

# Company Profile



# A safe working enviro for today and future



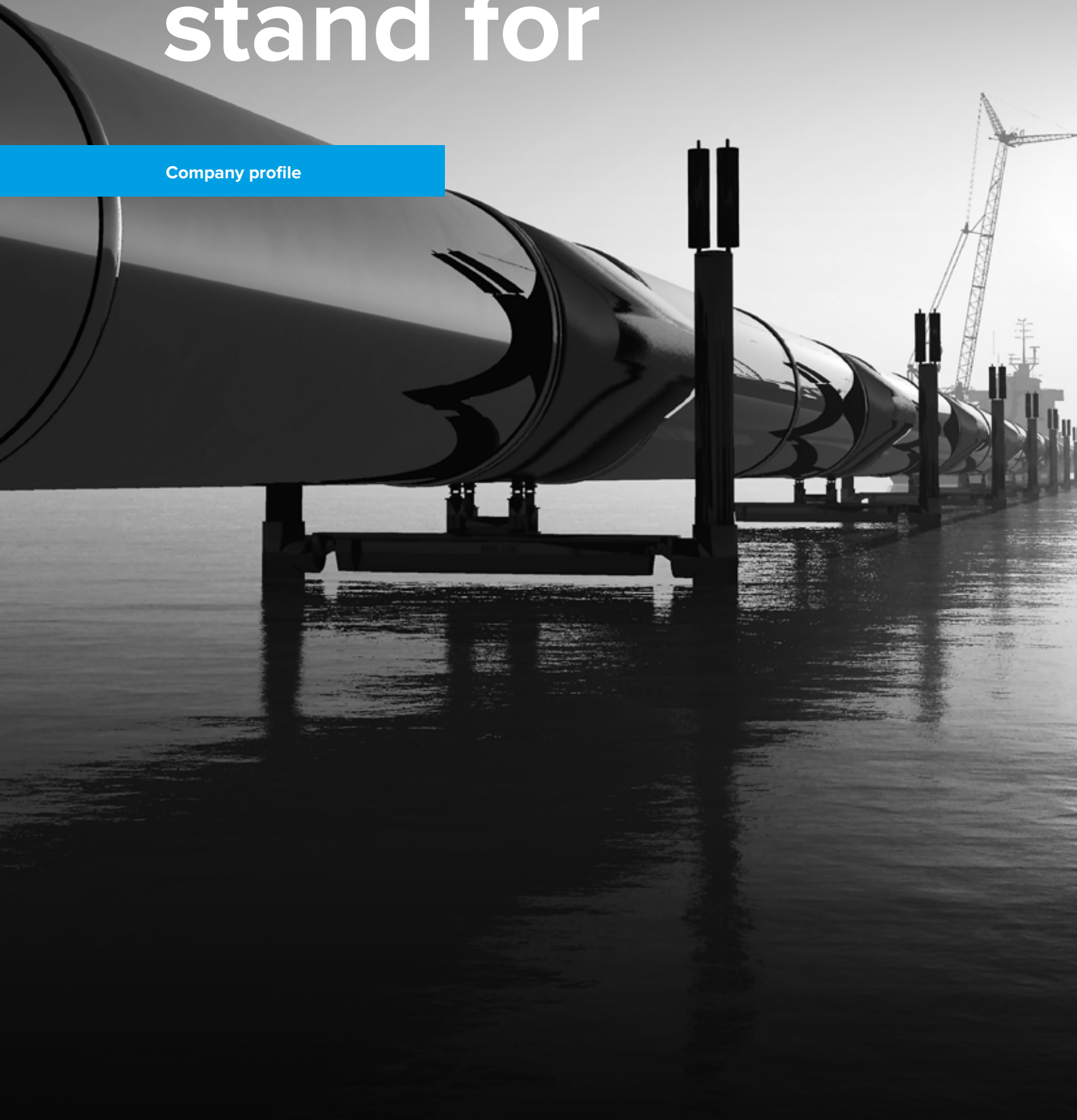
# onment generations



# 01

# What we stand for

Company profile



# OVER 40 YEARS IN INTRINSIC SAFETY AND INDUSTRIAL ELECTRONICS



*Glisente Landrini  
President*

In 1970 Glisente Landrini founded Elcon Instruments, which has been acknowledged as an international leader in the design and manufacturing of Intrinsically Safe products and systems. Mr. Landrini started GM International to provide state of the art SIL rated products and services to support Intrinsically Safe applications in Oil & Gas, Petrochemical and Pharmaceutical Industries.

