

# 1 EC-TYPE EXAMINATION CERTIFICATE



## 2 Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 94/9/EC

3 EC-Type Examination Certificate No: **FM07ATEX0017X – Issue 2**

4 Equipment or protective system:  
(Type Reference and Name) **Type B and H Load Cells**

5 Name of Applicant: **Zhonghang Electronic Measuring Instruments Co., Ltd.**

6 Address of Applicant: **Puzhen Hanzhong  
Shaanxi China 723007**

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

8 FM Approvals Ltd, notified body number 1725 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 confidential report number 3028470EC dated 14<sup>th</sup> November, 2008.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents: EN60079-0:2006, EN60079-11:2007, EN60079-26:2007, EN61241-0:2004, EN61241-11:2005 and EN60529:1991 + A1:2000

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, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 1 G Ex ia IIC T4 Ta = -20°C to +40°C; IP6\*

II 1 D Ex iaD 20 T73°C; IP6\*

\*see description

**Ron Webb**  
Deputy Certification Manager, FM Approvals Ltd.

Issue 1 dated: 14<sup>th</sup> November, 2008

Issue 2 dated 11<sup>th</sup> December 2008



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T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: [atex@fmapprovals.com](mailto:atex@fmapprovals.com) [www.fmglobal.com](http://www.fmglobal.com)



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## 13 Description of Equipment or Protective System:

**2H3, B3G, H3G, BM3, H3, H3C, H3A, H3E, H3F, H3J, B8D, B8K, BM8D, BM8F, BM8H, H8, H8B, H8C, H8E, H8K, HM8, HM8C, B6E, B6F, B6G, B6N, B6Q, BM6A, BM6G, H6B, H6E, H6E3, H6F, H6G, H6G5, B9C, B9D, B9E, B9F, B9H, B9J, B9K, H9B, H9C, H9D, H9N, HM9B, HM9C, HM9E, BM11, HM11, BM14A, BM14C, BM14D, BM14G, BM14K, HM14C. Load Cells.**  
*Note: The above models each include the followings options: abcdefghijkl*

Energy Limitation Parameters:

U<sub>i</sub> = 20V, I<sub>i</sub> = 600mA, P<sub>i</sub> = 6W, C<sub>i</sub> = 12nF, L<sub>i</sub> = 40μF

- a = Material. H (alloy steel) or B (stainless steel)
- b = Sealing. Blank (potted) or M (hermetic welded)
- c = Type and structure. 2 (spoke type), 3 (S-beam), 6 (single point), 8 (single shear beam), 9 (dual shear beam), 11 (single point with bellow), 14 (column type) or 16 (dual parallel beam)
- d = Blank. Reserved for future options
- e = Working condition. D (digital load cell) or T (high temperature)
- f = Accuracy. A5S (NTEP III Single 5000 Division), A5M (NTEP III Multiple 5000 Division) B10S (NTEP III L Single 10000 Division), B10M (NTEP III L Multiple 10000 Division), C1 (OIML 1000 Division), C2 (OIML 2000 Division), C3 (OIML 3000 Division), C3D (0.02%), G1 (0.1%), G2 (0.2%) or G3 (0.3 %)
- g = Capacity. lb (pounds), K (klb), kg (kilograms), T (metric tons), N (Newtons), KN (KiloNewtons) or MN (MegaNewtons).
- h = Cable length in feet (maximum of 200)
- i = Thread. Blank (metric) or Y (imperial)
- j = Configuration. B (standard cable and cable fitting), T (spring cable fitting), F (rat proof cable), G (shield connected to the element) or J (connector)
- k = Cable conductor. Blank (four-conductor) or 6 (six-conductor)
- l = Options. SC (current output), R (resistance variation), S (sensitivity variation), W (outline variation) or A (current output & sensitivity variation)

\*IP65 for Models B6E, B6F, H6E, H6F, B6G, H6G.

\*IP66 for Model H8E.

\*IP67 for Models 2H3, H3C, H3E, H3F, H3J, B3G, H3G, H3, H3A, H8, H8B, H8C, B8D, B8K, BM8D, BM8F, H6G5, H6B, H6E3, B6N, B6Q, B9C, B9D, H9C, H9D, B9F, B9E, B9H, B9J, B9K, H9N, H9B.

\*IP68 for Models BM3, HM8, HM8C, BM8H, BM6G, BM6A, BM11, HM11, BM14A, BM14G, BM14K, BM14D, BM14C, HM14C, HM9C, HM9B, HM9E.

