

Safety PLCs

Preventa

Drag & Drop

and it's programmed!



Simply Smart!

Leveraging
ingenuity
and intelligence
for **ease of use**

A *multi-function* and *programmable* offer

To respond to requirements for performance, simplicity and modularity, Schneider Electric has made full use of its expertise to create a new range of programmable safety PLCs. Designed for applications requiring multiple simultaneous safety functions; you can choose your **XPS MF** PLC according to the complexity of your machine.

The Telemecanique safety PLC range is flexible, providing you with an extensive list of compact safety PLCs, compact safety remote I/O modules and modular safety solutions, up to performance level e according to EN ISO 13849-1, up to category 4 according to EN 954-1 and SIL 3 (claim limit) according to EN/IEC 61508.



Flexibility



XPS MF30/31

Programmable compact safety PLC

- Robust metal housing
- Manages up to 64 safety remote I/O modules
- 20 digital inputs
- 8 digital outputs (configurable for line control)
- Integrated 4 port Ethernet switch
- Integrated SafeEthernet protocol
- Integrated Modbus TCP/IP server protocol
- Modbus Serial (RTU) slave for XPSMF30 only

XPS MF35

Programmable compact safety PLC

- Robust metal housing
- Manages up to 64 safety remote I/O modules
- 24 digital inputs
- 8 analog inputs
- 2 counter inputs
- 8 digital outputs (configurable for line control)
- Integrated 4 port Ethernet switch
- Integrated SafeEthernet protocol
- Integrated Modbus TCP/IP server protocol
- Options: Modbus serial (RTU) slave
- Options: Profibus DP slave

The safety remote I/O modules require either compact or modular safety PLCs to operate.

■ XPS MF1

Compact safety remote input module

- Robust metal housing
- 16 digital inputs
- 4 line control outputs
- Integrated 2 port Ethernet switch
- Integrated SafeEthernet protocol
- Hot swappable



■ XPS MF2

Compact safety remote output modules

- Options: relay or solid state output modules
- Integrated 2 port Ethernet switch
- Integrated SafeEthernet protocol
- Hot swappable



■ XPS MF3

Compact safety remote I/O modules

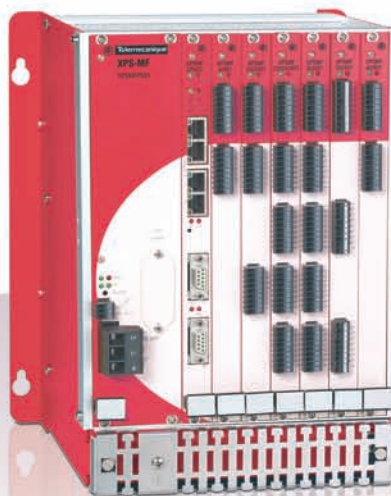
- Options: digital I/O modules. Analog input/non-safety analog output module
- Integrated 2 port Ethernet switch
- Integrated SafeEthernet protocol
- Hot swappable



■ XPS MF40

Programmable compact safety PLC

- Robust plastic housing
- Manages up to 64 safety remote I/O modules
- 24 configurable digital I/O terminals
- 8 line control outputs
- Integrated 2 port Ethernet switch
- Integrated SafeEthernet protocol
- Options: Modbus TCP/IP server protocol
- Options: Profibus DP slave
- Options: Modbus Serial (RTU) slave



