

D2000M

Intrinsically Safe Multiplexer

Document last revised July 12 2008

G.M. International S.r.l.

Via San Fiorano, 70

www.gmintsrl.com

info@gmintsrl.com



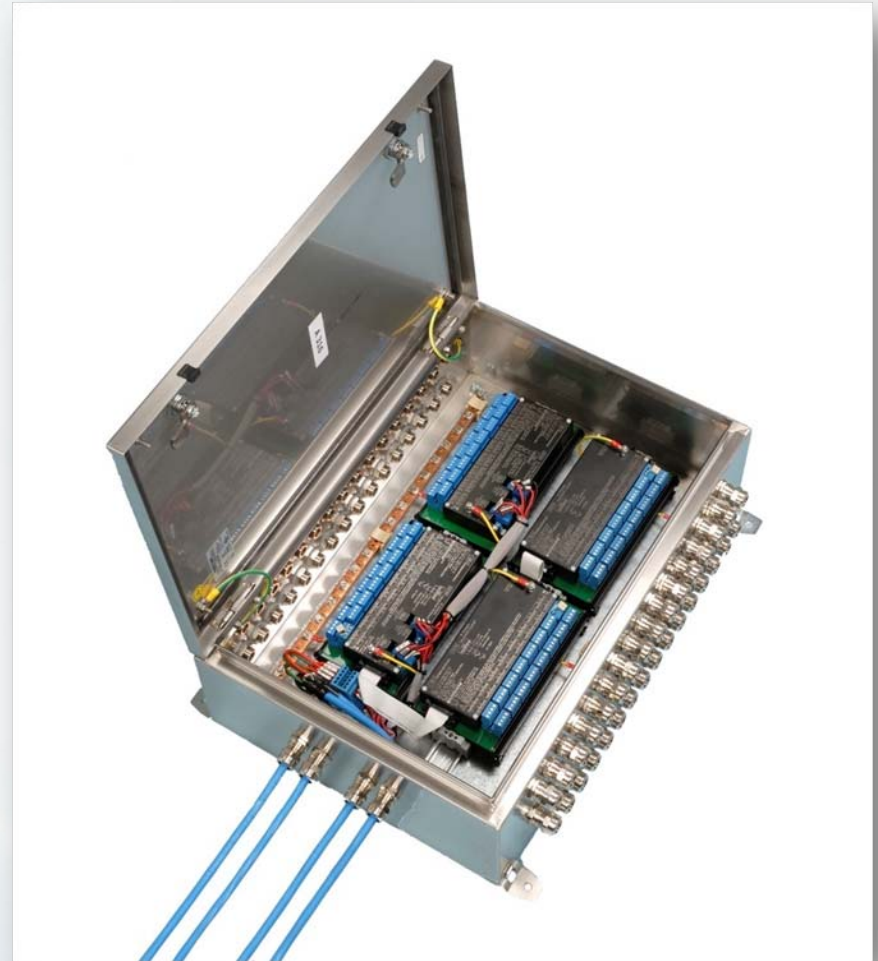
Technology for Safety



D2000M Multiplexer System

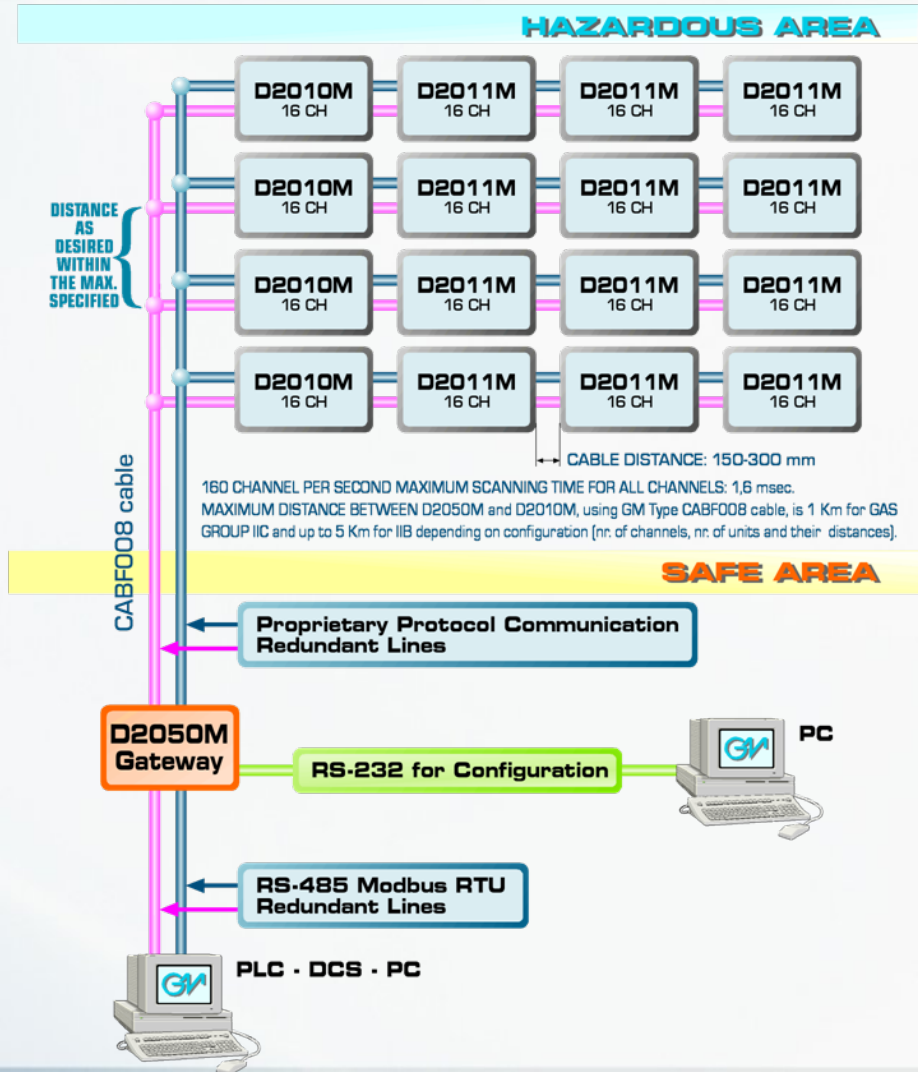
Temperature &
Digital Signals
Multiplexer