## 14 Special Conditions for Safe Use:

- 1) Upon installation of the loadcells, the label shall be permanently marked to show the type explosion protection used for the installation.

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**15 Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

**16 Test and Assessment Procedure and Conditions:**

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

**17 Approved Drawings**

Drawing No:	Revision	Title / Description
2H3-ZT	1	ASSEMBLY 2H3
521302*	1	INSTALLATION DRAWING
5215257	1	INSTRUCTION MANUAL
B3G-ZT	2	ASSEMBLY B3G
B6E-ZT	1	ASSEMBLY B6E
B6F-ZT	1	ASSEMBLY B6F
B6G-ZT	1	ASSEMBLY B6G
B6N-ZT	1	ASSEMBLY B6N
B6Q-ZT	1	ASSEMBLY B6Q
B8D-ZT	1	ASSEMBLY B8D
B8K-ZT	1	ASSEMBLY B8K
B9C-ZT	1	ASSEMBLY B9C
B9D-ZT	2	ASSEMBLY B9D
B9E-ZT	1	ASSEMBLY B9E
B9F-ZT	1	ASSEMBLY B9F
B9H-ZT	1	ASSEMBLY B9H
B9J-ZT	1	ASSEMBLY B9J
B9K-ZT	1	ASSEMBLY B9K
BM11-ZT	1	ASSEMBLY BM11
BM11-ZT-003	1	PC BOARD BM11, HM11
BM14A-ZT	3	ASSEMBLY BM14A
BM14C-ZT	1	ASSEMBLY BM14C
BM14C-ZT-004	2	PC BOARD BM14C, HM14C
BM14D-ZT	1	ASSEMBLY BM14D
BM14G-ZT	1	ASSEMBLY BMN14G

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Drawing No:	Revision	Title / Description
BM14K-ZT	1	ASSEMBLY BM14K
BM14K-ZT-004	2	PC BOARD BM14K
BM3-ZT	1	ASSEMBLY BM3
BM3-ZT-002	1	PC BOARD BM3
BM6A-ZT	2	ASSEMBLY BM6A
BM6A-ZT-002	2	PC BOARD BM6A
BM6G-ZT	1	ASSEMBLY BM6G
BM6R-ZT	1	ASSEMBLY BM6R
BM8D-ZT	1	ASSEMBLY BM8D
BM8D-ZT-004	1	PC BOARD BM8D
BM8F-ZT	1	ASSEMBLY BM8F
BP*	1	NAMEPLATE
DL1	1	ELECTRICAL CIRCUIT DIAGRAM
DL2	1	ELECTRICAL CIRCUIT DIAGRAM
DL3	1	ELECTRICAL CIRCUIT DIAGRAM
H3A-ZT	3	ASSEMBLY H3A
H3C-ZT	1	ASSEMBLY H3C
H3E-ZT	1	ASSEMBLY H3E
H3F-ZT	1	ASSEMBLY H3F
H3G-ZT	1	ASSEMBLY H3G
H3J-ZT	1	ASSEMBLY H3J
H3-ZT	1	ASSEMBLY H3G
H3-ZT-003	1	FLEX CIRCUIT H3
H6B-ZT	1	ASSEMBLY H6B
H6B-ZT-002	1	PC BOARD H6B
H6E3-ZT	1	ASSEMBLY H6E3
H6E-ZT	1	ASSEMBLY H6E
H6F-ZT	1	ASSEMBLY H6F
H6G5-ZT	1	ASSEMBLY H6G5
H6G-ZT	1	ASSEMBLY H6G
H8B-ZT	1	ASSEMBLY H8B
H8C-ZT	4	ASSEMBLY H8B
H8E-ZT	1	ASSEMBLY H8E
H8K-ZT	1	ASSEMBLY H8K
H8-ZT	1	ASSEMBLY H8
H8-ZT-005	1	PC BOARD H8, HM8
H9B-ZT	1	ASSEMBLY H9B
H9B-ZT-009	1	PC BOARD H89B, HM9B
H9B-ZT-010	1	PC BOARD
H9C-ZT	1	ASSEMBLY H9C
H9D-ZT	2	ASSEMBLY H9D

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to EC-Type Examination Certificate No. FM07ATEX0017X – Issue 2

Drawing No:	Revision	Title / Description
H9N-ZT	1	ASSEMBLY H9N
HM11-ZT	1	ASSEMBLY HM11
HM14C-ZT	1	ASSEMBLY HM14C
HM8C-ZT	1	ASSEMBLY HM8C
HM8-ZT	2	ASSEMBLY HM8
HM9B-ZT	1	ASSEMBLY HM9B
HM9C-ZT	1	ASSEMBLY HM9C
HM9E-ZT	1	ASSEMBLY HM9E

Issue 1 – original issue

Issue 2 – amendment to Section 12 - Marking

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Supplement 1 to  
EC-Type Examination Certificate No. FM07ATEX0017X  
in accordance with Clause 6 of Annex III to Directive 94/9/EC.

