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 DNV 07.0001 issue No.:0

Certificate history:

Status: **Current**

Date of Issue: **2007-07-03** Page 1 of 3

Applicant: **G.M.International s.r.l**
Via San Fiorano, 70
20058 Villasanta
Milano
Italy
Italy

Electrical Apparatus: **Repeater power supply and trip amplifier D1054S, Fieldbus Isolating repeater D1061S and Strain Gauge Bridge Isolating Repeater D1063S**

Optional accessory:

Type of Protection: **Intrinsic safety Ex-i**

Marking: **IECEx DNV 07.0001**
[Ex ia] IIC
-20C ≤ Tamb ≤ +60C

Approved for issue on behalf of the IECEx Certification Body:

Position:

Signature:
(for printed version) _____

Date: _____

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.

Certificate issued by:

DNV
Det Norske Veritas (DNV) Certification AS
Veritasveien 1
1322 Hovik
Norway

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Manufacturer: **G.M.International s.r.l**
Via San Fiorano, 70
20058 Villasanta
Milano
Italy
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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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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:

NO/DNV/ExTR07.0001/00
NO/DNV/ExTR07.0002/00

Quality Assessment Report:
NO/DNV/QAR07.0005/00

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

CONDITIONS OF CERTIFICATION: NO

Annexe: Annex to IECEx DNV 07.pdf

D1054S:

The D1054S is designed as a single channel galvanic isolator. The safe output is based on the zener diodes DZ1 to DZ6, D1 to D6 nd R2 to R5 for loop powered input connection. For passive (non loop powered) input connection the safety is based on the diodes D1 to D6 and resistors R1 and R80. The isolating transformer T1 provides galvanic isolation between IS and non IS circuits, and fuse F2 protects the transformers windings from overload.

Input:		Output:		Output between +TX and +IN, Terminals 14 and 15		Output between +IN and -IN, Terminals 15 and 16		
Um	250V	Uo =		26,7 V		Uo =	1,1 V	
Ui	30V DC	Io =		90.76 mA		Io =	56 mA	
Ii =	182,2 mA	Po=		611 mW		Po=	16 mW	
		Lo=	IIA	34,5	mH	Lo=	IIA	90,7	mH
			IIB	17,2	mH		IIB	45,3	mH
			IIC	4,3	mH		IIC	11,3	mH
		Co=	IIA	2,39	µF	Co=	IIA	1000	µF
			IIB	720	nF		IIB	1000	µF
			IIC	35	nF		IIC	100	µF
		L_0/R_0	IIA	462,48	µH/Ω	L_0/R_0	IIA	18,618	mH/Ω
			IIB	231,24	µH/Ω		IIB	9,309	mH/Ω
			IIC	57,81	µH/Ω		IIC	2,327	mH/Ω

D1061S:

D1061S is a galvanic isolator designed to transfer bidirectional serial communication from Hazardous area equipment and convert their signals to drive bidirectional non-IS digital communication systems located in safe area. The safe output is based on the zener diodes DZ1, DZ2, DZ3 and shunt crowbar TRIAC TR1, TR2, TR3 driven respectively by IC15, IC16 and IC17, which limits the maximum output voltage. The resistors R1, R2,R3 and R4 limits the maximum output current. The isolating transformer T1 provides galvanic isolation between IS and non IS circuits, and fuse F1 protects the transformers windings from overload.

Input:		Output:		
Um =	250V	Uo =		3,65 V
Ui =	30V DC	Io =		224,81 mA
Ii =	282,58 mA	Po=		205,14 mW
		Lo=	IIA	5,6 mH
			IIB	2,8 mH
			IIC	0,7 mH
		Co=	IIA	1000 µF
			IIB	1000 µF
			IIC	100 µF
		L_0/R_0	IIA	1386 µH/Ω
			IIB	693 µH/Ω
			IIC	173 µH/Ω

D1063S:

The single channel DIN-Rail Strain Gauge Isolating Repeater D1063S acts as a transparent galvanic isolated interface installed between a weighing indicator in safe area and a load cell (or group of load cells) in hazardous area. The Repeater Power Supply contains electronic circuitry including transformers that provide galvanic isolation between the hazardous and non-hazardous area circuitry, zener diodes to limit the output voltage and resistors to limit the output current. This is housed in a plastic enclosure with external terminals.

Input: Terminals 1 to 8		Output:		Output Terminals 9, 10, 11 and 12 (including terminals 13 and 14)		Output Terminals 13 and 14			
Um =	250V	Uo =		17,3 V		Uo =		17,3 V	
		Io =		199,6 mA		Io =		8 mA	
		Po=		864 mW		Po=		35 mW	
		Lo=	IIA IIB IIC	6,8 3,4 0,85	mH mH mH	Lo=	IIA IIB IIC	2,4 1,2 0,3	H H H
		Co=	IIA IIB IIC	8,5 2,06 353	µF µF nF	Co=	IIA IIB IIC	8,5 2,06 353	µF µF nF
		L_0/R_0	IIA IIB IIC	329,6 164,8 41,2	µH/Ω µH/Ω µH/Ω	L_0/R_0	IIA IIB IIC	8,22 4,11 1,02	mH/Ω mH/Ω mH/Ω