S43-TP

Four-Channel Thermistor Board for 4.3" PanelPilotACE Display

S43-TP is a four-channel thermistor board to add temperature measurement functionality to the SGD 43-A PanelPilotACE display. Within the PanelPilotACE Design Studio software users can choose to display, log or graph the temperature inputs.



SGD 43-A display sold separately

The S43-TP is an accessory to the PanelPilotACE range of compatible displays and panel meters and is compatible with the 4.3" PanelPilotACE display module (SGD 43-A). The S43-TP mounts on the rear of the SGD 43-A and provides up to four thermistor inputs which can then be utilised within the free PanelPilotACE Design Studio software to measure, display, log and graph temperature readings.

The S43-TP is designed to work seamlessly with Lascar Electronics' EasyLog thermistor probes which are available in a variety of lengths and accuracy specifications as well as bottle formats for use in vaccine monitoring applications. Other thermistor types can be used by adjusting the calculation values in the Design Studio software.

Each S43-TP is supplied with a 1m thermistor probe fitted with a 3.5mm socket and featuring a potted metal sheath (Lascar part number: EL-PROBE2-1.0M-TP).

Specifications

Supplied probe measurement range	-40°C to +80°C (-40°F to +176°F)
Thermistor resistance	4k7 to 22k NTC
Internal Resolution	0.01°C (0.01°F)
Temperature Accuracy	±1.0°C (±2.0°F)*
Number of Channels	up to 4
Outside Dimensions	119.3 (4.7) x 79.8 (3.1) x 25.0 (0.98") mm (in)

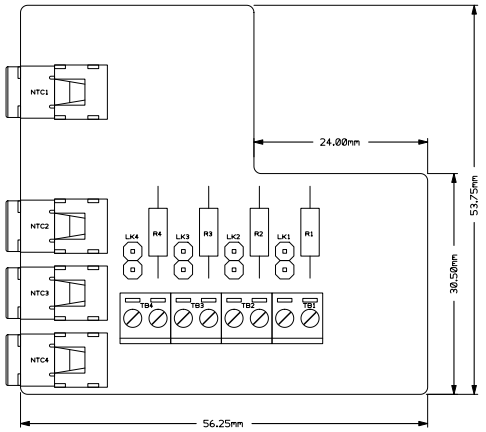
* Between -5°C and 40°C without offset calibration. Between -40°C and +80°C with offset calibration applied.

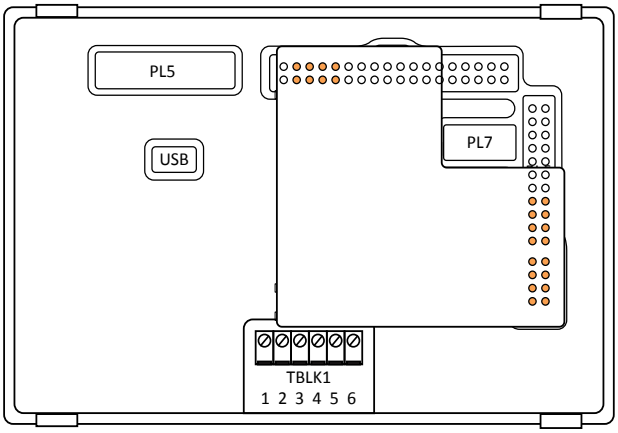
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Dimensions and Mounting

All dimensions are in mm (in)





The diagram (above-right) indicates the pins on the SGD 43-A that the S43-TP should be connected to.

Compatible Thermistors

The Thermistor Element in the Design Studio uses the Steinhart-Hart formula to convert the voltage reading generated from the thermistor add-on board into a temperature reading. The Element can work with either positive temperature coefficient (PTC) or negative temperature coefficient (NTC) resistive sensors. For best results, choose a thermistor which has its resistance approximately equal to the bias resistor value of 10kΩ in the middle of the temperature range you want to monitor. You will also need the resistance table for the chosen thermistor.

It is possible to change the 10kΩ bias resistor for another value if you wish.

Operating Mode

Up to four thermistors can be connected to the S43-TP at any time, with each thermistor input channel using the corresponding analogue input channel of the SGD 43-A (for example Thermistor 1 uses Analogue Input 1). Therefore, only analogue input channels not being used for a thermistor input can be connected to whilst using the S43-TP.

Function	3.5mm SKT	TBLK
Thermistor 1	NTC1	IN1
		0V
Thermistor 2	NTC2	IN2
		0V
Thermistor 3	NTC3	IN3
		0V
Thermistor 4	NTC4	IN4
		0V

