

# SOLID STATE WINDSENSOR MMW 005

## Measurement Principle

The Solid State Wind sensor uses a temperature sensitive element to measure wind direction and wind speed. The sensing element consists of a specially designed ceramic plate which incorporates an integrate circuit (IC). The IC temperature is maintained at a constant value above ambient temperature.

Two pairs of thermocouples are mounted on the IC at right angles. If there is an airflow, the thermocouples measure the temperature difference over the IC surface. This is a measure of the wind speed and direction.

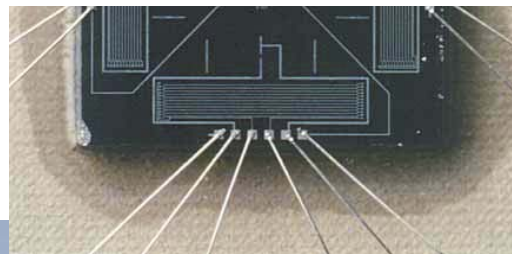
Guide discs ensure that wind passes the sensor in the right way. Mathematical processing by the microprocessor and signal conditioner results in a RS422 signal for wind speed and wind direction according to the NMEA 0183 standard.

The wind sensor has no moving parts, which assures a long lifespan with only a minimum of maintenance.

## Advantages

- No moving parts, solid state
- One instrument for wind speed and wind direction
- Accurate, reliable and excellent performance
- Robust sensor
- All-weather performance
- Minimum of maintenance
- Easy to install
- Low cost technology

New and unique concept for measuring both wind speed and wind direction based on micro systems technology.



#### THE MMW 005 SENSOR FEATURES

- Smart thermal flow sensor
- Control electronics
- Guide- and protection discs
- Robust and weather resistant housing

#### THESE FEATURES ASSURE

- No moving parts, no sealing problems
- Accurate and dependable measurement
- No wear out, very low maintenance
- Insensible for humidity and precipitation
- Insensible for pollution and salt
- Easy installation

#### RECOMMENDED APPLICATIONS

- Vessels, yachts
- Naval operations
- Harbours
- Coastguard
- Horticultural greenhouses
- Environmental and safety industry
- Wind profiling



# TECHNICAL SPECIFICATIONS: SOLID STATE WINDSENSOR MMW 005

## PERFORMANCE

Operating range:	Wind speed 0..25 m/s (90km/hr) Min. Wind speed 0.2 m/s (0.72 km/hr) Wind direction 0..360° Wind direction values are not valid below a wind speed of 0.5 m/s (1.8 km/hr)
Inaccuracy:	Wind speed $\pm$ (0.5 m/s + 5%) @ 20°C Wind direction $\pm$ 3° @ 20°C
Response time:	< 2 seconds
Stabilisation time:	< 10 minutes after power up under normal conditions

## PHYSICAL

Dimensions:	Ø 120mm, height 105mm
Weight:	200 gr.
Material:	Stapron N
Operating temperature:	-25...+70°C
Static discharge:	The instrument is protected against outside inductive interference up to a discharge power of 600 Watt.
Protection:	IP-65

## INSTALLATION

Installation:	Vertically, free-standing
Mounting:	Adapter
Connection:	4 x 0.34 mm <sup>2</sup> shielded cable. Length 20m.

## ELECTRICAL

Supply voltage:	12VDC
Power consumption:	1.5 Watt (max)
O utput signal:	RS 422 (NMEA 0183)

## GENERAL

Maintenance:	Sensor to be cleaned if necessary, depending on local conditions
Calibration certificate:	A calibration certificate with a validity of 1 year is available on request.
Warranty:	1 year

