Translation

1 # Type Examination Certificate Supplement 2

2 Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU

3 Type Examination Certificate Number: **BVS 18 ATEX E 079 X**

4 Product: **Termination Board type TB-D5008-INV-005 and TB*-D5016-TRI-010**
Pass-Through Module type D6001* / D6001*-xxx and D6002* / D6002*-xxx
Relay Output Modules type D5099* / D5099*-xxx and D6003* / D6003*-xxx

5 Manufacturer: **G.M. International S.R.L.**

6 Address: **Via Mameli 53/55, 20852 Villasanta (MB), Italy**

7 This supplementary certificate extends Type Examination Certificate No. BVS 18 ATEX E 079 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any variations specified in the appendix attached to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the 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 the confidential Report No. PP 18.2160 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018	**General requirements**
EN IEC 60079-7:2015/A1:2018	**Increased Safety "e"**
EN 60079-15:2019	**Type of Protection "n"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This 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 this certificate.

12 The marking of the product shall include the following:

II 3G Ex ec IIC T4 Gc	**TB-D5008-INV-005** **TB*-D5016-TRI-010** **D6001*, D6001*-xxx** **D6002*, D6002*-xxx**
II 3G Ex ec nC IIC T4 Gc	**D5099*, D5099*-xxx** **D6003*, D6003*-xxx**

DEKRA Testing and Certification GmbH
Bochum, 2021-03-04

Signed: Jörg-Timm Kilisch

Managing Director

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13 **Appendix**

14 **Type Examination Certificate**

BVS 18 ATEX E 079 X
Supplement 2

15 **Product description**

15.1 **Subject and type**

Termination Board:

Type TB-D5008-INV-005 and TB*-D5016-TRI-010

Pass-Through Module:

Type D6001* / D6001*-xxx (*: S = single channel, D = double channel)

Type D6002* / D6002*-xxx (*: S = single channel)

Relay Output Modules:

Type D5099* / D5099*-xxx (*: S = single channel)

Type D6003* / D6003*-xxx (*: S = single channel)

Option “xxx” = non Ex-relevant details of construction or function.

15.2 **Description**

Termination Board Type TB-D5008-INV-005 and Type TB*-D5016-TRI-010:

The Termination Boards are designed as a rack that can be plugged onto 35 mm DIN mounting rails and consists of a backplane PCB with metal retaining clips for DIN rail mounting and guide / fastening elements for electronic modules plugged into the rack. The Termination Boards are designed in the type of protection increased safety "ec".

The backplane PCB, which carries only non-intrinsically safe circuits, is equipped with backplane connectors for electronic modules, terminals for redundant, external 24 V power supply, a connector for the remote control / data interface and electronic components.

The electronic modules that can be plugged into the rack are subject to other test protocols, except for the modules included here.

The Termination Boards can be equipped with up to 8 (type TB-D5008-INV-005) or 16 (type TB*-D5016-TRI-010) electronic modules of the type series D5xxx, designed as associated apparatus according to EN 60079-11, exclusively-or with electronic modules of the type series D5xxx or D6xxx with exclusively non-intrinsically safe circuits.

If electronic modules with intrinsically safe circuits are plugged into the rack, the U_m values defined in the certificates of the electronic modules apply to the external, non-intrinsically safe circuits of the Termination Boards type TB-D5008-INV-005 or type TB*-D5016-TRI-010.

The Termination Boards are intended for installation in the safe area or in areas requiring EPL Gc equipment.

When installed in the EPL Gc area, only electronic modules suitable for use in the EPL Gc area may be plugged in.

The rack can also be equipped with Pass-Through Modules type D6001*, D6001*-xxx, D6002S, D6002S-xxx, and/or Relay Output Modules type D5099S, D5099S-xxx, D6003S, D6003S-xxx.

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Pass-Through Modules type D6001*, D6001*-xxx / type D6002S, D6002S-xxx :

The Pass-Through Modules type D6001*, D6001*-xxx consist of a pluggable plastic module housing containing a printed circuit board equipped with overvoltage / overcurrent protection components, backplane connectors and terminals for non-intrinsically safe, single-channel or dual-channel current loop connection.

The dummy Pass-Through Modules type D6002S, D6002S-xxx consist of a plastic plug-in module housing containing a printed circuit board equipped with backplane connectors and terminals for single-channel loop connection.

All connection modules are designed in the type of protection increased safety "ec".

The loop connection is intended for non-intrinsically safe field and control-side circuits.

Relay Output Modules type D5099S, D5099S-xxx / type D6003S, D6003S-xxx :

The Relay Output Modules consist of a plastic plug-in module housing containing a printed circuit board fitted with electronic components, backplane connectors and terminals for single-channel current loop connection.

The current loop connection is intended for non-intrinsically safe field and control-side circuits.

The Relay Output Modules are designed in the ignition protection type increased safety "ec", while the integrated relays are designed in the type of protection "nC". Relay Output Modules type D5099S, D5099S-xxx provide a free floating SPDT (Single Pole Double Through) relay contact.

Relay Output Modules type D6003S, D6003S-xxx provide an SPDT (Single Pole Double Through) relay contact energized by the DC 24 V power supply of the Termination Board.

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Relays for PCB mounting; Type: refer to parts lists D5099S, D6003S	IT/IMQ/ExTR13.0011/01	IEC 60079-0:2011, 6th Edition [1] IEC 60079-15:2010, 4th Edition [1]
	UL Test Report File No. E222308	UL 60079-0, 6th Edition [1] UL 60079-15, 4th Edition [1]

Reason for the supplement:

TB-D5016-TRI-010:

- Increased distance between modules
- Power supply terminal blocks replaced by the corresponding models with screw latching
- Clips for DIN rail replaced
- An optional type designation „TBE-D5016-TRI-010" is added.

