



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX BVS 16.0043X** issue No.: **0** Certificate history: _____

Status: **Current**

Date of Issue: **2016-07-08** Page 1 of 3

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

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

Type of Protection: **Equipment protection by intrinsic safety "i", Equipment protection by type of protection "n"**

Marking: **Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I**

Approved for issue on behalf of the IECEx Certification Body: **Dr. F. Eickhoff**

Position: **Deputy Head of Certification Body**

Signature:
(for printed version)

Date:

2016-07-08

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

 **DEKRA**
On the safe side.



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

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 electrical apparatus 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 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical 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/ExTR16.0049/00

Quality Assessment Report:

NO/DNV/QAR07.0005/06



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

General product information:

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.

Type Code:

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

Description

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.

Ratings:

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

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.

2. Group II application:

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

- outside the hazardous area, or
- shall be mounted inside an enclosure, which is in accordance with IEC 60079-15 in case of alternative installation in areas requiring EPL Gc equipment.

3. Group III application:

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

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 IEC 60079-11:2011.

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Ratings:

1 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 2.597 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
Ambient temperature range	$-40\text{ }^\circ\text{C} \leq T_a \leq +70\text{ }^\circ\text{C}$		
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 RS485 connector on the non-IS side of the device			
N / A = not applicable			

2 Non-intrinsically safe power supply circuit

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

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3 Non-intrinsically safe signal circuits

3.1 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

3.2 Analogue 0 (4) – 20 mA output

Terminals 11/12	Voltage		Current
	U_n	U_m	I_n
	[V]	AC [V]	[mA]
	\leq DC 30	253	$0 \leq I \leq 25$

3.3 Modbus RS485 interface

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

3.4 Alarm acknowledgement input

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

Listing of all components used referring to older standards:

Not applicable