Australian/New Zealand
Certification Scheme for
EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT
ANZEx Scheme

Certificate of Conformity

Certificate No.: **ANZEx 12.3003X**	Issue No.: **0**	Date of Issue: **2012-03-26**

Applicant:
Trolex Limited
Newby Road, Hazel Grove
Stockport, Cheshire, SK7 5DY
UK

Electrical Apparatus:
TX592x series Vortex Flow Sensor/Transmitter

Type of Protection:
Intrinsic Safety 'ia'

Marking Code:
ANZEx 12.3003X
Ex ia I / Ex ia IIC T4
Ta = -20 ºC to +60 ºC

Manufacturer:
Trolex Limited
Newby Road, Hazel Grove
Stockport, Cheshire, SK7 5DY
UK

Manufacturing Location(s):
Trolex Limited
Newby Road, Hazel Grove
Stockport, Cheshire, SK7 5DY
UK

The EPEE certification database located at ***http://www.anzex.com.au*** *shows the validity of this Certificate.*

Certificate issued by:

TestSafe Australia
919 Londonderry Road, Londonderry NSW 2753
Australia
Phone: +61 2 4724 4900 Fax: +61 2 4724 4999
http://www.testsafe.com.au

www.jas-anz.com.au/register

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*This certificate is granted subject to the conditions as set out in Standards Australia/Standards New Zealand Miscellaneous Publication **MP87.1:2008**.*

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:

AS/NZS 60079-0:2005	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
AS/NZS 60079-11:2006	Explosive atmospheres - Part 11: Equipment protection by Intrinsic safety "i"
AS 60529:2004	Degree of protection provided by enclosures (IP code)

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standard(s) listed above.*

ASSESSMENT & TEST REPORTS:

The equipment listed has successfully met the assessment and test requirements as recorded in:

Test Report No. and Issuing Body:	33375 ; TestSafe
Quality Assessment Report No. and Issuing Body:	GB/SIR/QAR07.0017/02 ; Sira
File Reference:	2011/021891

Signed for and on behalf of issuing body

2012-03-26

Date of Issue

Quality & Certification Manager

Position

This certificate and schedule shall not be reproduced except in full

This certificate is not transferable and remains the property of the issuing body and must be returned in the event of it being revoked or not renewed.

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Schedule

EQUIPMENT:

The TX592x series Vortex Flow Sensor/Transmitter comprises three PCBs housed in a stainless steel filled polycarbonate or polycarbonate/ABS enclosure with anti-static properties. A polycarbonate window is fitted to allow viewing of a liquid crystal display. A stainless steel cylindrical sensor head (Vortex Head) projects from the enclosure or is mounted remotely by a flying lead.

There are three types of TX592x series Vortex Flow Sensor/Transmitter:

1. TX5921: rear-projecting sensor
2. TX5922: side-projecting sensor
3. TX5923: remote sensor

Each of these types may be manufactured in one of five versions:

A. Group I: 4 to 20mA version
B. Group I: 0.4 to 2V version
C. Group I: 5 to 15Hz version
D. Group II: 4 to 20mA version, non-HART
E. Group II: 4 to 20mA version, HART

CONDITIONS OF CERTIFICATION:

1. It is a condition of safe use that the following entity parameters for the terminals shall be taken into account during installation:

Version	**T3/T4 (supply)**	**T1/T2 (signal out) [See notes 1-4]**	
Group I: 4 – 20 mA version	Ui = 16.5 V; Ci = 4 nF; Li = 0	Ui = 16.5 V; Ci = 15 nF; Li = 0 Pi = 1.72 W (see Note 2)	Uo = 16.5 V; Io = 223 mA; Po = 0.921 W Co = 7 µF; Lo = 0.6 mH
Group I: 0.4 - 2 V version	Ui = 16.5 V; Ci = 4 nF; Li = 0	Ui = 16.5 V; Ci = 15 nF; Li = 0 Pi = 1.72 W (see Note 2)	Uo = 16.5 V; Io = 41 mA; Po = 0.17 W Co = 7 µF; Lo = 0.6 mH
Group I: 5-15 Hz version	Ui = 16.5 V; Ci = 4 nF; Li = 0	Ui = 16.5 V; Ci = 0; Li = 0 Pi = 1.72 W (see Note 2)	Uo = 0
	T1/T2/T3/T4		
Group II 4 – 20 mA versions:	Ui = 28 V; Ii = 120 mA Pi = 0.84 W; R_{min} = 233 Ω (see Note 5) Ci = 18.3 nF; Li = 0		

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Note 1: In some applications, T1 and T2 are inputs, in which case these output parameters are not relevant.

Note 2: For Group I versions, the connections to terminals T1/T2 and T3/T4 shall be from the same power supply. The user should note that the power to terminals T1/T2 must be limited to 1.72W via a supply with a minimum source resistance of 40Ω. There is no specific power limitation to terminals T3/T4, so terminals T1/T2 and T3/T4 should be regarded as separate intrinsically safe circuits.

Note 3: Terminals T5, T6 and T8 are connections to the sensor head which may be integral with the main part of the apparatus (TX5921 and TX5922) or connected by a cable, not exceeding 10 m in length (TX5923) with cable inductance and capacitance of not more than 15uH and 15nF. T7 is not connected.

Note 4: The installer should refer to the parameters of the equipment connected to terminals T1/T2 and compare these to the parameters listed in the table.

Note 5: The user should note that the current and power to these terminals must be limited via a supply with a minimum source resistance of 233Ω.

2. The apparatus shall only be cleaned with a damp cloth.

DOCUMENTS:

Document Number	Sheets	Document Title	Rev.	Date (yyyy-mm-dd)
P5431.42	1	Certified Block Diagram	A	1998-01-16
P5431.01	1	Output PCB Certified Circuit Diagram	E	2012-02-10
P5430.01	1	Control PCB Certified Circuit Diagram	A	1997-11-03
P5431.37	1	Head PCB Certified Circuit Diagram	D	2002-01-28
P5430.04	1	Output PCB (PCB artwork)	A	1998-01-22
P5431.03	1	Head P.C.B. Artwork	D	2002-01-28
P5431.02	1	General Assembly	G	2012-03-05
P5431.90	1	Certification Labels	C	2012-03-09