



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX ULD 22.0022X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2022-11-28
Applicant: **G.M. International S.R.L.**
Via G. Mameli 53-55
20852 Villasanta (MB)
Italy
Equipment: **Switch / Proximity Detector Repeater, D5231E-*****
Optional accessory:
Type of Protection: **Increased Safety "ec", Intrinsic Safety "ia"**
Marking: Ex ec [ia Ga] IIC T4 Gc
[Ex ia Da] IIIC
[Ex ia Ma] I
-40 °C ≤ Tamb ≤ +70 °C

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:
(for printed version)

2022-11-28

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

UL International DEMKO A/S
Borupvang 5A
DK-2750 Ballerup
Denmark





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Manufacturer: **G.M. International S.R.L.**
Via G. Mameli 53-55
20852 Villasanta (MB)
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Manufacturing
locations: **G.M. International S.R.L.**
Via G. Mameli 53-55
20852 Villasanta (MB)
Italy

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DK/ULD/ExTR22.0024/00](#)

Quality Assessment Report:

[NO/DNV/QAR07.0005/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Switch/Proximity Detector Repeater D5231E series are associated apparatus and increased safety electrical apparatus, designed as eight channel galvanic isolators, to interface intrinsically safe field devices located in potentially explosive atmospheres with non-intrinsically safe measuring and process control equipment located in non-explosive atmospheres. They are packaged in a plastic enclosure suitable for installation on IEC60715 TH 35 DIN-Rail, with or without Power Bus connector, or on Termination Board provided with customer dedicated connection.

Electrical connections are accommodated by plug-in removable terminal block or with customer dedicated connector when installed on Termination Board.

Supply voltage can optionally be fed through the Termination Board or by the Power Bus connector installed on DIN Rail.

D5231E modules provide a fully floating supply voltage to power proximity sensors or voltage free contacts field devices located in potentially explosive atmospheres and repeats the status of input sensors by an optocoupled open collector transistor (photo MOS) in non-explosive atmospheres.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceeds 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50 % of the Co and Lo become the limits which must include the cable such that Ci device + C cable \leq 50 % of Co and Li device + L cable \leq 50 % of Lo). The reduced capacitance of the external circuit (including the cable) shall not exceed 1uF for Groups I, IIA and IIB and 600 nF for Group IIC.
- The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.
- For hazardous location, the unit shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0, that must have a door or cover accessible only by the use of a tool.
- Isolation in accordance with Clause 6.3.13 of IEC 60079-11 is not provided between separate intrinsically safe circuits. Isolation in accordance with Clause 6.3.13 of IEC 60079-11 is provided between non-intrinsically safe circuits and intrinsically safe circuits.

Annex:

[Annex to IECEX ULD 22.0022X Issue 0.pdf](#)



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TYPE DESIGNATION

Nomenclature:

D5231E-xxx, where '-xxx' is optional and denotes software or configuration options.

PARAMETERS RELATING TO THE SAFETY

Electrical ratings:

Model	Supply voltage (Terminals 9-10)	Current consumption	Power consumption	Input	Output
D5231E D5231E- xxx	24V dc (18-30V dc)	125 mA max	2.3 W max	8 channels rated 8V 1KΩ typical (8V no load, 8mA short circuit). Terminals 13 up to 20 with common terminals 21 up to 24.	8 channels rated Max 100mA at 35V. Terminals 1 up to 8 with common terminals 11 and 12.

Other (I/O): 1 x RS485

Intrinsically safe specifications:

Um: 250V rms or Vdc

Terminals		Group	Co [μF]	Lo [mH]	Lo/Ro [μH/Ω]
13-21 (Ch1) 14-21 (Ch2) 15-22 (Ch3) 16-22 (Ch4) 17-23 (Ch5) 18-23 (Ch6) 19-24 (Ch7) 20-24 (Ch8)	Uo: 10.9V Io: 12 mA Po: 31 mW	IIC	2	270	1147
		IIB or IIIC	143	1000	4590
		IIA	62.9	1000	9181
		I	69.9	1000	15063

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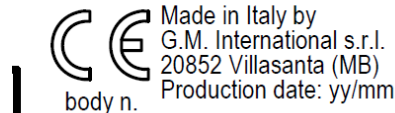
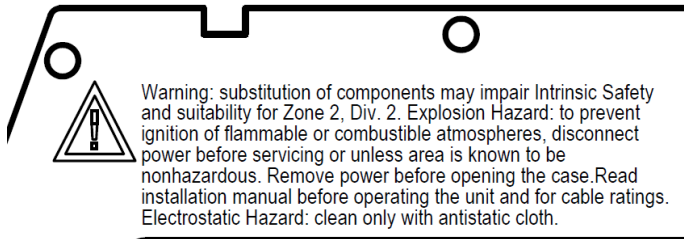
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MARKING

Marking has to be readable and indelible; it has to include the following indications:

Serial Number: XXXXXX

	Model Number
	IECEX XXX XX.XXXX Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC I (M1) [Ex ia Ma] I XXX XX ATEX XXX Uo=XXV Io=XXmA Po=XXmW at XXXXXX Um=XXXVrms or Vdc Tamb: XX to XX°C



Model Number: D5231E, D5231E-xxx.

IEC Certification: marking indicated in the certificate, certificate number (IECEX ULD 22.0022X)

ATEX Certification: symbol and marking indicated in the certificate, certificate number (UL 22 ATEX 2809X).

Electrical Parameters:

Electrical ratings

Um ≤ value indicated in the certificate,

Uo, Io, Po ≥ value indicated in the certificate at terminals 13-21, 14-21, 15-22, 16-22, 17-23, 18-23, 19-24, 20-24.

Ambient Temperature: Tamb: ≥ lower value to ≤ higher value indicated in the certificate.

ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment shall be subjected to the routine tests for transformers in accordance with clause 11.2 of IEC 60079-11. A test voltage of 1500V rms shall be applied between T201 pins 5,6 and pins 1,2-3,4 for a minimum of 60 s without breakdown resulting in more than 5 mA rms flowing. Alternatively, a test voltage of 1800V rms for a minimum of 1 s may be used.