



# 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)

### Ex COMPONENT CERTIFICATE

Certificate No.: **IECEX PRE 19.0093U** Page 1 of 4 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-06-26

Applicant: **Raviraj Process Controls**  
RAVIRAJ HOUSE,  
Plot No. A-677, Khairne MIDC,  
Koparkhairne,  
Navi Mumbai 400 709  
**India**

Ex Component: Slot Wire Wound RTD PT-100 Sensor (Simplex/Duplex)

*This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).*

Type of Protection: **Ex e, Ex i**

Marking: Ex eb IIC Gb, Ex ia IIC Gb, Ex ia IIIC Db

Approved for issue on behalf of the IECEx  
Certification Body:

**Asle Kaastad**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**DNV GL Presafe AS**  
**Veritasveien 3**  
**1363 Høvik**  
**Norway**





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Manufacturer: **Raviraj Process Controls**  
RAVIRAJ HOUSE,  
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**India**

Additional  
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 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

**IEC 60079-7:2015** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"  
Edition:5.0

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:

[NO/PRE/ExTR19.0089/00](#)

Quality Assessment Report:

[NO/PRE/QAR19.0022/00](#)



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## **Ex Component(s) covered by this certificate is described below:**

Slot wire wound Sensor Simplex/Duplex, Model: RSWWT1, RSWWT2 and RSWWT3 are used to measure winding temperature of the motor/generator. These sensors are sandwich between the winding of motor/generator to continues measurement of the temperature.

RSWW sensors are bifilar wire wounded PT100 sensors either simplex or duplex circuit. The connecting cable connected through solder with secure manner. The overall insulation of the sensors either heat shrinks PTFE or Kapton or PTFE over Kapton.

## **SCHEDULE OF LIMITATIONS:**

1. The mounting of the Slot wire wound RTD has to be assessed in the context of the certification of the equipment.
2. The Slot wire wound RTD has to be installed protected against mechanical load, Sharp bending as well as mechanical stress.
3. The flying lead of the Slot wire wound RTD shall be connected to appropriate Ex certified terminal box as a fixed installation.
4. Slot wire wound RTD shall be impregnated or sealed with the winding by the motor/generator manufacturer.
5. The dielectric strength test with the motor winding according to EN 60079-7 has to be carried out by the motor/generator manufacturer.
6. The Slot wire wound RTD shall be installed in Ex eb / Ex ec /Ex nA / Ex db certified Ex motor/generator enclosure.
7. The Slot wire wound RTD shall be connected through certified Ex ia/ Ex ib (Barrier model No. MTL4582B; MTL4576; MTL4575B of EATON ELECTRIC LTD) barrier as per IEC 60079-11



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**Additional information:  
Temperature range:**

-30°C to +180°C

**Annex:**

[Annex to IECEx PRE 19.0093U.pdf](#)

**Annex to certificate: IECEx PRE 19.0093U**

**Type designation**

RSWWT1, RSWWT2, RSWWT3

Ordering	Code Model-PT100-C-X-L-W-H-N-G-CC-LL
Model	RSWWT1 - Silicon Fiber glass sheet; Jacket Kapton HN RSWWT2 - Silicon Fiber glass sheet; inner Jacket Kapton HN; Outer Jacket PTFE heat Shrink RSWWT3 - Silicon Fiber glass sheet; Inner Jacket Kapton HN; SS or SPC Shield; Outer jacket PTFE
Element	PT100
C Slot Type	S-Simplex D-Duplex
X Accuracy	A - Class A B - Class B
L W Slot Width	Slot Length 80 to 500 Simplex: 6,8,10,11,12,15,18,20 Duplex: 10,12,15,18,20
H Slot Height	RSWWT1: $\geq 1.2$ to $< 2$ RSWWT2: $\geq 2$ to $< 5$ RSWWT3: $\geq 2.5$ to $< 5$
N No of Wires	Simplex - 2/3/4 Duplex - 4/6/8
G Wire Gauge	RSWWT1: AWG 24 and AWG 26 Others: AWG 20 to AWG 26
CC Wire Construction	Type of Cable C1: PTFE single/Twisted leads C2: PTFE Flat Leads with PTFE jacketed C3: PTFE Twisted Leads with PTFE jacketed C4: PTFE twisted Leads with PTFE/Shielded/ PTFE
LL	Wire Length 100 to 20000

**Electrical Data (Maximum)**

For Ex eb: 10 Volts, 25 mA and 25 mW

For Ex ia:  $U_i$ : 10 V,  $I_i$ : 25 mA,  $P_i$ : 25 mW

$C_i$ : Only Cable capacitance,  $L_i$ : Only Cable Inductance