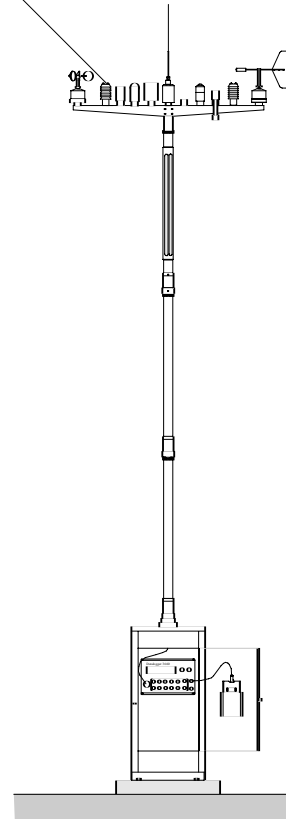




AIR TEMPERATURE SENSOR 3455

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 the purpose. It has many applications both indoors and outdoors and it is one of many atmospheric sensors made by Aanderaa 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 25 mm aluminum tube.

The 80 mm long sensor is cylindrically shaped and is 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

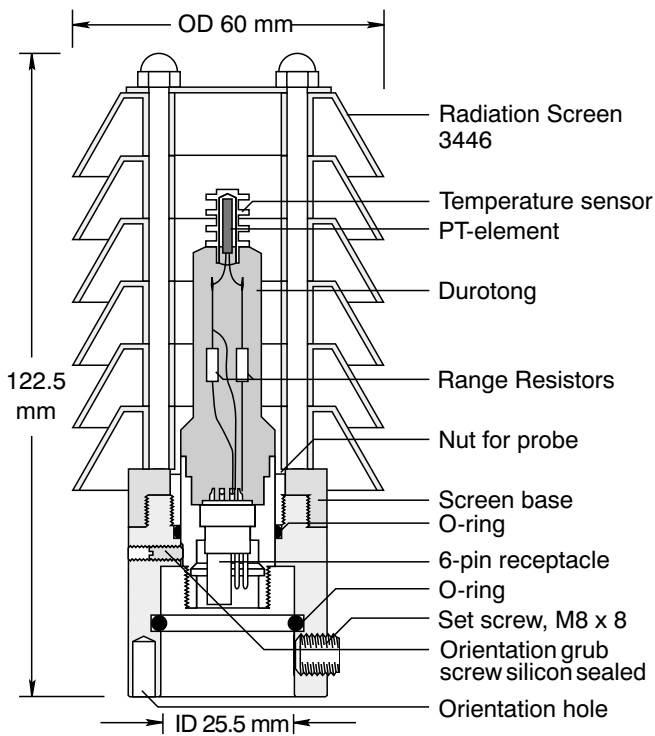
that will hinder heating of the sensor by direct sunshine in wind velocities as low as 0.5 m/s.

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

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.

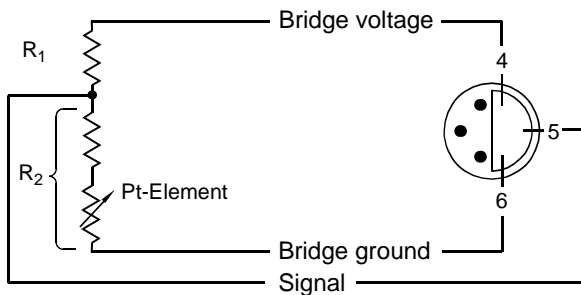
SPECIFICATIONS FOR AIR TEMPERATURE SENSOR 3455



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 s (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 = ○



Connecting Cable 2842 (a 10 meter cable with Watertight Plugs), is available for connecting this sensor to Aanderaa data-logging systems. Other 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 $(N - 512) \times 0.00011$ for each 10 meters of cable used.

Representative's Stamp

Latest version is on the Internet

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