



## TYPE APPROVAL CERTIFICATE

**Certificate No.** : MIL20769-EL001                      **Initial Approval** : 8th August, 2007  
**Product** : Intrinsically Safe Isolators  
**Manufacturer** : G.M. International srl  
Via G. Mameli, 53-55, I-20852 Villasanta (MB), ITALY  
**Product Description** : Type : D1000 series  
" See Appendix 1 & 2 "

**Approval Condition** : " See Appendix 2 "

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

Pt. 6, Ch. 1, Section. 9 of the Rules for Classification, Steel Ships

This Certificate is valid until 7th August, 2022  
Issued at Busan, Korea on 25th May, 2018



**KOREAN REGISTER OF SHIPPING**

*General Manager of  
Marine & Ocean Equipment Team*

- Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.  
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.  
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.  
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.*

## Appendix 1

# Product Description and/or Approval Condition

Certificate No : MIL20769-EL001

Date of Issue :25 May, 2018

### A. Product Description

#### 1. Product Specification

Type	Channel	Description	Reference Document No.
<b>Analog input</b>			
D1010S/D	1/2Ch	Repeater Power Supply Smart-Hart Compatible	DTS0016-20
D1010S/D-046	1/2Ch	Repeater Power Supply Smart-Hart Compatible	DTS0188-12
D1012Q	4Ch	Quadruple Repeater Power Supply	DTS0189-11
D1014S/D	1/2Ch	Repeater Power Supply Smart-Hart Compatible	DTS0181-16
D1054S	1Ch	Repeater Power Supply and Trip Amplifiers	DTS0183-16
<b>Analog output type</b>			
D1020S/D	1/2Ch	Powered Isolating Driver Smart-Hart Compatible	DTS0017-18
D1021S	1Ch	Powered Isolating Driver with Fault detection Smart-Hart compatible	DTS0133-12
D1022S/D	1/2Ch	Loop Powered Current Repeater	DTS0195-8
<b>Digital input</b>			
D1030S/D	1/2Ch	Switch/Proximity Detector Repeater Relay Output	DTS0020-15
D1130S/D	1/2Ch	Switch/Proximity Detector Repeater Relay Output	DTS0173-14
D1031D/Q	2/4Ch	Switch/Proximity Detector Repeater Transistor Output	DTS0023-18
D1032D/Q	2/4Ch	Switch/Proximity Detector Repeater Relay Output	DTS0148-14
D1033D/Q	2/4Ch	Switch/Proximity Detector Repeater Transistor Output	DTS0151-18
D1034S/D	1/2Ch	Switch/Proximity Detector Interface	DTS0182-12
D1035S	1Ch	Frequency-Pulse Isolating Repeater	DTS0194-8
<b>Digital Output</b>			
D1040Q~43Q		Digital Out Loop/Bus Powered	DTS0038-16
D1044S/D		Digital Relay Out Loop/Bus Powered	DTS0241-9
D1045Y		Digital Out Loop/Bus Powered	DTS0243-6
D1046Y		Digital Out Loop/Bus Powered	DTS0244-6
D1048S		Digital Out Driver, NE Loads, Loop Powered	DTS0246-7
D1049S		Digital Out Driver, NE Loads, Bus Powered	DTS0247-9
<b>Signal Converter and Trip Amplifier</b>			
D1052S/D	1/2Ch	Analog Signal Converter, Duplicator, Adder/Subtractor	DTS0040-13
/X/Y			
D1053S	1Ch	Analog Signal Converter and Trip Amplifier	DTS0041-13
D1060S	1Ch	Frequency-Pulse Converter, Repeater and Trip Amplifiers	DTS0162-13
D1062S	1Ch	Vibration Transducer Interface	DTS0198-8
<b>Serial Line Converter</b>			
D1061S	1Ch	RS 422 / RS 485 Isolating Repeater	DTS0184-10
D1061S-077	1Ch	RS 422 / RS 485 Fieldbus Isolating Repeater	DTS0352-1

< To be continued >

## Appendix 2

# Product Description and/or Approval Condition

Certificate No : MIL20769-EL001

Date of Issue :25 May, 2018

Type	Channel	Description	Reference Document No.
Load Cell Isolator Converter			
D1063S	1Ch	Load Cell/Strain Gauge Bridge Isolating Repeater	DTS0185-9
D1064S	1Ch	Load Cell/Strain Gauge Bridge Isolating Converter	DTS0239-8
Temperature Converter			
D1072S/D	1/2Ch	Temperature Signal Converter, Duplicator, Adder/Subtractor	DTS0025-23
D1073S	1Ch	Temperature Converter and Trip Amplifiers	DTS0043-20
Flammable Liquid Presence Detector - Interface			
D1080D	2Ch	Flammable Liquid Presence Detector Interface Relay Output	DTS0178-9
D1081D	2Ch	Flammable Liquid Presence Detector Interface Transistor Output	DTS0179-9
D1180D	2Ch	Flammable Liquid Presence Detector Interface Relay Output	DTS0180-9
Safety Relay			
D1092S/D	1/2Ch	Relay Output Module	DTS0240-12
D1092S/D-069	1/2Ch	Relay Output Module	DTS0248-9
D1093S	1Ch	Relay Output Module with Line and Load diagnostics	DTS0242-14
Power Supply			
PSD1000	1Ch	Universal AC input Switching Power Supply 24 Vdc Output	DTS0165-8
PSD1000F	1Ch	Universal AC input Switching Power Supply 24 Vdc Output	DTS0165-8
PSD1001	4Ch	Power Supply for Hazardous Area Equipment	DTS0145-12
PSD1001C	1Ch	Power Supply for Hazardous Area Equipment	DTS0187-10
PSD1004	1Ch	Instinsically Safe 5V Supply Module	DTS0191-4

## 2. Approved Drawings and documents

N/A

## 3. Test Reports, etc.

- 1) DNV technical report No. 2006-3120 rev.02
- 2) No. 57399, 344618-1, 57399, 157730-1 TRFEMC issued by Nemko S.p.A

## B. Approval Condition

### 1. Application & Limitation

- 1) This approval is granted on the basis of the test report and the approved documentation.

### 2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is not required.

### 3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

### 4. Others

N/A

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