

gmi
technology for safety

A safe working environment for today and future



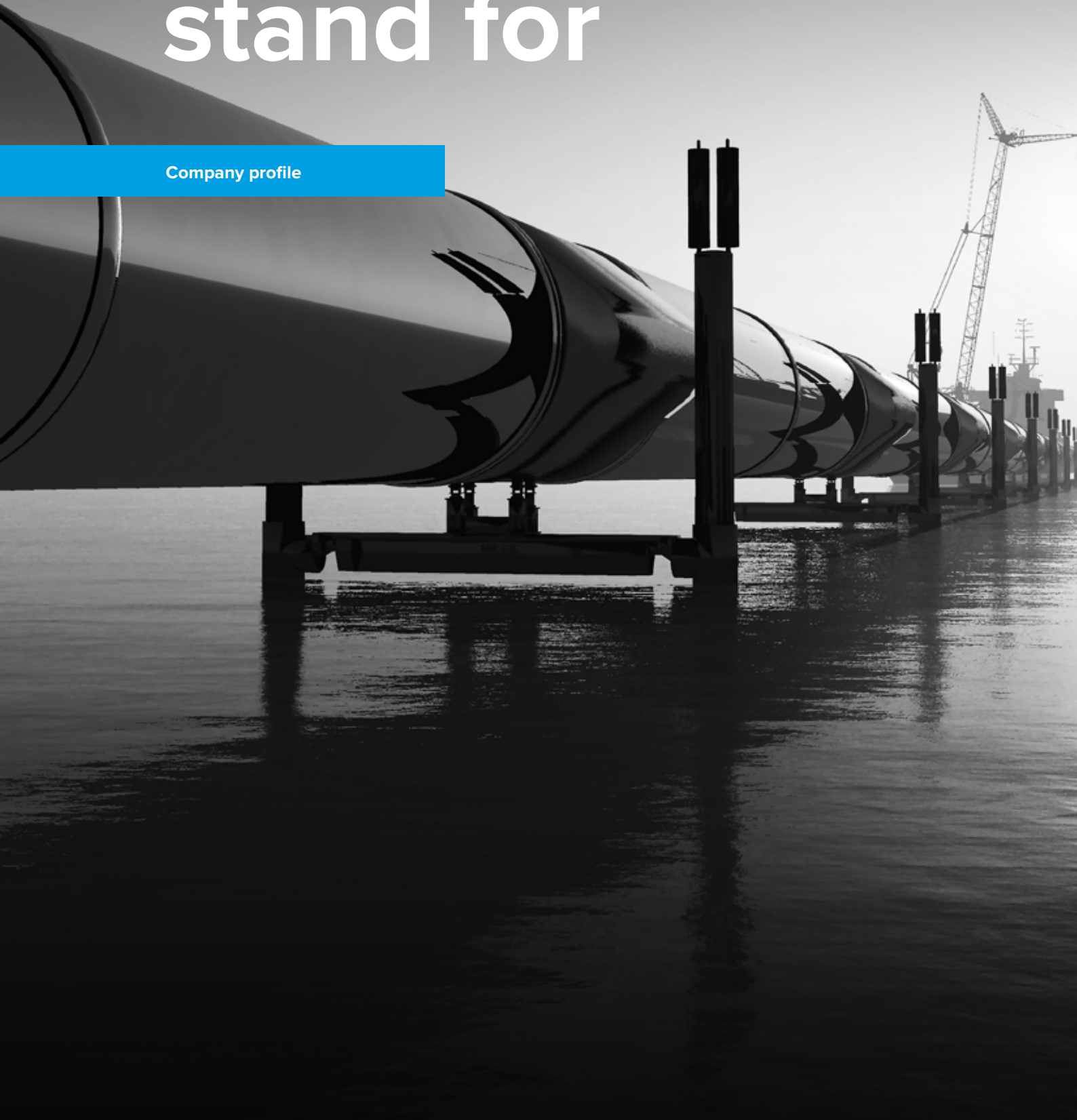
onment generations



01

What we stand for

Company profile



OVER 40 YEARS IN INTRINSIC SAFETY AND INDUSTRIAL ELECTRONICS



*Glisente Landrini
President and Managing Director*

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 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 effectiveness of the safety layer.



