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## Wind Measuring System AEDW20

consisting of:

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- AE402-D : Analogue digital display for Wind Direction and Wind Speed including housing for wall mounting
  - W20-1/CL : Wind Speed Sensor with current loop interface
  - W20-2/CL : Wind Direction Sensor with current loop interface
  - W20-3 : Crossarm for sensor mounting and mast adapter

This modern electronic equipment can be used for measuring of highest wind speed up to 100 m/s. Using the 4...20 mA interface the standard range is 0...60 m/s. Without any additional configuration the instrument can be operate up to 100 m/s because of the high quality of the materials and the special construction in connection with the display AE402-D

### Display AE402-D

The display unit AE402-D will be delivered inclusive housing for wall mounting but can be used for panel mounting too. It shows wind direction by a LED-ring with 36 LED's with a resolution of 10 degrees and wind speed by a large LCD-display with 18 mm high characters. The wind speed can be displayed as instantaneous or 2 min average value. The measuring unit is selectable between m/s and knots.



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**Wind sensors:**

The sensors **W20-1/CL** and **W20-2/CL** have been designed to provide accuracy, sensitivity and reliability using modern technology for construction and materials for operation under all climatic conditions for highest wind forces. The wind sensors are supplied with thermostatic controlled heating device for trouble-free operation up to  $-50^{\circ}\text{C}$ , if ordering the options **W20-1/CL/H** and **W20-2/CL/H**. The sensor contains a standard 4 to 20 mA two wire current loop amplifier for long distance data transfer to a display unit.

**Wind speed sensor W20-1/CL and W20-1/CL/H**

This sensor **W20-1/CL** is designed for measuring of wind speed with low threshold (0.5 Kn.) up to strongest wind. The rugged 3-cup anemometer is completely made of anodised aluminium, durable and lightweight. A labyrinth prevents dust and water from bearings. A water-proof 7-pin plug provides a safety cable connection. Eight small magnets attached to the axis produce in a fixed dry-reed contact pulses frequency proportional to wind speed, which are transformed to a DC current by a current loop amplifier with a Butterworth filter.

In the standard version 4...20 mA corresponding to 0...60 m/s. The maximum wind speed is 100 m/s. The heating requires a supply voltage of 200...250 V AC.



**Wind direction sensor W20-2/CL and W20-2/CL/H**

The wind direction sensor has been designed for measuring of wind direction at very low threshold (0.5 kn) using a wire-wound potentiometer with very low torque and high linearity (0.3 %). When vane axis turns, the coupled potentiometer changes the output current from 4 to 20 mA corresponding to the vane direction from 0 to  $360^{\circ}$ . The vane can be removed from the cross arm for maintenance and reinstalled without new orientation, because of assembled pin and key which allow mounting in the original position only.

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**Technical Data: Wind display AE402-D**

Construction	: robust case made from plastic and aluminium inclusive housing for wall mounting and also useable as switchboard instrument
Direction display	: 36 luminescence diodes super red
Display range	: 10°...360°
Resolution	: 10°
Speed display	: 3 1/2 digit LCD display, character height: 18 mm
Display range	: 0...100 m/s resp. 0...194.4 kn : instantaneous or 2 min average value
Resolution	: 0.1 m/s resp. 0.1 kn
Power supply	: primary 220 V AC secondary 9V...15V DC
Output (optional)	: analogue outputs
Ambient temperature	: -10°C...+60 °C
Ambient humidity	: 10%...90% RH
Storage temperature	: -55°C...+60°C
Build-in dimensions	: 137 mm x 137 mm
Front panel dimensions	: 144 mm x 144 mm x 70 mm
Weight	: 0.5 kg

**Technical Data: Wind speed sensor W20-1/CL and W20-1/CL/H**

Sensor type	: 3-cup anemometer with dry-reed contact
Signal output	: 4 – 31.7 mA two wire current loop
Input	: 10 - 50 V DC (provided from display)
Measuring range	: 0 - 100 m/s
Accuracy	: 1.5 % of measured value
Start velocity	: 0.3 m/s
Distance constant	: 1.5 m
Connection	: 7pin water-proof plug pin 1 NC, pin 2 NC, pin 3 signal -, pin 4 signal +, pin 5 and pin 6 AC voltage for heating.
Optional heating supply	: 200...250 V AC
Ambient temperature	: -20... + 60°C
with heating	: -50... + 60°C
Cup diameter	: 100 mm
Cup wheel diameter	: 410 mm
Dimension (body only)	: 300 mm x 60 mm (HxD)
Weight	: 1.5 kg
Material	: aluminium (anodised), stainless steel and polyamide

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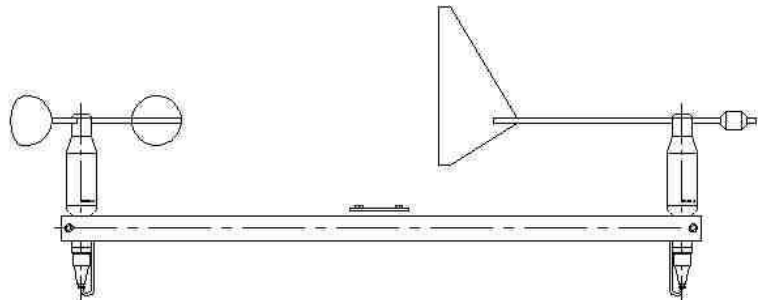
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**Technical Data: Wind direction sensor W20-2/CL and W20-2/CL/H**

Sensor type	: wind vane with potentiometer
Signal output	: 4 - 20 mA two wire current loop
Input voltage range	: 10... 50 V DC (provided from display)
Measuring range	: 0...360°
Accuracy	: +/- 2°
Resistance linearity	: 0.3 %
Damping ratio	: 0.2 m/s
Connection	: 7 pin waterproof plug: pin1 NC, pin2 NC, pin3 signal -, pin4 signal +, pin5 and pin6 AC voltage for heating.
Optional heating supply	: 200...250 V AC
Ambient temperature	: -20... + 60°C
with heating:	: -50... +60°C
Overswing	: < 10°
Radius of vane circle	: 430 mm
Dimension (body only)	: 300 mm x 60 mm (HxD)
Weight	: 1.5 kg
Material	: aluminium (anodized), stainless steel and Delrina

**Crossarm for sensor mounting  
and mast adapter W20-3**

Material	: aluminium (anodized)
Length	: 1.3 m
Tube	: Ø 50 x 5 mm
Center hole	: Ø 38 mm



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