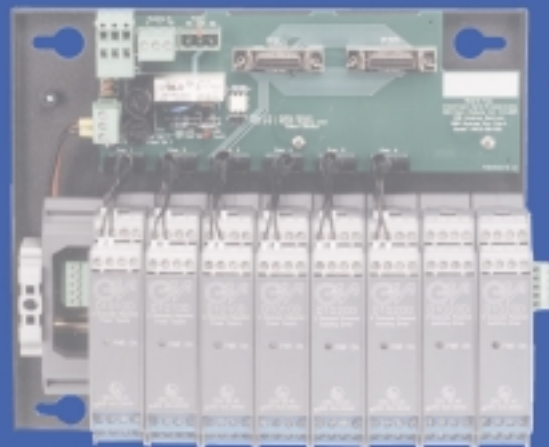


## INTRINSICALLY SAFE INSTRUMENTATION FOR HAZARDOUS AREAS



SHORT FORM 2002

## SERIES D1000

Intrinsically Safe Galvanic Isolators **SERIES D1000**, for DIN Rail Mounting, provide the most simple and cost effective means of implementing Intrinsic Safety into your Hazardous Area applications.

- High channel density: 4 Channels for Digital Input/Outputs, 2 Channels for Analog Inputs/Outputs and Temperature.
- High Performance.
- Operating Temperature limits: -20 to +60 °C.

- Modules can be used with Custom Back Planes with suitable adapter cables for connection to DCS.
- CE - EMC: according EN50081-2, EN61000-4-2.
- Approvals: ATEX, UL, C-UL, DONEK, GOSGORTEKNADSOR.
- Certification: ISO 9001: 2000.

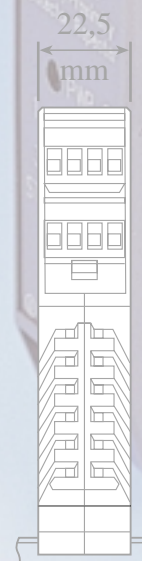
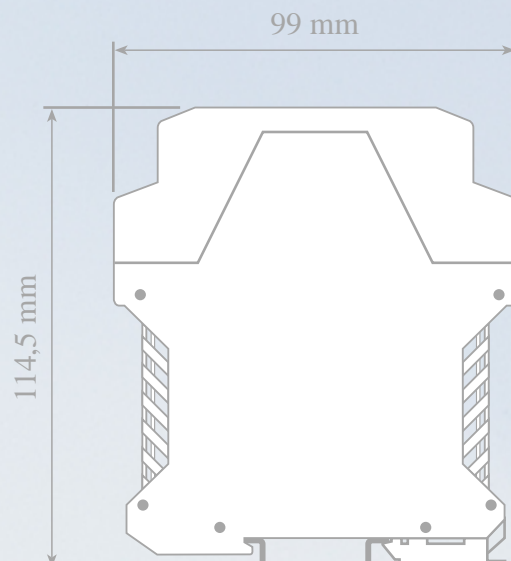
### Plug-In Type Terminal Blocks

Plug-In type Terminal Blocks are standard on all models. Gray color toward *Safe Area* and Blue toward *Hazardous Area*.



### Packaging Details

Each module has Aeration slots; Laser engraving on both sides detailing schematic diagram, connections, tables and instructions; LEDs for status and fault indication.



### MODEL D1010

#### TRANSMITTER INTERFACE (AI)

- 1 – 2 Channels
- SMART Transmitters
- 3 Port Isolation
- Active – Passive Inputs
- Sink – Source Output
- Output Signal linear from 0 to 22 mA
- Can be used for Signal Duplication



### MODEL D1020

#### OUTPUT DRIVER FOR I/P, VALVE ACTUATORS (AO)

- 1 – 2 Channels
- SMART Valves
- 3 Port Isolation
- Output Signal linear from 0 to 22 mA
- Can be used for Signal Duplication



#### Front Panel

Front Panel and Printed Circuit Board are removable by applying pressure with a tool



#### Fully Plug-in

Plug-in Terminal Blocks avoid wiring errors and simplify module replacement. Plug-in Modules simplify and speed-up maintenance operations.



