


EU-TYPE EXAMINATION CERTIFICATE

- [2] COMPONENT INTENDED FOR USE ON/IN AN EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU
- [3] EU-Type Examination Certificate Number: **Presafe 20 ATEX 56564U** **Issue 0**
- [4] Product: **Metal Probe Type Sensor (Simplex/Duplex)**
- [5] Manufacturer: **Raviraj Process Controls**
- [6] Address: **RAVIRAJ HOUSE, Plot No. A-677, Khairne MIDC, Koparkhairne, Navi Mumbai – 400 709, India**
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV GL Presafe AS, notified body number 2460, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential reports listed in section 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018, EN 60079-7: 2015, EN 60079-11: 2012
- [10] The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system
- [11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- [12] The marking of the product shall include the following:

 **II 2 GD Ex eb IIC Gb, Ex ia IIC Gb, Ex ia IIIC Db**

Date of issue:
2020-09-03



Bjørn Spongsveen
For DNV GL Presafe AS
The Certificate has been digitally signed.
See www.dnvgl.com/digitalsignatures for info



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[13] **Schedule**

[14] **EU-Type Examination Certificate No:** Presafe 20 ATEX 56564U Issue 0

[15] **Description of Product**

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.

Type designation

RSBT1 and RSBT2

| RSBT1-S-R-T-Y-N-S-D-L-L1-K-X-G-CC-LL | | | | | | |
|--------------------------------------|-----------------------------|---------------------------------|--------------------------------|---------------------------|--------|-----------|
| | | | RSBT1 | Metal Probe type | | |
| Model | | | 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 |
| Sensor construction | | | Platinum | Nickel | PTC | TC |
| T | | S | Simplex | Simplex | Single | Simplex |
| | | D | Duplex | Duplex | Triple | Duplex |
| Accuracy | | | Platinum | Nickel | PTC | TC |
| Y | | A | Class A | | | Class 1 |
| | | B | Class B | | -- | Class 2 |
| No of leads | | | Platinum | Nickel | PTC | TC |
| N | | Simplex | 2/3/4 | 2/3/4 | 2 | 2 |
| | | Duplex | 4/6/8 | 4/6/8 | - | 4 |
| S | Sheath | SS | Stainless steel | | | |
| | | SSI | Stainless steel PTFE Insulated | | | |
| D | Sheath Dia | 4,5,6,8,10,11,12,15,18,20,22,25 | Simplex - 4 to 25 mm | | | |
| | | | Duplex 6 to 25mm | | | |
| L | Sheath Length | 20 to 1000 | | | | |
| L1 | Insertion Length (Optional) | 20 to 1000 | | | | |
| K | Locknut type | C | With compression | | | |
| | | F | Without compression | | | |
| | | B | Byonet Type | | | |
| X | | | 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 |

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| | | | | | |
|----|--------------|----------------------------|---------------------------------------------|----|-------|
| | | 6 | M16 X 1.5 | 12 | Other |
| G | Cable Size | For Thermocouple SWG 24 | | | |
| | | For Other AWG 20 to AWG 26 | | | |
| | Cable | C1 | PTFE single/Twisted leads | | |
| | Construction | C2 | PTFE flat leads with PTFE Jacketed | | |
| CC | | C3 | PTFE Twisted Leads with PTFE jacketed | | |
| | | C4 | PTFE twisted Leads with PTFE/Shielded/ PTFE | | |
| LL | Cable Length | 100 to 20000 | | | |

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

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 Vac for duration of 60 seconds. No electrical breakdown shall occur.

[16] **Report No.:** 2020-9341

Project No.: PRJC-579708-2018-PRC-IND

[17] **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.

[18] **Essential Health and Safety Requirements**

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] **Drawings and documents**

| Number | Title | Rev. | Date |
|-----------------|---------------------------------------------------------------------------|------|------------|
| RPC-GA-ATEX-005 | Technical Drawings of Metal Probe Type Sensor Simplex / Duplex (2 Sheets) | 00 | 30.10.2018 |

[20] **Certificate History**

| Issue | Description | Issue date | Report no. |
|-------|----------------|------------|------------|
| 0 | Original issue | 2020-09-03 | 2020-9341 |

END OF CERTIFICATE