The Company was founded in 1993, but the core management's experience remarkably exceeds over 40 years of qualified activity in hazardous locations and industrial electronics. GM International's products have been successfully installed in plants all over the world, including Europe, Russia, North America, Middle and Far East and China.

GM International's products interface all wiring between safe and hazardous areas and represent a fundamental, yet often underestimated, layer of the instrumentation package.

Intrinsically Safe isolators provide energy limitation to protect from risks of explosion while providing the highest grade of availability to guarantee both continuous operation and maximum safety effectiveness.



# Safety, performance and reliability

## OUR PRODUCTS, OUR COMMITMENT

GM International designs, engineers and manufactures a complete range of Intrinsically Safe and SIL 3 certified devices that meet the stringent quality requirements, ensuring the highest production standards in Intrinsically Safe applications. Our products are used in automation packages such as DCS - ESD - FGS - BMS - HIPPS - PLC - SCADA, in several industrial sectors: Oil & Gas, Petrochemical, Pharmaceutical, Fertilizer, Mining, Food & Beverages, Marine.

## SOCIAL RESPONSIBILITY

We design Intrinsically Safe Instruments and SIL certified devices in order to prevent accidents and understand, manage and reduce risks for people and environment.

Customers satisfaction is the way we demonstrate our social responsibility to contribute to sustainable development, minimizing climate impact and creating a safe and healthy working environment.

GM International has obtained SIL 3 Functional Safety Management approval by TUV according to IEC 61508:2010 standard.



# CERTIFIED INTRINSICALLY SAFE PRODUCTS

## Highest levels of safety

### INTRINSICALLY SAFE PRODUCTS AND IEC61508:2010 SIL CERTIFICATIONS

GM International products have been granted I.S. certificates from the most credited Notified Bodies in the world. Certificates are available for ATEX (Europe), IECEx (International), UL/FM (USA and Canada), EAC-EX (Russia CTU and Ukraine), NEPSI (China), PESO (India), TIIS (Japan), INMETRO (Brazil). All certificates are available for download from our website.

GM International offers a wide range of products that have been proved to comply with the most severe quality and safety requirements. IEC61508 and IEC61511 standards represent a milestone in the progress of industry in the achievement of highest levels of safety through the entire instrumented system lifecycle. The majority of our products are SIL certified as well as our design, manufacturing and administrative facilities (FSM); reports and certificates from TÜV are also available for download.



# MANUFACTURING EXCELLENCE FOR A SAFE WORLD

## Our values

### **RESPONSIBILITY**

“Responsible technology, across generations”: This motto drives our long-term responsibility. We design Intrinsically Safe and SIL 3 Instrumentation to prevent accidents and reduce risks for people and environment.

Our goal is to create a safe working environment and to contribute to a sustainable development, minimizing the impact on climate and reducing risks for today and future generations.