### MODEL D1021

#### OUTPUT DRIVER FOR I/P, VALVE ACTUATORS (AO)

New

- SMART Valves
- 3 Port Isolation
- Output Signal linear from 0 to 22 mA
- Local and Remote independent signaling for Open and Short Circuit conditions
- Short Circuit Trip Level setting between 0 and 200 Ohm, default 50 Ohm



### MODEL D1025

#### TRANSMITTER INTERFACE (AI) + OUTPUT DRIVER FOR I/P, VALVE ACTUATORS (AO)

- SMART Transmitters Valves
- 3 Port Isolation
- Active – Passive Inputs
- Sink – Source Output
- Output Signal linear from 0 to 22 mA



### MODEL D1030

#### CONTACTS - NAMUR PROXIMITY SWITCHES INTERFACE (DI)

- 1-2 Channels
- 2 Relay Outputs SPDT
- Great number of Inputs wired with Common Return without invalidating the I.S. Certificate



#### Model 5125

Opto - Electric Sensor to Detect the Presence of Inflammable Liquid.



### MODEL D1032

#### CONTACTS - NAMUR PROXIMITY SWITCHES INTERFACE (DI)

New

- 2-4 Channels fully Isolated
- 4 Relay Outputs SPST
- Fault indication on separate Output



#### NAMUR Proximity Switches with cable



### MODEL D1080

#### INTERFACE for 2 OPTO - ELECTRIC SENSORS - MODEL 5125 with RELAY OUTPUT

New

- 2 Channels
- 2 Relay Output with SPDT Contact
- Sensor Supply

### MODEL D1081

#### INTERFACE for 2 OPTO ELECTRIC SENSORS - MODEL 5125 with TRANSISTOR OUTPUT

New

- 2 Channels
- 2 Opto-isolated, Open Collector Transistor Outputs
- Sensor Supply

### MODEL D1031

#### CONTACTS - NAMUR PROXIMITY SWITCHES INTERFACE (DI)

- 2-4 Channels
- 4 Opto-Isolated Open Collector Output Transistors
- Max. Frequency 1000 Hz
- Great number of Inputs wired with Common Return without invalidating the I.S. Certificate



### MODEL D1033

#### CONTACTS - NAMUR PROXIMITY SWITCHES INTERFACE (DI)

New

- 2-4 Channels fully Isolated
- 4 Opto-Isolated Open Collector Output Transistors
- Max. Frequency 2000 Hz
- Fault indication on separate Output



**MODEL D1130**

New

**CONTACTS - NAMUR PROXIMITY SWITCHES INTERFACE (DI)**

- 1-2 Channels
- 2 Relay Outputs SPDT
- Great number of Inputs wired with Common Return without invalidating the I.S. Certificate
- Power Supply 90 - 250 Vac

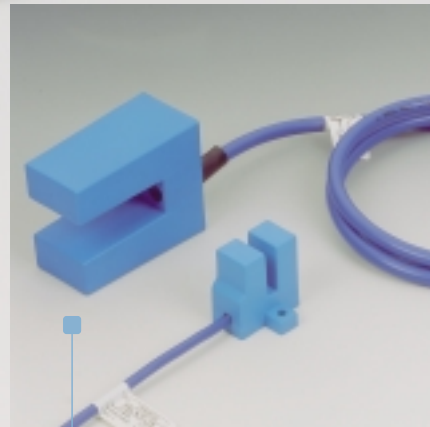


**NAMUR PROXIMITY**

**SWITCHES MODELS WITH CYLINDRICAL METAL / PLASTIC HOUSING**

- Blue Cable Standard length 2 meters, other lengths available on request (5 - 10 - 25 m)
- Standard Diameter: 4 - 5 - 6,5 - 8 - 12 - 18 - 30 - 45 mm
- Output Connector available, with or without LEDs, for M12 - 18 - 30

NAMUR Proximity Switches with Connector and LEDs



Fork type Proximity NAMUR with cable or connectors.

