

Translation

EU-Type Examination Certificate Supplement 1

Equipment or Protective System intended for use in potentially explosive atmospheres
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 16 ATEX E 066 X**

Product: **Repeater Power Supply / Analogue Signal Converter and Trip Amplifier
type D5254S / D5254S-xxx**

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

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

This supplementary certificate extends EU-Type Examination Certificate No. BVS 16 ATEX E 066 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 acceptable variations specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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. BVS PP 16.2120 EU.

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 60079-11:2012	Intrinsic Safety "i"
EN 60079-15:2019	Type of protection "n"

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.

This EU-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.

The marking of the product shall include the following:

 **II 3(1)G Ex ec nC [ia Ga] IIC T4 Gc**
II (1)D [Ex ia Da] IIIC
I (M1) [Ex ia Ma] I

DEKRA Testing and Certification GmbH
Bochum, 2022-04-06

Signed: Jörg-Timm Kilisch

Managing Director



13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 16 ATEX E 066 X
Supplement 1**

15 **Product description**

15.1 **Subject and type**

Repeater Power Supply / Analog Signal Converter and Trip Amplifier type D5254S / D5254S-xxx (Option 'xxx' = non Ex-relevant details of function)

15.2 **Description**

The Repeater Power Supply / Analogue Signal Converter and Trip Amplifier is designed as associated apparatus and designated for installation in the safe area or alternatively in areas requiring EPL Gc equipment.

The Repeater Power Supply / Analogue Signal Converter and Trip Amplifier provides fully floating single channel intrinsically safe power supply of IS field devices and transfers current- or voltage-signals to non-intrinsically safe circuits.

Electronic components of the device are arranged on printed-circuit-boards (PCB) packaged in a plastic enclosure, suitable for installation on T35 DIN Rails.

The intrinsically safe circuit provides safe galvanic separation from the non-intrinsically safe circuits on the PCB up to a sum of peak values of rated voltages of 375 V.

Reason for the supplement:

- Update of the hardware
- Update of the standards statuses
 - o EN 60079-0:2012 + A11:2013 to EN IEC 60079-0:2018
 - o EN 60079-15:2010 to EN IEC 60079-15:2019+A1:2018
- Update of the type of protection "nA" to "ec"

15.3 **Parameters**

15.3.1 **Non-intrinsically safe circuit**

15.3.1.1 **Power supply**

Terminals 9(+) 10(-) / termination board connector / Modbus RS485 connector	Voltage		Power
	U _n	U _m	P _n
	DC [V]	AC [V]	[W]
	24	253	≤ 2.7

15.3.1.2 **Relay-contact circuits Alarm A / Alarm B**

Terminals 1/2/3 (Alarm A) Terminals 5/6/7 (Alarm B)	Voltage		Current
	U _n	U _m	I _n
	[V]	AC [V]	[A]
	AC 250	253	4

15.3.1.3 **Analogue 0 (4) – 20 mA output**

Terminals 11/12	Voltage		Current
	U _n	U _m	I _n
	[V]	AC [V]	[mA]
	≤ DC 30	253	0 ≤ I ≤ 25

15.3.1.4 Modbus RS485 interface

Modbus RS485 Connector	Voltage		Current
	U_n	U_m	I_n
	[V]	AC [V]	[A]
	\leq DC 24	253	-

15.3.1.5 Alarm acknowledgement input

Terminals 4/8	Voltage		Current
	U_n	U_m	I_n
	[V]	AC [V]	[A]
	$0 \leq U \leq 25$	253	-

15.3.2 Intrinsically safe field device circuit

Repeater Power Supply / Analogue Signal Converter and Trip Amplifier type D5254S / type D5254S-xxx				
Parameters	Field device connection			
Configuration	2-wire circuit	2-wire circuit	2-wire circuit	
Terminals	13-14 ¹⁾ 13 = TXIN(+) 14 = TXIN(-)	14-16 ²⁾ 14 = IIN(+) 16 = COMIN(-)	15-16 ³⁾ 15 = VIN(+) 16 = COMIN(-)	
Voltage U_o	DC 26 V	DC 1.1 V	DC 1.1 V	
Current I_o	91 mA	56 mA	0.012 mA	
Power P_o	588 mW	16 mW	0.004 mW	
Voltage U_i	N/A	AC / DC 30 V	AC / DC 30 V	
Current I_i	N/A	128 mA	N/A	
Power P_i	N/A	N/A	N/A	
Effective internal capacitance C_i	2.1 nF	2.1 nF	2.1 nF	
Effective internal inductance L_i	0 μ H	0 μ H	0 μ H	
Max. external capacitance C_o	IIC	96 nF	⁴⁾	⁴⁾
	IIB IIIC	767 nF	⁴⁾	⁴⁾
	IIA	2.579 μ F	⁴⁾	⁴⁾
	I	4.497 μ F	⁴⁾	⁴⁾
Max. external inductance L_o	IIC	4.34 mH	⁴⁾	⁴⁾
	IIB IIIC	17.36 mH	⁴⁾	⁴⁾
	IIA	34.72 mH	⁴⁾	⁴⁾
	I	56.96 mH	⁴⁾	⁴⁾
Max. inductance / resistance ratio L_o/R_o	IIC	N/A	⁴⁾	⁴⁾
	IIB IIIC	242.2 μ H/ Ω	⁴⁾	⁴⁾
	IIA	484.4 μ H/ Ω	⁴⁾	⁴⁾
	I	794.7 μ H/ Ω	⁴⁾	⁴⁾
Characteristics	linear	linear	linear	
Remarks:				
1) TXIN(+)/TXIN(-): field device power supply circuit;				
2) IIN(+)/COMIN(-): current signal input;				
3) VIN(+)/COMIN(-): voltage signal input				
4) C_o , L_o and L_o/R_o parameters are determined by maximum allowed parameters of field device				
NOTE: configuration of operation mode is programmable via Modbus RS 485 connector on the non-IS side of the device				

15.3.3 Ambient temperature range $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +70^{\circ}\text{C}$

16 Report Number

BVS PP 16.2120 EU, as of 2022-04-06



Page 3 of 4 of BVS 16 ATEX E 066 X / N1 – Jobnumber 342370000
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

17 **Special Conditions for Use**

17.1 Group I application:

The Repeater Power Supply / Analogue Signal Converter and Trip Amplifier type D5254S / type D5254S-xxx shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.

17.2 Group II application (Gas)

The Repeater Power Supply / Analogue Signal Converter and Trip Amplifier type D5254S / type D5254S-xxx shall be installed:

- outside the hazardous area, or
- in case of alternative installation in areas requiring EPL Gc equipment:
 - The equipment shall only be used in an area of at least pollution degree 2, as defined in EN 60664-1.
 - The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP 54 in accordance with EN IEC 60079-0.

17.3 Group III application (Dust)

The Repeater Power Supply / Analogue Signal Converter and Trip Amplifier type D5254S / type D5254S-xxx shall be installed outside the hazardous area.

17.4 General

The installation of the Repeater Power Supply / Analogue Signal Converter and Trip Amplifier type D5254S / type D5254S-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.

18 **Essential 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, 2022-04-06
BVS-Ret/MGR A20210558



Managing Director