



FT702LM Wind Sensor Series

Designed for Integration

OEM Wind Sensor

FT Technologies specialise in delivering the best wind sensor technology. The FT702LM is our Original Equipment Manufacturer (OEM) wind sensor, designed for integration into a wide range of engineering systems.

- **Ultra-compact wind speed and direction sensor**
- **Light weight, rugged and portable**
- **Designed for integration into OEM equipment**
- **Performance assured by Acu-Res technology**
- **Built in self-regulating anti-icing heaters**
- **Low power consumption (steady state 53mW)**
- **Solid state design with no moving parts**
- **Corrosion resistant surface finish**
- **Sealed to IP66**

The FT702LM has been deployed worldwide in the following OEM applications;

- **Vehicle mounted and ship based meteorology**
- **CBRN applications**
- **Fixed and portable weather stations**

Description

The FT702LM product range is an ultra-compact wind sensor which uses our patented Acu-Res airflow sensing technology to measure accurately both wind speed and direction. Acu-Res Technology is made up of three components:

1. [Acoustic Resonance measurement principle](#)
 2. [Acu-Res software](#)
 3. [Environmental Protection System \(EPS\)](#)
- The *Acoustic Resonance measurement principle* sets FT sensors apart from mechanical and other ultrasonic sensing techniques. It is a patented solid-state, technology that uses an acoustic wave which is resonated inside a small cavity; providing an ultra-compact and rugged solution.



- The *Acu-Res software* manages the complex wind data calculation and provides a serial digital output of up to 5 readings per second via a RS422 or RS485 interface.
- The FT702LM series is fitted with heaters to prevent icing. The *Acu-Res software* controls these heaters and ensures that the sensor is maintained at the set temperature. This set point is user configurable or alternatively the heaters can be disabled entirely.
- The *EPS* has been designed to perform under the most severe climatic and environmental conditions. This ensures that the FT702LM functions reliably without maintenance.
- The ultra-compact and symmetrical arrangement of the acoustic resonance cavity results in a physically small (50mm x 78mm), lightweight (250g) and robust OEM wind sensor.
- A hard anodised protective coating provides an easily cleaned and highly durable surface finish. When mounted on a suitable enclosure, the FT702LM is environmentally sealed to IP66 allowing it to be used in a wide range of demanding applications.
- The FT702LM series is ideal for battery powered applications and is able to operate at supply voltages as low as 4.4V (@ 12mA typical current drain).



FT Technologies Ltd

<http://www.fttech.co.uk/ft702-lm-wind-sensor/>

FT702LM Specification

SENSOR PERFORMANCE

MEASUREMENT PRINCIPLE	Acoustic Resonance (compensated against variations in temperature, pressure and humidity)
WIND SPEED MEASUREMENT	
RANGE	0-50m/s
ACCURACY	±4%
RESOLUTION	0.1m/s
ZERO ERROR	±0.1m/s
WIND DIRECTION MEASUREMENT	
RANGE	0° to 360°
ACCURACY (FT702LM)	±4°
RESOLUTION	1°

DATA I/O

INTERFACE	RS-422 or RS-485
FORMAT	Full range of user programmable functions. NMEA 0183 (MWW sentence) ASCII data output format.
DATA UPDATE RATE	5 measurements per second

POWER REQUIREMENTS

ANEMOMETER	4.4V to 30V dc @12mA (typical excluding data output drive current)
HEATER	10V to 30V dc @ 2.5A (max)

PHYSICAL

DIMENSIONS	50mm x 78mm (dia. x height)
WEIGHT	250g
MATERIAL	Aluminium alloy, hard anodised.
I/O CONNECTOR	10 way connector (p/n Harwin M80-8671022). Mating connector (p/n Harwin M80-8891005)
MOUNTING METHOD	Threaded holes (M4) x6 in base

ENVIRONMENTAL

OPERATING TEMPERATURE RANGE	-40° to +85°C
STORAGE TEMPERATURE RANGE	-40° to +85°C
HUMIDITY	0-100%
WATER INGRESS	Sealed to IP66 (when panel mounted using supplied gasket)
ESD DISCHARGE PROTECTION	
SUPPLY LINES	200V (10/700µs waveform, 40Ω source)
I/O LINES	25kV (Mil Std 883C – Method 3015-6) 16kV (IEC 61000-4-2 Air) 9kV (IEC 61000-4-2 Contact)

NOTES

- All specifications subject to change without notice
- Performance measured with sensor mounted on extended horizontal surface
- All wind direction readings are relative to sensor datum
- Product manual available on request

Ordering Information

Part number:



Append required option

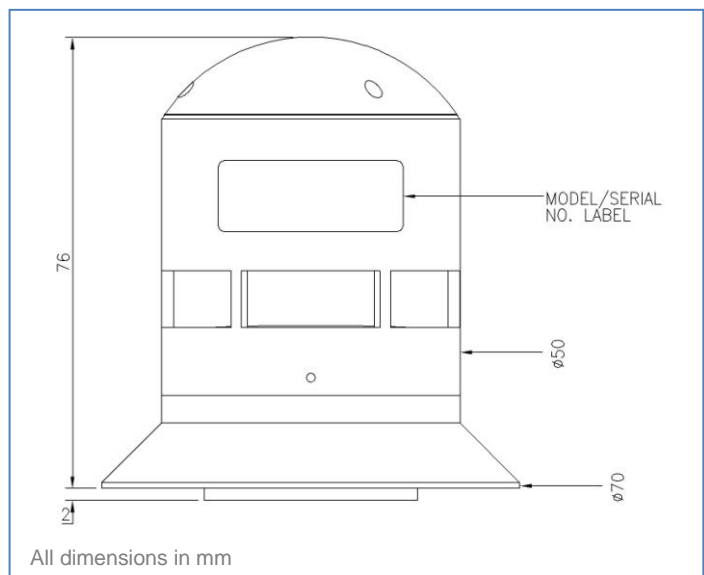
FT702LM

1 = RS-422 Output

5 = RS-485 Output



FT702LM Outline Drawing



All dimensions in mm