

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 16ATEX0066 X** Issue Number: **0**

(4) Product: **Load Cell Model BMR24R capacity 60kg, 130kg, 250kg, 280kg, 500kg, 1t, 2t, 3.5t, 5t, 10t, 13t, 28t, 60t**

(5) Manufacturer: **Zhonghang Electronic Measuring Instruments Co., Ltd.**

(6) Address: **Xinyuan Rd, North Part of EDZ, Hanzhong, 723000, Shaanxi, China**

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

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR13.0066/00.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2012 + A11
EN 60079-31 : 2014

EN 60079-11 : 2012

EN 60079-15 : 2010

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



II 1 G	Ex ia IIC T4 Ga
II 1 D	Ex ia IIIC T73 °C Da
II 3 G	Ex ic IIC T4 Gc
II 3 G	Ex nA IIC T4 Gc
II 3 D	Ex tc IIIC T63 °C Dc

Date of certification: 24 October 2016

DEKRA Certification B.V.

L.G. van Schie
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 16ATEX0066 X**

Issue No. **0**

(15) **Description**

The load cells Model BM24R capacity 60kg, 130kg, 250kg, 280kg, 500kg, 1t, 2t, 3.5t, 5t, 10t, 13t, 28t, 60t, convert a mass force into an electrical signal.

The load cells are provided with a permanently connected cable of maximum 30 m length. The circuits of each load cell are considered as one intrinsically safe circuit.

Ambient temperature range -30 °C to +60 °C.

Following table gives relation between specified enclosure temperature for applications in explosive atmospheres caused by air/dust mixtures, ambient temperature and power dissipation, with a dust layer of maximum 5 mm thickness.

Type of protection	Ex ia IIC	Ex ia IIC	Ex ia IIC	Ex tc IIC
Maximum input power	$P_i = 1,3 \text{ W}$	$P_i = 1,25 \text{ W}$	$P_i = 1,2 \text{ W}$	$P_{\text{rated}} = 0,25 \text{ W}$
Maximum ambient temperature	+40 °C	+50 °C	+60 °C	+60 °C
Maximum enclosure external surface temperature	T54 °C	T64 °C	T73 °C	T63 °C

Electrical data

Apparatus in type of protection intrinsic safety "i"

Signal and supply:

in type of protection intrinsic safety Ex ia IIC, ia IIC or ic IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values (combining the parameters of all circuits):

$U_i = 19,1 \text{ V}$; $I_i = 200 \text{ mA}$; $C_i = 1,71 \text{ nF}$ (30 m cable length); $L_i = 41,7 \text{ }\mu\text{H}$ (30 m cable length).

$C_i = 0,0001 \text{ nF} + 0,057 \text{ nF/m}$ (load cell cable)

$L_i = 2,7 \text{ }\mu\text{H} + 1,3 \text{ }\mu\text{H/m}$ (load cell cable)

Relation between maximum intrinsically safe input power and maximum ambient temperature is given in the following table:

Maximum intrinsically safe input power	$P_i = 1,3 \text{ W}$	$P_i = 1,25 \text{ W}$	$P_i = 1,2 \text{ W}$
Maximum ambient temperature	+40 °C	+50 °C	+60 °C

Apparatus in type of protection nA or tc

Signal and supply:

$U_n = 15 \text{ V}$.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 16ATEX0066 X**

Issue No. **0**

(16) **Report Number**

No. NL/DEK/ExTR13.0066/00.

(17) **Specific conditions of use**

The load cell and cable gland had been tested for the low risk of mechanical danger (drop height 0,4 m with 1 kg mass). The load cell shall therefore be protected against higher impact energy levels, except for model BM24R-60kg, -130kg and -280kg which are protected with BM-24-400 guard plate.

Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 40% for the type of protection Ex nA IIC.

For ambient temperature see (15).

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR13.0066/00.

(20) **Certificate history**

Issue 0 - project no. 218727400 initial certificate