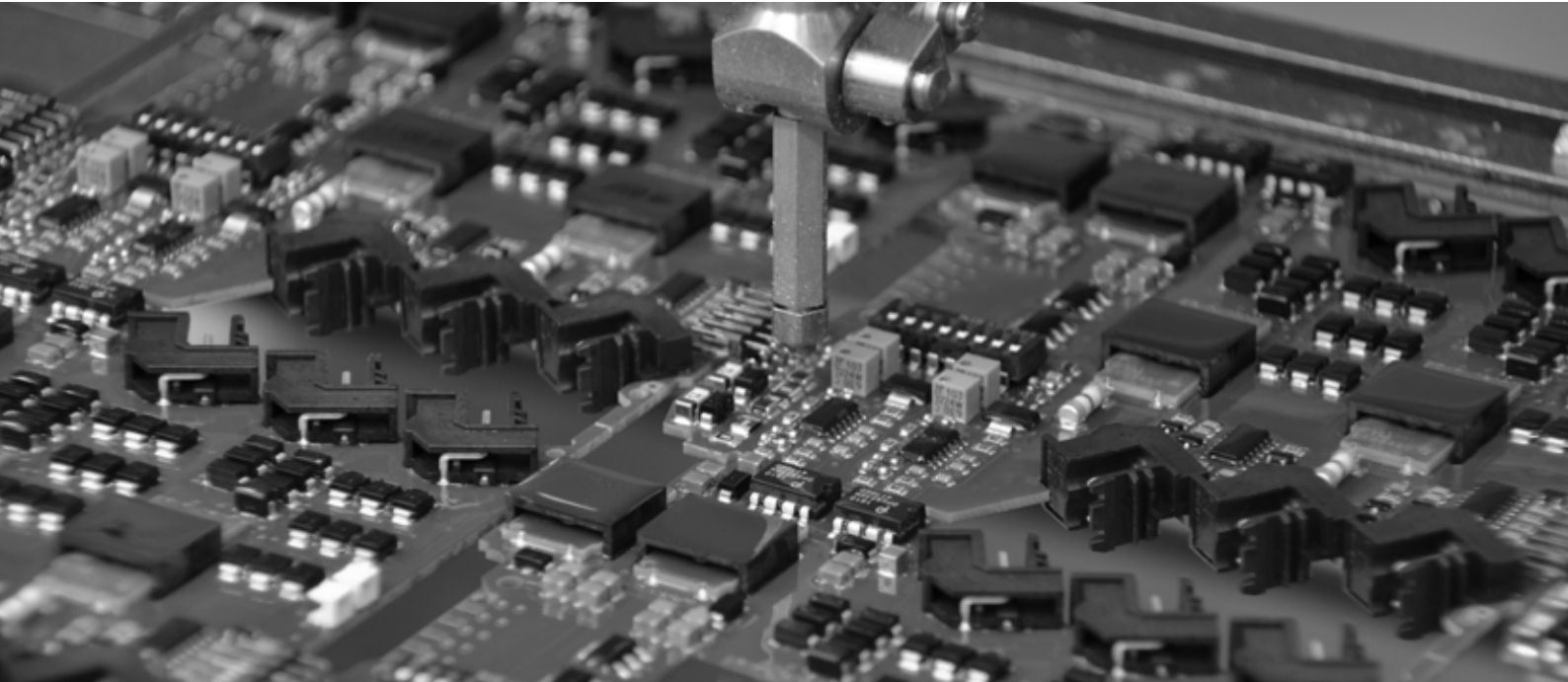
Safety can be perceived as a burden and a cost, instead of an advantage with a reduction in overall ownership costs. Our goal is to raise market awareness for the importance of safety in all industrial processes, and as a human fundamental value.

### **EXPERTISE AND INNOVATION**

Our experience remarkably exceeds over 40 years of qualified activity in Intrinsic Safety and Industrial Electronics.

Every year, we invest approximately 10 % of our revenues into research, testing, and certifications to create innovative solutions that provide our customers with a clear and true competitive edge.





## QUALITY

Quality means complete customer satisfaction; that is defect-free products and custom tailored services with consistent quality at the highest level.

All our products must conform to the most severe specifications worldwide. This is why over 10% of our employees are dedicated to research and development for the innovation of our products.

Furthermore, our production facilities are located in our Italian headquarters to retain direct control of the manufacturing processes and maintain the highest level of standards. Decision not to migrate or outsource to a low-cost country; quality that turns into actual behaviors.

## RELIABILITY

We continuously insure that the performances of our products, services, and quality system meet or exceed customer requirements.

The Management of GM International recognizes that human resources play an important role in the achievement of its objectives.

GM International is committed to conducting business ethically and with respect towards employees, customers, partners, society, and the environment.



## TRANSPARENCY

At GM International we aim to maintain transparent relationships, not only within our team, but also with our customers and partners.

We are proud to show the high value of our people, products, processes, and organization transparently.

Relationships strengthen when people become more transparent with one another; and a company or individual who does not disclose or share information should not be trusted.

## WORK ETHIC

At GM International we have the responsibility to not support or contribute to violence and human rights violations for any reason and by any means.

We work to ensure that all our products and their subcomponents do not contain conflict minerals sourced from mines that support or fund conflict in the DRC and neighboring countries; moreover, we are committed to ensure that child labor is not involved in any of the processes leading to our final products.