Certified for
Installation in Zone
1, Div.1 and 2



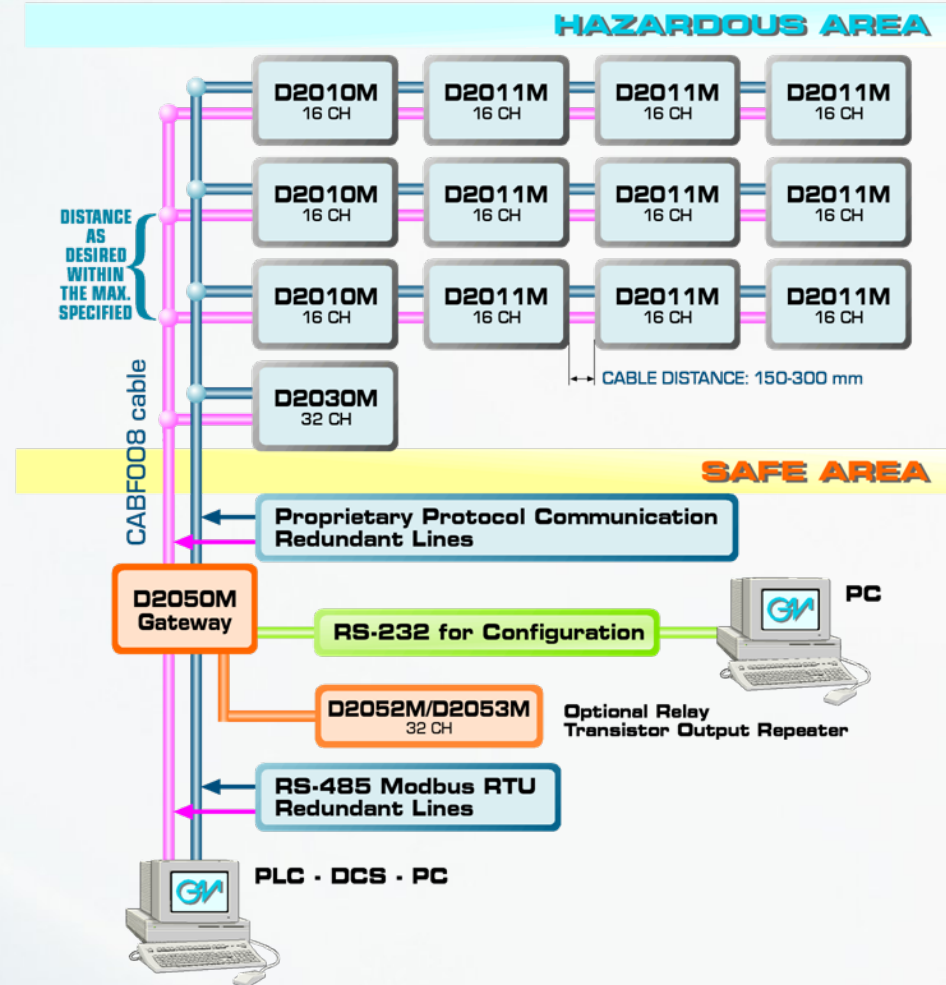
D2000M Multiplexer System

- High density, up to 256 Analog Inputs and up to 128 Digital Inputs on the same 2-wires (expandable up to 7936 inputs adding more Gateways and field lines)
- Input sensors: Thermocouples, 2-3-4 wire RTDs, Potentiometers, Ohms, mV, mA. Voltage Free Contacts and Proximities.
- Robust Isolation (500V channel to channel), provides high immunity against interference and ground loops



