



[1] **EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres - Directive 2014/34/EU Annex III - MODULE B: EU-TYPE EXAMINATION**

[3] EU-type Examination Certificate number: **IMQ 19 ATEX 035 X**

[4] PRODUCT: **Beam load cell**
TYPE/SERIES: **TS*/TS*-HH**

[5] MANUFACTURER: **GICAM S.r.l.**

[6] ADDRESS: **Piazza XI Febbraio, 2 – 22015 Gravedona ed Uniti (CO)**

[7] This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documents therein referred to.

[8] IMQ, notified body N° 0051, 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 equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in Report No.:

AT18-0022496-01/1


[9] Compliance with Essential Health and Safety Requirements, except in respect of those listed at item 18 of the annex, has been assured by compliance with:

EN 60079-0:2012; EN 60079-0:2012/A11:2013 ; EN 60079-11:2012

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe 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 equipment or protective system shall include the following:

	II 1G	Ex ia IIC T6...T3 Ga	-	II 1D	Ex ia IIIC T75°C...T145°C Da
	II 2G	Ex ib IIC T6...T3 Gb	-	II 2D	Ex ib IIIC T75°C...T145°C Db

This document is composed of 4 pages including 1 annex

FIRST ISSUE: 2019 | 07 | 03

CURRENT ISSUE: 2019 | 07 | 03

PREVIOUS ISSUE: -

B.U. PRODUCT CONFORMITY ASSESSMENT
CERTIFICATION SECTOR – MANAGER

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[13] **Annex**

[14] EU-type Examination Certificate number: **IMQ 19 ATEX 035 X**

[15] **Description of product:**

TS*/TS*-HH beam load cells are equipment designed to perform weight or force measurements in industrial environments and classified areas, by converting a mechanical force into an electrical signal using strain gauge sensors that measure the mechanical deformation of a metal structure to which they are applied.

The active parts (strain gauge sensors and compensation resistances/wires) are completely encapsulated by means of casting compound.

TS*/TS*-HH beam load cells are composed by:

- stainless steel or aluminium alloy metal body, with active parts segregated by casting compound,
- indissociable multi-cable no longer than 50 m, retained by a cable gland.

[15.1] **Models/Series Identification:**

TS*/TS*-HH beam load cells model coding system:

TS	*	-HH
Construction variants, not relevant for type of protection		
Models for Tamb > 100 °C		

TS*/TS*-HH beam load cells models: TS1, TS2, TS3, TS4, TS5, TS5/F, TS6, TS8, TS14, TS15, TS16, TS16E, TS1-HH, TS2-HH, TS3-HH, TS4-HH, TS5-HH, TS5/F-HH, TS6-HH, TS8-HH, TS14-HH, TS15-HH, TS16-HH.

[15.2] **Ratings: -**

[15.3] **Safety Ratings:**

Intrinsic Safety parameters:

	OPTION 1		OPTION 2
U _i	30 V	U _i	30 V
I _i	125 mA	I _i	84 mA
P _i	1,875 W	P _i	0,834 W
C _i	≤ 10 nF	C _i	≤ 10 nF
L _i	≤ 50 μH	L _i	≤ 50 μH
R _i	120 Ω	R _i	120 Ω

[13] **Annex**

[14] EU-type Examination Certificate number: **IMQ 19 ATEX 035 X**

[15.4] **Ambient temperature and temperature classes:**

TS*/TS*-HH beam load cells temperature classes and assigned temperatures:

Intrinsic Safety parameters: $U_i = 30 \text{ V}$; $I_i = 125 \text{ mA}$; $P_i = 1,875 \text{ W}$; $R_i = 120 \text{ Ohm}$				
Rated ambient temperature range (°C)	-20 °C/-30 °C ÷ +55 °C	-20 °C/-30 °C ÷ +75 °C	-20 °C/-30 °C ÷ +110 °C	-20 °C/-30 °C ÷ +120 °C
T Class (Group II)	T6	T5	T4	T3
T assigned (Group III)	T85°C	T100°C	T135°C	T145°C

Intrinsic Safety parameters: $U_i = 30 \text{ V}$; $I_i = 84 \text{ mA}$; $P_i = 0,834 \text{ W}$; $R_i = 120 \text{ Ohm}$					
Rated ambient temperature range (°C)	-20 °C/-30 °C ÷ +55 °C	-20 °C/-30 °C ÷ +60 °C	-20 °C/-30 °C ÷ +75 °C	-20 °C/-30 °C ÷ +110 °C	-20 °C/-30 °C ÷ +120 °C
T Class (Group II)	T6	T6	T5	T4	T4
T assigned (Group III)	T75°C	T80°C	T95°C	T130°C	T140°C

[15.5] **Degree of protection (IP code):** IP68 (according to EN 60529 only)

[15.6] **Warnings:** -

[16] **Report:** AT18-0022496-01/1

[16.1] **Routine (factory) tests:**

The manufacturer must carry out the routine test and verifications prescribed at clause 28.1 of the IEC 60079-0.

The manufacturer must carry out a dielectric routine test at 500 V maintained for at least 60 seconds, on complete device, with a maximum leakage current of 5 mA.

[16.2] **Conformity with the documentation:**

The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.

Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

- the equipment has been constructed in accordance with the applicable requirements of the relevant standards in safety matters;
- the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**

Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0.

Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals requires special considerations and additional measures by the side of installer or user.

These should be specified to the manufacturer by the user; it is not required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.

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[17] **Special Condition of use (X):**

- Load cells must be kept cleaned to avoid dust layer deposition on equipment.
- For level of protection Ga, only stainless steel can be used for load cells' metal structure.
- Ambient temperature range and relevant temperature class or assigned temperature is according to intrinsic safety parameters table specified above on general product information.
- A safety barrier is required by installation to limit power supply the load cells, according to intrinsic safety parameters table specified above on general product information.

[18] **Essential Health and safety Requirements:**

This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].

This Certificate **does not** cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VIII of the Directive

ESHR 1.4 Not verified.

ESHR 1.5 Not verified.

ESHR 3 Not applied.

[19] **Descriptive documents:** DL-AT18-0022496-01/1, rev. 0.

[20] **Certification Validity Conditions:**

The use of this Certificate is subject to the Certification Scheme and to the Regulation applicable to holders of IMQ Certificates.

The validity of this certificate is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.

One copy of the mentioned documentation is kept in IMQ file.

[21] **Variations**

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