



# 1 TYPE EXAMINATION CERTIFICATE

2 Equipment or Protective systems intended for use in Potentially  
Explosive Atmospheres - Directive 2014/34/EU

3 Type Examination Certificate No: FM07ATEX0009X

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

5 Name of Applicant: Zhonghang Electronic Measuring Instrument Co Ltd  
(ZEMIC)

6 Address of Applicant: Xinyuan Road, Xinyuan Economy Development Zone,  
Hanzhong, 723000, Shaanxi,  
China

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 Europe Ltd. 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:

EN IEC 60079-0:2018, EN 60079-11:2012 and EN 60529:1991+A1:2000+A2:2013

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

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. 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 3 G Ex ic IIC T4 Gc; Tamb = -20°C to +40°C

**Martin Crowe**  
Certification Manager, FM Approvals Europe Ltd.

Issue date: 03<sup>rd</sup> August 2021

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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### 13 Description of Equipment or Protective System:

**General** - The resistive strain gauge load cells produce an output signal proportional to the weight or force applied.

**Construction** – The resistive strain gauge is enclosed in an encapsulated or hermetically sealed metallic housing. The load cell housings are of various shapes and sizes and are constructed of either alloy steel 40CrNiMoA or 05Cr17Ni4Cu4Nb (17-4PH) stainless steel. The load cells may have up to 60 meters (200 feet) of cable attached. The cable is connected by various cable connections or connectors. The load cells must be connected to the appropriate certified associated equipment as outlined in the instructions.

**Ratings** – The load cells have the following Intrinsically Safe energy limitation parameters or Nonincendive Field Wiring parameters when powered by a single certified associated apparatus.

$U_i \leq 16V$ ,  $I_i \leq 420mA$ ,  $P_i \leq 4.2W$ .

When the load cells are supplied power by multiple paralleled certified associated apparatus, the following parameters of the associated apparatus shall not be exceeded when added or summed together.

$U_o = 20V$ ,  $I_o = 309mA$ ,  $P_o = 1.545W$

The load cells are rated for use in an ambient temperature range of  $-20^{\circ}C$  to  $+40^{\circ}C$ .

The load cell housings are rated for various enclosure degrees of protection IP65 to IP68 as follows:

IP65; Models B6E, B6F, B6G, H6E, H6F, H6G.

IP66; Model H8E.

IP67; Models 2H3, B3G, B6N, B6Q, B8D, B8K, B9C, B9D, B9E, B9F, B9H, B9J, B9K, H3, H3A, H3C, H3E, H3F, H3G, H3J, H6B, H6E3, H6G5, H8, H8B, H8C, H8K, H9C, H9D, H9N, H9B, BM8D, BM8F.

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

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

#### **Load Cells.**

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

Energy Limitation Parameters:

$U_i \leq 16V$ ,  $I_i \leq 420mA$ ,  $P_i \leq 4.2W$ ,  $C_i = 12nF$ ,  $L_i = 40\mu H$

\* $U_i \leq 20V$ ,  $I_i \leq 309mA$ ,  $P_i \leq 1.545W$ ,  $C_i = 12nF$ ,  $L_i = 40\mu H$

\* When powered by the addition of multiple parallel associated apparatus

a = Material: H or B.

b = Sealing: Blank or M.

c = Type and structure: 2, 3, 6, 8, 9, 11, 14, or 16.

d = Blank. Reserved for future options.

e = Working condition: D or T.

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f = Accuracy. A5S, A5M, B10S, B10M, C1, C2, C3, C3D, G1, G2, or G3.  
g = Capacity. lb, K, kg, T, N, KN or MN.  
h = Cable length in feet (maximum of 200)  
i = Thread. Blank or Y.  
j = Configuration. B, T, F, G, or J.  
k = Cable conductor: Blank or 6.  
l = Options: SC, R, S, W, or A.

### 14 **Specific Conditions of Use:**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The load cells do not have an earth ground terminal or conductor. The load cells shall be earth grounded as part of the final installation.
3. The non-metallic surfaces on the Load Cells enclosure may cause risk from electrostatic discharge. Avoid installation that could cause electrostatic build-up, and only clean with a damp cloth.

### 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 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 Europe 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 Europe Ltd's ATEX Certification Scheme.

### 17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Europe Ltd.

### 18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
14 <sup>th</sup> November 2008	Original Issue
21 <sup>st</sup> July 2009	<u>Supplement 1:</u> Documentation update.

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Member of the FM Global Group

to Type Examination Certificate No. FM07ATEX0009X

01 <sup>st</sup> June 2021	<u>Supplement 2:</u> Report Reference: – PR459155 dated 01 <sup>st</sup> June 2021. Description of the Change: Re-examination of the load cells for compliance to the latest editions of the standards. Addition of EN 60079-11 and revised marking and Specific Conditions of Use. Energy limitation parameters revised. Customer address change, label and instruction manual and documentation update. Certificate format updated and reissued by FM Approvals Europe Ltd (NB 2809) following file transfer from FM Approvals Ltd (UK).
03 <sup>rd</sup> August 2021	<u>Supplement 3:</u> Report Reference: – RR228610 dated 3 <sup>rd</sup> August 2021. Description of the Change: Addition of UK certificate numbers and markings to label and manual.

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