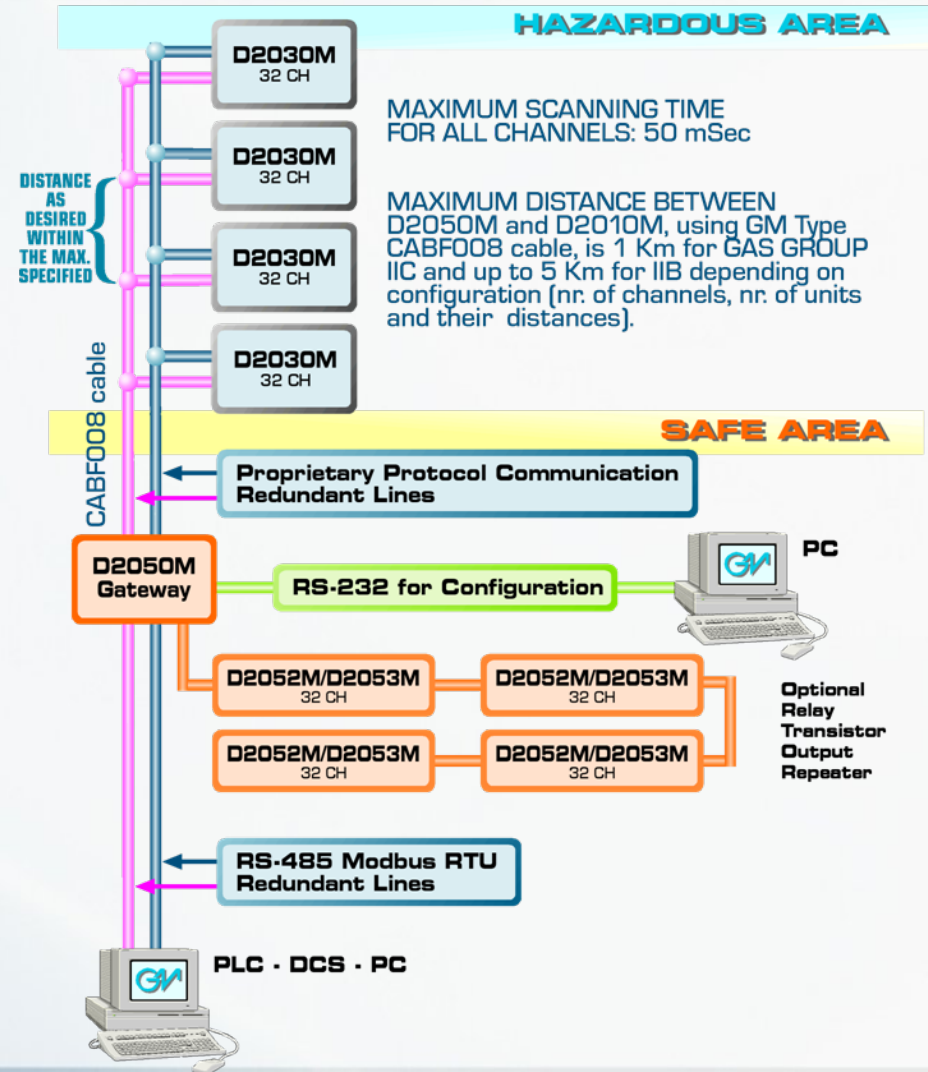
D2000M Multiplexer System

- Intrinsically Safe Inputs from Div. 1 & 2
- Intrinsically Safe for installation in Div. 1 & 2
- Field Units can be placed up to 3 miles from Gateway in Group A-B or 0,65 miles in Groups C-G without complex calculations
- High Accuracy 18bit A/D converter
- Redundant communication lines
- Programmable via PC (RS232) and Modbus (RS485)



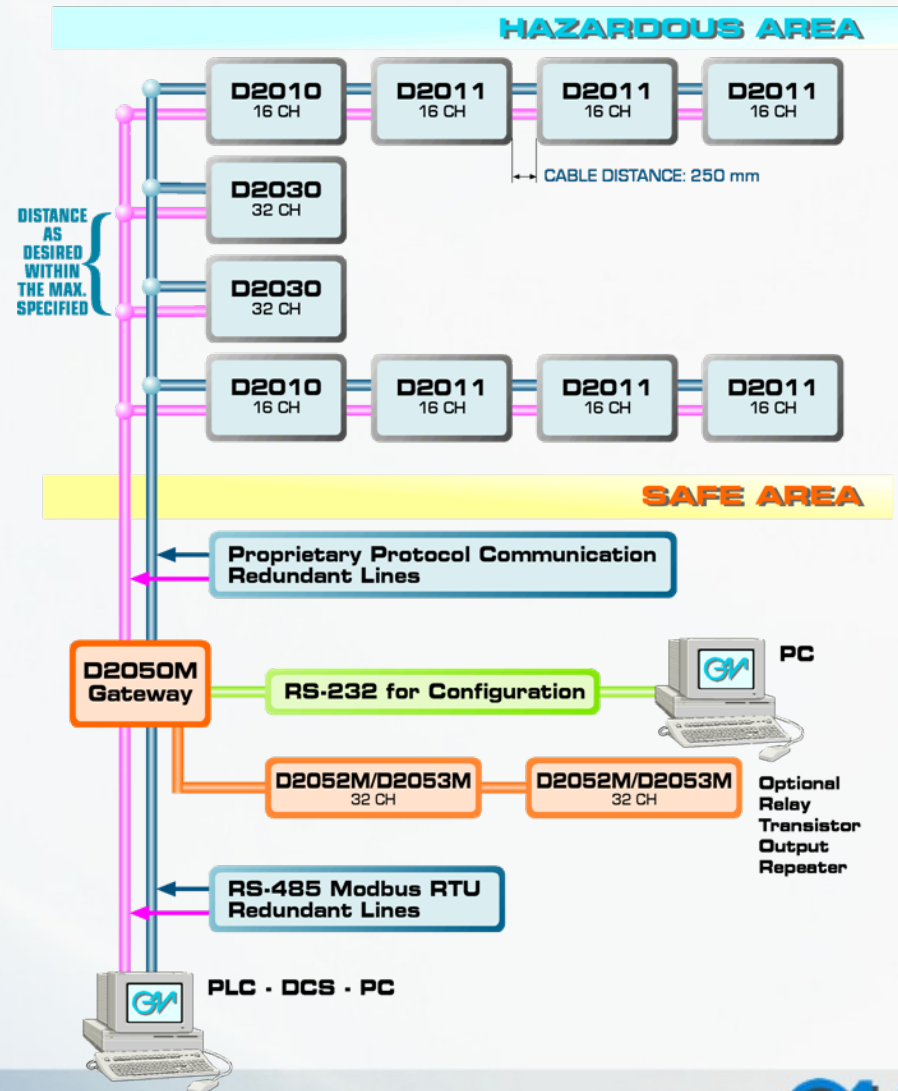
D2000M Multiplexer System

- Drastically reduces and ease Field Wiring and Installation costs.
- Eliminates the need of expensive PLC - DCS Input Cards.
- Field Unit operating temperature: -40 to +60°C.
- Field units do not require approved enclosures or power supply.
- Field Communication line also provides power to units.



