



STANFORD RESEARCH SYSTEMS

SR630 Thermocouple Monitor



SR630 Thermocouple Monitor

- **16 channels**
- **0.1 degree resolution**
- **B, E, J, K, R, S and T type thermocouples**
- **°C, °K, °F, mV and V dc readings**
- **Scan up to 16 channels**
- **2,000 point non-volatile memory**
- **IEEE-488, RS232 and Printer interfaces**
- **Four voltage outputs proportional to temperature**

Introducing the SR630 Thermocouple Monitor from Stanford Research Systems.

The SR630 monitors 16 independent input channels, each separately configurable for 7 different types of thermocouples or as a DC microvoltmeter. The front panel reading for each input can be displayed in °Fahrenheit, °Celsius or °Kelvin, as well as mVolts and Volts. All with up to 5 digits of resolution.

Measurements are made 12 times per second and digital filtering is used to reduce

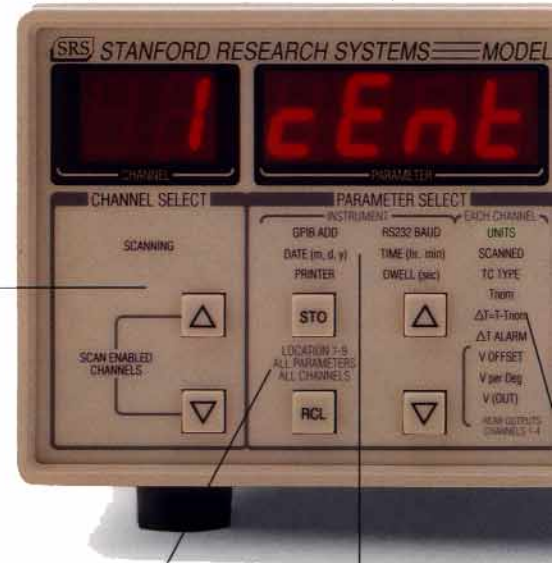
The configuration parameter being changed is clearly displayed to eliminate input errors.

Currently monitored channel is always displayed.

Scan up to 16 independent input channels with programmable dwell time.

Store and recall up to nine complete instrument setups.

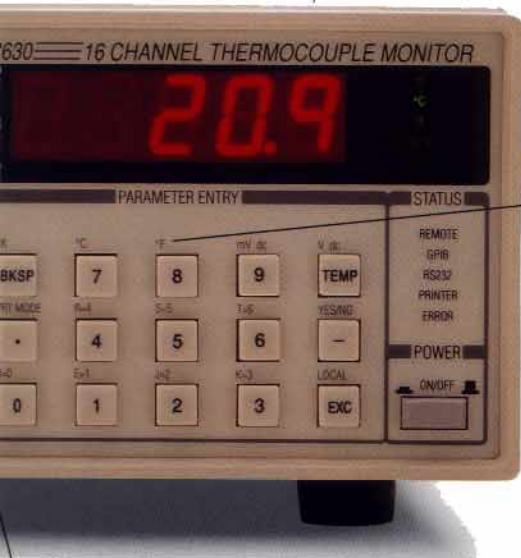
Instrument configuration is easily set from the front panel.



noise. Up to 16 channels may be sequentially scanned with dwell times of 10 seconds to 9,999 seconds between scans. Programmable audible alarm limits for each channel alert the user to excess temperature deviations. The back panel relay output is also closed with the alarm to provide shut-down capability.

The isolated differential inputs have a 250 Volt breakdown level, allowing the SR630 to tackle difficult applications such as temperature profiling of electrically live equipment.

Large, easy to read temperature display.



Nominal temperatures and ranges are easily entered using the numeric keypad.

Computer interfaces are provided for remote monitoring and printing data. The 2000 point non-volatile memory can be output directly to a printer for fast analysis.