Equipment or protective system:  
(Type Reference and Name) **Type B and H Load Cells**  
Name of Applicant: **Zhonghang Electronic Measuring Instruments Co., Ltd.**  
Address of Applicant: **Puzhen Hanzhong  
Shaanxi China 723007**

The examination and test results are recorded in confidential report number 3028470EC supplement 1 dated 17<sup>th</sup> July 2009.

Description of the supplements and modifications:

9. Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:  
EN60079-0:2006, EN60079-11:2007, EN60079-26:2007, EN61241-0:2006, EN61241-11:2006 and EN60529:1991 + A1:2000

13. **Description**

**2H3, B3G, H3G, BM3, H3, H3C, H3A, H3E, H3F, H3J, B8D, B8K, BM8D, BM8F, BM8H, H8, H8B, H8C, H8E, H8K, HM8, HM8C, B6E, B6F, B6G, B6N, B6Q, BM6A, BM6G, H6B, H6E, H6E3, H6F, H6G, H6G5, B9C, B9D, B9E, B9F, B9H, B9J, B9K, H9B, H9C, H9D, H9N, HM9B, HM9C, HM9E, BM11, HM11, BM14A, BM14C, BM14D, BM14G, BM14K, HM14C. Load Cells.**

*Note: The above models include the followings options: abcdefghijkl*

II 1 G Ex ia IIC T4 Ta = -20°C to +40°C – 521302; IP6\*

II 1 D Ex iaD T73°C – 521302; IP6\*

Energy Limitation Parameters:

U<sub>i</sub> = 20V, I<sub>i</sub> = 600mA, P<sub>i</sub> = 6W C<sub>i</sub> = 12nF L<sub>i</sub> = 40μH

a = Material. H (alloy steel) or B (stainless steel)

b = Sealing. Blank (potted) or M (hermetic welded)

c = Type and structure. 2 (spoke type), 3 (S-beam), 6 (single point), 8 (single shear beam), 9 (dual shear beam), 11 (single point with bellow), 14 (column type) or 16 (dual parallel beam)



**Andrew Was**  
Certification Manager, FM Approvals Ltd.

Issue date: **21<sup>st</sup> July 2009.**

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Supplement 1 to  
EC-Type Examination Certificate No. FM07ATEX0017X  
in accordance with Clause 6 of Annex III to Directive 94/9/EC



- d = Blank. Reserved for future options
- e = Working condition. D (digital load cell) or T (high temperature)
- f = Accuracy. A5S (NTEP III Single 5000 Division), A5M (NTEP III Multiple 5000 Division) B10S (NTEP III L Single 10000 Division), B10M (NTEP III L Multiple 10000 Division), C1 (OIML 1000 Division), C2 (OIML 2000 Division), C3 (OIML 3000 Division), C3D (0.02%), G1 (0.1%), G2 (0.2%) or G3 (0.3 %)
- g = Capacity. lb (pounds), K (klb), kg (kilograms), T (metric tons), N (Newtons), KN (KiloNewtons) or MN (MegaNewtons).
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- l = Options. SC (current output), R (resistance variation), S (sensitivity variation), W (outline variation) or A (current output & sensitivity variation)

\*IP65 for Models B6E, B6F, H6E, H6F, B6G, H6G.

\*IP66 for Model H8E.

\*IP67 for Models 2H3, H3C, H3E, H3F, H3J, B3G, H3G, H3, H3A, H8, H8B, H8C, B8D, B8K, BM8D, BM8F, H6G5, H6B, H6E3, B6N, B6Q, B9C, B9D, H9C, H9D, B9F, B9E, B9H, B9J, B9K, H9N, H9B.

\*IP68 for Models BM3, HM8, HM8C, BM8H, BM6G, BM6A, BM11, HM11, BM14A, BM14G, BM14K, BM14D, BM14C, HM14C, HM9C, HM9B, HM9E.

17 **Approved Drawings**

Drawing No:	Rev	Title / Description
BM8H-ZT	1	Assembly BM8H
B6N-ZT	1	Assembly B6N

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