




eurofins



Type Examination Certificate

for Electrical Equipment used in Potentially Explosive Atmosphere

Issued by Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK	
Applicant	G.M. International S.R.L. Via G. Mameli 53-55, 20852 Villasanta (MB), Italy
Manufacturer name	G.M. International S.R.L. Via G. Mameli 53-55, 20852 Villasanta (MB), Italy
Product name	Isolation barrier
Type/model code	D5231E and D5231E-xxx
Type of protection	Increased safety, Intrinsic safety
Group, Temperature Class and EPL	IIC, T4, Gc
The equipment shall be marked with the following	Ex ec [ja Ga] IIC T4 Gc [Ex ia Da] IIIC
Ratings	See attachment 1
Special condition for safe use	See attachment 2
Certificate number	CML 23JPN3326X
Term of validity	From 12-07-2023 to 11-07-2026 

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: 12-07-2023

Signature of chief examiner:

**Attachment 1: Ratings**Ambient

-40 °C ≤ Tamb ≤ +70 °C

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)	Uo: 10.9 V Lo: 12 mA Po: 31 mW	IIC	2	270	1147
14-21 (Ch2)		IIB or IIC	14.3	1000	4590
15-22 (Ch3)		IIA	62.9	1000	9181
16-22 (Ch4)					
17-23 (Ch5)					
18-23 (Ch6)					
19-24 (Ch7)					
20-24 (Ch8)					

Attachment 2: Special conditions for safe use

The following are special conditions for safe use:

- i. 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.
- ii. The equipment shall only be used in an area of at least pollution degree 2.
- iii. The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP54; entry into the enclosure must be tool secured.
- iv. Separate intrinsically safe circuits are not isolated from each other.
- v. Cables may reach temperatures 8°C above ambient, suitable cables should be selected.