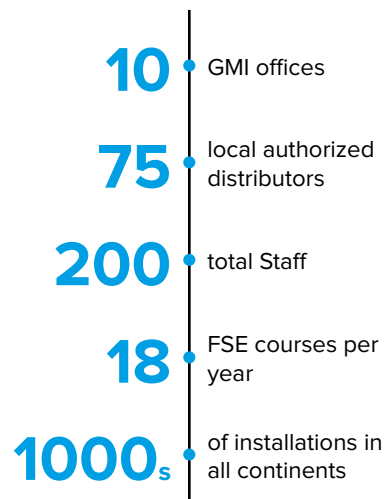
# WE ARE WHERE YOU NEED

## Worldwide presence

### THINK GLOBAL, ACT LOCAL

GM International offers localized pre- and post-sales support through its network of subsidiaries and partners. Our sales network ensures fast response wherever you are.

Visit our website [www.gminternational.com](http://www.gminternational.com) to find the GMI office or Official Partner near you and take advantage of the GMI global sales network.



# TRAINING COURSES AND FUNCTIONAL SAFETY SERVICES

## Training courses

### CUSTOMER TRAINING

Specialty courses for engineering companies, end users and system integrators are held on topics such as Intrinsic Safety (IS) and Safety Instrumented System (SIS).

GM International is a course promoter of the TÜV Rheinland Functional Safety Program for Safety Instrumented Systems (SIS) trainings; see our website for available dates.

Our SIL MANUAL has gained strong popularity with over 50.000 copies delivered.



*SIL Manual 4th Edition*



## Functional Safety services

### YOUR SAFETY EXPERTS

#### SIL VERIFICATION

We verify the capability of Safety Instrumented Functions in accordance with IEC 61508 and IEC 61511 by quantifying the effects of random hardware failures such as PFD or Frequency of Dangerous Failures (PFH), calculating the hardware safety integrity architectural constraints including Safe Failure Fraction (SFF), Hardware Fault Tolerance (HFT) and Common Cause Failure (CCF).

#### FUNCTION SAFETY ASSESSMENTS

Independent functional safety assessments are conducted by our experts to advise if functional safety and safety integrity have been achieved by the Safety Instrumented System in accordance with IEC 61508.

#### FUNCTIONAL SAFETY MANAGEMENT

This relates to how functional safety requirements and procedures are implemented during a project. We provide assistance or create and maintain in its entirety, the Functional Safety Lifecycle and Management requirements for clients in accordance with IEC 61511.

#### QUANTITATIVE RISK ASSESSMENTS

Our experts have delivered numerous QRA projects using our QRA Life Cycle methodology which have contained many different activities.

#### PROCESS HAZARD ASSESSMENT

Our certified independent expert facilitators will perform the necessary preparation activities, then chair and deliver the appropriate reporting for the qualitative PHA activities including: HAZID, HAZAN, HAZOP, CHAZOP and FMEA.

