

Thermocouple Interface for Contact Temperature

General Description:



This "Digital Thermocouple Interface" allows any 'J' or 'K'-type thermocouple to be connected via this interface with the SDT 170M and SDT 170MD Multifunction Ultrasonic Detectors. The temperature can be read out in degrees Celsius, Kelvin, Fahrenheit and Rankin. It can be used to check any kind of temperature that can be measured with a thermocouple. Designed for use in an industrial environment, the interface is made out of a rugged metal casing, and has a miniature thermocouple connector. The interface has on board digital cold junction compensation and is equipped with a wire break or "thermocouple not present" detector.

The SDT 170 automatically senses the presence of the thermocouple interface and switches its readout to the appropriate setting, scales and units. Measurements can be time-dated and logged inside the memory of the SDT 170M and SDT 170MD versions. Refer to the SDT 170 documentation for data logging limits and possibilities.

Technical Data:

Thermocouples types	"J" and "K" (user selectable, not automatic) With a standard miniature thermocouple connector,
Dimensions of plug	7.9 mm or 0.312 inch, center to center.
Operating temperature	-20°C to 60°C. / -4°F to 140°F
Operating humidity	0 % to 90 % R.H. when temperature is less than 35°C/95°F 0 % to 70 % R.H. when temperature is above 35°C/95°F
Temperature stability	0.05°C/°C. / 0.09°F/°F
Interface dimensions	108 x 73 x 23 mm / 4.3 x 2.9 x 0.9 inch
Interface weight	106 gram / 0.36 lb
Includes connection cable to the SDT 170.	
Does not include the thermocouple.	

Accuracy and Measuring Ranges for 'J' Thermocouples:

Measuring Range:

	Range:	Resolution:	Accuracy (**):
Celcius	-210 to +1200°C	0.1°C /1°C (*)	0.3 % of lecture or ± 1.2°C (***)
Kelvin	+63.1 to +1473°K	0.1°K /1°K (*)	0.3 % of lecture or ± 1.2°K (***)
Fahrenheit	-346.0 to +2192°F	0.1°F /1°F (*)	0.3 % of lecture or ± 2.16°F (***)
Rankin	+113.6 to +2651°R	0.1°R /1°R (*)	0.3 % of lecture or ± 2.16°R (***)

(*) the measuring resolution 0.1° up to 999.9° from 1000° onwards resolution is 1°.

(**) with the interface at +18°C to +28°C / 64°F to 82°F.

(***) whichever is greater.

Accuracy and Measuring Ranges for 'K' Thermocouples:

Measuring Range:

	Range:	Resolution:	Accuracy:
Celcius	-200 to +1372°C	0.1°C /1°C (*)	0.3 % of lecture or ± 1.2°C (***)
Kelvin	+73.1 to +1645°K	0.1°K /1°K (*)	0.3 % of lecture or ± 1.2°K (***)
Fahrenheit	-328.0 to +2501°F	0.1°F /1°F (*)	0.3 % of lecture or ± 2.16°F (***)
Rankine	+131.6 to +2961°R	0.1°R /1°R (*)	0.3 % of lecture or ± 2.16°R (***)