



# eurofins





CML 22JPN2118X

Issue: 1

## Type Examination Certificate

for Electrical Equipment used in Potentially Explosive Atmosphere

|  |   |
|--|---|
| Issued by<br>Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK |   |
| Applicant  | GM International S.R.L.<br>Via G. Mameli, 53/55, 20852 Villasanta (MB), Italy   |
| Manufacturer name  | GM International S.R.L.<br>Via G. Mameli, 53/55, 20852 Villasanta (MB), Italy   |
| Product name   | Isolation Barrier   |
| Type/model code  | D5072S, D5072D, D5072S-xxx, D5072D-xxx, D5072S-087, D5072D-087, D5072S-096, D5072D-096, D5072S-099, D5072DS-099<br>D5273S, D5273S-xxx |
| Type of protection   | Increased Safety, Intrinsic Safety, Type of Protection "n"  |
| Group, Temperature Class and EPL   | IIC T4 Gc<br>IIIC   |
| The equipment shall be marked with the following   | See Attachment 1  |
| Ratings  | See Attachment 2  |
| Special condition for safe use   | See Attachment 3  |
| Certificate number   | <b>CML 22JPN2118X</b>   |
| Term of validity   | From 23-05-2022 to 22-05-2025                    |
|  | From 23-05-2025 to 22-05-2028                    |

This is to certify that the equipment specified above complies with the requirements stipulated in Ordinance on Examination of Machines and Other Equipment of the Ministry of Health, Labour and Welfare, Japan.

Issue date: 23-05-2025

Signature of chief examiner:





### Attachment 1: Marking

Temperature converter types D5072S, D5072D, D5072S-xxx, D5072D-xxx, D5072S-087, D5072D-087, D5072S-096, D5072D-096, D5072S-099, D5072DS-099:

Ex ec [ia Ga] IIC T4 Gc  
[Ex ia Da] IIIC  
-40 °C to +70 °C

Temperature converter with trip amp types D5273S, D5273S-xxx:

Ex ec nC [ia Ga] IIC T4 Gc  
[Ex ia Da] IIIC  
-40 °C to +70 °C

### Attachment 2: Ratings

#### Non-intrinsically safe circuits:

##### Power supply

| DIN Rail Isolator version                     | Voltage |        | Power  |
|---|---------|--------|--------|
|   | Un      | Um     | Pn     |
|   | DC [V]  | AC [V] | [W]    |
| D5072S, D5072S-087,<br>D5072S-099, D5072S-xxx | 24      | 253    | ≤ 0.9  |
| D5072S-096                                    | 24      | 253    | ≤ 0.75 |
| D5072D, D5072D-087,<br>D5072D-099, D5072D-xxx | 24      | 253    | ≤ 1.4  |
| D5072D-096                                    | 24      | 253    | ≤ 1    |
| D5273S, D5273S-xxx                            | 24      | 253    | ≤ 2.4  |

Input / output signal circuits: Voltage Um = AC 253 V

#### Intrinsically safe circuits [Ex ia IIC / IIB / IIA / IIIC]:

| Single channel parameters | DIN Rail Isolator type                              |            |   |            |  |
|---------------------------|---|------------|---|------------|--|
|                           | D5072S,<br>D5072S-xxx,<br>D5072S-087,<br>D5072S-099 | D5072S-096 | D5072D,<br>D5072D-xxx,<br>D5072D-087,<br>D5072D-099 | D5072D-096 | D5273S,<br>D5273S-xxx                            |
| Device marking            | Ex ec [ia Ga] IIC T4 Gc<br>[Ex ia Da] IIIC          |            |   |            | Ex ec nC [ia Ga]<br>IIC T4 Ga<br>[Ex ia Da] IIIC |
| 1                         | 7-8-9-10  | 7-8        | 7-8-9   | 7-8        | 13-14-15-16                                      |



