



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX KLCS 24.0065X** Page 1 of 3 [Certificate history:](#)  
Status: **Current** Issue No: 0  
Date of Issue: 2025-05-06  
Applicant: **Techno Instruments**  
Plot No.1145/1, Opposite Maruti Ind.,  
Uma Converter Lane, Santaj Ranchhodpura Road,  
Santaj, Tal. Kalol  
Dist: Gandhinagar, Gujarat 382721  
**India**  
Equipment: **RTD / Thermocouple , SWHRT 10 series**  
Optional accessory:  
Type of Protection: **Flameproof Enclosures "d" & Increased safety "e"**  
Marking: **Ex db eb IIC T6...T1\* Gb (-20°C ≤ Ta ≤ +60°C)**  
**(\*) Refer in Annex to IECEx KLCS 24.0065X for relationship between temperature class and process temperature.**

Approved for issue on behalf of the IECEx  
Certification Body:

**Vikram Paranjpe**

Position:

**Dy. Director (Operations)**

Signature:  
(for printed version)

Date:  
(for printed version)

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Certificate issued by:

**Karandikar Laboratories Certification Services**  
**Gat No. 142, Boisar Chillar Rd.,**  
**Opp. Union Park, At Betegaon,**  
**Boisar (E), Tal- Palghar**  
**Maharashtra 401501**  
**India**





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Dist: Gandhinagar, Gujarat 382721  
**India**

Manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[IN/KLCS/ExTR24.0067/00](#)

Quality Assessment Report:

[IN/KLCS/QAR25.0001/00](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

RTD / Thermocouple, Model : SWHRT 10 series consists of terminal head with type of protection flameproof "Ex db", a temperature probe assembly with type of protection "Ex eb" and a thermowell.

The terminal head consists of a threaded cover. A stainless steel chain is attached between the cover and the body. The terminal head is provided with an internal tapped hole of size 1/2" NPT to accommodate the probe assembly (stainless steel sleeve). Alternate size can be 3/4" NPT. The terminal head is provided with two cable entries with size of 1/2" NPT. Alternative cable entry size can be 3/4" NPT, 20 X 1.5P/M22 X 1.5P.

The spring loaded temperature probe is a mineral insulated austenitic stainless steel tube, tightly filled with Magnesium Oxide Powder. The temperature probe is composed of 2, 3 or 4 wire temperature sensing devices which run through the metal tube and the magnesium oxide powder helps keep these wires insulated and separated. The steel probe is TIG welded with steel cap at one end and has a potted seal at the other end. The probe can have length from 50mm to 50000mm and diameter from 3 to 10mm for RTD/Thermocouple sensor.

Stainless steel sleeve (extension), which is threaded at both ends is provided for attachment to the thermowell (process connection) at one end and the terminal head housing at the other end.

The spring loaded temperature probe is guided and protected inside a steel sleeve and threaded thermowell.

Refer Annex to IECEx KLCS 24.0065X for model designation and Thermal parameters.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

1. The fastening screws for terminal block shall be stainless steel socket head cap screws of property class 9 and yield stress 1100 MPa.
2. No modification permitted to equipment as the manufacturer has maintained more stringent gap, larger flamepath length and more number of threads than required by the standard. User must refer to manufacturer before carrying out any repairs to the equipment.
3. The head and sealing compound is not intended to be immersed in the liquid.

