



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 19.0029X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2019-10-31

Applicant: **G.M. International S.r.l.**
Via G. Mameli, 53/55
20852 Villasanta (MB)
Italy

Equipment: **Switch/Proximity Repeaters**

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
Tamb: -40°C to +70°C

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:

2019-10-31

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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Additional
manufacturing
locations:

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/ExTR19.0032/00](#)

Quality Assessment Report:

[NO/DNV/QAR07.0005/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

D5038 and D5039 Series are Associated Apparatus and non-sparking, non-incendive Electrical Apparatus, designed as single/double 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.

The Switch/Proximity Detector Repeater D5038 and D5039 are modules suitable for applications requiring SIL 3 level and SIL 2 level respectively in safety related systems for high risk industries. The unit can be configured for switches or proximity detectors, located in Hazardous Area, and repeats the input state to the output in Safe Area. The output port can assume two different impedance values (RL or RH) or it can open completely. The module output repeats the input state according to the following correspondence: low input state -> RL, high input state -> RH. Alternatively, the output can be configured to invert the input state. In both cases, the output opens if any fault (open or short circuit) occurs at the corresponding input.

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.

D5038 and D5039 modules can be located in non-explosive atmospheres or Zone 2 potentially explosive gas atmospheres.

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.

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. 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 unit shall be installed in an area of at least pollution degree 2 according to IEC 60664-1.
- For hazardous location, the unit shall be installed in a certified Ex enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0.

Annex:

[Annex to IECEx ULD 19.0029X Issue 0 .pdf](#)



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TYPE DESIGNATION

Nomenclature:

D5038	S	A	-xxx
I	II	III	IV

I – Model designation:

D5038 – SIL 3 Switch / Proximity repeater, DIN-Rail and Termination Board

D5039 – SIL 2 Switch / Proximity repeater, DIN-Rail and Termination Board

II – No. of Channel:

S – Single channel

D – Double channel

X – Duplicator

III – Output resistance (RH and RL):

A – RL = 2.2k Ω , RH = 14.3k Ω

Any other alphanumeric character – depending on low input state (RL) or high input state (RH) with RL \leq 1.8 k Ω or \geq 2.2 k Ω and RH \leq 1.38 k Ω or \geq 2.9 k Ω .

IV – Configuration – Optional:

xxx – Any alphanumeric character denoting pre-delivery testing or configuration requested by end-user.

PARAMETERS RELATING TO THE SAFETY

Rating:

Model	Supply voltage (terminals 5-6)	Current consumption	Power consumption	Input	Output
D5038S	24V dc	15 mA	0.36W	8V dc, 1 K Ω (8V dc no load, 8 mA short circuit) / Terminals 7-8	Max. 30V dc, Max. 15 mA Terminals 1- 2
D5038D	24V dc	45 mA	1.08W	8V dc, 1 K Ω (8V dc no load, 8 mA short circuit) / Terminals 7-8, 9-10	Max 30V dc, Max 15 mA Terminals 1-2, 3-4
D5038X	24V dc	25 mA	0.6W	8Vdc, 1 K Ω (8 Vdc no load, 8 mA short circuit) / Terminals 7-8	Max 30V dc, Max 15 mA Terminals 1-2, 3-4
D5039S	24V dc	15 mA	0.36W	8 Vdc, 1 K Ω (8 Vdc no load, 8 mA short circuit) / Terminals 7-8	Max. 30V dc, Max. 15 mA Terminals 1- 2
D5039D	24V dc	30 mA	1.08W	8 Vdc, 1 K Ω (8 Vdc no load, 8 mA short circuit) / Terminals 7-8, 9-10	Max 30V dc, Max 15 mA Terminals 1-2, 3-4



