

## Datasheet

# Calibrated IEC Mineral Insulated Thermocouple with Standard Thermocouple Plug **SYSCAL**

Type 'K' or 'J', either 1.5, 3.0, 4.5 or 6.0mm diameter with insulated hot junction (un-grounded)



## A Calibrated Mineral Insulated Type Thermocouple

- A certificated 2 point (0°C & 100°C) calibrated item straight out of the box, ready to use
- If a temperature indicator is also selected (as a SYSCAL) - a 4 point calibration is performed (-20°C, 0°C, 100°C & 190°C or -20°C, 0°C, 70°C & 140°C for food types)
- No hassle or wasted time getting your new item calibrated elsewhere and having to raise separate purchase orders

- Mineral insulated Type 'K' or 'J' Thermocouple
- Type 'K' uses 310 stainless steel sheath, type 'J' uses Stainless steel 321 sheath
- Highly flexible, sheath can be bent/formed to suit many applications and processes
- Choice of 1.5, 3.0, 4.5 or 6.0mm diameters
- Insulated hot junction
- Probe temperature range -40°C up to +1100°C
- Standard plug termination (200°C)
- Conforms to IEC 584 specification

## Specifications

Sensor type:	Type 'K' with Chromium/ Aluminium conductors Type 'J' with Iron / Constantan conductors
Construction:	Flexible mineral insulated probe, 310/321 stainless steel sheath & standard plug termination
Sheath composition:	310 stainless steel (25/20 chromium nickel steel)
Element/hot junction:	Single element, junction insulated from sheath in order to prevent electrical noise & interference
Termination:	Standard round pin plug, colour coded 'green' in accordance IEC 584-3
Reference Tables/Tolerance:	In accordance with IEC 584-1&2
Probe temperature range:	-40°C to +1100°C
Plug temperature range:	200°C

**310 stainless steel:** Good corrosion & oxidation resistance to suit a wide range of processes, satisfactorily operates in sulphur bearing atmospheres. Typical applications include brick & cement kilns, glass industry, heat treatment & annealing furnaces, power stations, flues, heat exchangers etc.

T/C Type	Probe Dia. (mm)	Probe Length (mm)	Sheath	Thermocouple junction	Allied code	RS order Code	RS 2 Point Calibrated Version SYSCAL (0°C & 100°C)
K	1.5	150	310SS	Insulated	70643865	397-1501	<b>181-7307</b>
K	1.5	250	310SS	Insulated	70643866	397-1517	<b>181-7316</b>
K	1.5	500	310SS	Insulated	70653228	787-7781	<b>181-7312</b>
K	1.5	1000	310SS	Insulated	70653231	787-7790	<b>181-7313</b>
K	3.0	150	310SS	Insulated	70643867	397-1539	<b>181-7308</b>
K	3.0	250	310SS	Insulated	70643868	397-1545	<b>181-7301</b>
K	3.0	500	310SS	Insulated	70653232	787-7793	<b>181-7314</b>
K	3.0	1000	310SS	Insulated	70653233	787-7797	<b>181-7315</b>
K	4.5	150	310SS	Insulated	71232233	872-2676	<b>181-7323</b>
K	4.5	300	310SS	Insulated	71232236	872-2685	<b>181-7321</b>
K	4.5	500	310SS	Insulated	71232237	872-2688	<b>181-7302</b>
K	4.5	750	310SS	Insulated	71232235	872-2682	<b>181-7303</b>
K	6.0	150	310SS	Insulated	70643869	397-1551	<b>181-7309</b>
K	6.0	250	310SS	Insulated	70643870	397-1567	<b>181-7311</b>
K	6.0	1000	310SS	Insulated	70653234	787-7800	<b>181-7317</b>

**Type 'J' – 321 stainless steel sheath:** Excellent corrosion resistance retains good ductile properties to suit a wide range of industrial applications & processes. Typical applications include heat treatment & annealing furnaces, aluminium heat treatment, chemical reactors, plastic/rubber moulding industry, polythene manufacture, coal plants, paper mills, textile industry etc.

T/C Type	Probe Dia. (mm)	Probe Length (mm)	Sheath	Thermocouple junction	Allied code	RS order Code	RS 2 Point Calibrated Version SYSCAL (0°C & 100°C)
J	4.5	150	321SS	Insulated	71232239	872-2694	<b>181-7305</b>
J	4.5	300	321SS	Insulated	71232240	872-2698	<b>181-7306</b>

### Why is Calibration So Important?

Calibration defines the accuracy and quality of measurements recorded using a piece of equipment. Over time there is a tendency for results and accuracy to 'drift' particularly when using technologies or measuring parameters such as temperature and humidity. To be confident in the results being measured there is an ongoing need to maintain the calibration of equipment throughout its lifetime for reliable, accurate and repeatable measurements.

The goal of calibration is to minimise any measurement uncertainty by ensuring the accuracy of test equipment. Calibration quantifies and controls errors or uncertainties within measurement processes to an acceptable level.