AANDERAA
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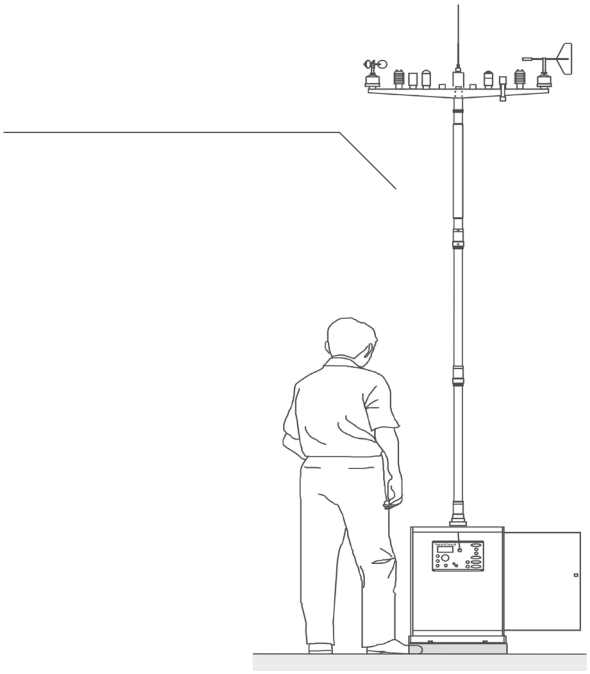
Air Temperature Sensor 3455

A platinum sensor for air temperature measurements.



Automatic Weather Station AWS 2700

High-accuracy air temperature measurements are very often required and this sensor is especially designed for this purpose. The sensor has many applications both indoors and outdoors and it is one of several atmospheric sensors made by Aanderaa Data Instruments. The sensor is furnished with a standard Aanderaa sensor foot that plugs directly onto the sensor cross-arm of the Automatic Weather Station 2700 or, it can be fastened to a 25mm aluminum tube.

The 80mm long sensor is cylindrically shaped and built up on a 6-pin watertight receptacle. The sensor element is embedded in a small tube with cooling ribs. The wires and range resistors are molded in Durotong which forms the center part of the sensor. This construction ensures good thermal insulation between the sensor element, the receptacle and the connecting cable. The sensor is equipped with a radiation screen that will hinder heating of the sensor by direct sunshine in wind velocities as low as 0.5m/s.

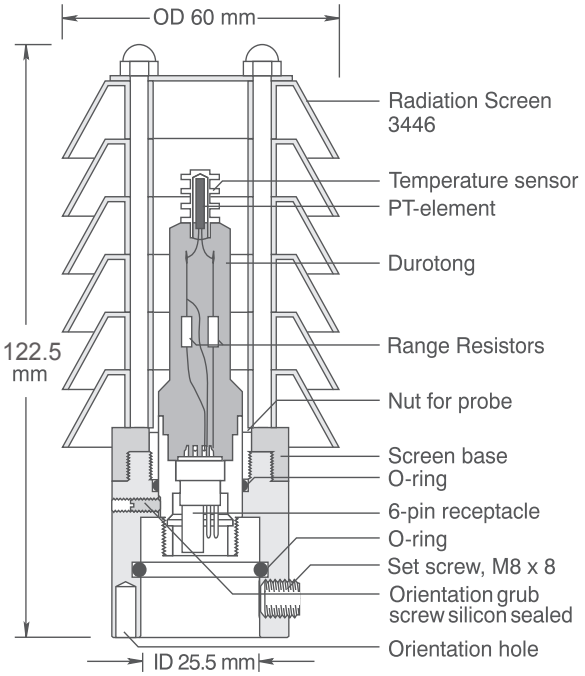
The sensor is based on the ohmic half-bridge principle (VR-22) and employs a 2000Ω film-type platinum resistor as the sensing element. Three ranges are available; –43 to +48°C, –30 to +60°C and –60 to +30°C.

Separate sensor cables of up to 500 meters can be used. When using cables longer than 150 meters however, the wire resistance must be corrected for (see overleaf).

Air stretch of cables exceeding 10 meters in length must be avoided. It is recommended to keep the cable as close to the ground as possible to avoid pick-up of atmospheric electricity.

Specifications

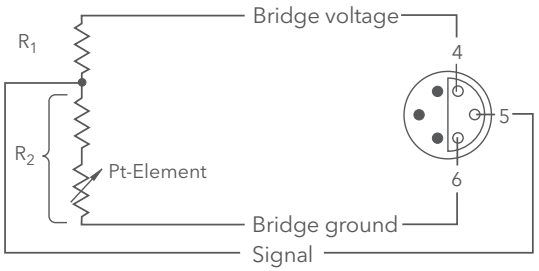
AIR TEMPERATURE SENSOR 3455



Measuring Range:	3455:		–43 to +48°C
	3455A:		–30 to +60°C
	3455B:		–60 to +30°C
	3455S:		..... to .....°C
Sensing Element:	Pt 2000		
Range Resistors:		R_1:	R_2:
	3455:	4000Ω	Pt2000 + 2000Ω
	3455A:	4020Ω	Pt2000 + 1920Ω
	3455B:	3985Ω	Pt2000 + 2120Ω
	3455S:	Ω	Pt2000 + Ω
Resolution:	0.1% of range		
Accuracy:	±0.1% of range		
Sensor Output:	Aanderaa half-bridge (VR-22)		
Time Constant (63%):	1 min., 20 sec (at 5 m/s wind speed)		
Electrical Connection:	Watertight Plug 2828		
Material and Finish:	Titanium and Durotong		
Degree of Protection:	IP68		
Net Weight:	135 grams		
Warranty:	Two years against faulty materials and workmanship		

Circuit Diagram

Receptacle, exterior view; pin = ●; bushing = o



Connecting Cable with Watertight Plugs is available for connecting this sensor to Aanderaa data logging systems. Different lengths, or separate plugs and cables, are available on request. If a connecting cable longer than 150 meters is used, the reading N should be corrected for due to the cable resistance. Add a correction factor of (N – 512) x 0.00011 for each 10 meters of cable used.

xylem
Let's Solve Water

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