TB-D5008-INV-005:

- Earth connector replaced
- Terminal blocks toward field for connection of loop cable shields added

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15.3 **Parameters**

15.3.1 Termination Board type TB-D5016-TRI-010 and TBE-D5016-TRI-010

15.3.1.1 Power supply circuit

Parameter	Value	Plug-in terminal block
Rated voltage (U_n)	DC 24 V	PWR1 and PWR2
Maximum voltage (U_m)	The same value of U_m as of the connected module applies	
PWR1 main power supply terminal, PWR2 redundant power supply terminal		

15.3.1.2 Remote control / data interface circuit

Parameter	Value	Connector
Rated voltage (U_n)	DC ≤ 30 V	COM1
Maximum voltage (U_m) [1]	AC 253 V [2]	
Remarks: [1]) U_m may be disregarded, if Termination Board is fitted only with electronic modules not providing intrinsically safe circuits [2]) If not otherwise specified in the certificate of the plugged-in electronic module providing intrinsically safe circuits		

15.3.2 Termination Board type TB-D5008-INV-005

15.3.2.1 Power supply circuit

Parameter	Value	Plug-in terminal block
Rated voltage (U_n)	DC 24 V (20 V ≤ U ≤ 30 V)	PWR1 and PWR2
Maximum common voltage (U_m)	The same value of U_m as of the connected module(s) applies	
Maximum permitted current consumption (I_n)	4 A	
PWR1 main power supply terminal, PWR2 redundant power supply terminal		

15.3.2.2 Remote control / data interface circuit

Parameter	Value	Connector
Rated voltage (U_n)	DC ≤ 30 V	COM1
Maximum voltage (U_m) [1]	AC 253 V [2]	
Remarks: [1]) U_m may be disregarded, if Termination Board is fitted only with electronic modules not providing intrinsically safe circuits [2]) If not otherwise specified in the certificate of the plugged-in electronic module providing intrinsically safe circuits		

15.3.3 Dummy Pass-Through Module type D6002S, D6002S-xxx

Field- and control-side circuits

Parameter	Device D6002S, D6002S-xxx
Terminals	11, 12
Rated voltage (U_n)	U ≤ DC 30 V [1]
Rated current (I_n)	100 mA [2]
Remark [1]) Identical with parameters present at plug-in terminal block PWR1 and PWR2 of the Termination Board [2]) Maximum permissible load current	

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15.3.4 Relay Output Module D5099S, D5099S-xxx, D6003S, D6003S-xxx
Field- and control-side circuits

Parameter		Device		
		D5099S, D5099S-xxx		D6003S, D6003S-xxx
Terminals	Contact NO	7, 8		7 (-), 8 (+)
	Contact NC	9, 10		9 (-),10 (+)
Contact rating	Voltage (U_n)	AC 250 V	DC 250 V [2]	N/A
	Current (I_n)	5 A [2]	5 A [2]	N/A
	Power (P_n)	1250 VA	140 W	N/A
Rated output	Voltage (U_n)	N/A		DC 24 V (20 V ≤ U ≤ 30 V) [1]
	Current (I_n)	N/A		3 A [2] [3]
	Power (P_n)	N/A		[3]

Remarks:
contact: NO = normally open, NC = normally closed; terminals 7 and 9 internally connected
[1] Identical with parameters present at plug-in terminal block PWR1 and PWR2 of the Termination Board
[2] Maximum permissible load current
[3] For detailed information refer to the graph / the specifications in the manual
N/A = not applicable

15.3.5 Pass-Through Module type D6001*, D6001*-xxx
Field- and control-side circuits

Parameter		Device	
		D6001S, D6001S-xxx	D6001D, D6001D-xxx
Terminals	Channel 1	7, 8	7, 8
	Channel 2	N/A	9, 10
Rated output voltage (U_n)		U ≤ DC 30 V [1])	U ≤ DC 30 V [1])
Rated output current (I_n)		100 mA [2])	100 mA [2])

Remarks:
[1]) Identical with voltage present at terminal board connector of the device
[2]) Derating of available output current versus ambient temperature according to the graph in the manual
N/A = not applicable

15.3.6 Ambient temperature range -40 °C ≤ Ta ≤ +70 °C

16 **Report Number**

BVS PP 18.2160 EU, as of 2021-03-04

17 **Special Conditions for Use**

17.1 Installation in areas requiring EPL Gc equipment

17.1.1

- The Termination Board fitted with electronic modules shall be mounted on a metallic DIN-rail located in a controlled environment providing pollution degree 2 (or better) according to EN 60664-1

and

- In an enclosure, which complies with EPL Gc requirements according to EN 60079-0 / EN 60079-7 and provides degree of IP protection IP54 according to EN 60529, unless the equipment is intended to be afforded an equivalent degree of protection by location.

and

- Transient protection shall be provided that is set at a level not exceeding 140 % of the peak rated voltage value at the supply terminals to the equipment.

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17.1.2 Termination Board, only fitted with electronic modules designed as associated apparatus: only electronic modules providing terminals for intrinsically safe circuits on the same side of module housings shall be used.

17.1.3 Connection or disconnection of energized non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.

17.2 Termination Board, fitted with electronic modules designed as associated apparatus:

17.2.1 Only electronic modules providing terminals for intrinsically safe circuits on the same side of module housings shall be used.

17.2.2 Termination Board, fitted with electronic modules providing only terminals for non-IS circuits: None

18 Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 Drawings and Documents

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2021-03-04
BVS-Ret/MGR A20201072

Managing Director

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