

EU-TYPE EXAMINATION CERTIFICATE



[1]

[2]

Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

[3]

EU-Type Examination Certificate Number: **UL 22 ATEX 2809X Rev. 0**

[4]

Product: **Switch / Proximity Detector Repeater, D5231E-*****

[5]

Manufacturer: **G.M. International srl**

[6]

Address: **Via G. Mameli, 53-55, Villasanta, MB, 20852 Italy**

[7]

This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to 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 report no. **DK/ULD/ExTR22.0024/00.**

[9]

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

EN IEC 60079-0:2018
EN 60079-11:2012

EN IEC 60079-7:2015/A1:2018
EN 50303:2000

[10]




If the sign "X" is placed after the certificate number, it indicates that the product 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 the certificate.

[12]

The marking of the product shall include the following:

 II 3(1) G Ex ec [ia Ga] IIC T4 Gc
 II (1) D [Ex ia Da] IIIC
 I (M1) [Ex ia Ma] I

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2022-11-28

Notified Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[13]

[14]

Schedule

EU-TYPE EXAMINATION CERTIFICATE No.

UL 22 ATEX 2809X Rev. 0

[15] **Description of Product**
 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 EN/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.

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

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015 .

Temperature range
 The ambient temperature range is -40 °C to +70 °C.

Electrical data

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:
 U_m: 250V rms or dc

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)	U _o : 10.9V I _o : 12 mA P _o : 31 mW	IIC	2	270	1147
		IIB or IIIC	14.3	1000	4590
		IIA	62.9	1000	9181
		I	69.9	1000	15063

Routine 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.

[16] **Descriptive Documents**
 The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

[17] **Specific conditions of use:**

- 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} ≤ 50 % of Co and Li device + L_{cable} ≤ 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 EN 60664-1.
- For hazardous locations, the unit shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with EN 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 EN 60079-11 is not provided between separate intrinsically safe circuits. Isolation in accordance with Clause 6.3.13 of EN 60079-11 is provided between non-intrinsically safe circuits and intrinsically safe circuits.



[13]

Schedule

[14]


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[18]

Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information

The trademark  will be used as the company identifier on the marking label.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.