| Single channel parameters         |             | DIN Rail Isolator type                     |            |  |            |                    |
|-----------------------------------|-------------|--|------------|--|------------|--------------------|
|                                   |             | D5072S, D5072S-xxx, D5072S-087, D5072S-099 | D5072S-096 | D5072D, D5072D-xxx, D5072D-087, D5072D-099 | D5072D-096 | D5273S, D5273S-xxx |
| Channel / Terminals               | 2           | n/a  | n/a        | 10-11-12                                   | 11-12      | n/a                |
| Voltage Uo                        |             | DC 7.2 V                                   | DC 7.2 V   | DC 7.2 V                                   | DC 7.2 V   | DC 7.2 V           |
| Current Io                        |             | 23 mA                                      | 23 mA      | 16 mA                                      | 16 mA      | 23 mA              |
| Power Po                          |             | 40 mW                                      | 40 mW      | 27 mW                                      | 27 mW      | 40 mW              |
| Voltage Ui                        |             | DC 12.8 V                                  | DC 12.8 V  | DC 12.8 V                                  | DC 12.8 V  | DC 12.8 V          |
| Current Ii                        |             | n/a  | n/a        | n/a  | n/a        | n/a                |
| Power Pi                          |             | n/a  | n/a        | n/a  | n/a        | n/a                |
| Effective internal capacitance Ci |             | 0 nF                                       | 0 nF       | 0 nF                                       | 0 nF       | 0 nF               |
| Effective internal inductance Li  |             | 0 nH                                       | 0 nH       | 0 nH                                       | 0 nH       | 0 nH               |
| Maximum external capacitance Co   | IIC         | 13.5 uF                                    | 13.5 uF    | 13.5 uF                                    | 13.5 uF    | 13.5 uF            |
|                                   | IIB<br>IIIC | 240 uF                                     | 240 uF     | 240 uF                                     | 240 uF     | 240 uF             |
|                                   | IIA         | 1000 uF                                    | 1000 uF    | 1000 uF                                    | 1000 uF    | 1000 uF            |
| Maximum external inductance Lo    | IIC         | 67.2 mH                                    | 67.2 mH    | 138 mH                                     | 138 mH     | 67.2 mH            |
|                                   | IIB<br>IIIC | 268.8 mH                                   | 268.8 mH   | 555 mH                                     | 555 mH     | 268.8 mH           |
|                                   | IIA         | 537.7 mH                                   | 537.7 mH   | 1111 mH                                    | 1111 mH    | 537.7 mH           |
| Maximum L/R ratio Lo / Ro         | IIC         | 0.875 mH/Ω                                 | 0.875 mH/Ω | 1.29 mH/Ω                                  | 1.29 mH/Ω  | 0.875 mH/Ω         |
|                                   | IIB<br>IIIC | 3.5 mH/Ω                                   | 3.5 mH/Ω   | 5.16 mH/Ω                                  | 5.16 mH/Ω  | 3.5 mH/Ω           |
|                                   | IIA         | 7 mH/Ω                                     | 7 mH/Ω     | 10.33 mH/Ω                                 | 10.33 mH/Ω | 7 mH/Ω             |
| Characteristics                   |             | Linear                                     | Linear     | Linear                                     | Linear     | Linear             |
| Ambient temperature range         |             | -40 °C ≤ Ta ≤ +70 °C                       |            |  |            |                    |

### Attachment 3: Special conditions for safe use

- i. Group II gas applications: DIN Rail Isolators of type series D5\*\*\*\* and D5\*\*\*\*-xxx shall be installed in an area of at least pollution degree 2. When installed in a hazardous area, DIN Rail Isolators of type series D5\*\*\*\* and D5\*\*\*\*-xxx shall be installed in an Ex enclosure with an ingress protection rating of at least IP54.
- ii. Group III dust applications: DIN Rail Isolators of type series D5\*\*\*\* and D5\*\*\*\*-xxx shall be installed outside the hazardous area or, alternatively, in an Ex enclosure providing a suitable type of protection.



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- iii. General: The installation of DIN Rail Isolators of type series D5\*\*\*\* and 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 appropriate insulating barrier.