**MODEL D1034**

New

**CONTACTS - NAMUR PROXIMITY SWITCHES INTERFACE (DI)**

- 1 - 2 Channels
- Designed according EN61508, SIL 2 - 3
- Save one channel for each PLC - DCS input
- Specific application for Safety PLC - DCS in Shut-Down systems



**SENSOR NAMUR**

**SWITCHES RECTANGULAR SHAPE**

- 5 Positions Head size 40 x 40 x 112 mm
- other size 25 x 10 x 50 mm, 25 x 40 x 12 mm
- With Blue Cable / Connectors

**FORK SHAPE**

- Gap 3,5 - 5 - 15 - 30 mm
- With Blue Cable / Connectors

### MODEL D1040

#### SOLENOID VALVE DRIVER (DO)

- 4 Channels (can be connected in parallel)
- Loop/Bus Powered
- 13.2 V, 22 mA per Channel
- Short Circuit Current I<sub>max</sub> 74 mA



New

### MODEL D1043

#### SOLENOID VALVE DRIVER (DO)

- 4 Channels (can be connected in parallel)
- Loop/Bus Powered
- 10.6 V, 22 mA per Channel
- Short Circuit Current I<sub>max</sub> 55 mA



Module with Power Bus Connector Male Side



Module with Power Bus Connector Female Side



### MODEL D1041

#### LEDs DRIVER (DO)

New

- 4 Channels
- Loop/Bus Powered
- 17 V, 10 mA per Channel
- Short Circuit Current I<sub>max</sub> 74 mA



### MODEL D1050

#### DOUBLE ANALOG SIGNAL TRIP AMPLIFIER (TA)

- 1 Input 0/4-20 mA, 0/1-5 V, 0/2-10 V
- 2 Independent Trip Amplifiers
- 2 Relay output, SPST, NE or ND
- Input, Alarm Set Point, Alarm Mode, Alarm Delay, Dead Band and NE-ND Relay conditions fully programmable



### MODEL D1042

#### SOLENOID VALVE DRIVER (DO)

New

- 4 Channels (can be connected in parallel)
- Loop/Bus Powered
- 14.5 V, 22 mA per Channel
- Short Circuit Current I<sub>max</sub> 93 mA



### MODEL D1052

#### ANALOG SIGNAL CONVERTER (AI)

- 1-2 Inputs 0/4-20 mA, 0/1-5 V, 0/2-10 V
- 1-2 Outputs 0/4-20 mA, 0/1-5 V, 0/2-10 V
- Fully Programmable
- Module can be used as Signal Duplicator, Adder, Subtractor, High-Low Selector Functions



## MODEL D1052-004

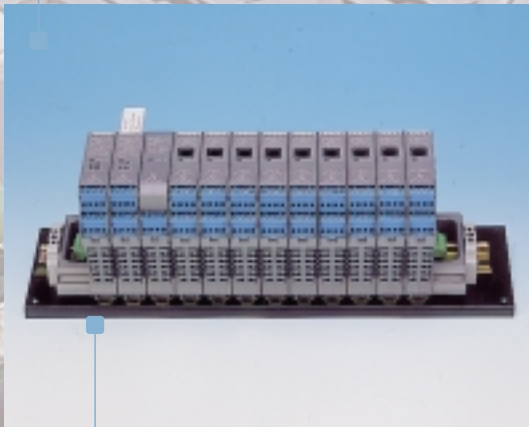
New

### ANALOG SIGNAL CONVERTER (AI)

- 1 - 2 Channels
- Inputs - 30 to + 30 V
- 1-2 Outputs 0/4-20 mA, 0/1-5 V, 0/2-10 V
- Fully Programmable
- Suitable as Cathodic Protection Interface