## **Annex:**

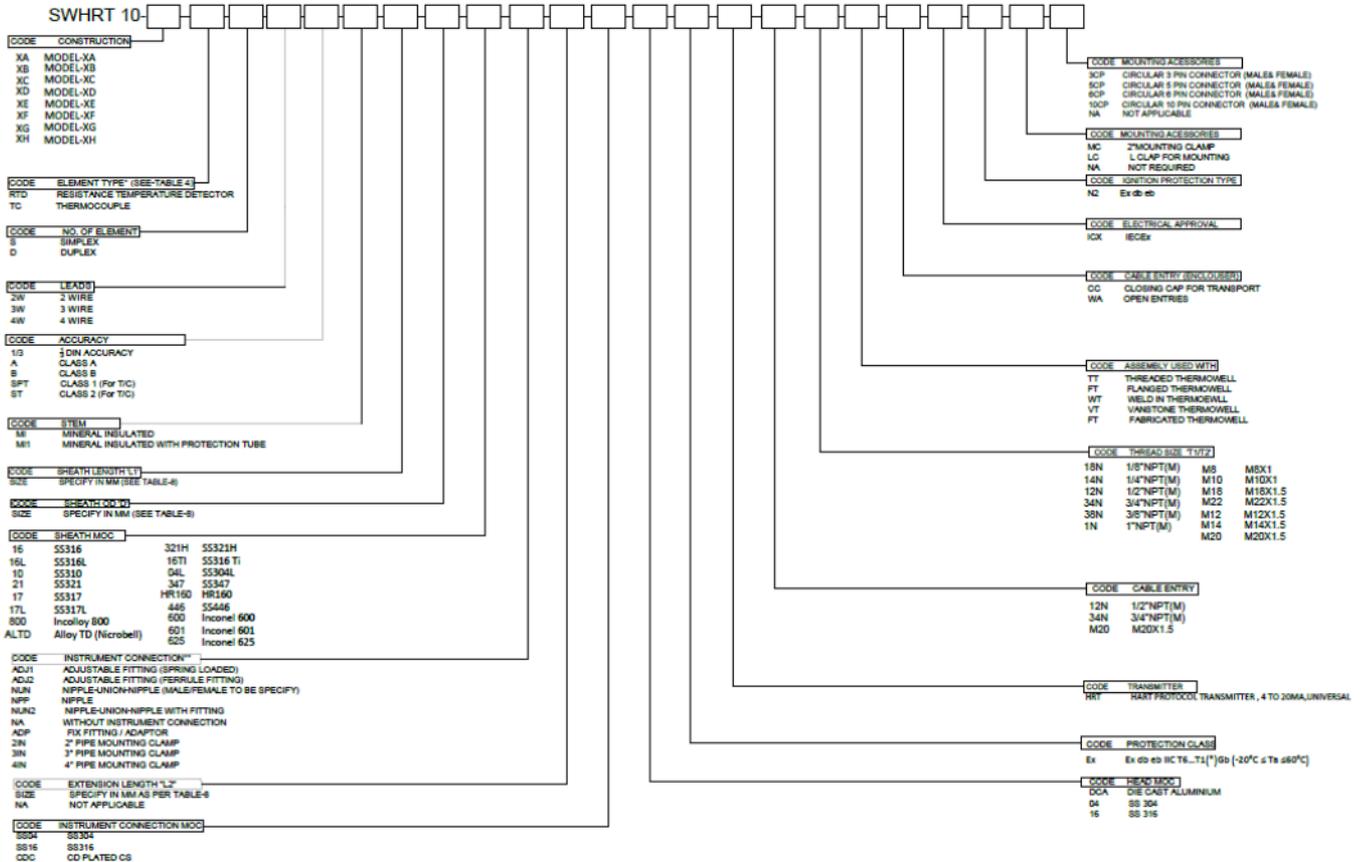
[ANNEX TO IECEx KLCS 24.0065X.pdf](#)



**ANNEX to IECEx KLCS 24.0065X, Issue No. 00**

Date: 06.05.2025

**Type designation :**



**Thermal Parameters:**

The maximum surface temperature due to process conditions (TP) is the maximum surface temperature of any part of the sensor in contact with the explosive atmosphere.

The relationship between equipment(\*) temperature class, ambient temperature range and process temperature range is as described in table below:-

**Table -1**

| Ambient temperature | Temperature Class (*) | Process temperature (TP) range. |
|---------------------|-----------------------|---------------------------------|
| -20°C to +60°C      | T6                    | -20°C to +80°C                  |
| -20°C to +60°C      | T5                    | -20°C to +95°C                  |
| -20°C to +60°C      | T4                    | -20°C to +130°C                 |
| -20°C to +60°C      | T3                    | -20°C to +195°C                 |
| -20°C to +60°C      | T2                    | -20°C to +290°C                 |
| -20°C to +60°C      | T1                    | -20°C to +440°C                 |

**END OF DOCUMENT**