


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 56560U** **Issue 0**
- [4] Product: **Slot Chip 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:
2020-09-24



Asle Kaastad
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 56560U

Issue 0

[15] **Description of Product**

Slot Chip Type Sensor Simplex/Duplex, Model: RSCT1. RSCT2, RSCT3 and RSCT4 are used to measure winding temperature of the motor/generator. The sensor are sandwich between the winding coils of motor/generator to continues measurement of the temperature.

The sensors are embedded in woven fibre glass and stick to top strip with the help of high temperature resin under pressure to ensure homogeneous slot. The overall insulation is either kapton, heat shrink PTFE or PTFE over Kapton. The connection terminals are connected to the lead of chip type sensors by mean of brazing/soldered/weld and both the leads are isolated with resin. Based on the element (chip) type sensors have four variant.

1. RSCT1: Platinum (Pt) chip. Available in either Simplex or Duplex type with 2,3 or 4 wire circuit.
2. RSCT2: Nickel (Ni) chip. Available in either Simplex or Duplex type with 2,3 or 4 wire circuit.
3. RSCT3: PTC chip. Available in either Simplex or Triple type with 2 wire circuit
4. RSCT4: Thermocouple. Available in either Simplex or Duplex type with 2 wire circuit.

Type designation

RSCT 1, RSCT 2, RSCT3 AND RSCT 4

RSCT1-X-T-Y-N-L-W-H-G-CC-LL						
Model			RSCT1 -	Platinum		
			RSCT2 -	Nickel		
			RSCT3 -	PTC		
			RSCT4 -	Thermocouple		
X	Element Type		Platinum	Nickel	PTC	TC
		1	Pt100	Ni120	80	J
		2	Pt1000		100	K
		3			110	T
		4			120	E
		5			130	N
		6			135	
		7			140	
		8			145	
		9			150	
		10			155	
		11			160	
		12			170	
13			180			
T	Sensor construction		Platinum	Nickel	PTC	TC
		S	Simplex	Simplex	Single	Simplex
	D	Duplex	Duplex		Duplex	
Y	Accuracy		Platinum	Nickel	PTC	TC
		A	Class A	--	--	Class 1
	B	Class B	--	--	Class 2	
N	No of leads		Platinum	Nickel	PTC	TC
		Simplex	2/3/4	2/3/4	2	2
	Duplex	4/6/8	4/6/8	--	4	
L	Slot Length		20 to 500	--	--	--
W	Slot Width	SIMPLEX : 6,8,10,11,12,15,18,20 DUPLICATE : 10,12,15,18,20 Note : For Wire Gauge AWG 22 and AWG 20 min width should be 8 & 12 for simplex &				

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		duplex resp.	
H	Slot Height	2 to 5	
G	Cable Size	For Thermocouple : SWG24 For other sensors : AWG 20 to AWG 26	
CC	Cable Construction	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	Cable Length	100 to 20000	

Electrical data:

For Type of protection Ex eb

RSCT1

RTD Pt-100 and Pt-1000

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

RSCT2

RTD Ni-120

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

RSCT3

Thermistor PTC

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

RSCT4

Thermocouple

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

For Type of protection Ex ia

RSCT1

RTD Pt-100 and Pt-1000

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

Ci: Only Cable capacitance, Li: Only Cable Inductance

RSCT2

RTD Ni-120

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

Ci: Only Cable capacitance, Li: Only Cable Inductance

RSCT3

Thermistor PTC

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

Ci: Only Cable capacitance, Li: Only Cable Inductance

RSCT4

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 +180°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.:** 2020-9337
Project No.: PRJC-579708-2018-PRC-IND

[17] **Schedule of Limitations**

- The mounting of the Slot Chip Type Sensor has to be assessed in the context of the certification of the equipment.
- The Slot Chip Type Sensor has to be installed protected against mechanical load, Sharp bending as well as mechanical stress.
- The flying lead of the Slot Chip Type Sensor shall be connected to appropriate Ex certified terminal box as a fixed installation.
- Slot Chip Type Sensor shall be impregnated or sealed with the winding by the motor/generator manufacturer.
- The dielectric strength test with the motor winding according to EN 60079-7 has to be carried out by the motor/generator manufacturer.
- The Slot chip type sensor shall be installed in appropriately certified Ex eb / Ex ec /Ex nA / Ex db certified Ex motor/generator enclosure.
- The Slot ship type sensor shall be connected through appropriately certified Ex ia barrier as per EN 60079-11

[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-003	Technical Drawings of Slot Chip Type Sensor Simplex / Duplex (2 Sheets)	00	30.10.2018

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Original issue	2020-09-24	2020-9337

END OF CERTIFICATE