Typical Din Rail Mounting Assembly



## MODEL D1053

### ANALOG SIGNAL CONVERTER (AI) WITH DOUBLE TRIP AMPLIFIERS (TA)



- 1 Input 0/4-20 mA, 0/1-5 V, 0/2-10 V
- 1 Output 0/4-20 mA, 0/1-5 V, 0/2-10 V
- 2 Independent Trip Amplifiers
- 2 Relay output, SPST, NE or ND
- Input, Output, Alarm Set Point, Alarm Mode, Alarm Delay, Dead Band and NE-ND Relay Conditions Fully Programmable

Module with Power Bus Male Terminal Block



### Bus

Power Supply Voltage 24 Vdc, can be applied to the module, by connecting directly the voltage to the Plug-in Terminal Block (3+, 4-) of each module, or via the Power Bus System. The system consist of a standard Din Rail Bar and modules with Bus Connectors (Female on one side and Male on the opposite side) of 8 Amp Capacity. It is always possible to remove modules, without disconnecting the connectors, because modules are Plug-in types. When the Power Bus is used, the Supply Contacts (3+, 4-) on the Terminal Block are omitted to avoid accidental short circuits on the Power Bus.

## MODEL D1052-003

New

### TRANSMITTERS INTERFACE (AI) WITH DOUBLE TRIP AMPLIFIERS (TA)

- SMART Transmitters
- 3 Port Isolation
- Active - Passive Inputs
- Sink - Source Output
- Output Signal linear from 0 to 22 mA
- 2 Independent Trip Amplifiers
- 2 Relay output, SPST, NE or ND
- Alarm Set Point, Alarm Mode, Alarm Delay, Dead Band and NE-ND Relay Conditions Fully Programmable



*This module is 45 mm wide*

## MODEL D1070

### DOUBLE TEMPERATURE TRIP AMPLIFIER (TA)



- Inputs Thermocouples, 2-3-4 wire RTDs, Transmitting Pot.
- 2 Independent Trip Amplifiers
- 2 Relay output, SPST, NE or ND
- Input, Alarm Set Point, Alarm Mode, Alarm Delay, Dead Band and NE-ND Relay Conditions Fully Programmable

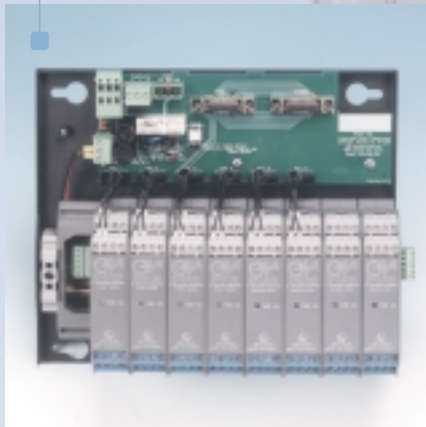
## MODEL D1072

### TEMPERATURE CONVERTERS (AI)

- 1 - 2 Channels
- Inputs Thermocouples, 2-3-4 wire RTDs, Transmitting Pot.
- 1 - 2 Outputs 0/4-20 mA, 0/1-5 V, 0/2-10 V
- Fully Programmable
- Module can be used as Signal Duplicator, Adder and Subtractor (Differential Temperature)



Board for DCS - PLC



## CONFIGURATOR PPC1090

### POCKET PORTABLE CONFIGURATOR TO PROGRAM THE PROGRAMMABLE ISOLATORS SERIE D1000

- Directly Powered by the module
- Can be used without disconnecting the Field wiring
- Small dimensions



Configurator PPC1090

## MODEL D1073

### TEMPERATURE CONVERTER (AI) WITH DOUBLE ALARM TRIP AMPLIFIER (TA)

- Input Thermocouples, 2-3-4 wire RTDs, Transmitting Pot.
- Output 0/4-20 mA, 0/1-5 V, 0/2-10 V
- 2 Independent Trip Amplifiers
- 2 Relay output, SPST, NE or ND
- Input, Output, Alarm Set Point, Alarm Mode, Alarm Delay, Dead Band and NE-ND Relay Conditions Fully Programmable