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 stringest 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.

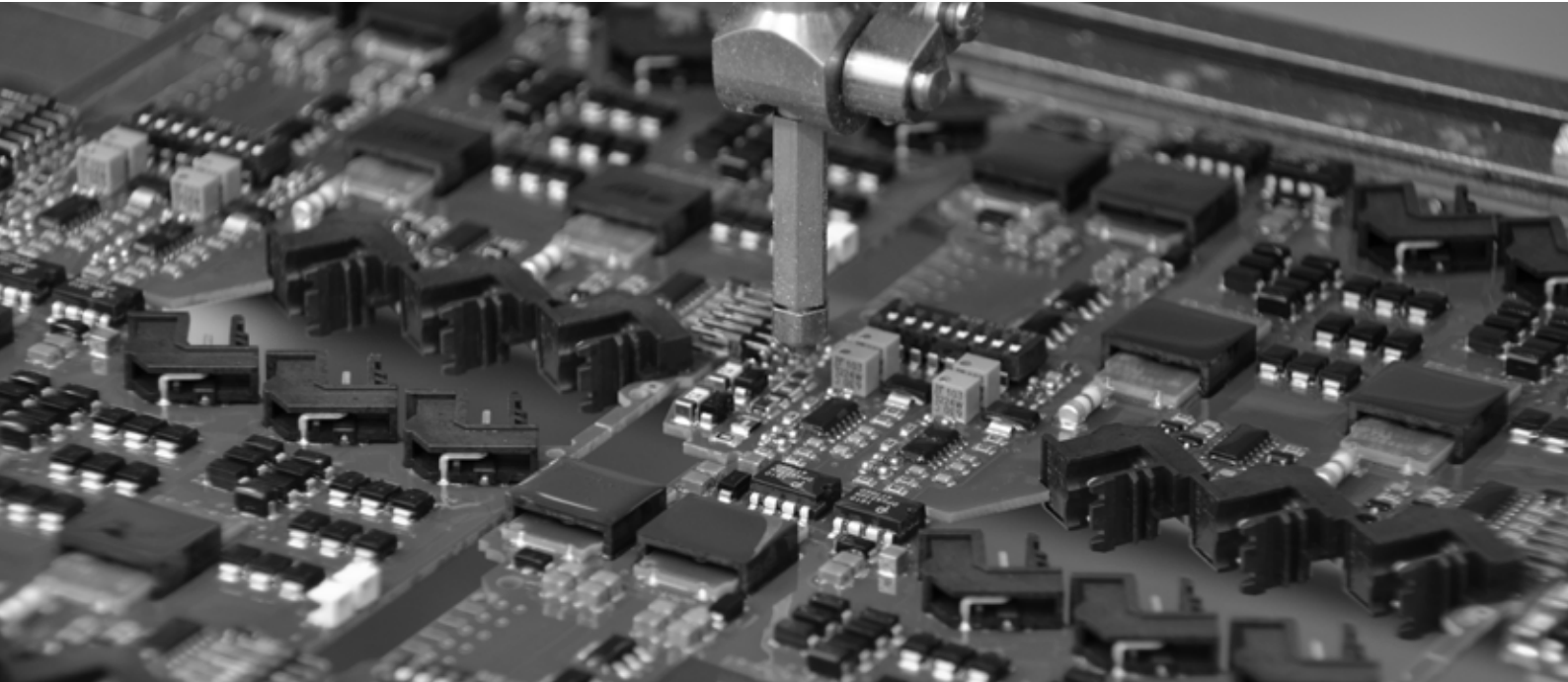
Our goal is to create a safe working environment and to contribute to a sustainable development, minimizing the impact on climate and reducing risks for today and future generations.

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.