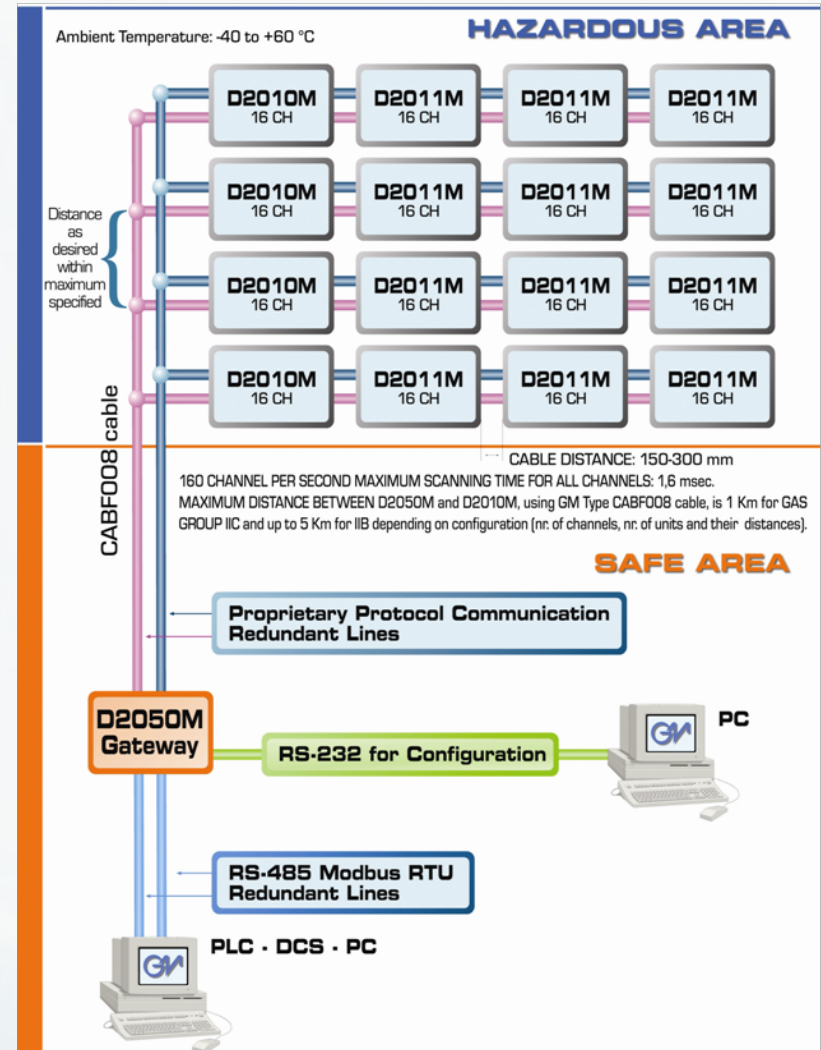
D2000M Multiplexer System

- Repeats input contacts via Relays (D2052M) or Transistor Outputs (D2053M) (De-Muxing)
- Gateway D2050M can be installed in Zone 1 / Div. 1 by using an explosion proof enclosure
- Custom designed Stainless Steel or Painted Steel Enclosures are available for field units (Series GM2300)
- Custom designed Communication Cable is available (GM CABF008)



