

We own it

Tempsens NABL accredited temperature calibration laboratory is one of the best facility available in the country for calibration of temperature sensors. In continuation with improving our services we are now equipped with Fixed Point cells in our Lab.

We have added following fixed point cells in our NABL Lab

- Triple Point of Water
- Melting Point of Gallium
- Freezing Point of Tin
- Freezing Point of Zinc
- Freezing Point of Aluminium



Temperatures of fixed-point cells are constant and intrinsic. So only the electrical parameters of the sensor under calibration need to be read. Fixed point cells are the most accurate calibration possible for calibrating industrial thermometers, thermocouples.

Features of fixed Point cells are

- Lower uncertainties than comparison calibrations.
- Fixed points from TPW, Gallium, Tin, Zinc, Aluminium, are available.
- Reduced equipment and annual recalibration costs.

By incorporating the fixed point cells we have the lowest uncertainties near to the National Physical lab of the country. Now we have the facility to calibrate temperature sensors from - 38 Deg.C to 1500 Deg.C for contact & non contact temperature sensors by comparison method.

Best Measurement Uncertainties

BMC for Fixed Point	B.M.C.
* TPW _____	±0.015°C
* Ga _____	±0.029°C
* Sn _____	±0.039°C
* Zn _____	±0.033°C
* AL _____	±0.036°C



NEW HEIGHTS IN SENSING

We, at Tempsens Instruments, are not only manufacturing Temperature sensors since 1976 but are committed to provide our customers with complete solution for measurement With state-of-the-art R&D facilities, Tempsens is emerging as one of the main solution provider in the field of temperature measurement.

It is the aim of Tempsens to maintain an effective Quality Program in order to provide products and services that meet and exceed our customers' requirements, in conformity with regulatory requirements, internationally recognized quality standards and industry accepted practices. Our commitment to continuous improvement will insure achievement of our goals and objectives.

OVERVIEW

- **Laser welding machine** :- We have incorporated high precision Laser welding machine. With this addition, we now offer special mineral insulated thermocouple starting from 0.25mm dia onwards for very special applications.
- **Fixed point cells**
- **Tempsens Unit - II** 30000 sq.ft construction with state of art facility.
- **Next set of CNC Machines installed**
- **New facility for cables**
- **New facility for Heaters named Marathon Heaters Pvt. Ltd. in collaboration with Marathon Heaters, USA.**



Portable 2-Color Pyrometer for Non-contact Temperature Measurement

M90R highly accurate portable 2 color model independent of emissivity

Accurate; Easy-to-use :-

The M90R and M90V portable infrared thermometers provide maximum operator convenience for rapid and dependable data gathering in high temperature applications, such as metal production, foundries, annealing, glass making, forging, induction heating, refractory, ceramic kilns and semiconductor processing. They can be hand-held for spot checks or tripod mounted for long term monitoring.

Model M90R 2-Color Infrared Thermometer

This unique version utilizes the 2-color principle, in which the temperature measurement is made by ratioing the radiation intensities of two adjacent wavelengths rather than from absolute intensity as with single band (or single color) instruments. For surfaces behaving as grey bodies, this design approach eliminates a number of factors that degrade the accuracy of conventional instruments. For example, temperature measurements with the M90R are:

- Independent of emissivity
- Unaffected by dust and other contaminants in the field of view
- Unaffected by dirty viewing windows



MIKRON

Other features include:

- Peak, Valley, Hold and Average functions selected by push-button
- Data Collection Capability
- Digital (RS232C) computer interface
- Digital emissivity/slope setting
- Communication software

Thermocouple for Molten Aluminium Temperature Measurement

Molten Aluminium, Lead & Zinc are very difficult medium for temperature measurement by thermocouples due to its high corrosive nature. Conventionally 'K' type thermocouple with Metal protection sheath were using for this application. This gives very limited operating life.