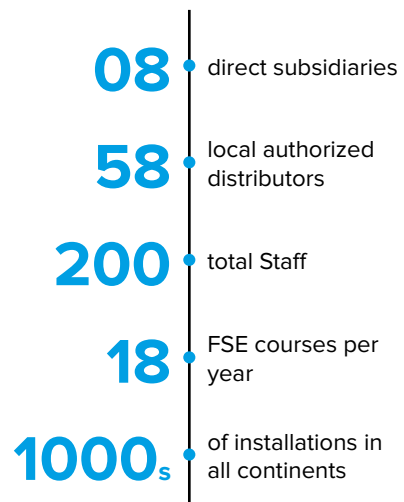
WE ARE WHERE YOU NEED

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 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.

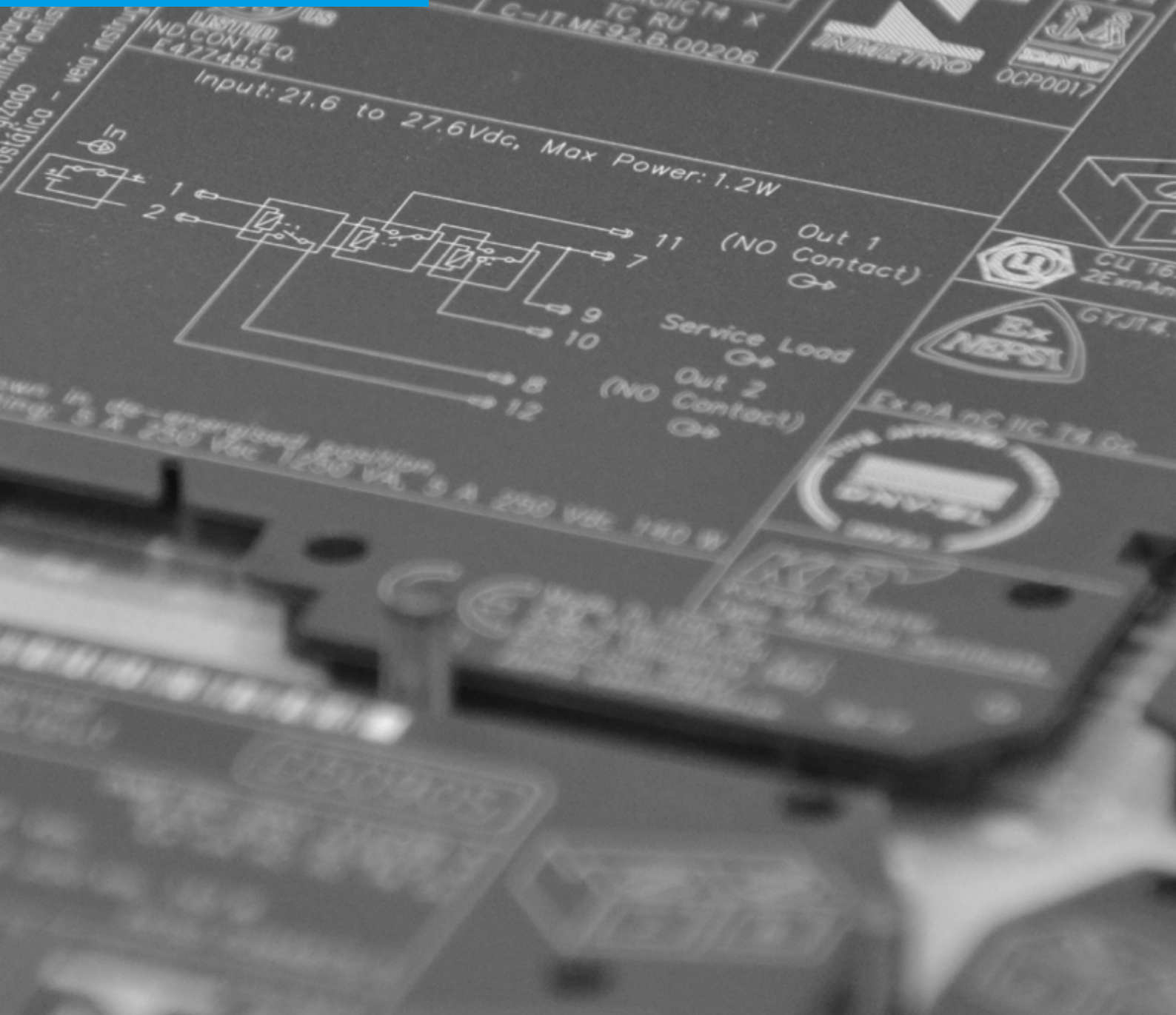
SAFETY REQUIREMENTS SPECIFICATIONS

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 enhances 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.

