



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

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEX PRE 20.0025U** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-09-03

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

Ex Component: Metal Probe Type 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 eb, Ex ia**

Marking: **Ex eb IIC Gb, Ex ia IIC Gb, Ex ia IIIC Db**
Operating temperature range: -30 °C to +130 °C

Approved for issue on behalf of the IECEx
Certification Body:

Bjørn Spongsveen

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 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**
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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 60079-7:2017 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:

[NO/PRE/ExTR20.0033/00](#)

Quality Assessment Report:

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



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

Metal Probe Type Sensor, Model: RSBT1 and RSBT2 are used to measure temperature of bearing of the motor/generator. The sensing element (Platinum/nickel/PTC/Thermocouple) encapsulated in heat shrink PTFE sleeve. The sensing element encapsulated in PTFE heat shrink sleeve is inserted in the stainless steel and filled with fine MgO powder. PTFE insulated flying lead provided for external connection. The flying lead shall be terminated in appropriately certified Ex terminal box with minimum IP 66 rating. The model RSBT2 is provided with lock nut.

SCHEDULE OF LIMITATIONS:

- The mounting of the Metal Probe Type Sensor has to be assessed in the context of the certification of the equipment.
- The Metal Probe Type Sensor has to be installed protected against mechanical load, Sharp bending as well as mechanical stress.
- The flying lead of the Metal Probe Type Sensor shall be connected to appropriate Ex certified terminal box as a fixed installation.
- The dielectric strength test with the motor winding according to IEC 60079-7 has to be carried out by the motor/generator manufacturer.
- The Metal Probe Type Sensor shall be connected through appropriately certified Ex ia barrier.

Annex:

[Annex to certificate IECEx PRE 20.0025U.pdf](#)

Annex to certificate: IECEx PRE 20.0025U

Type designation

RSBT1 and RSBT2

RSBT1-S-R-T-Y-N-S-D-L-L1-K-X-G-CC-LL						
Model		RSBT1	Metal Probe type			
		RSBT2	Metal Probe with lock nut			
S	Sensor type	Pt	Platinum			
		Ni	Nickel			
		PTC	PTC			
		TC	TC			
R	Element Type		Platinum	Nickel	PTC	TC
		1	100	120	80	J
		2	1000		100	K
		3			110	T
		4			120	E
		5			130	N
T	Sensor construction	S	Platinum	Nickel	PTC	TC
		D	Simplex	Simplex	Single	Simplex
Y	Accuracy	A	Duplex	Duplex	Triple	Duplex
		B	Platinum	Nickel	PTC	TC
N	No of leads	A	Class A			Class 1
		B	Class B		--	Class 2
D	Sheath Dia		Platinum	Nickel	PTC	TC
		Simplex	2/3/4	2/3/4	2	2
S	Sheath	Duplex	4/6/8	4/6/8	-	4
		SS	Stainless steel			
L	Sheath Length	SSI	Stainless steel PTFE Insulated			
		4,5,6,8, 10,11,12,15,18 20,22,25	Simplex - 4 to 25 mm Duplex 6 to 25mm			
L1	Insertion Length (Optional)	20 to 1000				
K	Locknut type	C	With compression			
		F	Without compression			
X	Cable Size	B	Byonet Type			
			Size			
		1	M6 X1	7	M20 X 1.5	
		2	M8 X1	8	1/4" NPT	
		3	M10 X1.5	9	3/8" NPT	
		4	M12 X 1.5	10	1/2" NPT	
		5	M14 X 1.5	11	3/4" NPT	
6	M16 X 1.5	12	Other			
G	Cable	For Thermocouple SWG 24				
		For Other AWG 20 to AWG 26				
CC	Construction	C1	PTFE single/Twisted leads			
		C2	PTFE flat leads with PTFE Jacketed			
LL	Cable Length	C3	PTFE Twisted Leads with PTFE jacketed			
		C4	PTFE twisted Leads with PTFE/Shielded/ PTFE			

Degrees of protection (IP Code)

N/ A

Temperature range:

-30°C to +130°C

Routine tests

Manufacturer shall carry out the dielectric strength test at 2500 Volts for duration of 60 seconds. No electrical breakdown shall occur.

Electrical Data (Maximum)

Electrical data: RSBT1 and RSBT2

For Type of protection Ex eb, Ex tb

RTD Pt-100 and Pt-1000

The electrical rating is maximum 10 V d.c ,25 mA d.c and 25 mW

RTD Ni-120

The electrical rating is maximum 10 V d.c, 25 mA d.c and 25 mW

Thermistor PTC

The electrical rating is maximum 10 V d.c., 2 mA d.c. and 4.7 mW

Thermocouple

The electrical rating is maximum 1.5 V d.c., 100 mA d.c. and 25 mW

For Type of protection Ex ia

RTD Pt-100 and Pt-1000

Ui: 10 V, Ii: 25 mA, Pi: 25 mW

Ci: Only Cable capacitance, Li: Only Cable Inductance

RTD Ni-120

Ui: 10 V, Ii: 25 mA, Pi: 25 mW

Ci: Only Cable capacitance, Li: Only Cable Inductance

Thermistor PTC

Ui: 10 V, Ii: 2 mA, Pi: 4.7 mW

Ci: Only Cable capacitance, Li: Only Cable Inductance

Thermocouple

Ui: 1.5 V, Ii: 100 mA, Pi: 25 mW

Ci: Only Cable capacitance, Li: Only Cable Inductance