



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 06ATEX2034X** Issue: **1**

4 Equipment: **Flow Instrument BT10/BT11 Totalisers**

5 Applicant: **Trimec Industries Pty Ltd**

6 Address: **1/16 Atkinson Road  
Taren Point  
NSW 2229  
Australia**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 50014:1997 + Amds 1 & 2 EN 50020:2002

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2G

EEx ia IIB T4 (-20°C ≤ T<sub>a</sub> ≤ +60°C)

Project Number 22339  
C. Index 13

C Ellaby  
Certification Officer

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

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#### 13 DESCRIPTION OF EQUIPMENT

The Flow Instrument BT10/BT11 Totalisers are designed to compute, display and transmit totalised flow information. Flow measurement transducers with pulse or frequency outputs are connected to the flow instrument to provide the necessary data. It can be directly mounted on a variety of flow measurement transducers or as a stand-alone instrument. The BT10 is identical to the BT11 but does not have a scaled pulse output.

The instrument can be self-powered or may be powered by a single external intrinsically safe dc supply. Different types of certified flow measurement transducers can be connected to terminals (1 to 6) as appropriate, however, only a single flow measurement transducer and a single supply loop shall be connected at one time.

The enclosure, which contains two electronic circuit boards, is made of plastic and polycarbonate material, and measures 85 mm diameter and 50 mm height. A number of terminals are accessible during installation by removing the screws retaining the electronics including the front display panel to the enclosure. Cable entry is provided by drilling and fitting a cable gland at the required position on the enclosure. The equipment contains a single lithium battery that has been provided with diode protection against reverse charging.

#### Connections 1 to 6

U<sub>i</sub> = 28 V  
I<sub>i</sub> = 100 mA  
P<sub>i</sub> = 0.7 W  
C<sub>i</sub> = 0  
L<sub>i</sub> = 0

Depending on the flow meter type, one of the following arrangements are used:

- i. Reed Switch flow measuring transducer: Connected at terminals 1, 3
- ii. Pulse wire flow measuring transducer: Connected at terminals 1, 2, 3
- iii. Coil type sensor (turbine and paddle style): Connected at terminals 1, 2, 3
- iv. Hall effect sensor: Connected at terminals 1, 3, 4
- v. Namur inductive proximity switch sensor: Connected at terminals 1, 3, 4
- vi. Current modulated pulse sensor: Connected at terminals 1, 4 (with 100 Ω between 1, 3)

The power and output signal are connected at terminals 4, 5, 6.

**Variation 1** - This variation introduced the following change:

- i. The recognition of a change in the applicant's address from Northumberland Road Caringbah to Atkinson Road Taren Point.



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#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	12 April 2006	R52A13397B	The release of the prime certificate.
1	8 September 2010	R22339A/00	This Issue covers the following changes: <ul style="list-style-type: none"><li>All previously issued certification was rationalised into a single certificate, Issue 1, Issue 0 referenced above is only intended to reflect the history of the previous certification and has not been issued as a document in this format.</li><li>The introduction of Variation 1.</li></ul>

#### 15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 The Flow Instrument BT10/BT11 Totalisers can be attached to different types of flow measurement transducers; should any of these be supplied from an external source, this shall be a single supply loop and shall be connected to terminals 1 to 6 as appropriate.

##### Connections 1 to 6

U<sub>i</sub> = 28 V  
I<sub>i</sub> = 100 mA  
P<sub>i</sub> = 0.7 W  
C<sub>i</sub> = 0  
L<sub>i</sub> = 0

- 15.2 The enclosure of the equipment is made of plastic. By virtue of its shape, design and position of use, it is assessed that the equipment is not considered to be an electrostatic risk; however, the equipment must not be installed in a position where it may be subjected to an excessive air/fluid flow or be subjected to rubbing that may cause an electrostatic build-up. In addition the instrument shall only be cleaned with a damp cloth.

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

#### 17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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# Certificate Annexe

Certificate Number: Sira 06ATEX2034X  
Equipment: Flow Instrument BT10/BT11 Totalisers  
Applicant: Trimec Industries Pty Ltd



## Issue 0

Drawing No.	Sheet	Rev.	Date (Sira stamp)	Description
1412028-EX	1 to 3	03	14 Mar 06	EX ia Battery Assembly
BATT 01	1 of 1	2	14 Mar 06	Battery Diode Board
TI04PS09a	1 of 1	-	14 Mar 06	Low Cost Flowmeter Power Board BT11
TI04PS09.PCB	1 to 4	09	14 Mar 06	BT11 Flowmeter Power Board
BOM271 V17	1 of 1	17	14 Mar 06	Cover Page Revision Control Status
BOM271 V17	1 & 2	17	14 Mar 06	BT11 – Totaliser Control Board
BOM271 V17	1 to 3	17	14 Mar 06	BT11 – Totaliser Power Board
BOM271 V17	1 of 1	17	14 Mar 06	BT11 – Locally Fitted Parts
TI04MC04a	1 of 1	-	14 Mar 06	Low Cost Flowmeter Main Board BT11
TI04MC04.PCB	1 to 4	04	14 Mar 06	Low Cost Flowmeter Main Board BT11
0007010001	1 of 1	03	14 Mar 06	BT Ex ia BOM Assembly
1315050-EX	1 of 1	0	14 Mar 06	Trimec BT Ex-ia Label
1315001-EX	1 of 1	02	28 Mar 06	Customer Label
1302033	1 of 1	04	14 Mar 06	BT Base
1306015	1 of 1	01	14 Mar 06	BT Cover
1306016	1 of 1	03	14 Mar 06	BT Faceplate
1315012	1 of 1	01	14 Mar 06	BT Round Facia Label – Trimec
0007010002	1 of 1	02	14 Mar 06	BT IP Rating Assembly

## Issue 1

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Description
1315050-EX	1 of 1	01	08 Sep 10	TRIMEC BT Ex- ia Label

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