



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 BVS 12.0050X** Page 1 of 5 Certificate history:
Status: **Current** Issue No: 2 Issue 1 (2016-01-21)
Date of Issue: 2020-09-18 Issue 0 (2012-07-23)
Applicant: **G.M. International S.R.L.**
Via Mameli 53/55
20852 Villasanta (MB)
Italy
Equipment: **Temperature Converter types D5072*, D5072*-xxx, D5072*-087, D5072*-096, D5072*-099, D5273S, D5273S-xxx**
Optional accessory:
Type of Protection: **Intrinsic Safety "i", Type of Protection "n", Increased Safety "e"**
Marking: For Temperature Converter type D5072*, D5072*-xxx,
D5072*-087, D5072*-096, D5072*-099:
Ex ec [ia Ga] IIC T4 Gc
For Temperature Converter type D5273S, D5273S-xxx:
Ex ec nC [ia Ga] IIC T4 Gc
For all Temperature Converter types:
[Ex ia Da] IIIC
[Ex ia Ma] I

Approved for issue on behalf of the IECEx
Certification Body:

Jörg Koch

Position:

Head of Certification Body

Signature:
(for printed version)

Date:

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:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
On the safe side.



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

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 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

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:

DE/BVS/EXTR12.0053/02

Quality Assessment Report:

NO/DNV/QAR07.0005/09



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Subject and type

Temperature Converter type D5072S, D5072D, D5072S-xxx, D5072D-xxx, D5072S-087, D5072D-087, D5072S-096, D5072D-096, D5072S-099, D5072D-099, D5273S, D5273S-xxx

The extended DIN Rail Isolator type series D5****, D5****-xxx, comprises the following models:

Temperature Converter type	D5072*, D5072*-xxx
type	D5072*-087,
type	D5072*-096,
type	D5072*-099,
Temperature Converter and Trip Amplifier type	D5273S, D5273S-xxx
In the full designation of type D5072*, D5072*-xxx the "*" is replaced by letters marking details of construction as follows:	
S = single channel	S-xxx = single channel
D = dual channel	D-xxx = dual channel

(Option 'xxx' = non-Ex-relevant details of function)

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Group I application:

DIN Rail Isolators of type series D5****, D5****-xxx shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.

For Group I application interconnection of DIN Rail Isolators of type series D5****, D5****-xxx with other electrical apparatus to an intrinsically safe electrical system shall be assessed in a System Certificate, if required in local installation rules.

2. Group II application (Gas):

DIN Rail Isolators of type series D5****, D5****-xxx shall be installed in an area of at least pollution degree 2 according to IEC 60664-1. For hazardous location, DIN Rail Isolators of type series D5****, D5****-xxx shall be installed in a certified Ex enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0.

3. Group III application (Dust):

DIN Rail Isolators of type series D5****, D5****-xxx shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.

4. General:

The installation of DIN Rail Isolators of type series D5****, D5****-xxx shall be carried out in such a way that the clearances of un-insulated conductors of intrinsically safe circuits to grounded metal parts of the enclosure are at least 3 mm, and un-insulated conductors of non-intrinsically safe circuits of other apparatus are situated at least 50 mm from terminals for external intrinsically safe circuits, or are separated from them by an insulating barrier according to clause 6.2.1 of EN 60079-11:2012.



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Equipment (continued):

Description

Temperature Converter type D5072*, D5072*-xxx, D5072*-087, D5072*-096, D5072*-099

Temperature Converter D5072 series provide single or dual channel conversion of intrinsically safe temperature sensor signals (e.g. thermocouples 2, 3, 4 wire resistance temperature detectors RTD), 'mV' sources or transmitting potentiometers from equipment located in potentially hazardous areas to non-IS circuits and provide safe galvanic separation of IS circuits from non-IS circuits.

Available versions of the Temperature Converter

Single channel: type D5072S, D5072S-xxx, D5072S-087, D5072S-096, D5072S-099

dual channel: type D5072D, D5072D-xxx, D5072D-087, D5072D-096, D5072D-099

Temperature Converter and Trip Amplifier type D5273S, D5273S-xxx

Temperature Converter and Trip Amplifier type D5273S, D5273S-xxx provide single channel conversion of intrinsically safe signals produced by temperature sensors (i.e. thermocouples, 2, 3, 4 wires resistances, RTD temperature detectors), 'mV' sources or transmitting potentiometers from equipment located in potentially hazardous areas and repeats the signals to drive a Safe Area/Location load. In addition, two independent alarm trip amplifiers are provided. Each alarm energizes or de-energizes an SPDT relay with a rating up to 250 V, 6 A for alarm functions.

