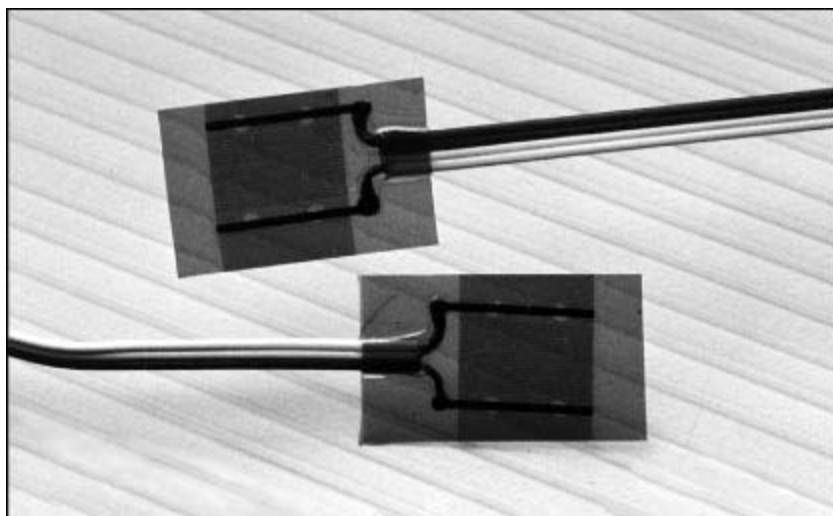




POLYIMIDE INSULATED FLEXIBLE RTD STIKON® SURFACE SENSOR

MODEL 22810

Model 22810 is a polyimide insulated surface sensor designed to provide a practical method for measuring surface temperature. These sensors are small, flexible, and their low mass has minimal thermal effect on the material being measured. They are ideally suited for applications where the device can be permanently mounted using adhesives or other mechanical mounting methods.



Performance Specifications

Operating Temperature Range

The useful range of operation for Model 22810 is -200°C to $+232^{\circ}\text{C}$ (-320°F to $+450^{\circ}\text{F}$) with permissible exposure to 260°C (500°F) for short periods clamped.

Sensing Element

The standard sensing element is platinum with a resistance of 100 ohms at 0°C with a temperature coefficient of $0.00385 \Omega/\Omega/^{\circ}\text{C}$ nominal (IEC751).

Accuracy

Standard (22810-1) ± 0.50 ohms 0.50% of temperature
Optional (22810-2) ± 0.22 ohms 0.25% of temperature

Stability

The sensor will have less than 0.2°C drift per year at rated service temperature with proper mounting.

Time Response

<200 milliseconds lag on metal surfaces.

Self-Heating

The bare sensor will rise less than 1°C while dissipating an I^2R power of 15 milliwatts on metal surfaces.

Lead Wire

#26 AWG stranded nickel-plated copper conductors, PFA Teflon® insulated 3 or 4 conductor ribbon cable.

Insulation Resistance

The insulation resistance between outer sensor insulation clamped between two metal plates and the common lead wire is: 50 megohms minimum with 50 VDC applied to a dry sensor at room temperature. (ASTM-E-644)

Mounting

Will conform to surfaces with radii down to $3/8$ inch transverse to the element winding and $1 \frac{1}{2}$ inch longitudinal to the winding.

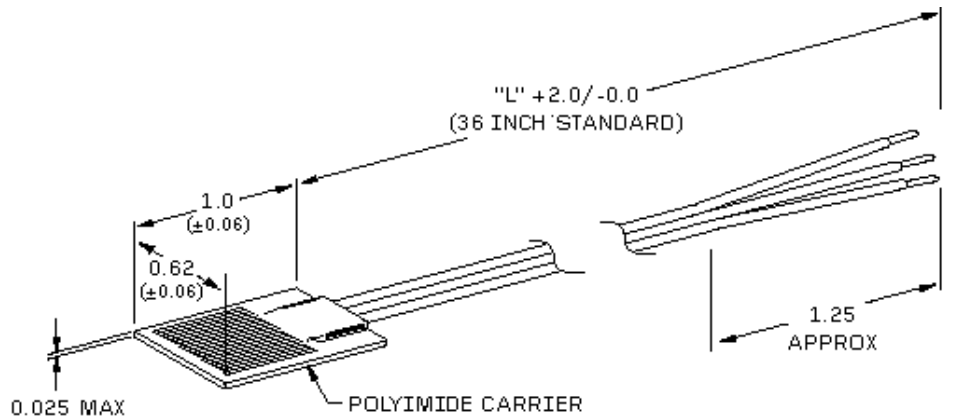
Caution: Only bend transverse to grid axis. Refer to [AN-S \(PN 22800\)](#) for further information.

Teflon® is a registered trademark of Dupont

Specialists in Temperature Measurement

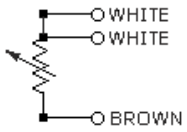


Dimensional Drawing

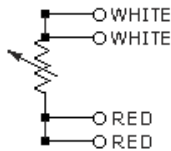


Model 22810-(1, 2)-(B, C)-L

"L" = LEAD LENGTH IN INCHES
 "B" = 3 WIRE, "C" = 4 WIRE
 "1" = $100.00 \pm 0.50\Omega$, "2" = $100.00 \pm 0.22\Omega$



3 WIRE SCHEMATIC

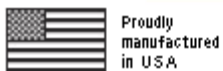


4 WIRE SCHEMATIC

Temperature Resistance Ratio Characteristics

Temperature Coefficient 0.00385ohms/ohms/°C – Nominal IEC751

°C ±Class B	R/R ₀	°C ±Class B	R/R ₀	°C ±Class B	R/R ₀
-200	0.185	50	1.194	300 ±1.8	2.120
-190	0.228	60 ±0.6	1.232	310	2.156
-180 ±1.2	0.271	70	1.271	320	2.191
-170	0.313	80	1.309	330	2.227
-160	0.355	90	1.347	340 ±2.0	2.262
-150	0.397	100 ±0.8	1.385	350	2.297
-140 ±1.0	0.439	110	1.423	360	2.332
-130	0.480	120	1.461	370	2.367
-120	0.521	130	1.498	380 ±2.2	2.402
-110	0.562	140 ±1.0	1.536	390	2.436
-100 ±0.8	0.603	150	1.573	400	2.471
-90	0.643	160	1.610	410	2.505
-80	0.683	170	1.648	420 ±2.4	2.540
-70	0.723	180 ±1.2	1.685	430	2.574
-60 ±0.6	0.763	190	1.722	440	2.608
-50	0.803	200	1.759	450	2.642
-40 ±0.5	0.843	210	1.795	460 ±2.6	2.676
-30	0.882	220 ±1.4	1.832	470	2.709
-20	0.922	230	1.868	480	2.743
-10	0.961	240	1.905	490	2.776
0 ±0.3	1.000	250	1.941	500 ±2.8	2.810
10	1.039	260 ±1.6	1.977	510	2.843
20	1.078	270	2.013	520	2.876
30	1.117	280	2.049	530	2.909
40 ±0.5	1.155	290	2.085	540 ±3.0	2.942



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