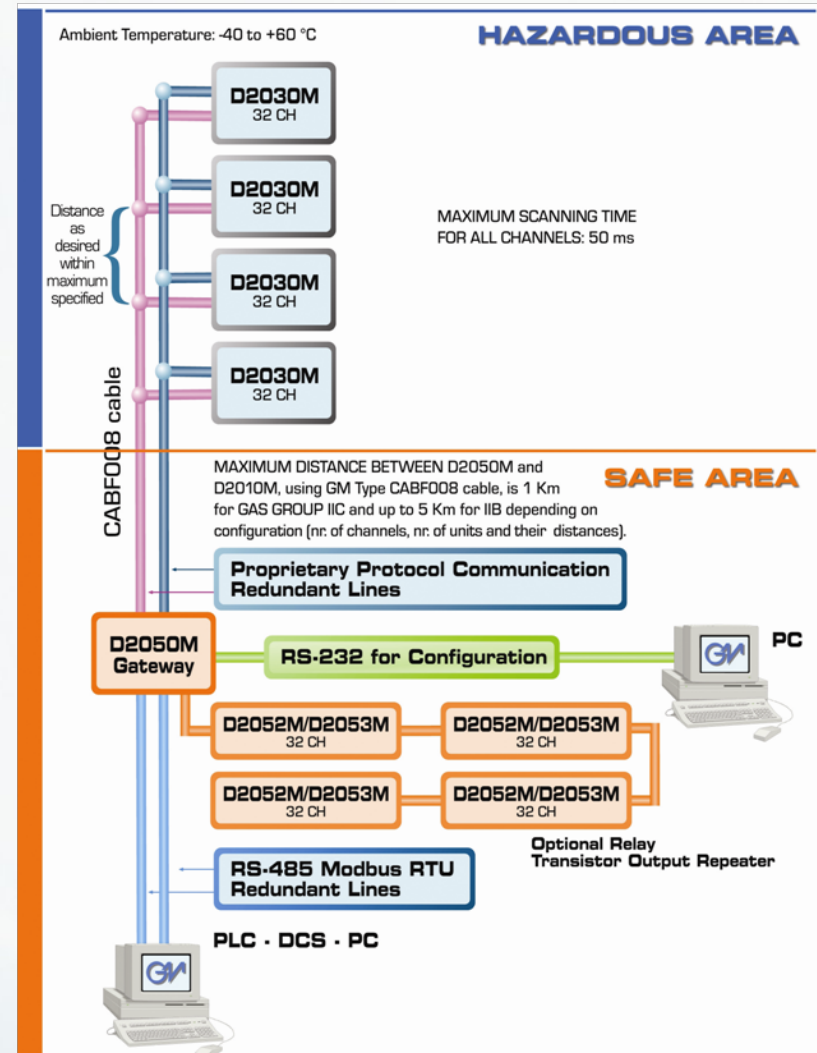
D2000M Multiplexer System

Example configuration for:
256 Temperature Inputs



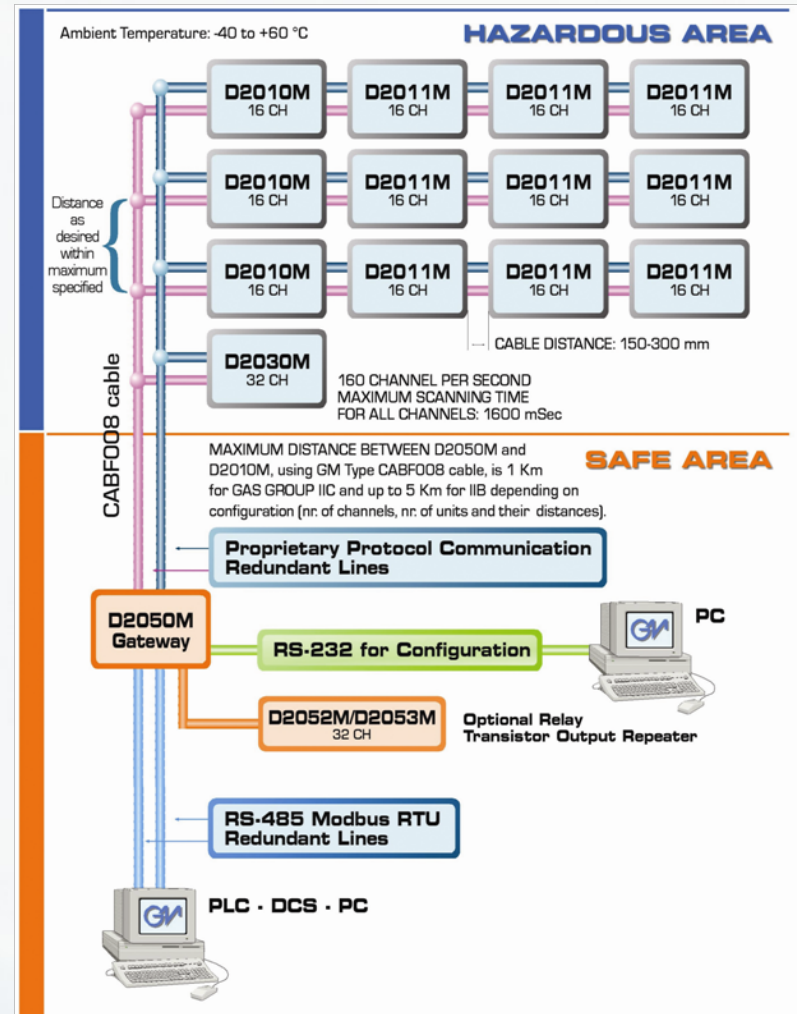
D2000M Multiplexer System

Example configuration for:
128 Digital Inputs &
128 Digital Repeat Ch.



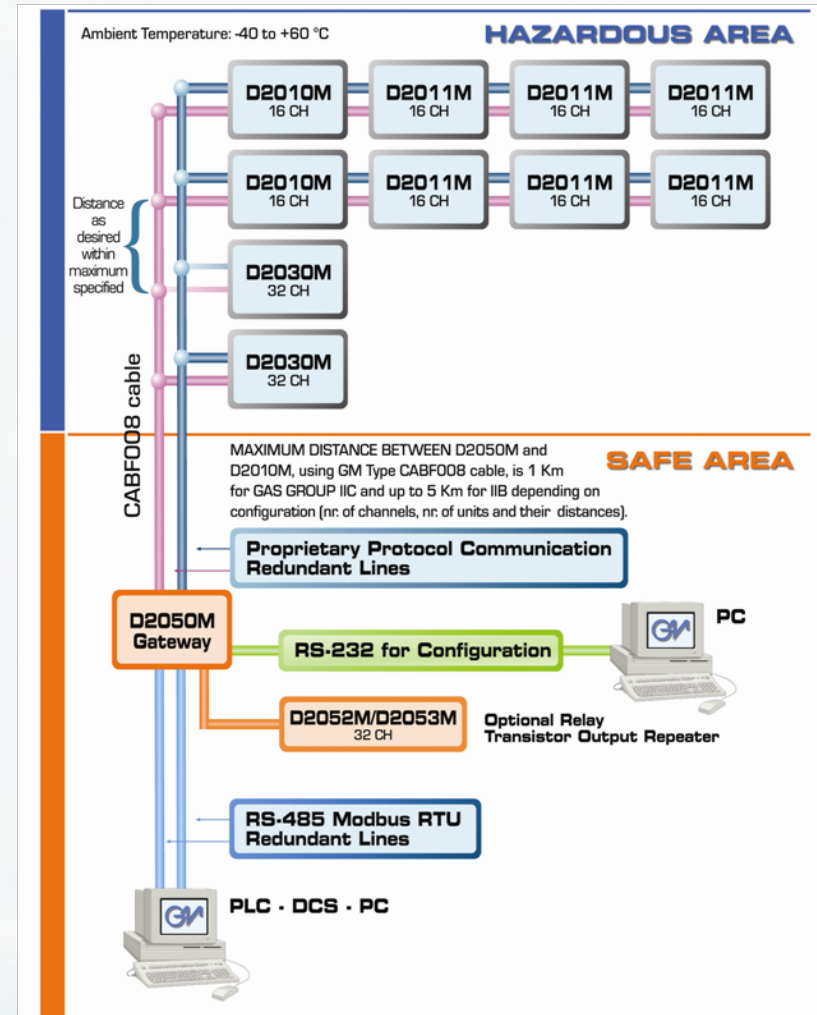
D2000M Multiplexer System

Example configuration for:
192 Temperature &
32 Digital Inputs &
32 Digital Repeat Ch.



