[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 22 ATEX 006 X**

[4] PRODUCT: **Control stations**
TYPE/SERIES: **COMPACT-EX[GD]**

[5] MANUFACTURER: **Scame Parre S.p.A.**

[6] ADDRESS: **Via Costa Erta, 15 – 24020 Parre (BG) – Italy**

[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.: **AT23-0088193-01/B**

[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 IEC 60079-0:2018; EN 60079-1:2014; EN 60079-7:2015; EN IEC 60079-7:2015+A1:2018; EN 60079-18:2015+A1:2017; EN 60079-31:2014

[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] Marking of the equipment shall include at least one of the following strings:

Ⓔx II 2GD

Ex db eb IIC T5/T6 Gb
Ex db eb mb IIC T5/T6 Gb
Ex eb mb IIC T5/T6 Gb
Ex tb IIIC T80°C/T95°C Db

THIS CERTIFICATE IS COMPOSED OF 6 PAGES INCLUDING 1 ANNEX.

FIRST ISSUE	2022/04/06
CURRENT ISSUE	2023/05/26
PREVIOUS ISSUE	2022/10/03
EXPIRING DATE	2033/05/25

B.U. PRODUCT CONFORMITY ASSESSMENT
CERTIFICATION SECTOR - MANAGER

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PRD N° 005 B

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[13] Annex

[14] EU-type Examination Certificate number: **IMQ 22 ATEX 006 X**

[15] **Description of product:**

The control stations Series COMPACT-EX[GD], family 593, are composed of a polyamide enclosure provided with already ATEX certified components (actuators, measuring instruments, indicator lights, switch, push button, etc.).
The equipment comprises two sizes of enclosure which can be jointed together through the use of a coupling nut (art. CZ4004 - Manufactured by CZ).

Enclosure body and its cover are secured through 4 brass screws while the degree of protection is guaranteed by a silicone gasket placed between them.

The equipment can be supplied with accessories (i.e. brass earth stud, earth continuity plate of zinc plated steel, back-plate of zinc plated steel).
Cable glands or plugs (if present), with separate ATEX certificates, are mounted according to related manufacturer's installation instructions.
The equipment has types of protection "Ex tb" and "Ex eb" with additional types of protections depending on components mounted (covered by their own ATEX certificate). It suitable for installation in zone 1 and zone 21.

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

Key code								
593	▮	▮	▮	-	▮	...	-	▮	▮
Enclosure configuration								
Size 1	1							
Size 3	3							
Size 3 interconnected with Size 1	4							
Elements configuration								
n.1 element (size 1)		1						
n.1 element and n.1 instrument (size 3)		1						
n. 2 elements		2						
n. 3 elements		3						
Number of enclosures								
Enclosure base size 1 or size 3			1					
Enclosure base size 1 joined with enclosure size 3			2					
Cable entries								
n.1 cable entry M20x1.5 (top or bottom)					1			
n.2 cable entries M20x1.5 (top and bottom)					2			
n.3 cable entries M20x1.5 (1 top and 2 bottom, or inverted)					3			
n.4 cable entries M20x1.5 (2 top and 2 bottom)					4			
n. 1 cable entry M25x1.5 (top or bottom) Metallic cable gland not allowed					5			
n. 2 cable entries M25x1.5 (top and bottom) Metallic cable gland not allowed					6			
Elements type (Push button, Switches, etc.) Part of coding not pertaining on Ex safety								
Minimum ambient temperature								
From -35°C							-	
From -50°C							A	
From -20°C							B	
Earth stud								
Not present								
Present								E

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Enclosure sizes:

Enclosure	Width [mm]	Height [mm]	Depth [mm]
Size 1	95	95	80
Size 3	95	180	82

[15.2] **Ratings:**
Maximum rated voltage: 400 Vac/ 277 Vdc
Maximum rated current: 20 A

The ratings specified are maximum values, actual values will be subject to the electrical component used from case to case. The manufacturer will define ratings which will be within the range of these limiting values and will comply with the relevant standards.

[15.3] **Safety ratings:** None

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

Maximum ambient temperature*: +60°C

Minimum ambient temperature*: -50°C or -35°C or -20°C

* Ambient temperature will be limited by the component with lowest rating defined by ATEX certificates according to the specifications of materials used. The manufacturer chooses the components according to the ambient temperature range reported on the marking plate.

The temperature class/maximum surface temperature of the equipment T6…T5/T80°C…T95°C is specified on the marking plate by the manufacturer on the basis of what explained below.

The Temperature class and maximum surface temperature of the equipment are the higher values between that reported on the already certified equipment installed and the values calculated based on the dissipated power and the parameters "S" (K/W) and "M" (K/A2) which give the temperature rise for each enclosure size for each watt of power dissipated or absorbed current. Details for calculation are reported in manufacturer's document.

The parameters "**S**" are contained below while the parameter "**M**" (K/A2), where present, can be found in the documentation of the already IECEx Components installed.