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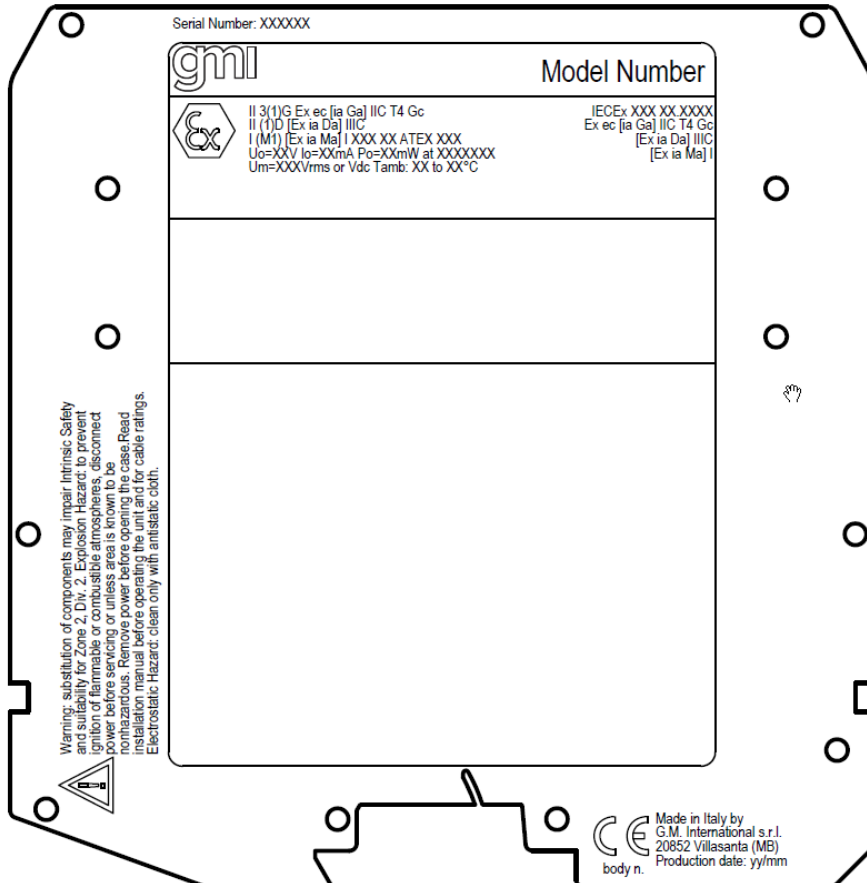
Model	Supply voltage (terminals 5-6)	Current consumption	Power consumption	Input	Output
D5039X	24V dc	25 mA	0.6W	8 Vdc, 1 K Ω (8 Vdc no load, 8 mA short circuit) / Terminals 7, 8	Max 30V dc, Max 15 mA Terminals 1-2, 3-4

Intrinsically safe specifications:
Um : 250V rms

Terminals		Group	Co [μ F]	Lo [mH]	Lo/Ro [μ H/ Ω]
7-8 (Ch1) 9-10 (Ch2)	Uo: 10.5 V Io: 22 mA Po: 56 mW	IIC	2.4	78.3	635
		IIB or III	16.7	313.5	2543
		IIA	74.9	627.1	5087
		I	94.9	1028.8	8347

MARKING

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






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Model Number: D5038S*, D5038D*, D5038X*, D5039S*, D5039D*, D5039X*, D5038S*-xxx, D5038D*-xxx, D5038X*-xxx, D5039S*-xxx, D5039D*-xxx, D5039X*-xxx.

Identification Data: Serial Number, Production Date,  logo with the number of notified body for ATEX Quality

System certification.

IECEx Certification: marking indicated in the certificate, certificate number (IECEx ULD 19.0029X).

ATEX Certification:  symbol and marking indicated in the certificate, certificate number (DEMKO 19 ATEX 2290X).

Electrical Parameters: $U_m \leq$ value indicated in the certificate,
 $U_o, I_o, P_o \geq$ value indicated in the certificate at terminals 7-8 or 8-9.

Ambient Temperature: T_{amb} : \geq lower value to \leq 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 1500 Vrms shall be applied between T200 and T300 pins 5-6 and pins 1-4 for a minimum of 60 s without breakdown resulting in more than 5 mArms flowing. Alternatively, a test voltage of 1800 Vrms for a minimum of 1 s may be used.