D2000M Multiplexer System

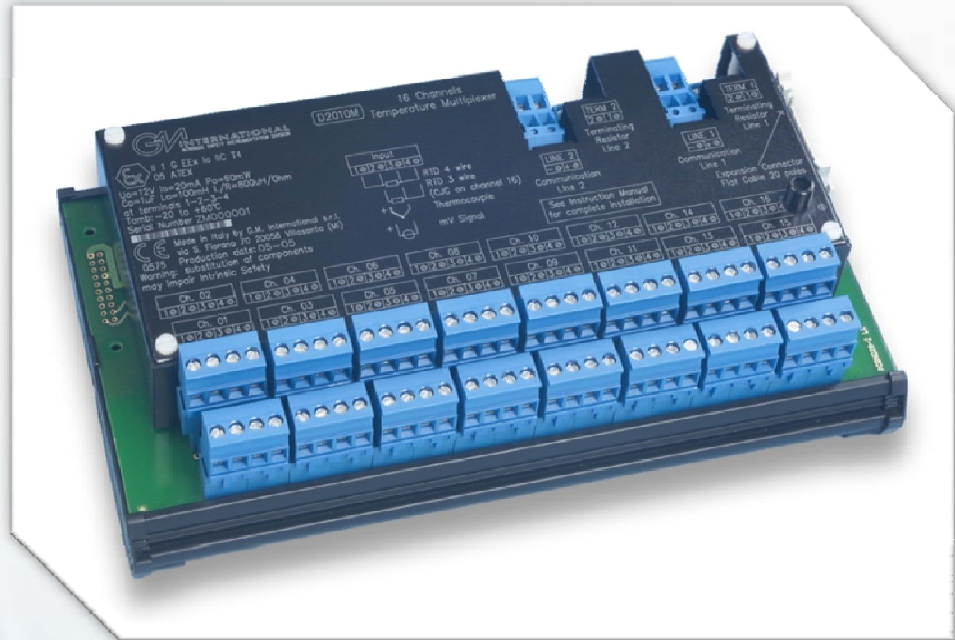
Example configuration for:
128 Temperature &
64 Digital Inputs &
32 Digital Repeat Ch.



Model: D2010M

Analog Input Module: 16 Input Channels

- 2-3-4 wire RTD:
Pt100, Pt50, Ni100,
Cu100, Cu53, Cu50,
Cu46.
- Thermocouples A1, A2,
A3, B, E, J, K, L, Lr, N,
R, S, T, U.
- Ohms, mV or mA
- Expandable to 64 Ch
with D2011M
- II (1) 2G EEx ia IIC T4



Model: D2011M

Analog Input Expander: 16 Input Channels

- Expansion for:
D2010M Module
- **II (1) 2G EEx ia IIC T4**



Analog Configuration Software

The screenshot displays the SWC2090 - D2000M Configuration Software interface. The main window shows a network diagram with a D2010M unit (Unit 1 - Address 0, Channels 1 - 16) connected to a D2050M Gateway via RS-232. The gateway is connected to a Modbus network (RS-485) with primary and redundant connections. A dialog box titled "Analog Channels Configuration 1" is open, showing a table of 16 channels.

Channel	Tag Name	Input Type	Excitation	Filter	Other
1	BEARING TEMPERAT	Thermocouple type K	Burnout Upscale	Auto Cold Junction	Medium Filter
2	MOTOR TEMPERATUR	Thermores. Pt 100 a=385	3 Wire connection		No Filter
3	TANK SIDE A POIN	Channel Off			
4	Tag 1.04	Channel Off			
5	Tag 1.05	Channel Off			
6	Tag 1.06	Channel Off			
7	Tag 1.07	Channel Off			
8	Tag 1.08	Channel Off			
9	Tag 1.09	Channel Off			
10	Tag 1.10	Channel Off			
11	Tag 1.11	Channel Off			
12	Tag 1.12	Channel Off			
13	Tag 1.13	Channel Off			
14	Tag 1.14	Channel Off			
15	Tag 1.15	Channel Off			
16	Tag 1.16	Channel Off			

0.0 Fixed Cold Junction reference °C

Ok Cancel

Modbus primary connection - RS-485
Modbus redundant connection - RS-485

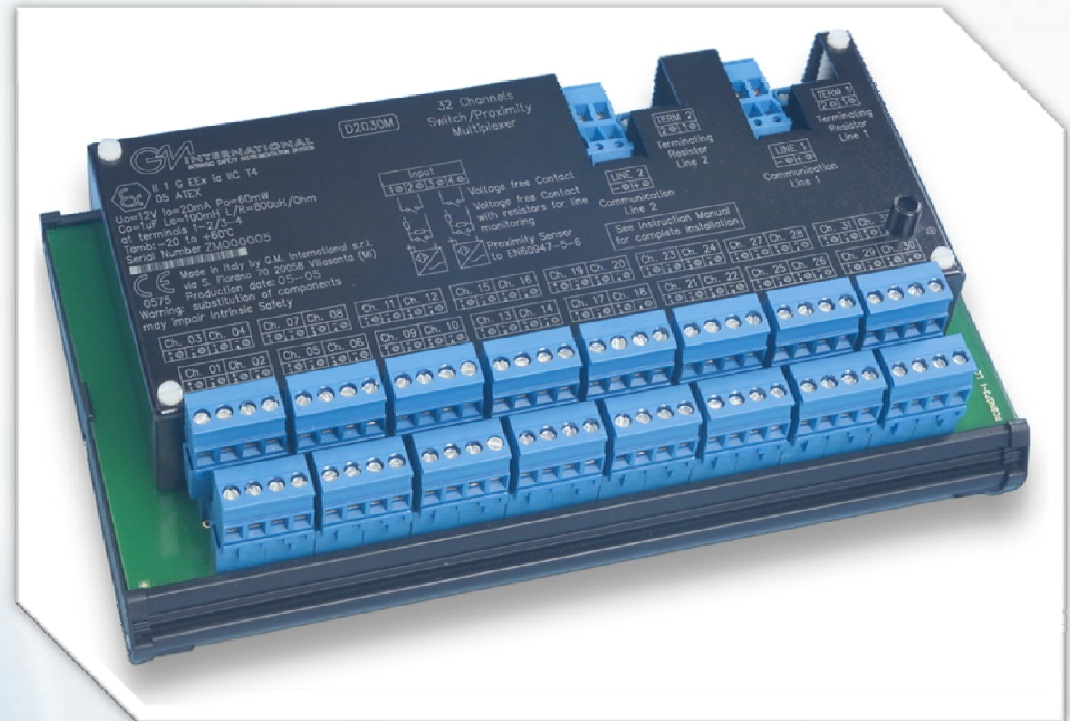
2007.04.12 12:07:04



Model: D2030M

Digital Input Module: 32 Input Channels

- Contact
- Proximity Switch
- II (1) 2G EEx ia IIC T4



Digital Configuration Software

The screenshot displays the SWC2090 - D2000M Configuration Software interface. The main window shows a network diagram with a D2030M unit (Unit 1 - Address 0, Channels 1 - 32) connected to a D2050M Gateway via RS 232. The D2030M is connected to a field bus with primary and redundant connections. The D2050M Gateway is connected to a Modbus bus with primary and redundant connections. A 'Digital Channels Configuration 1' dialog box is open, showing a table of 32 channels.

