# 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 TSA 09.0044U issue No.:0

Certificate history:

Status: **Current**

Date of Issue: **2009-12-14** Page 1 of 3

Applicant: **Temperature Controls Pty Ltd**
7 Yamma St
Sefton NSW 2162
**Australia**

Electrical Apparatus: **Temperature Probe Types TCFIXEX (fixed nipple) and TCSPREX (spring loaded nipple)**
*Optional accessory:*

Type of Protection: **Ex de and Ex tD**

Marking:
**For fixed nipple:**
**Temperature Controls Pty Ltd**
**TCFIXEX**
**Ex de IIC T6 IP66 or Ex tD A21 T6 IP66**
**IECEx TSA 09.0044U**
**Serial No.___ or**
**For spring loaded nipple:**
**Temperature Controls Pty Ltd**
**TCSPREX**
**Ex de IIC T6 IP66 or Ex tD A21 T6 IP66**
**IECEx TSA 09.0044U**
**Serial No. ___**

*Approved for issue on behalf of the IECEx Certification Body:* Ujen Singh

*Position:* Quality & Certification Manager

*Signature:*
*(for printed version)*

*Date:* 14 DECEMBER 2009.

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.

Certificate issued by:

**TestSafe Australia**
**919 Londonderry Road**
**Londonderry NSW 2753**
**Australia**

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Date of Issue: **2009-12-14** Issue No.: **0**



Manufacturer: **Temperature Controls Pty Ltd**
7 Yamma St
Sefton NSW 2162
**Australia**

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 : 2004**<br>Edition: 4.0 | Electrical apparatus for explosive gas atmospheres - Part 0: General requirements |
| **IEC 60079-1 : 2003**<br>Edition: 5 | Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd' |
| **IEC 60079-7 : 2001**<br>Edition: 3 | Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e' |
| **IEC 61241-0 : 2004**<br>Edition: 1 | Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements |
| **IEC 61241-1 : 2004**<br>Edition: 1 | Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD" |

*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:

AU/TSA/ExTR06.0012/00
AU/TSA/ExTR06.0137/00
AU/TSA/ExTR08.0032/00
AU/TSA/ExTR09.0052/00

Quality Assessment Report:
AU/TSA/QAR06.0018/00
AU/TSA/QAR06.0018/01
AU/TSA/QAR06.0018/02

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**Schedule**

**EQUIPMENT:**
*Equipment and systems covered by this certificate are as follows:*

There are two different types of sensor probe designs and they are: fixed mount nipple (model TCFIXEX), and spring-loaded (model TCSPREX). The sensor probes are of welded construction and consist of either a thermocouple or resistance thermometer encased in a stainless steel tube with welded end cap, which is filled with hard packed magnesium oxide powder. The probes are fitted into the nipple (fixed type) or the spring loaded spigot (spring loaded type) by crimping. The spring loaded nipple forms a flameproof joint with the spigot and allows the spigot to slide through the nipple. Probe tube lengths of up to 15 m are available for each probe type. The probes are intended to be installed as a component certified item in conjunction with a terminal enclosure that is separately certified. The probe epoxy resin barrier seal and connecting leads were assessed for compliance with the requirements for Increased Safety, taking into account the power dissipation of the thermocouple and RTD. The thermocouple/RTD probe tube (i.e. the MIMS probe sheath) was assessed for compliance with the requirements of Flameproof (refer to TestSafe Report No. 26130). Therefore, the probe may be installed into an enclosure certified as Increased Safety or as Flameproof, in which case separate apparatus certification is required.
The probe may be installed in an atmosphere with an ambient temperature between –20 °C and +60 °C and be used for media with a maximum temperature of +1100 °C. When the probe is used for media with temperatures between +80 °C and +1100 °C, the probe must be used in conjunction with the Temperature Control lagging extension nipple.
Alternatively, the above Temperature Probes may be installed as a certified system in conjunction with the model TC20EXD1 (Flameproof) Terminal Head (refer to TestSafe Report No. 27370). When installed as a system, the model number for the assembly is TC20SPRTA (with model TCSPREX probe) or TC20FIXTA (with model TCFIXEX probe).

**CONDITIONS OF CERTIFICATION: NO**

Refer to Annexe for schedule of limitations of certification.

**Annexe:** Annexe_IECEx TSA 09.0044U-0.doc

# IECEx Certificate of Conformity Annexe

| Annexe for Certificate No.: | IECEx TSA 09.0044U | Issue No.: | 0 |
|---|---|---|---|

**Schedule of Limitations pertaining to Issue 0 of this Certificate:**

1. The probe may only be installed in an atmosphere with an ambient temperature between –20 °C and +60 °C and be used for media with a maximum temperature of +1100 °C.

2. It is a condition of safe use that when the probe is installed in a media with temperatures exceeding +80 °C, a lagging extension must be used to maintain temperature class of T6 on the Terminal Head (in an ambient temperature up to +60 °C).

**Drawing list pertaining to Issue 0 of this Certificate:**

| Document No. | Sheets | Document Title | Issue | Date (yyyy/mm/dd) |
|---|---|---|---|---|
| TCISEXEDTS | 1 | Ex de Ex tD A21 Certified Fixed Temperature Element Installation Instructions for Model TCFIXEX | E | 2009/11/26 |
| TCISEXEDSPTS | 1 | Ex de Ex tD A21 Certified Spring Loaded Temperature Element Installation Instructions for Model TCSPREX | D | 2009/11/25 |
| 5755 | 1 | PART : TCHNFEXD12 | 02 | 2006/08/11 |
| 5756 (Sheet 1) | 1 | PART: TCHNSPEXD12 SHEET 1 of 2 | 01 | 2006/08/11 |
| 5756 (Sheet 2) | 1 | PART: TCHNSPEXD12 SHEET 2 of 2 | 01 | 2006/08/11 |
| 5850 | 1 | Fixed Hex Nipple Element Model No TCFIXEX | 04 | 2006/11/09 |
| 5875 | 1 | Fixed Hex Nipple Assembly General Arrangement | 03 | 2006/11/09 |
| 5876 | 1 | Ex d Spring Loaded Temperature Assembly Model No TCSPREX | 04 | 2006/11/09 |
| 5877 | 1 | Spring Loaded Nipple Assembly General Arrangement | 03 | 2006/11/09 |
| 6616 | 1 | PART: TCHNEXDM20 | 01 | 2006/08/11 |
| 6617 | 1 | PART : TCHNSPEXDM20 | 01 | 2006/08/11 |
| 6682 | 1 | Lagging Extension For Temperature Rating | 04 | 2006/12/20 |
| 7636 | 1 | Ex de & Ex tD A21 Spring Loaded Nipple Tagging Arrangement | 0 | 2009/09/31 |
| 7637 | 1 | Ex ed & Ex tD A21 Fixed Nipple Tagging Arrangement | 0 | 2009/10/31 |

**Certificate issued by:**

TestSafe Australia
919 Londonderry Road
Londonderry NSW 2753 Australia