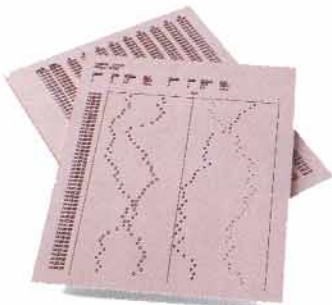
Four outputs provide analog voltages proportional to temperature.



Thermocouple contacts are connected to the rear panel isothermal block for cold junction compensation. The terminals are protected with a quick connect strain relief cover (not shown).

Each channel may be independently configured for thermocouple type, display units, and nominal temperature. The first four channels can drive rear panel analog outputs with variable offset and gain.

The SR630 is also ideally suited for automated systems. Standard IEEE-488, RS232 and printer ports provide fast and easy communication with computers and printers. All instrument functions may be controlled through the IEEE-488 and RS232 interfaces. The printer interface supports two forms



of output - a continuous graphic strip chart and a data printout which logs the time, date, and temperature or voltage for each scanned channel.

For remote, stand-alone monitoring applications, the SR630 time stamps and logs 2,000 measurements in non-volatile memory. Data is easily accessed by connecting a printer or a computer. In addition, nine different instrument configurations can be stored and recalled for convenient instrument setup.

When used in control applications or with analog recorders,

four rear panel outputs provide analog voltages proportional to the temperature of the corresponding input channel (1-4). An $mX+b$ function allows the user to scale the proportional output appropriately.

Whatever your temperature monitoring needs, the SR630 from Stanford Research Systems is the complete low cost solution you're looking for. For more information, or to place an order, call SRS at (408) 744-9040.

Specifications

INPUTS

Input Channels	16 independent channels, each configurable as a thermocouple or voltmeter input.
Input Type	Floating and differential.
Input Resistance	10 M Ω between + and - , >1 G Ω to ground.
Input Capacitance	.001 μ F
Input Bias Current	<100 pA
Input Protection	250 Vrms
Conversion Rate	10 Hz for 50 Hz line, 12 Hz for 60 Hz line. Digital filtering for noise reduction.
Input Connection	Screw terminals to an isothermal block.

THERMOCOUPLE

Thermocouple type	B, E, J, K, R, S and T type thermocouples for each input.
Display Units	$^{\circ}$ C, $^{\circ}$ F and $^{\circ}$ K.
Display Resolution	0.1 $^{\circ}$
Temperature Display	Actual, Nominal or Offset.
Open Circuit Check	250 μ A
Accuracy	0.5 $^{\circ}$ C for J, K, E and T type. 1.0 $^{\circ}$ C for R, S and B type. (Errors are for the SR630 only. Standard errors for thermocouple wire are 2 to 5 times the error due to the SR630.)

VOLTMETER

Full Scale Display	30.000 mV to 100.00 Volts.
Range Select	Automatic
Resolution	\pm 1 count
Offset	\pm 2 counts
Gain Accuracy	0.05%

ANALOG OUTPUTS

Channels	Voltages proportional to temperatures of channels 1-4.
Output voltage	$V_{out} = (\text{Volts/degree}) \times (T - T_{nominal})$
Range	-10.00 to +10.00 VDC with 5 mV resolution.
Accuracy	10 mV
Connectors	BNC type

GENERAL

Scan Dwell Time	10 to 9,999 seconds between successive scans.
Data Memory	Last 2,000 time and date stamped measurements stored in non-volatile memory.
Internal clock	Date (month, day, year) and time (hours, minutes, seconds).
Alarms	Audio alarms for independent high and low limits for each channel. Rear panel alarm relay output.
Interfaces	IEEE-488, RS232 and printer interfaces.
Power	100/120/220/240 VAC, 50/60 Hz.
Dimensions	8.5" x 3.5" x 13" (W x H x D)
Weight	6 lbs
Warranty	One year parts and labor on materials and workmanship.

Ordering Information

SR630

16 Channel Thermocouple Monitor

OPTIONS

-0630RMS Single Rack Mount Kit
-0630RMD Double Rack Mount Kit



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