Channel	Tag	Status	Scan Time	Tag	Status	
1	HIGH LEVEL TANK	Active with Fault	1 ms scan time	17	Tag 1.17	Channel Off
2	LOW LEVEL TANK	Active with Fault	3 ms scan time	18	Tag 1.18	Channel Off
3	SWITCH 2	Active no Fault	10 ms scan time	19	Tag 1.19	Channel Off
4	Tag 1.04	Channel Off		20	Tag 1.20	Channel Off
5	Tag 1.05	Active no Fault		21	Tag 1.21	Channel Off
6	Tag 1.06	Channel Off		22	Tag 1.22	Channel Off
7	Tag 1.07	Channel Off		23	Tag 1.23	Channel Off
8	Tag 1.08	Channel Off		24	Tag 1.24	Channel Off
9	Tag 1.09	Channel Off		25	Tag 1.25	Channel Off
10	Tag 1.10	Channel Off		26	Tag 1.26	Channel Off
11	Tag 1.11	Channel Off		27	Tag 1.27	Channel Off
12	Tag 1.12	Channel Off		28	Tag 1.28	Channel Off
13	Tag 1.13	Channel Off		29	Tag 1.29	Channel Off
14	Tag 1.14	Channel Off		30	Tag 1.30	Channel Off
15	Tag 1.15	Channel Off		31	Tag 1.31	Channel Off
16	Tag 1.16	Channel Off		32	Tag 1.32	Channel Off