SIL 2 / SIL 3 Intrinsically Safe Isolators



Full range of IS isolators
for SIL2 and SIL 3 applications

D5000 SERIES

- Slim 12,5 mm modules in single or dual 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 and G3 coating;
- Certified for 20 years of operation according to IEC 61508:2010;
- Suitable for Zone/Division 2 installation.



SIL 2 / SIL 3 Intrinsically Safe Isolators



Full range of IS isolators
for SIL2 and SIL 3 applications

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 and G3 coating;
- Certified for 10 years of operation according to IEC 61508:2010;
- Suitable for Zone/Division 2 installation.



SIL 3 Safety Relays



Full range of SIL 3 Relays with and without line/load fault monitoring circuit

HIGH INTEGRITY SAFETY RELAYS

- Slim: single and dual channel in a 12,5 mm enclosure;
- 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 times;
- Universal Mounting: DIN-Rail, Power Bus and Termination Board;
- SIL 3 Certified according to IEC 61508:2010;
- LED Indication for power, signal status and line fault condition;
- Marine Type approval and G3 coating.



SIL 2 Isolators



Galvanic Isolators for Non-Intrinsically Safe applications

D6000 SERIES

- Slim single/dual channel 12,5 mm and 4/8 channel 22,5 mm modules;
- Suitable for operation in -40 to +70 C° temperature range;
- DIP switch configurability for easy set-up;
- Universal Mounting: DIN-Rail, Power Bus and Termination Board;
- SIL 2 Certified according to IEC 61508:2010;
- LED Indication for power, signal status and line fault condition;
- 2.500 Volts of Isolation;
- Marine Type approval and G3 coating.



SIL 3 Surge Protectors



D9024S

D9000 SERIES

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



SIL 3 High availability Power Supplies



PSW1250

PSX1200 SERIES

- SIL 3 Certified according to IEC 61508:2010;
- 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 high and low voltage protection;
- Remote monitoring feature via RS 485 Mod-Bus and remote/local fault indication;
- Marine Type approval and G3 coating



SIL 3 HART Interface Solution



HART Interface solution for IS and Non-IS signals

HART MULTIPLEXER SYSTEM

- Innovative space and cost saving solution with up to 256 channels per module;
- Each system suitable for up to 16.128 channels;
- Several Termination Boards available for any application;
- SIL 3 Certified according to IEC 61508:2010;
- Increased 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



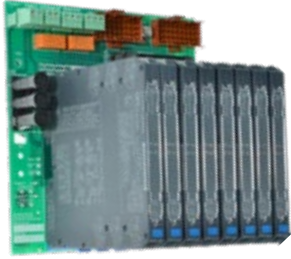
Intrinsically Safe Multiplexer system

D2000 SERIES

- Proven solution to drastically reduced field wiring and installation cost;
- Up to 256 channels per module or 7.936 channels per system;
- Maximum operating distance of 5 Km;
- Redundant field and control room communication lines;
- Increased 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



Standard, Custom and Universal Termination Boards solutions

TERMINATION BOARDS

- High Density and compact design with up to 64 Channels per TB;
- Single, Dual and Redundant connection solution available;
- Custom version 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;
- Marine Type approval and optional G3 coating



Field Mounted I.S. Programmable Display



Loop Powered Intrinsicly Safe display

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
- Certified for Zone 0 / Division 1 installation;
- Fully field programmable indication;
- Under and over range detection;
- Protected slot for engineering label.



Software and configuration tools



Configuration software

FREE CONFIGURATION SOFTWARE AND ON-LINE TOOLS

- Configuration software for all product can be downloaded from our website free of charge
- Several on-line and off-line application tools are also available for download or upon request.

