

# Meteorological Sensors

for Data Buoy DB 4280/4700 and Automatic Weather Station AWS 2770



**Wind Direction Sensor 3590**  
(Averaging)  
A light wind vane is pivoted on top of the housing. Damping fluid in the vane opposes rapid changes but permits line-up in light wind.  
Output: SR10.  
Threshold speed < 0.3m/s.  
Accuracy:  $\pm 5^\circ$ .  
Ref. D300.



**Wind Speed Sensor 2740**  
Average wind speed and gust in the sampling interval.  
Output: SR10.  
Range: up to 79m/s.  
Accuracy:  $\pm 2\%$  of reading.  
Ref. D187.



**Air Temperature Sensor 3455/A/B**  
Measures air temperature by means of a  $2000\Omega$  platinum resistor protected from radiation by Radiation Screen 2922.  
Output: VR22.  
Range:  $-44$  to  $+49/-30$  to  $+60/-60$  to  $+30^\circ\text{C}$ .  
Accuracy:  $\pm 0.1\%$  of range.  
Ref. D276.



**MIRA Visibility Sensor 3544**  
For fog, haze, mist dust and smoke. It will also detect reduced visibility caused by snow. The sensor is based on forward scattering of infra-red light.  
Output: SR10.  
Range: 20 – 3000m.  
Accuracy:  $\pm 10\%$ .  
Ref. D294.

**Air Pressure Sensor 2810**  
Measures air pressure using a miniature monolithic silicon pressure transducer.  
Output: VR22.  
Range: 920 – 1080 hPa.  
Accuracy:  $\pm 0.2\text{hPa}$ .  
Ref. D161.



**Rainfall Sensor 3864**  
(Not illustrated) Lightweight, frost proof, heat-resistant, rugged.  
Output: SR10.  
Range: max 200 mm/sampling interval/12mm/min.  
Accuracy:  $\pm 2\%$ .  
Resolution: 0.2mm.  
Ref. D327. For AWS only.



**Net Radiation Sensor 2811**  
Sunlight and infrared radiation.  
Output: VR22.  
Range:  $2000\text{W/m}^2$ .  
Accuracy:  $\pm 1\%$  of full scale.  
Ref. D169.



**Sunshine Duration Sensor 3160**  
Presence and duration of sunshine. No calibration; unaffected by the latitude at which the instrument is installed.  
Output: SR10.  
Wavelength: 400-1100nm.  
Sample interval: 1 minute.  
Ref. D217.

**Water Level/Temperature Sensor 3791-3796** (Not illustrated)  
Output (P/T): VR22, SR10/VR22.  
Range (P/T): Contact factory/  $-2$  to  $+40^\circ\text{C}$ .  
Accuracy (P/T):  $\pm 0.2\%$  of Range/  $\pm 0.1^\circ\text{C}$ .  
Ref. D325.

**Solar Radiation 2770**  
Solar and sky radiation under all weather conditions.  
Output: VR22  
Range:  $0-2000\text{W/m}^2$ .  
Accuracy:  $\leq \pm 20\text{W/m}^2$ .  
Ref. D159.



# Hydrological Sensors

## for Data Buoy DB 4280/4700



### Wave Height Sensor 3595

The buoy's movements in the waves are sensed by an accelerometer in the sensor.

Outputs:

1) Significant Wave Height, 1/3H.  
Range: 0-10 meters, Accuracy:  $\pm 15\%$  (for wave periods between 3 to 8s).

2) Wave Period, range: 1-15s.  
Valid for measuring intervals from 10 to 60 minutes.

Ref. D232.



### Doppler Current Sensor 4100

Output: SR10.

Speed; Range: 0-300 cm/s (500 cm/s).  
Accuracy: 0.1% of full scale.

Direction; Range: 0-360° magnetic.  
Accuracy: 5° (0-15° tilt).  
7.5° (15-35° tilt).

Temp; Range: -10 to 43°C.  
Accuracy:  $\pm 0.08^\circ\text{C}$  (600 ping/min).  
Ref. D359.

### PH Sensor 3264 (Not illustrated)

Output: SR10.

Range: 2 to 11 PH.  
Accuracy:  $\pm 0.1$  PH.  
Refer D235.



### Oxygen Optode 3930

Dissolved oxygen in fresh and salt water. Measurement principle: dynamic luminescence quenching (lifetime based) by molecular oxygen.

Output Settings: Ab.Ox.Con. Air Sat.  
Measuring Range: 0-500  $\mu\text{M}$  0-120%  
Accuracy:  $< \pm 8 \mu\text{M}$   $< 5\%$   
Depth rating: 0-6000m.  
Ref. D335.

### Sensor Disc 3822

The Sensor Disc is a platform for grouping up to three submersible sensors. It can be used with Data Buoys, Hand held Aqua Meters, Hand held Doppler Current Meters and stand alone monitoring systems.

### Buoy Orientation Sensor 4164

Magnetic heading reference for wind direction.

Output: SR10.

Accuracy:  $< \pm 4^\circ$ .

(Operating temperature:  $-5^\circ\text{C}$  to  $40^\circ\text{C}$ ).

Ref. D365.



### Temperature Sensor 3444

(Not illustrated)

Output: VR22.

Range: refer data sheet/ contact factory.

Accuracy:  $\pm 0.1\%$  of FS.

Refer D277

### Conductivity/Temperature Sensor 4119

Output: SR10/VR 22.

Range: 0-7.5 s/m (0-75 ms/cm).

Accuracy A/B:  $\pm 0.005$  s/m /  $\pm 0.0018$  s/m.

Measurements based on Inductive principle which provides stable measurements.

Ref. D344.



### Temperature String (Not illustrated)

Up to 25 embedded Fenwal thermistors spaced at customers' request.

Range: 0 to  $+30^\circ\text{C}$ .

### Turbidity Sensor 3712

Measures scattered light from particles in the water. The photodiode is furnished with a daylight filter.

Range: Refer data sheet/ contact factory.

Accuracy: 2% of full scale.

Ref. D316.



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