New

## MODEL D1060

### FREQUENCY CONVERTER (DI) WITH ALARM TRIP AMPLIFIER (TA)

- Input Frequency Signals, range 0 to 50 KHz
- Analog Output 0/4-20 mA, 0/1-5 V, 0/2-10 V
- Digital Output repeat the Input Signal divided 1, 10, 100, 1000, 10000, 100000 to drive a Counter for integration
- 1 Trip Amplifier
- Fully Programmable



### MODEL PSD1001

New

4 CHANNEL INTRINSICALLY SAFE  
POWER SUPPLY FOR  
4 - 20 mA LOOP (PS)



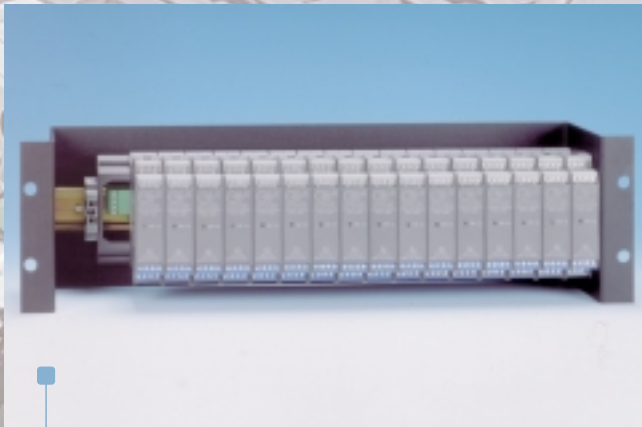
- 4 Channels
- 4 Outputs 15 V, 20 mA

### MODEL PDS1002

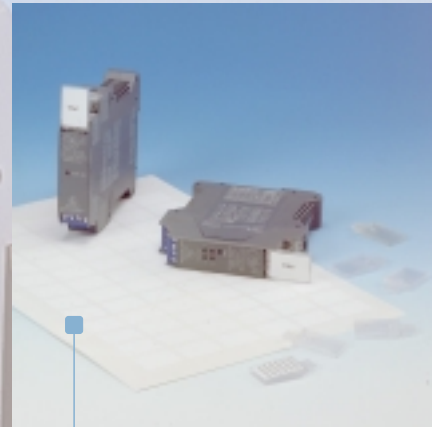
New

UNIVERSAL INPUT POWER SUPPLY  
FOR D1000 SERIES ISOLATORS (PS)

- Supply 90 – 265 Vac
- Output 24 Vdc, 2000 mA
- 2 Units can be paralleled for Redundancy
- Can be installed next to the D1000 Series Modules



19" Rack Mounting for D1000 Series



TAG Housing

The new Tag housing, made of transparent Lexan, can fit a paper strip label (preferably of 140 gr paper).

An electronic file (free of charge) is available to prepare up to 40 labels per one A4 sheet with a laser printer. As an alternative an A4 sheet with 72 Mylar adhesive labels is available. The electronic file to prepare these found on our web site.

### MODEL PDS1000

New

UNIVERSAL INPUT POWER SUPPLY  
FOR D1000 SERIE ISOLATORS (PS)

- Supply 90 – 265 Vac
- Output 24 Vdc, 600 mA
- High Density
- 2 Units can be paralleled for Redundancy
- Local and Remote indication for Power Failure
- Can be installed directly next to the D1000 Series Modules, without the Safety distance of 50 mm, because Supply and Outputs Terminal Blocks are on the same side

### MODEL PSD1004

New

4 WIRE PRECISION INTRINSICALLY  
SAFE SUPPLY FOR LOAD CELLS  
STRAIN GAUGES (PS)



- Input 24 Vdc
- Output 5 Vdc, 70 mA
- Suitable for up to four 350 Ohm Load Cells in Parallel
- Can be used together with Model D1072 to isolate the Output Signal from Load Cells
- Suitable for the excitation of up to 4 parallel connected 6 wire Load Cells

