

FT752-DM50 (DIRECT MOUNT)



ACOUSTIC RESONANCE WIND SENSOR

UNIQUE ACU-RES® TECHNOLOGY

The FT752 is the latest evolution of the FT7 series, incorporating a design legacy of 20 years and guaranteeing enhanced survivability. Developed for offshore typhoon, and hurricane regions for turbine control in the most challenging conditions. It measures wind speeds of up to 90m/s with FT's exclusive Acu-Res® technology and now introducing Advanced Sensor Diagnostics for enhanced fault monitoring.

HIGH DATA AVAILABILITY

The FT752 is maintenance-free, reducing operational costs while delivering exceptionally high data availability. It boasts low power-consumption with a high signal-to-noise ratio making it resistant to shock, vibration and EMI while ensuring reliable and accurate data acquisition. Additionally, the sensor is compact and lightweight for easy transport and handling.

EXTREME SURVIVABILITY

The FT752 sets the standard for extreme survivability. It is rugged and shock-resistant, capable of withstanding the harshest environments. It boasts powerful de-icing capabilities to maintain optimal performance even in icy conditions. The corrosion-resistant design further enhances its durability, while lightning and surge protection safeguards against electrical disturbances, making it a reliable choice in the most demanding scenarios.



SPECIFICATIONS AT A GLANCE

WIND SPEED

0-90 m/s

WEIGHT

535 g

AVAILABILITY

> 99.9 %

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WIND SPEED

| | |
|-----------------|---|
| Range..... | 0-90m/s |
| Resolution..... | 0.1m/s |
| Accuracy..... | ±0.3m/s (0-16m/s) ±2% (16-40m/s) ±4% (40-90m/s) |

WIND DIRECTION

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|------------------------------------|-----------|
| Range..... | 0 to 360° |
| Resolution..... | 1° |
| Accuracy (within ±10° datum)..... | 2° RMS |
| Accuracy (outside ±10° datum)..... | 4° RMS |

SENSOR PERFORMANCE

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|----------------------------|---|
| 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..... | IP67 and IPX6K |
| Heater settings..... | 0° to 55°C. The heater set point can be configured. |

POWER REQUIREMENTS

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|-----------------------------------|---|
| Supply voltage..... | 12V to 30V DC (24V DC nominal). |
| Supply current (heater off)..... | 31mA typical |
| Supply current (heater on)..... | .6A (max) – The heater is thermostatically controlled. Heater power consumption will depend on the heater energy required to keep the sensor's temperature at a user determined set point. The heater is limited to 4A and 99W by the default software settings |

PHYSICAL

| | |
|----------------------|---|
| I/O connector..... | 5-way (RS485 option), 8-way (4-20mA option) multipole connector |
| Sensor Weight..... | 535g |
| Mounting Method..... | Direct Mount onto a maximum 50.2mm (outside diameter) pipe |
| Material..... | Aluminium alloy, external metal body is hard-anodised |

DIGITAL SENSOR

| | |
|-----------------------|---|
| Interface..... | RS485 (half-duplex), galvanically isolated from power supply lines and case |
| Format..... | ASCII data, polled or continuous output modes |
| Data update rate..... | Up to 10 measurements per second (10Hz) |
| Error handling..... | When an invalid data reading is detected a configurable error flag status can be output in the wind data message. |

ANALOGUE SENSOR

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|--------------------------------|--|
| 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). |

ALIGNMENT ACCESSORIES

FT has developed two accessories to facilitate fast and precise alignment of the FT752-DM50 to a given datum. Both of these accessories are designed to be used with a Laserboy II or comparable clamp-on laser unit.



FTO40 - Mast Mounted Alignment Tool

The FTO40 is used in conjunction with the FT039 Alignment collar. Use FTO40 to align the collar before locking it in place. The alignment accessory can then be removed to fit an FT752-DM50 in the pre-aligned positions.



FTO41 - Sensor Mounted Alignment Tool

The FTO41 clamps onto the FT752-DM50, allowing you to rotate the sensor to datum before locking it in place. The alignment accessory can then be quickly removed for use on the next sensor.