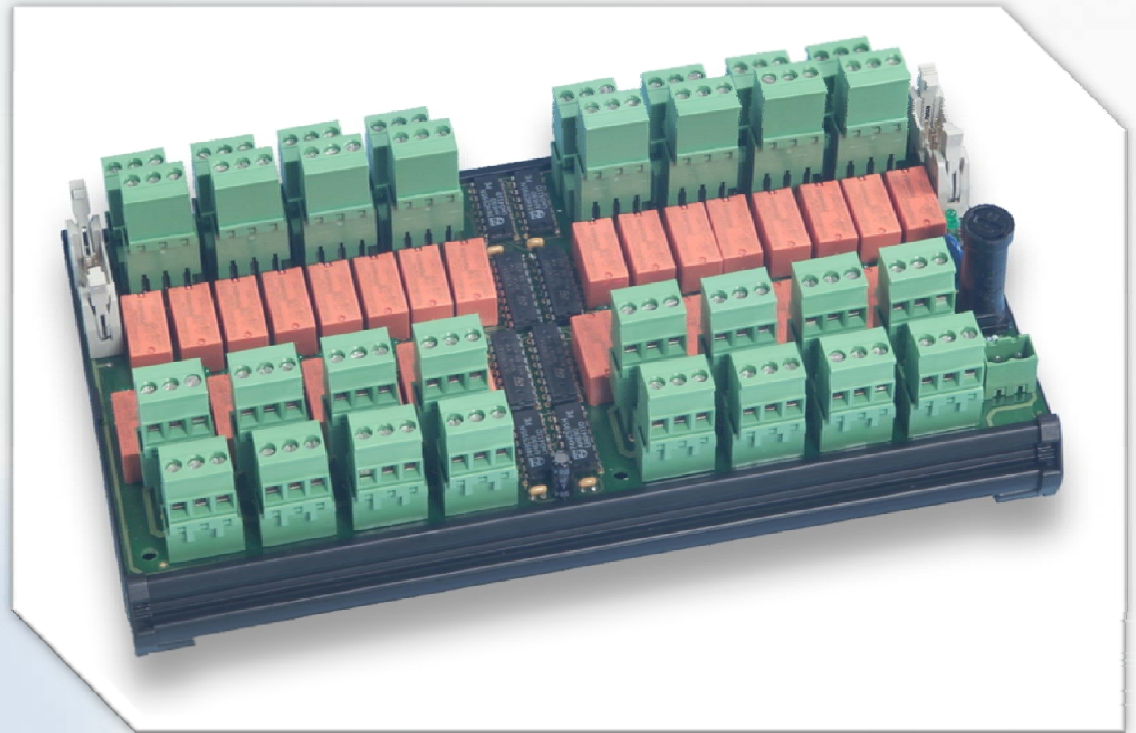
2007.04.12 12:10:54



Model: D2052M

Repeater: 32 Contact Outputs

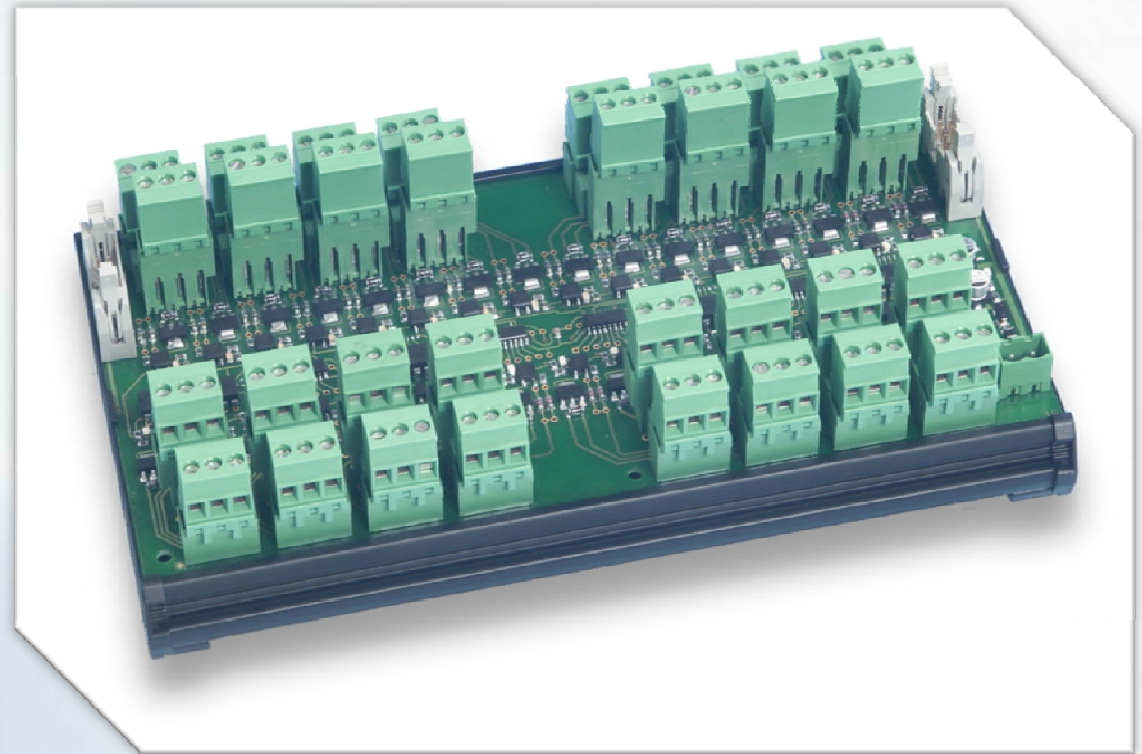
- Expandable to:
128 Channels



Model: D2053M

Repeater: 32 Transistor Outputs

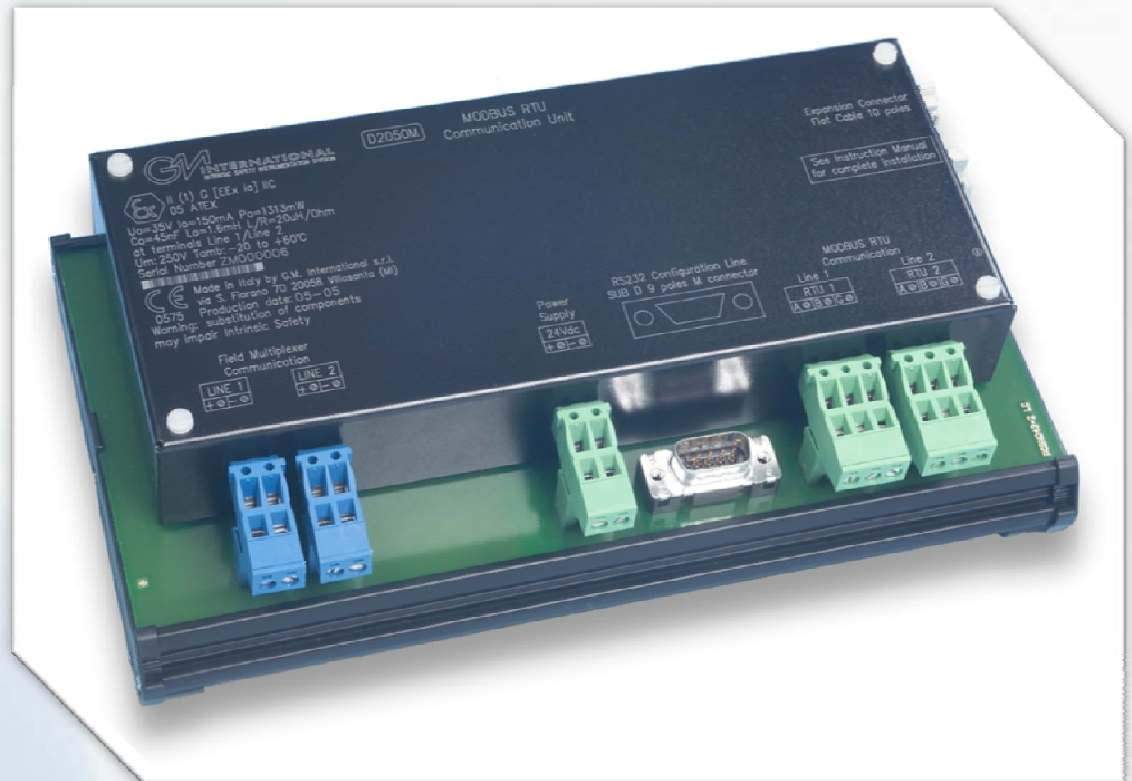
- Expandable to:
128 Channels



Model: D2050M

Gateway: up to 256 Input Channels

- Dual Modbus Output
- Redundant Field Connection
- 24 Vdc Supply
- RS232 PC Line for Configuration
- II (1) G [EEx ia] IIC



Digital Configuration Software

The screenshot displays the SWC2090 - D2000M Configuration Software interface. The main window shows a network diagram with a D2050M Gateway connected to four units (Unit 1 to Unit 4) via RS-485 connections. The units are labeled "No Unit" and have addresses 0, 1, 2, and 3. The gateway is connected to the units via "Field primary connection" (blue lines) and "Field redundant connection" (red lines). The gateway is also connected to an "RS 232" port. Below the gateway, there are two yellow lines representing "Modbus primary connection - RS-485" and "Modbus redundant connection - RS-485".

The "D2050M Configuration" dialog box is open, showing the following settings:

- Main Tag: UNIT 1001
- Field Connection: Use Both Lines in Smart Mode
- Power Line Frequency: Use Both Lines
- Number of Repeaters: No Repeater
- Modbus Address: 001
- Modbus Baudrate: 9600
- Modbus Format: 8 N 1
- Configuration via Modbus: No

Buttons: Ok, Cancel

2007.04.12 12:13:06

