



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: IECEX SIR 16.0033U Issue No: 0 Certificate history:
Issue No. 0 (2017-02-24)

Status: **Current** Page 1 of 3

Date of Issue: **2017-02-24**

Applicant: **Techno Controls**
54/1, Survey No. 229
Meldi Estate
Gota Railway Crossing
Gota
Ahemdabad-382481
India

Equipment: **TSR* series slot resistance thermometer and TBTD-*-series bearing
temperature detectors**

Optional accessory:

Type of Protection: **Intrinsically Safe**

Marking:
Ex ia IIC
Ta = -50°C to +180°C

Approved for issue on behalf of the IECEX
Certification Body:

N Jones

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 the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





IECEX Certificate of Conformity

Certificate No: IECEx SIR 16.0033U Issue No: 0
Date of Issue: 2017-02-24 Page 2 of 3
Manufacturer: **Techno Controls**
54/1, Survey No. 229
Meldi Estate
Gota Railway Crossing
Gota
Ahemdabad-382481
India

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0
IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*This Certificate **does not** indicate compliance with electrical 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:

[GB/SIR/ExTR16.0126/00](#)

Quality Assessment Report:

[NO/DNV/QAR14.0003/00](#)



IECEx Certificate of Conformity

Certificate No: IECEx SIR 16.0033U

Issue No: 0

Date of Issue: 2017-02-24

Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The TBTD-* series and TSR* series resistance temperature devices (RTDs) are typically used to measure the internal temperature of motors/generators. The TBTD-* series RTDs are bearing temperature detectors, whereas the TSR* series RTDs are slot resistance thermometers.

Both series are available with 2, 3 or 4-wire options and are connected by means of flying leads to an intrinsically safe supply and have the following entity parameters:

$U_i = 12\text{ V}$

$I_i = 35\text{ mA}$

$P_i = 105\text{ mW}$

C_i = cable capacitance only

L_i = cable inductance only

The type numbers are as follows:

- TBTD-* series bearing temperature detectors (where * = K, L or O)
- TSR* series stator winding temperature detectors (where * = B, C, D or K)

Schedule of Limitations

1. The RTDs have been assessed for an ambient range of -50°C to $+180^{\circ}\text{C}$. The maximum temperature rise does not exceed $13\text{ }^{\circ}\text{K}$ above ambient.
2. The RTDs may be used in flammable dust zones (20, 21 and 22) provided they are inside a suitably-certified enclosure.
3. TSR-* series only: where the insulated wiring has no overall sheath, the conductor insulation has a minimum thickness of only 0.09 mm (code Z) or 0.12 mm (codes Q, R, W, X, Y), so precautions shall be taken to prevent contact with other current-carrying conductors, for example by the use of additional insulation or routing away from other conductors.

CONDITIONS OF CERTIFICATION: NO