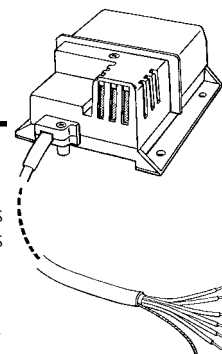


EXTERNAL TEMPERATURE/HUMIDITY SENSOR

7860
SENSORS



Industrial

The External Temperature/Humidity Sensor measures relative humidity and air temperature. The sensor enclosure protects the sensor from mechanical damage, and the membrane filter protects the sensor elements from dust, dirt, and water spray. The housing includes a cable strain relief. The 24 AWG shielded cable protects against Electro-magnetic Interference (EMI).

The humidity sensor is a thin film capacitor element. A dielectric polymer layer absorbs water molecules from the air through a thin metal electrode, which causes a change in capacitance proportional to relative humidity. The temperature sensor is a precision platinum wire thermistor. The thermistor produces a resistance change proportional to temperature. The sensors are mounted next to one another within the sensor housing to ensure a close correlation between relative humidity and temperature readings. The relative humidity and temperature readings are used to calculate dew point.

To ensure accurate readings when measuring outdoor air temperature and humidity, the External Temperature/Humidity Sensor should be shielded from direct sunlight and other sources of reflected or radiated heat. We recommend the use of the Radiation Shield for this purpose.

SPECIFICATIONS

General

Sensor Type

Temperature	Platinum wire thermistor
Relative Humidity	Film capacitor element

Attached Cable Length 16' (5 m)

Cable Type 6-conductor, 24 AWG shielded cable with UV-resistant jacket, wires stripped and tinned

Recommended Maximum Cable Length

24 AWG Shielded Cable	220' (67 m)
22 AWG Shielded Cable	350' (106 m)

Housing Material White ABS with UV Inhibitor added

Dimensions 3.5" wide x 3.25" long x 1.5" high (89 mm x 83 mm x 38 mm)

Weight 13 oz. (369 g)

Console Data (These specifications apply to sensor output as converted by Davis Instruments weather station consoles.)

Range

Temperature	-50° to 140° F (-45° to 60° C)
Relative Humidity	0-100%
Dew Point	-99° to 140° F (-73° to 60° C)

Accuracy

Temperature	±1°F (±0.5°C)
Relative Humidity	±3%
Dew Point	±4°F (±2°C)

Resolution

Temperature	1.0° or 0.1°, selectable, F or C
Relative Humidity	1%
Dew Point	1°F (1°C)

Sample and Display Update Interval

Temperature	16 seconds (max)
Relative Humidity	16 seconds (max)

WeatherLink® Data (These specifications apply to sensor output as logged and displayed by the WeatherLink.)

Temperature	Average during archive interval
High and Low Temperature	Maximum and minimum values during archive interval
Relative Humidity	Value at end of archive interval
High and Low Humidity	Maximum and minimum values during archive interval
Dew Point	Calculated using temperature and humidity data for each archive interval

Input/Output Connections

This sensor uses a proprietary signal format and will work only with Davis weather stations. We do not support the use of this sensor in 3rd party installations.

White	Temperature
Green	Relative Humidity
Blue	Control
Red	+2.5VDC
Black & Brown	Ground
Bare	Shield Ground

INSTALLATION OPTIONS

For greater accuracy when installing the sensor against a wall (as shown on left), use a wall that faces away from the equator.