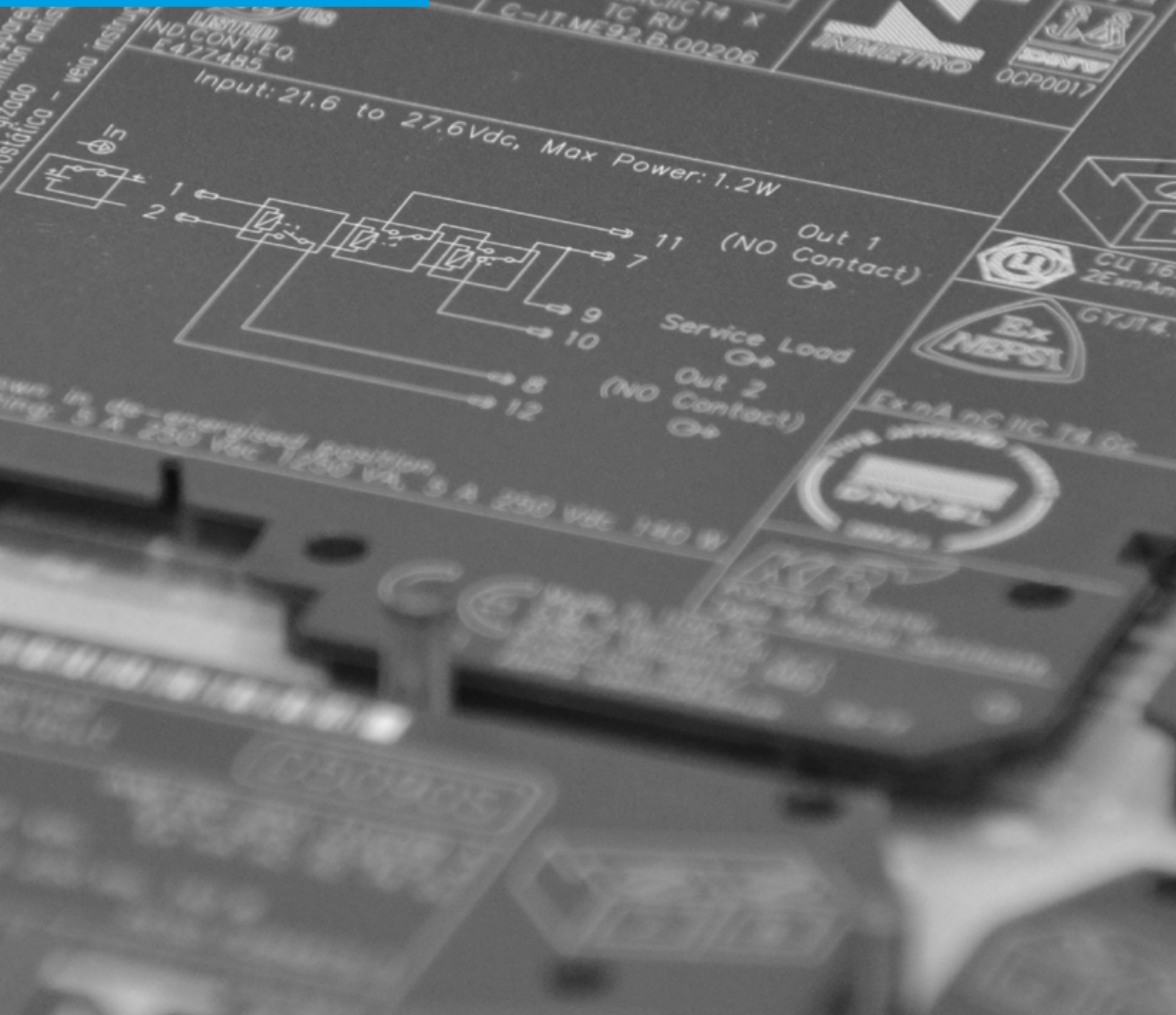
#### SAFETY REQUIREMENTS SPECIFICATIONS

Our experts compile conceptual and detailed Safety Requirements Specifications to meet IEC 61511 requirements.

# 02

# Our technology

Product overview



# Intrinsically safe products and SIL devices

From the latest intrinsically safe interface, to safety relays for high integrity applications, to enhanced power supply units with high availability, GM International products represent the most advanced solution for today's critical applications.

Our products are certified up to SIL 3 and offer the highest levels of functional safety and availability for any application..

## Intrinsically Safe Isolators



D5034S

### D5000 SERIES

- Slim 12,5 mm modules in single, dual or multi-channel configuration
- Certified for operation in -40 to +70 C° temperature range
- Low power consumption and heat dissipation
- Universal Mounting: DIN-Rail, power bus and termination board
- 2.500 Volts of Isolation
- Marine Type approval
- G3 coating
- Certified for 20 years of operation according to IEC 61508:2010 (ed.2)
- Suitable for Zone/Division 2 installation
- Remote monitoring feature via RS 485 Modbus



D1042Q

### D1000 SERIES

- High Density with up to 4 channels in 22.5 mm enclosure
- Certified for operation in -40 to +60 C° temperature range
- Standard TS35 mm DIN-Rail and power bus mounting
- Easy accessible plug-in enclosure
- 1.500 Volts of Isolation
- Marine Type approval
- G3 coating
- Certified for 10 years of operation according to IEC 61508:2010 (ed.2)
- Suitable for Zone/Division 2 installation