The two alarm relays trip points are settable over the entire input signal range.

Available versions of the Temperature Converter and Trip Amplifier

Single channel only: type D5273S, D5273S-xxx

The D5273 variant has a relay evaluated according to nC.

Parameters

See Annex



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Assessment of current standard version
- Modification of the circuit
- Introduction of optional versions

Annex:

BVS_12_0050X_GM_Annex_issue2.pdf

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Annex

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Parameters

1 Non-intrinsically safe circuits

1.1 Power supply

DIN Rail Isolator version	Voltage		Power
	U _n	U _m	P _n
	DC [V]	AC [V]	[W]
D5072S, D5072S-087, D5072S-099, D5072S-xxx	24	253	≤ 0.9
D5072S-096	24	253	≤ 0.75
D5072D, D5072D-087, D5072D-099, D5072D-xxx	24	253	≤ 1.4
D5072D-096	24	253	≤ 1
D5273S, D5273S-xxx	24	253	≤ 2.4

1.2 Input / output signal circuits

Voltage U_m = AC 253 V

2 Intrinsically safe circuits level of protection Ex ia IIC / IIB / IIA / I / IIIC

2.1 Temperature Converter type D5072S, D5072S-xxx, D5072S-087, D5072S-096, D5072S-099,
D5072D, D5072D-xxx, D5072D-087, D5072D-096, D5072D-099

Device marking: Ex ec [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I 1)

2.2 Temperature Converter and Trip Amplifier type D5273S, D5273S-xxx

Device marking: Ex ec nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I 1)

1) in addition, marking as required in Council Directive 2014/34/EU; see 5) Marking

Single channel parameters		DIN Rail Isolator type				
		D5072S, D5072S-xxx D5072S-087, D5072S-099	D5072S-096	D5072D, D5072D-xxx, D5072S-087, D5072S-099	D5072D-096	D5273S, D5273S-xxx
Channel / Terminals	1	7-8-9-10	7-8	7-8-9	7-8	13-14-15-16
	2	N / A	N / A	10-11-12	11-12	N / A
Voltage U _o		DC 7.2 V	DC 7.2 V	DC 7.2 V	DC 7.2 V	DC 7.2 V
Current I _o		23 mA	23 mA	16 mA	16 mA	23 mA
Power P _o		40 mW	40 mW	27 mW	27 mW	40 mW
Voltage U _i		DC 12.8 V	DC 12.8 V	DC 12.8 V	DC 12.8 V	DC 12.8 V
Current I _i		N / A	N / A	N / A	N / A	N / A
Power P _i		N / A	N / A	N / A	N / A	N / A
Effective internal capacitance C _i		0 nF	0 nF	0 nF	0 nF	0 nF
Effective internal inductance L _i		0 nH	0 nH	0 nH	0 nH	0 nH
Max. external capacitance C _o	IIC	13.5 μF	13.5 μF	13.5 μF	13.5 μF	13.5 μF
	IIB	240 μF	240 μF	240 μF	240 μF	240 μF
	IIIC	1000 μF	1000 μF	1000 μF	1000 μF	1000 μF
	IIA	1000 μF	1000 μF	1000 μF	1000 μF	1000 μF
Max. external inductance L _o	IIC	67.2 mH	67.2 mH	138 mH	138 mH	67.2 mH
	IIB	268.8 mH	268.8 mH	555 mH	555 mH	268.8 mH
	IIIC	537.7 mH	537.7 mH	1111 mH	1111 mH	537.7 mH
	IIA	882.2 mH	882.2 mH	1822 mH	1822 mH	882.2 mH
Max. L/R - ratio L _o /R _o	IIC	0.875 mH/Ω	0.875 mH/Ω	1.29 mH/Ω	1.29 mH/Ω	0.875 mH/Ω
	IIB	3.5 mH/Ω	3.5 mH/Ω	5.16 mH/Ω	5.16 mH/Ω	3.5 mH/Ω
	IIIC	7 mH/Ω	7 mH/Ω	10.33 mH/Ω	10.33 mH/Ω	7 mH/Ω
	IIA	7 mH/Ω	7 mH/Ω	10.33 mH/Ω	10.33 mH/Ω	7 mH/Ω



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	I	11.48 mH/Ω	11.48 mH/Ω	16.95 mH/Ω	16.95 mH/Ω	11.48 mH/Ω
Characteristics		linear	linear	linear	linear	linear
Ambient temperature range	-40 °C ≤ T _a ≤ +70 °C					
Remark: N / A = not applicable						