Tempsons offer Thermocouple with special protection sheaths. Fully sintered silicon nitride tube withstands chemical attacks and is totally inert with aluminum alloys, corrosion, abrasion and thermal shock. It is not wetted by the molten metal and attains a very long useful life. Fully sintered silicon nitride is a lot tougher than other materials therefore the fear of breakability is also groundless.

Construction

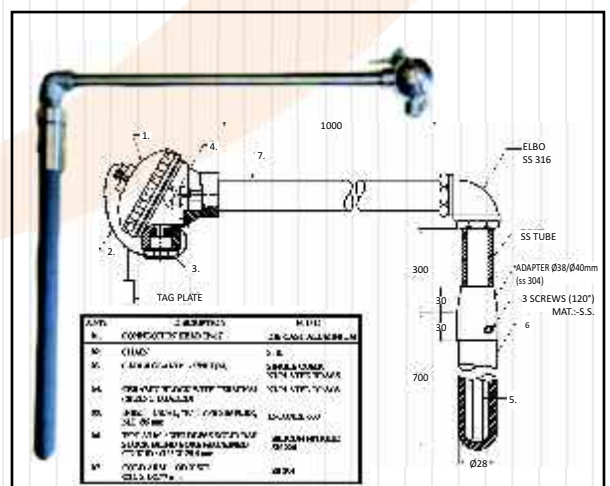
Straight or "L" Shape, Thermocouple Type "K", Mineral Insulated, compacted Mgo, OD 6mm, Sheath Inconel 600.

Special protection sheath (Thermowell)

Silicon nitride (SN 220) OD 28mm, ID 16mm, Length 700mm.


Special features

- Flexural strength (3 point bending) - 1020 Mpa
- Thermal conductivity - 26 W/(m.K)
- Poisson's ratio 0.27
- Young's Modulus 300 GPa
- Coefficient of Linear expansion (~800 Deg.C)



Furnace Monitoring Camera



 young kook
South korea

Our high-temperature CCTV video camera monitoring systems provide plant engineers and operators in the control room views of burner flames, material alignment and movement, and other process conditions in furnace, kiln, heating stove or other combustion chamber.

We use special CCD color camera above 480 lines, relay lens technology operation in high ambient temperature. It has auto exit function, in case of following condition, the camera will auto-exit.

- 1) The temperature in the inner of wall sleeve more than the setting value.
- 2) The pressure of compressed air less than the setting value.
- 3) Power failure
- 4) Customer selectable logic (remote from control room, according to kiln hood draft etc)

Application:

- Cement Rotary kilns and clinker coolers
- Steel reheating furnaces
- Glass melt tanks
- Power generations
- Pulp & Paper Industry
- Lime Industry

Over 32 Cameras installed in India

Extention & Compensating Cables



Compensating cables are a pair of different metal wires having temperature/voltage characteristics similar to the thermocouple with which the wires are intended to be used. Extension cables use the same thermocouple alloy.

Construction

Extension & Compensating Cables are generally flat having 2 cores (positive and negative different colours) each core electrically and thermally insulated and sheathed as per user's requirements. The general insulation and sheathing is done by following materials.

PVC Insulated PVC sheathed

Cores double fibre glass lapped, varnished, Fibre glass braided over all asbestos braided and heat proof compounded.

PVC insulated and asbestos braided heat proof compounded.

Each core twice fibre glass lapped, varnished and overall fibreglass braided and varnished.

Armoring

Armoring is generally provided with galvanized steel wire/Tinned Copper wire / Stainless Steel wires etc.

