensor is sealed to IP66, IP67 and IPX6K standard.

Typical uses of this sensor include: weather stations, defence, hurricane research, cold climate monitoring, portable met masts, airports, harbours, railways, alpine resorts, dynamic positioning systems, buoys and mining.

DIMENSIONS

A. Sensor height 161mm

B. Sensor width max 56mm

C. I/0 connector width max 22.1mm

D. Mounting pipe external width 33.7mm

E. Mounting flange width 45mm

SPECIFICATIONS AT A GLANCE

WIND SPEED	WEIGHT	AVAILABILITY
0-75 m/s	380 g	> 99.9 %

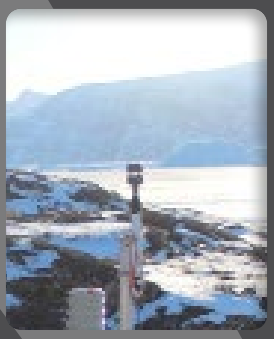
THE WORLD'S TOUGHEST WIND SENSORS

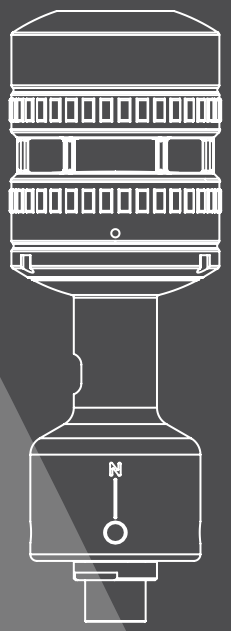
WWW.FTTECHNOLOGIES.COM

FT742-DM (DIRECT MOUNT)

FT TECHNOLOGIES





WIND SPEED

Range	0-75m/s
Resolution	0.1m/s
Accuracy	±0.3m/s (0-16m/s) ±2% (16-40m/s) ±4% (40-75m/s)

WIND DIRECTION

Range	0 to 360°
Resolution	1°
Accuracy	4° RMS

ACOUSTIC TEMPERATURE*

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 between the air temperature and the actual temperature of the sensor.	<10°C

*Available on digital sensors only

SENSOR PERFORMANCE

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	-40° to +85°C (operating and storage)
Humidity	0-100%
Ingress protection	IP66, IP67 and IPX6K
Heater settings	0° to 55°C. The heater set point can be configured

POWER REQUIREMENTS

Supply voltage	12V to 30V DC (24V DC nominal). Supports 12V battery operation with reduced heater capacity
Supply current (heater off)	31mA typical
Supply current (heater on)	Limited to 4A (default), 6A (max) – configurable in software in 0.1A increments. Heater power consumption will depend on the energy required to keep the sensor's temperature at the user determined set point. The heater and sensor power consumption is limited by default to 99W.

PHYSICAL

I/O connector	5-way (RS485 option), 8-way (4-20mA option) multipole connector
Sensor weight	380g

DIGITAL SENSOR

Interface	RS485 (half-duplex), galvanically isolated from power supply lines and case
Format	ASCII data, polled or continuous output modes, Polar and NMEA 0183
Data update rate	Maximum 10 measurements per second
Error handling	When the sensor detects an invalid reading a character is set in the wind velocity output message. This error flag character is 1

ANALOGUE SENSOR

Interface	4-20mA, galvanically isolated from power supply lines and case
Format	One 4-20mA current loop for wind speed (different scaling factors are available). One 4-20mA current loop for wind direction (datum value configurable as 4mA or 12mA). Both analogue channels are updated ten times per second.
4-20mA configuration port	This port is for the user to change the internal settings of analogue sensors and to perform diagnostic testing. This interface is not intended for permanent connection to a data logger or other device.
Error handling	When the sensor detects an invalid reading then both speed and direction current loops will drop to a default value of 1.4mA (configurable up to 3.9mA).

EMC AND ENVIRONMENTAL TESTS

The FT7 Series have passed over 30 different environmental test certificates including Corrosion, Icing, De-Icing, Shock, Hail, Drop, ESD, power interruption and EMC. Further test details and full test reports available on request or via our website.

FT Technologies Ltd
Sunbury House, Brooklands Close
Sunbury on Thames, TW16 7DX, UK
Tel: +44 (0)20 8943 0801 | info@fttechnologies.com

RECOGNIZED COMPONENT
C ETL US LISTED
Intertek

MANAGEMENT SYSTEM CERTIFICATION
DNV·GL
ISO 9001 = ISO 14001

A4157-6-EN