Enclosure Type	Enclosure (GAS) vertical	Enclosure (DUST) vertical	Cable vertical	Gasket vertical
	Sin [K/W]	***Shs*** [K/W]	***Sc*** [K/W]	***Sg*** [K/W]
Size 1	8.1 (1)	7.3 (1)	3.98 (1)	4.71 (1)
Size 3	4.82 (1)	4.35 (1)	2.72 (1)	2.76 (1)
Size 1 + Size 3	4.29 (1)	4.29 (1)	2.53 (1)	2.35 (1)

Where:

Sin = heating coefficient of box – air inside ($\frac{K}{W}$)
Shs = heating coefficient of box – external hot surface ($\frac{K}{W}$)
Sc = heating coefficient of cable ($\frac{K}{W}$)
Sg = heating coefficient of gasket ($\frac{K}{W}$)

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Maximum dissipable power

Enclosure Type	*Max Pd (W) – Tamb up to 40°C*				
	T6 – GAS			*T80°C – Dust*	*T5 - GAS*
	Intern. Temp. 60°C	*Intern. Temp. 70°C*	*Intern. Temp. 80°C*	-	*Intern. Temp. 85°C*
Size 1	2.46	3.70	4.94	5.46	5.46
Size 3	4.14	6.21	8.30	9.30	9.30
Size 1 + Size 3	4.66	6.98	9.32	9.32	-

Enclosure Type	*Max Pd (W) – Tamb up to 50°C*				
	T6 – GAS			*T80°C – Dust*	*T5 - GAS*
	Intern. Temp. 60°C	*Intern. Temp. 70°C*	*Intern. Temp. 80°C*	-	*Intern. Temp. 85°C*
Size 1	1.22	2.46	3.70	4.10	4.10
Size 3	2.07	4.14	6.21	6.98	6.98
Size 1 + Size 3	2.33	4.66	6.98	6.98	-

Enclosure Type	*Max Pd (W) – Tamb up to 60°C*			
	T6 – GAS		*T80°C – Dust*	*T5 - GAS*
	Intern. Temp. 70°C	*Intern. Temp. 80°C*	-	*Intern. Temp. 85°C*
Size 1	1.22	2.46	2.74	2.74
Size 3	2.07	4.14	4.65	4.65
Size 1 + Size 3	2.33	4.66	4.66	-

[15.5] **Degree of protection (IP code):**
Protection degree for all models: IP66* (according to IEC 60529 and EN IEC 60079-0);
*The equipment is marked with the lowest degree of protection dependent by ATEX certified components mounted on it (at least IP 64)

[15.6] **Warnings:**

WARNING - "Do not open when an explosive atmosphere is present"

When Tamb is 60°C, "Cable temperature Tc = xxx°C"

When the equipment is provided with calotte CZ4000-M, the component is provided with this marking:
WARNING - "potential electrostatic charging hazard – clean with damp cloth or antistatic products"

[16] **Report:** AT23-0088193-01B

[16.1] **Routine (factory) tests:**
The manufacturer shall carry out the routine verification prescribed at clauses 27 of the EN IEC 60079-0. The equipment (with factory interconnecting wiring) must be subjected to a dielectric strength test according to clause 7.1 of the EN 60079-7:2015. Alternatively, a test shall be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.

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[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:**
The equipment referred herein are 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 request 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 a required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.

Installation of equipment shall be done according to EN 60079-14 Standard requirements

The equipment is intended for vertical installation only.

When control stations Series COMPACT-EX[GD] Size 3 is interconnected with Size 1, Size 1 has to be placed on the top.

Where not provided with the equipment, entry cable devices have to be selected according to Table 10 of EN 60079-14 and they shall be compliant with the following:

- They shall be ATEX certified according to current edition of EN 60079-0, EN 60079-7 and EN 60079-31, with EPLs according to marking plate, and installed according EN 60079-14.
- They shall guarantee the declared protection degree of the enclosure and shall have operating temperature suitable for a range from Tamb_min to Tcable
- They shall be provided with a seal (or gasket) on the mating part with the enclosure in order guarantee the protection degree of the equipment.
- The entry thread of cable gland/blanking element shall have a nominal diameter not more than 0.7 mm smaller than the plain entry holes of enclosure.
- Unused cable entries shall be closed through a blanking element with the same characteristics as reported for cable entry devices.

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

- The equipment shall be installed in compliance with manufacturer's safety instruction document.
- User has to periodically clean the enclosure in order to avoid the creation of a dust layer higher than 5 mm.
- Flameproof joints (of "Ex db" components) are not intended to be repaired.
- When stainless steel marking plate is used, the installation shall be made that nameplate are situated such that discharges to approaching earth are not expected.
- During installation, the user will have to take into consideration that the heads ZB.. and control units ZBW.. (manufactured by Ex tech solution) shall be protected from impact. The equipment shall not be subjected to a buildup of dust and is to be cleaned regularly to prevent a layer of dust forming on the enclosure. The other conditions of use are stipulated in the instructions.

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[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 as this is not a safety device performing safety function.
ESHR 3 Not applied as this is not a protective system.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report:
N/A

[19] **Descriptive documents:**
DL-AT23-0088193-01B, rev.0, dated 2023-04-03.

[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**

Issue 0: 2022-04

Issue 1: 2022-10
Revision due to editorial corrections

Issue 2: 2023-05
Removed the electrostatic charges hazard related to the enclosure of the equipment.

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