STANDARD CONFIGURATION

Sl.No	Size	Type	Description
1	3/22	PVC/PVC	Each core insulated with tested PVC and both cores PVC sheathing
2	3/22	PVC/PVC Asbestos	As per item no.1 with an additional insulation of Asbestos yarn
3	3/22	PVC/PVC Asbestos/GI	As per item no.2 with an additional braiding of GI
4	3/22	PVC/PVC/GI	As per item No.1 with an additional GI braiding
5	3/22	PVC/ASB	Each core insulated with PVC and both cores ASB braiding
6	3/22	FG/FG	Each core insulated with double FG and both core FG braiding and varnished
7	3/22	FG/FG/SS	As per item No.6 with additional braiding of SS wire
8	3/24	FG/FG/ASB	As per item No.6 with common ASB braiding
9	3/22	ASB/ASB	Each core insulated with double Polyester film then compounding then double FG yarn insulation and varnish, then asbestos insulation on each core. Both cores under common ASB braiding
10	3/22	ASB/ASB/GI	As per item no.9 with additional braiding of GI wires
11	1/26 or 7/36	TEFLON/ TEFLON	Each core insulated with TEFLON and both cores under common Teflon insulation
12	7/36	TEFLON/ TEFLON/SS	Same as item No. 11 but with additional overall STAINLESS STEEL braiding.
13	7/36	TEFLON/ TEFLON/FG	Same as item No. 11 but with additional overall FIBRE GLASS braiding.
14	7/36	TEFLON/ TEFLON/FG/SS	Same as item No. 13 but with overall STAINLESS STEEL braiding.

1700°C Calibration Furnace For Thermocouple & Pyrometers

We have developed Temperature calibration furnaces upto 1700 Deg.C. The new CALSYS 1700 can be used for both thermocouple and non-contact pyrometer calibration by interchanging the Alumina insert block and Alumina cavity (99% emissivity) This eliminates the need of two different furnaces for thermocouple and pyrometer calibration. This is a unique instruments for the laboratories who calibrates both contact & non-contact sensors.



1700 L for Thermocouple & Pyrometers calibration

SPECIFICATIONS

Temperature Range	500 to 1700 Deg C
Temperature resolution	1 Deg C
Thermocouple Calibration	Alumina Block
Pyrometer Calibration	Alumina Cavity with 99% Emissivity
Stability	± 2° C
Controlling Sensor	B Type T/C
Method of Control	Digital self tuned PID Controller
Heaters	MoSio ₂ heaters
Heating rate	15 Deg C/Minute
Operating Temperature	0 to 44 Deg C
Power Requirement	230 VAC, 4 KW
Insert vol./Aperture Dia	40 mm x 270 mm depth
Dimensions	640 (H) x 400 (W) x 550 (D) mm
Weight	80Kg (Approx)

Temperature Seminar in Dec. 08

As a part of our commitment to **Total Solution to Temperature Sensor Technology**, since last 4 years we are conducting technical seminar and training on temperature measurement and calibration.

This is a two day program arranged at Udaipur, Rajasthan.

Faculties are expertise in the subject and have vast experience in the field of temperature measurement and calibration.

Proposed faculties are Mr. Reinhard Klemm (Rossel Messtechnik, Germany) And Senior Scientist from National Physical Laboratory, New Delhi.

The tentative date of the program is **5 th and 6 th of Dec. 08.**

Limited Seats Register Now!

For registration please contact

Mr.K.P.Baburaj : 09352506032 (baburaj@tempsensindia.com)
Mr.Ankush Bhandari : 09214432158 (ankush@tempsensindia.com)
Ms.Reena Mehta : 0294-3057759 (info@tempsensindia.com)



Low Cost Portable Pyrometers



TCT 500
-60....500°C
Rs. 5,000/-*



TI 750
-50....750°C
Rs. 7,500/-*



TI 1000
-50....1000°C
Rs. 10,000/-*



TI 1300
-50....1300°C
Rs. 16,000/-*



TCT 1600
-50....1600°C
Rs. 20,000/-*

Portable
Temperature
Indicator with
K type T/C Probe

Rs. 3500/-*



 **TEMPSENS**

TEMPSENS INSTRUMENTS(I) PVT. LTD.

B-188 A, Road No.5, Mewar Industrial Area,
UDAIPUR-313003 (Rajasthan) INDIA

Ph. : 0294-3057700, Fax : 0294-2492447, 3057750

Email : info@tempsensindia.com

www.tempsensindia.com