

210-301x Temperature Sensor

The **210-301x Temperature Sensor** incorporates a three-terminal integrated circuit sensor whose output voltage is linearly proportional to temperature. This sensor does not require any external calibration or trimming to provide a typical accuracy of $\pm 0.5^{\circ}\text{F}$ at room temperature, and $\pm 1.5^{\circ}\text{F}$ over the full temperature range.

The sensor operates from 5-30 Vdc and has a linear 10mV/ $^{\circ}\text{F}$ output. It interfaces easily with most data loggers or PLCs. The sensor is available in two models:



210-301
Air Temperature



210-301W
Water Temperature
Soil Temperature

INSTALLATION

Model 210-301 is designed for monitoring air temperature. The probe is water resistant but should not be submerged in water. When used outdoors, the probe should be installed in a sunshield (Novalynx 380-280 Solar Radiation Shield is one of many options).

Model 210-301W is designed for monitoring water or soil temperature. The probe may be submerged in water or buried in soil. Conduit is not required, but may afford protection from rodents.

210-301x Temperature Sensor			
Wire Color	Function	210-301	210-301W
Red	+Power input	5 to 30 Vdc	5 to 30 Vdc
White	Temperature signal	0 to 3 V	0 to 3 V
Black	Ground (common)	GND	GND
Clear	Earth ground	-	Earth GND

Temperature Sensor Specification	
Sensor type	Integrated circuit
Sensor gain	10 mV / °F (18 mV / °C)
Output signal	0 to 3 V
Range	5 to 300°F (-15 to 149°C)
Accuracy	±0.5°F @ 77°F (±0.3°C @ 25°C)
	±1.5°F (±0.8°C) Over entire range
Non-linearity	±0.5°F (±0.3°C) Typical
Power	5 to 30 Vdc @ 75 uA
Model 210-301 (Air Temperature)	
Probe case	Aluminum
Probe dimensions	2.5" L x 0.375" dia (64 mm L x 9.5 mm dia)
Cable (standard)	25' (7.6m) 24 AWG, 3-conductor
Maximum cable length	150' (45.7 m)
Weight / Shipping	0.5 lbs (0.23 kg) / 1 lb (.45 kg)
Model 210-301W (Water Temperature, Soil Temperature)	
Probe case	Stainless Steel
Probe dimensions	3" L x 0.375" dia (76 mm L x 9.5 mm dia)
Cable (standard)	25' (7.6m) 18 AWG direct burial, 3-conductor, shielded
Maximum cable length	150' (45.7 m)
Weight / Shipping	1.4 lbs (0.64 kg) / 2 lbs (0.9 kg)

ORDERING INFORMATION

Temperature Sensor and Cable

- 210-301 Air Temperature Sensor, includes 25' cable
- 330-0324 Cable 3C 24 AWG, per foot

- 210-301W Water or Soil Temperature Sensor, includes 25' direct burial cable
- 330-0318DB Cable 3C 18 AWG, direct burial, shielded, per foot

Optional Sunshields

- 380-280 Solar Radiation Shield
 - 380-281 Solar Radiation Shield
 - 380-283 Fan Aspirated Solar Radiation Shield
 - 380-43502 Motor Aspirated Solar Radiation Shield
 - 380-41390 Junction box for sensors up to 0.4" (10 mm) diameter
- Note: use with 380-43502*