DEIF A/S

Wind measuring system

Type 879

4921250011E

- Robust, seawater-proof construction
- Accurate read-out of wind direction/wind speed
- NMEA data-output (optional)
- 1…3 instruments per sensor
- More than 300 references worldwide

CE

Application

Wind measuring system 879 is a fast responding and accurate system, which is designed for measurement of wind velocity and wind direction on board ships, where the demands for reliability - especially under rough weather conditions - are high. Wind measuring system 879 is CE classified for residential, commercial and light industry plus industrial environment.

This system offers the advantage of reading the measuring results at several places on board, e.g. at control desks both on the bridge and on the bridge wings.

The indicating instruments may be provided with data output for serial transfer of measuring values to the navigation computer of the ship and/or to a personal computer.

The system indicates relative velocity and wind direction according to the speed and course of the ship. If indication of absolute velocity and wind speed is required, these values must be calculated manually or automatically by a computer connected to the system.

Construction

Wind measuring system 879 consists of two components: An **anemometer sensor** for measuring of the wind passing the mast of the ship plus an **instrument** for indication of velocity and wind direction.

Anemometer sensor type 879.3C

A combined sensor with 3-cup rotor for measuring of velocity and a vane for measuring of wind direction.

Placing:

Ideally the wind sensor should be placed far from large objects which might influence the measuring results, however, in practice this is normally not possible on board a ship. The best result is achieved here by placing the sensor at the top of a mast at the opposite end of the superstructure.

Placing the sensor immediately above the superstructure is disadvantageous, especially where the superstructure consists of wide side faces, over which the wind is forced. This may result in turbulence, velocities and wind directions, which are out of proportion to the actual, undisturbed velocity and wind direction.

Connections:

Supplied with 2 metres fixed cable. As the cable at the factory is connected to the sensor via a waterproof gland, it must not be replaced by another cable, may however be extended using a connecting box.

Installation cable:

4 x 0.75 mm^2 screened, length: Max. 300 metres, capacity: Max. 40nF between signal conductors.

Mounting:

To enable demounting of the wind sensor, if this is needed later on, without necessitating a subsequent mechanical adjustment of the wind sensor, and furthermore to ensure correct ventilation of the wind sensor housing, the wind sensor has been designed for mounting on a tap (included on delivery).

This tap is first mounted on a pole/tube with an inner ¾ RG thread, and on this tap the wind sensor is then mounted.

However, if the wind sensor is mounted on a solid pole, not using the tap included on delivery, this pole must be designed to ensure adequate ventilation of the wind sensor housing.

Instrument type 879.50 or type 879.521

The indicating instrument (no moveable mechanical parts) is equipped with a digital display for indication of velocity plus a circle of red LEDs for indication of wind direction. On the display a ship's symbol plus graduation lines are printed.

The keyboard on the front of the instrument is provided with 3 push-buttons at the right for setting of:

Light intensity:

The light intensity is adjusted to a suitable level by pressing the up arrow (▲)/down arrow (▼) keys to increase/decrease the light intensity (8 steps).

Read-out in "m/s"/"knots":

The "MODE" push-button is used to change the measuring unit for the velocity between reading in m/s or knots. A red LED at the centre of the display is lit for the selected measuring unit at the centre of the display.

Technical specifications

Anemometer sensor type 879.3C
Sensor generally:

- Power supply:	5.5V ±20%	
- Power consumption:	8mA	
- Temperature range:	-40...+80°C	
- Electrical connection:	4 x 0.75 mm^2 screened cable between sensor and receiver	
- Materials:	Anemometer sensor housing:	Seawater-proof bronze
	Vane:	Fibre-reinforced polyurethane
	Counterweight:	Corrosion-resistant stainless steel
	3-cup rotor:	Fibre-reinforced polycarbonate
- Surface finish:	(Complete sensor):	Dual component lacquer
- Protection:	IP66, to EN 60529 and IEC 529	

Velocity section: Smooth-running cup anemometer with maintenance free optical scanning of rotor movement

- Measuring range:	0.35...80 m/s (metres per second)	
- Resolution:	0.11 m/s	
- Linearity:	0...10 m/s:	±0.5 m/s
	10...80 m/s:	±5% of measured value
- Distance constant:	Max. 2.6 m	
- Rotor:	Polycarbonate	

Direction section: Vane consisting of polyurethane with counterweight. Optically scanned code disk and digital transmitter (UART)

- Measuring range:	0...360° continuously
- Resolution:	8 bit (1.41°)
- Accuracy:	±3° in relation to the wind direction

