

# MultiSafe-MX

Fire and gas detection  
Fire suppression control  
SIL 2/ SIL 3 suitable

Integrated addressable and conventional fire and gas system

MultiSafe-MX control panel is a SIL certified, fully flexible integrated fire detection, fire suppression control, gas detection, and intruder alarm system.



## General description

The MultiSafe-MX system is intended for the protection of high hazard, high risk plant and facilities.

The MultiSafe-MX is certified, by European laboratories, to comply with the applicable regulations.

The panel is composed of dedicated cards, installed in 19" racks which have their own "intelligence", programmed for active/passive fire protection, gas detection, intruder alarm and logic functions.

Moreover, the MultiSafe-MX can interact with supervisory and SCADA systems via Ethernet, TCP/IP or Modbus.

## Applications

- Fire and Gas detection and measurement systems.
- Automatic fire extinguishing control systems.
- Integrated systems, intruder/burglar alarm, CCTV and logic functions.
- Fire protection systems in accordance with the recommendations of NFPA 72.

## Features

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Front plug-in/out cards

Automatic monitoring of card and CPU fault

Two CPU's, in hot back-up to one other

Device calibration data and event logging

Hot swap of cards and CPU's

Addressable fire detection

Easy PC-configuration

## Benefits

Can replace a safety PLC system

System flexibility

Operational safety

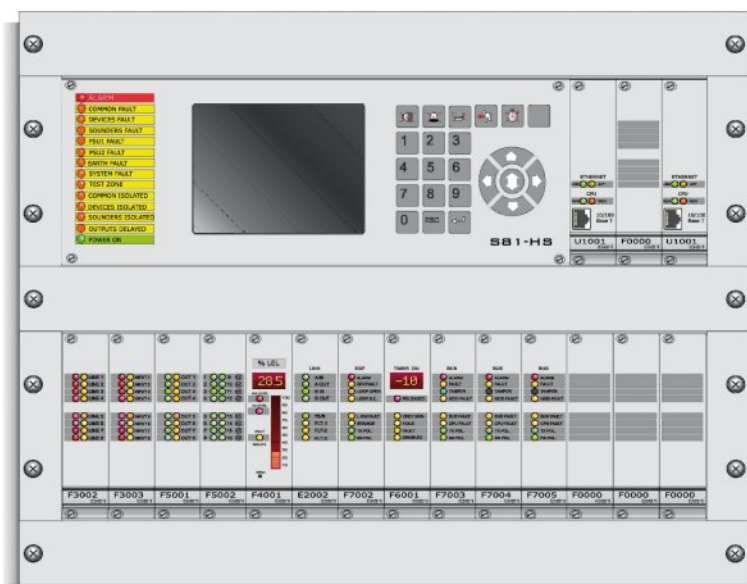
Automatic software configuration

Tracks maintenance and incidents

Easy and rapid maintenance

Reduced cabling

User friendly interface



## Technical data

### GENERAL

Base rack	Control panel, 19" - 3HE
Expansion	Expansion rack, 13 cards slots, 19" - 3HE
Card installation	Front plug-in
Card replacement	Hot swap

### DIRECT CONTROL AND INTERFACING

4-20 mA inputs	Specific cards and modules for 4-20 mA
Addressable devices	Total 130 loops, 127 addresses per loop
Detection cards	Specific cards
Logic / Voting	Specific programmable function for I/O cards
I/O's	Multiple cards, 16 inputs and outputs, and I/O modules on bus
Fire extinguishing controls certified to EN 12094-1	Dedicated native cards for this function can control up to 64 extinguishing zones
Extinguishing controls (directional valves)	Dedicated native cards for this function, with no logic and control limitation
Repeaters	On BUS
Remote control	From PC with IRIDE software and Pro-S81 program
Communication	TCP/IP on Ethernet
Multi-panel architecture	Ethernet and Modbus, copper or fibre optic, redundant
Graphic maps	IRIDE program
External SCADA interfacing	Standard MODBUS RTU, proprietary protocol on Ethernet available upon request

### POWER SUPPLY

Feeder	2.5A, 4A or 20A, can be paralleled Certified to EN 54-4, with fault indication in case of mains supply failure, battery charger or battery fault, overheating
Battery charger	Can be coupled with feeder Battery charge and aging status monitoring, through microcontroller-processed algorithm; thermal compensation during battery charging; testing button; battery capacity : 110 Ah.

### ENVIRONMENTAL

Temperatures	
- Storage	-40°C to +85°C
- Operational	5°C to +50°C
Humidity	5% to 95% RH (non-condensing)

### SYSTEM CAPACITY

Maximum number of racks per panel	10
Maximum number of cards per rack	13
Maximum number of configurable zones (*1)	300 + 300
Maximum number of devices per zone (*2)	99 + 99 + 99
Maximum number of devices per panel (*3)	16510
Maximum number of panels connectable to each other	64

(\*1) = 300 safety zones and 300 security zones  
(\*2) = 99 inputs, 99 outputs, 99 logic relations  
(\*3) = based on all racks containing 13 addressable cards each

### ELECTRONIC MODULARITY ON BASE RACK

Display (LCD)	Liquid crystal, back lit, graphic type, 320 x 240 pixel
CPU's	Hot back-up redundant configuration
- MSMX-U1002-1	RJ45
- MSMX-U1002-2	Fibre optic
Basic cards	
- MSMX-T8004	Default inputs/outputs
- MSMX-U1006-1	Display + keyboard
- MSMX-E2003	Backplane

### ELECTRONIC MODULARITY ON ADDITIONAL RACKS

Basic and terminal cards	
- MSMX-E2001-1	Ribbon cable connector (IDC)
- MSMX-E2001-2	Heavy duty connector
- MSMX-T8001/8003	Terminal block module (cable plug)
- MSMX-T8006/8007	Relay
- MSMX-E2002	Rack controller (and internal bus)

### ADDITIONAL CARDS ON EXPANSION RACKS (MAXIMUM 8 RACKS)

- MSMX-F3002	Eight inputs, conventional detection
- MSMX-F4001	One 4-20 mA analogue input
- MSMX-F4002	Two 4-20 mA analogue inputs
- MSMX-F4003	Eight 4-20 mA analogue inputs
- MSMX-F5001	Eight 500 mA monitored outputs
- MSMX-F5002	Sixteen open collector outputs
- MSMX-F5003	Eight polarity reversal-monitored outputs
- MSMX-F5004	Four monitored outputs
- MSMX-F6001	Fire extinguishing control, certified to EN12094-1
- MSMX-F6002	Special logic control
- MSMX-F7002	Analogue addressable loop control, ESP protocol
- MSMX-F7007	Analogue addressable loop control, SSP protocol
- MSMX-F7006	MODBUS RTU

### APPROVALS

IMQ-certified to EN 54-2 and EN 54-4 (fire detection)
IMQ-certified to CEI 79-2 (intruder alarm)
CPD-certified to EN 12094-1 (fire extinguishing)
TUV-certified to IEC61508 (functional safety) – SIL 2 & 3