SIEMENS

Technical Specification Sheet
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Analog Sensors—100 Ω Platinum RTD

Description

100 ohm RTD sensors provide input for accurate loop powered temperature sensing (detecting) via a 20 AWG twisted, shielded cable pair. The loop current varies according to the temperature being measured. Several models are available for specific mounting and sensing applications.

Specifications

Temperature mounting range	See *Sensor Specifications*
Output signal	4 to 20 mA
Elements	Platinum RTD
Accuracy	See Table 1
Reference resistance at 32°F (0°C)	100 Ω

Figure 1. Surface Mounted Pipe Sensor.

Figure 2. Outside Air Temperature Sensor.

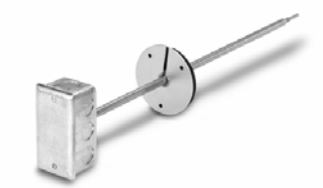

Figure 3. Duct (Single Point) Temperature Sensor (544-560-18 Shown with AQM2000 Accessory).

Figure 4. Duct (Averaging) Flexible Temperature Sensor.

Figure 5. Duct (Averaging Rigid Temperature Sensor).

Figure 6. Liquid Immersion Temperature Sensor.

Sensor Specifications

Application	Temperature Range (See Tolerance Formula at Bottom of Table)	Element Package	Product Number
Surface Mount - Pipe	30°F to 250°F (-1°C to 121°C)	2-inch × 4-inch metal box with clamps	536-780
Outdoor Air	-58°F to 122°F (-50°C to 50°C)	Through-the-wall	536-768
Duct - Single Point, Rigid	20°F to 120°F(-7°C to 49°C)	4-inch (10 cm) 8-inch (20 cm) 18-inch (46 cm)	533-376-4 533-376-8 533-376-18
	30°F to 250°F (-1°C to 121°C)	4-inch (10 cm) 8-inch (20 cm) 18-inch (46 cm)	533-377-4 533-377-8 533-377-18
	-4°F to 122°F (-20°C to 50°C)	4-inch (10 cm) 8-inch (20 cm) 18-inch (46 cm)	544-560-4 544-560-8 544-560-18
Duct – Averaging, Rigid	20°F to 120°F/± 0.7°F (-7°C to 49°C) Special Tolerances: 20°F ±2.3°F, 70°F ±1.0°F, 120°F ±2.8°F	18-inch (46 cm) rigid 24-inch (60 cm) rigid 36-inch (91 cm) rigid 48-inch (122 cm) rigid	535-490-18 535-490-24 535-490-36 535-490-48
Duct – Averaging, Flexible		8-foot (2.4 m) flexible 16-foot (4.9 m) flexible 25-foot (7.6 m) flexible	533-380-8 533-380-16 533-380-24
Liquid Immersion	30°F to 250°F (-1°C to 121°C)	2-1/2-inch (6.4 cm) 4-inch (10.2 cm) 6-inch (15.2 cm)	536-767-25 536-767-40 536-767-60
	20°F to 70°F (-7°C to 21°C)	2-1/2-inch (6.4 cm) 4-inch (10.2 cm) 6-inch (15.2 cm)	536-774-25 536-774-40 536-774-60
	32°F to 212°F (0°C to 100°C)	2-1/2-inch (6.4 cm) 4-inch (10.2 cm) 6-inch (15.2 cm) Stainless steel wells NEMA 4/IP56 (immersion heads only)	544-562-25 544-562-40 544-562-60

Tolerance Formula: $\pm(0.54°F+(0.005 \times |T_{°F}-32|)$ [$\pm(0.3°C+(0.005 \times |T_{°C}|)$]

Where:

$T_{°F}$ ($T_{°C}$) is the operating temperature point within the transmitter's range
(Example: For a sensor operating at 100°F; Tol = $\pm(0.54°F+(0.005 \times |100°F-32°F|)$ or ±0.88°F)

Accessories

AQM2000 Flange Gasket Kit (order separately if an adjustable depth is required for 533-376-18, 533-377-18, and 544-560-18 duct point temperature sensors).

Immersion Repair Kits

536-774-RK 20°F to 70°F
536-767-RK 30°F to 250°F
544-562-RK 0°C to 100°C