## Safety Relays



D5096S

### SMART RELAYS

- Smart units with transparent line and load monitoring feature for both NE and ND applications
- Suitable for operation in -40 to +70 C° temperature range
- High availability and extended T-Proof intervals
- Universal Mounting: DIN-Rail, power bus and termination board
- Third Party SIL 3 Certified according to IEC 61508:2010 (ed.2)
- LED Indication for power, signal status and line fault condition
- Marine Type approval
- G3 coating
- Suitable for Zone/Division 2 installation
- Remote monitoring feature via RS 485 Modbus



## Galvanic Isolators



D6030S

### D6000 SERIES

- Slim 12,5 mm modules in single, dual or multi-channel configuration
- Certified for operation in -40 to +70 C° temperature range
- DIP switches / Software configurability for easy set-up
- Universal Mounting: DIN-Rail, Power Bus and Termination Board
- Third Party SIL 3 Certified according to IEC 61508:2010 (ed.2)
- LED Indication for power, signal status and line fault condition
- 2.500 Volts of Isolation
- Marine Type approval
- G3 coating
- Remote monitoring feature via RS 485 Modbus



## SIL 3 / Ex Surge Protectors



D9410S

### D9000 SERIES

- Slim 6,2 mm enclosure with or without removable plug module
- SIL 3 Certified according to IEC 61508:2010 (ed.2)
- Ex applications: Input from Zone 0 (Zone 20)
- EX certified for installation up to Zone 1
- Local and remote fault condition indication
- Hart signal compatible
- Disconnection of signal circuit by knife or screw





## SIL 2 / SIL 3 Power Supplies



PSW1250

### PSX1200 SERIES

- Third Party SIL 3 Certified according to IEC 61508:2010 (ed.2)
- Certified for Zone/Division 2 installation
- Hot-Swappable module for Rack version
- Suitable for operation in -40 to +70 C° temperature range
- Guaranteed availability with over and under output voltage protection
- Certified up to SIL 3 by thirdparty, according to IEC 61508:2010 (ed.2)
- Remote monitoring feature via RS 485 Modbus and remote/local fault indication
- G3 coating



## SIL 3 HART Interface Solution



5700

### HART MULTIPLEXER SYSTEM

- Innovative space and cost saving solution with
- up to 256 channels per module
- Overall architecture suitable for up to 16.128 channels
- Termination Boards available for any application
- SIL 3 Certified according to IEC 61508:2010 (ed.2)
- Optimal communication performance
- with 115.200 bps baud rate
- Certified for Zone/Division 2 installation
- Suitable for operation in -40 to +70 C° temperature range



## Temperature/Digital I.S. Multiplexer



GM2330-SS-68-NB-M20 with two D2010M and two D2011M inside

### D2000 SERIES

- Proven solution to drastically reduce field wiring and installation costs
- Up to 256 channels per module and 7.936 channels per system
- Up to 5 Km from field units to Control Room
- Redundant field and control room communication lines
- Optimal communication performance with 115.200 bps baud rate
- Certified for Zone/Division 1 installation without the need of EX-e or Ex-d enclosures
- Suitable for operation in -40 to +60 C° temperature range



## Custom & Universal Termination Boards



Customized or standard, with customizable connection cable

### TERMINATION BOARD

- Suitable for SIL 3 applications
- High Density and compact design with up to 64 Channels per TB
- Single, Dual and Redundant connection solutions available
- Custom versions available for most DCS, ESD and PLC systems
- Universal installation of AI, AO, DI, DO, for IS or NIS modules
- Redundant power supply with local and remote alarm indication
- HART Compatible and suitable for connection to HART Multiplexer
- Optional G3 coating



## Field Mounted I.S. Programmable Display



T3000

### T3000 SERIES

- High Visibility 4,5 digit, 20 mm high LCD display
- Very low voltage drop for series connection
- Universal, IP66 Enclosure for panel, pipe or wall mounting
- Fully field programmable indication
- Under and over range detection

## Software and configuration tools



- Configuration software for all products can be downloaded from our website free of charge; several on-line and off-line application tools are also available for downloading or upon request. For more information: [www.gminternational.com](http://www.gminternational.com).