### MULTIPLEXER MODEL D2010 - D2011

New

#### TEMPERATURE SENSOR INTERFACE IN THE HAZARDOUS AREA



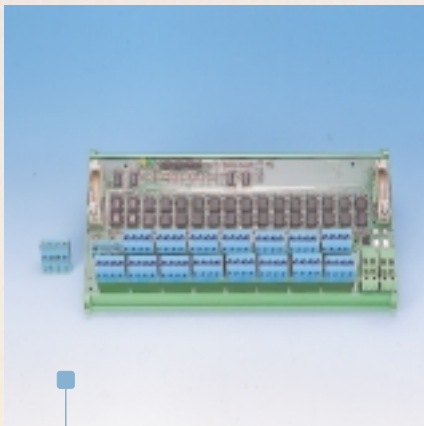
- 16 Channels per Unit
- Up to 16 Units per System
- Inputs Thermocouples, 2-3-4 wire RTD, Potentiometer, NTC Sensors
- Redundant Communication with the Interface/Supply unit D2050
- PC Programmable

### MODEL D2050

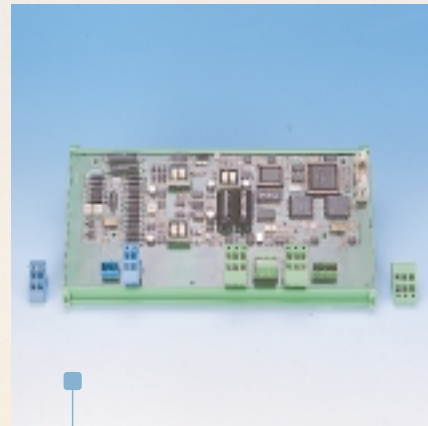
New

#### MODBUS INTERFACE / POWER SUPPLY FOR D2010 - D2011 - D2030 UNITS

- Supply 20 - 30 Vdc
- 2 Modbus RTU - RS485 - Outputs for Redundancy
- 1 RS232 PC line for programming
- Possibility to connect modular repeating units with 32 Relays, or 32 Transistor Outputs



D2011



D2050

### MULTIPLEXER MODEL D2030

New

#### CONTACTS - PROXIMITY INTERFACE IN HAZARDOUS AREA



- 32 Channels per Unit
- Up to 4 Units per System
- Inputs Contact-Proximity Sensors
- 128 Channels are scanned in 100 ms
- Redundant Communication with the Interface/Supply unit D2050
- PC Programmable

### MODEL D2052

New

#### CONTACT / PROXIMITY OUTPUT REPEATER

- 32 Isolated Channels with SPDT Relay contacts
- 128 Channels are scanned in 100 ms

### MODEL D2053

New

#### CONTACT / PROXIMITY OUTPUT REPEATER

- 32 Isolated Channels with isolated Open Collector Transistors
- 128 Channels are scanned in 100 ms

**MODEL T3070**

New

**4,5 - DIGIT INTRINSICALLY SAFE TEMPERATURE INDICATING TRANSMITTER**

- Install directly in the Hazardous Area
- 4,5 Digit Large LCD Display, 20 mm High
- Input from Thermocouples, 2-3-4 wire RTD
- Field configurable
- Output/Supply 4-20 mA Signal via D1010 Interface Isolator in Safe Area
- IP 65 enclosure - Suitable for Field, Wall or Panel Mounting

**MODEL T3010**

New

**4,5 - DIGIT INTRINSICALLY SAFE INDICATOR 4-20 mA LOOP POWERED**

- Install directly in the Hazardous Area
- 4,5 Digit Large LCD Display, 20 mm High
- Less than 1 V drop
- Field configurable
- Supply 4-20 mA via D1010 Interface Isolator in Safe Area
- IP 65 enclosure - Suitable for Field, Wall or Panel Mounting



T3070



T3060

**MODEL T3060**

New

**4,5 - DIGIT INTRINSICALLY SAFE FREQUENCY-RATE INDICATING TRANSMITTER**

- Install directly in the Hazardous Area
- 4,5 Digit Large LCD Display, 20 mm High
- Frequency Input up to 2000 Hz
- Field configurable
- Output / Supply 4-20 mA Signal via D1010 Interface Isolator in Safe Area
- IP 65 enclosure - Suitable for Field, Wall or Panel Mounting

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