Instrument type 879.521

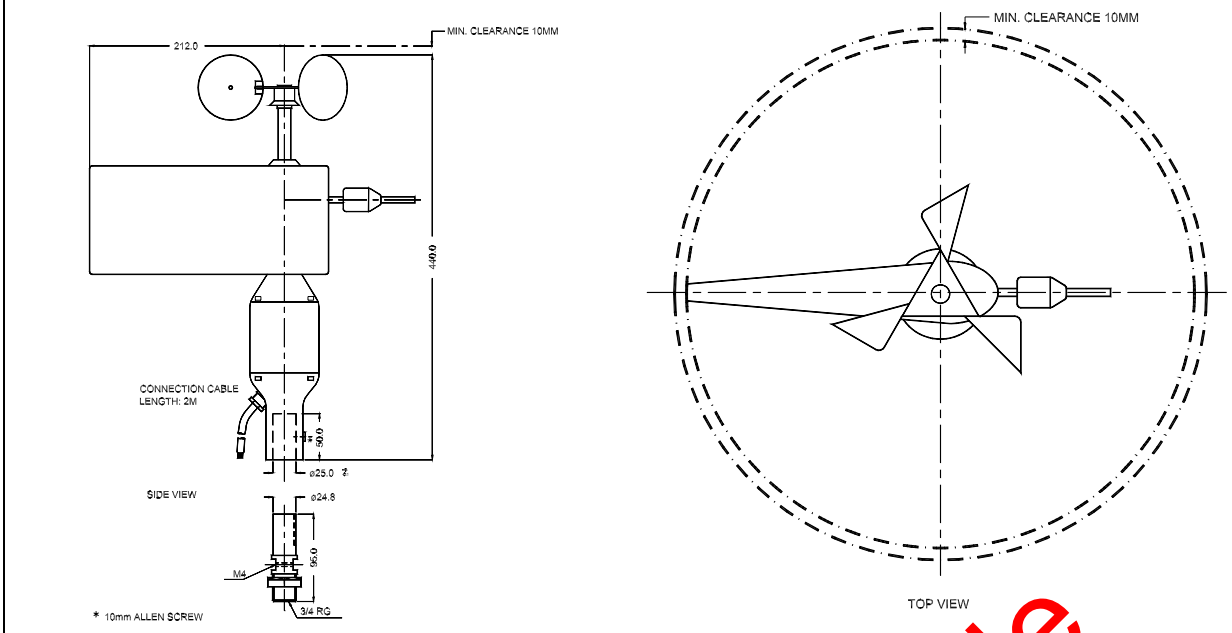
Number of LEDs in circle:	64 pcs
Display:	2½ digit luminous 7-segment display
m/sec. or knots:	Output of m/s or knots is changed by means of the "MODE" push-button
Power supply:	110 or 220V AC, 50-60Hz
Power consumption:	6W

Instrument type 879.50

Data-out (serial):	NMEA-0183 (EIA/RS422), version 2.x-3.0 or IEC 61162-1 Optional: NMEA-0183 version 1.5
Further specifications:	As for type 879.521

Dimensions/mounting: Wind sensor 879.3C

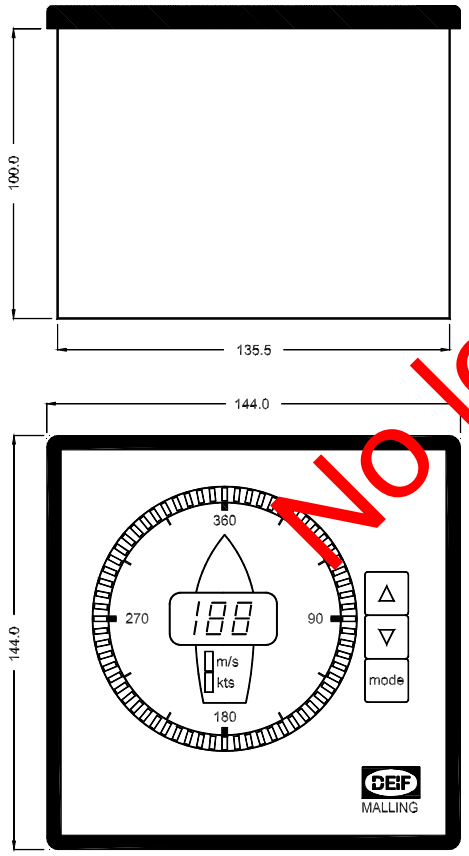
All dimensions in mm



879.3C Weight: Approx. 2.5 kg (Delivered in strong wooden box) **FIG.1**

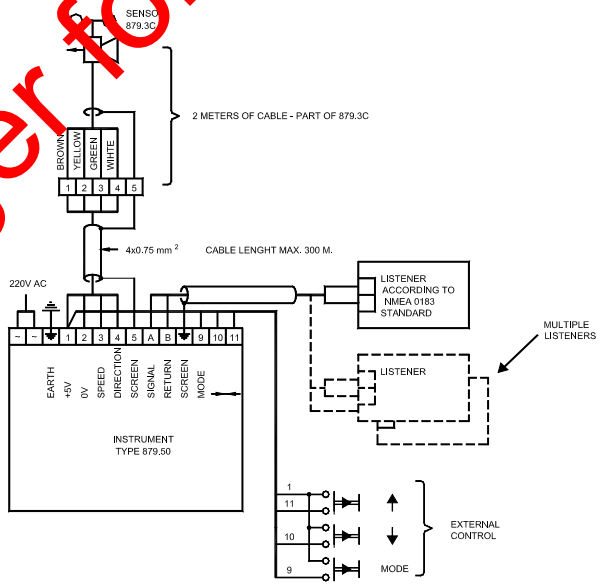
Dimensions: Instrument

All dimensions in mm



879.50/879.521 Weight: Approx. 1 kg

Connections



NOTE:
For further information, please refer to page 11 of the User's manual, document no. 1159040004.

FIG. 2

Order specifications

	Types	Power supply
Example:	879.3C, 1 off 879.50, 1 off 879.521	220V AC

Due to our continuous development we reserve the right to supply equipment which may vary from the described.

DEIF -power in control

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