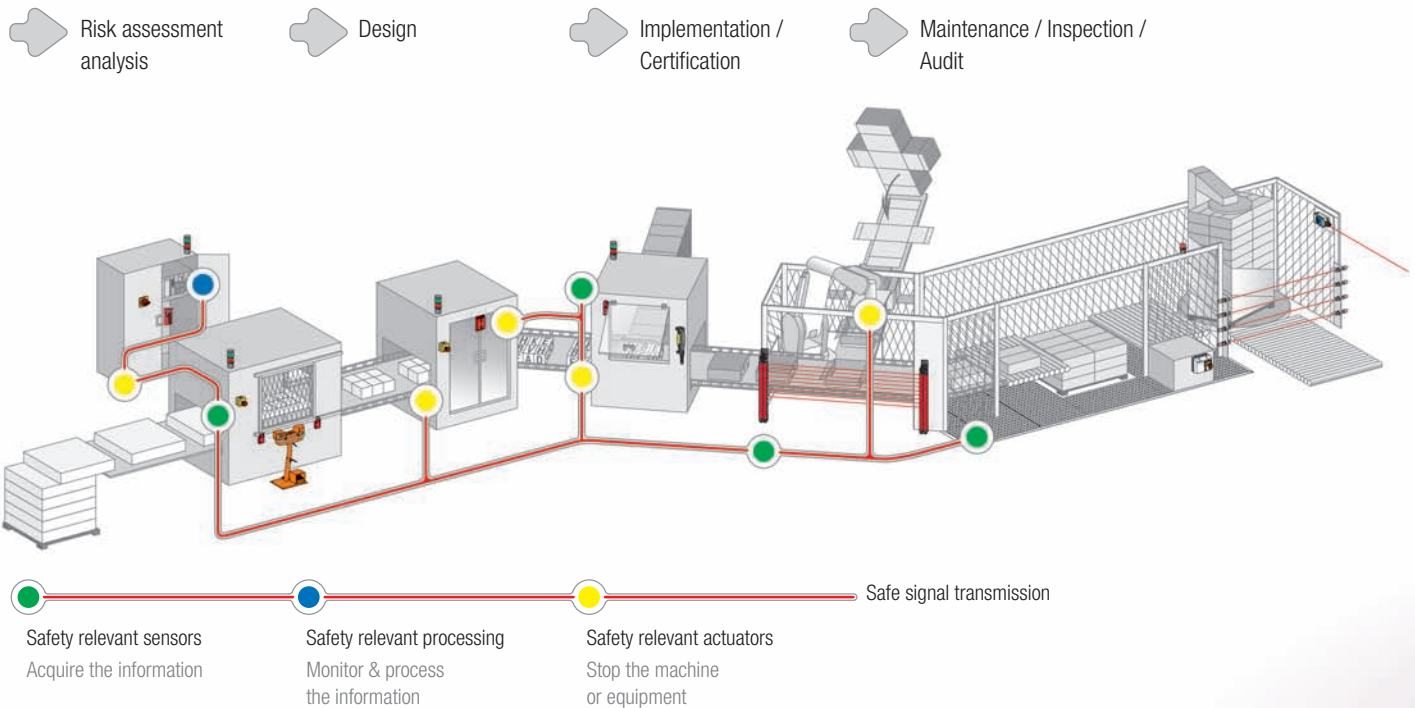
■ XPS MF60

Programmable modular safety PLC

- Robust metal housing
- Manages up to 64 safety remote I/O modules
- Up to 6 IO cards per rack
- 24 or 32 digital input cards
- 8 digital relay output card
- 8 analog input card
- 8 analog output card
- 2 counter/encoder input card
- Integrated 4 port Ethernet switch
- Integrated SafeEthernet protocol
- Integrated Modbus TCP/IP server protocol
- Integrated Modbus Serial (RTU) slave

Preventa safety PLCs

XPSMF is integrated into the « Full safety chain » for applications required safe communication



The **XPSMFWIN** programming environment is Windows-based and provides the user with a user-friendly safety working environment. The software breaks down any complexity by separating the hardware configuration from the software configuration. This enables the user to create a program and then assign all the PLCs/remote I/O in the hardware programming environment or vice versa. The **XPSMFWIN** software enables the user to program using FBD (Function Block Diagram) and/or SFC (Sequential Function Chart) language.

There are two methods of programming:

1. Using certified function blocks
2. Using the IEC61131-3 function block library

The two methods enable the user to save time and effort.

The software comes complete with 14 certified function blocks and a complete range of IEC61131-3 library function blocks.



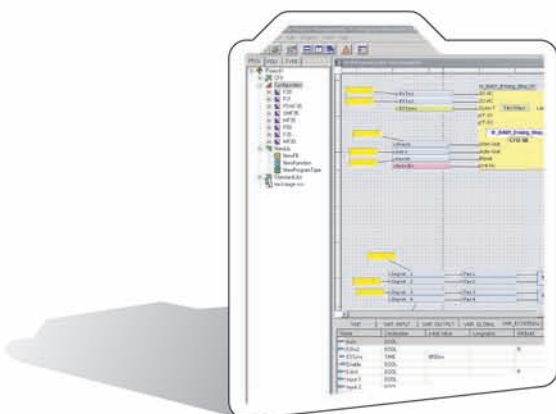
Diagnostics

XPS MF PLCs incorporate interfaces for communicating with operator dialog terminals (Magelis) or PLCs. LEDs on the front face of the PLC also enable simple visual diagnostics to be performed.



Certified function block library

- Emergency stop
- Two-hand control
- Muting serial
- Enabling switch 1
- Enabling switch 2
- Press safety valves
- Feedback loop
- Light curtain/scanner
- Selector switch 1 out of 8
- Selector switch 2 out of 6
- Analog input
- Safety locking
- Dynamic initiator
- Safety guard



Communication

XPS MF is a range of PLCs that offer extensive system diagnostic and signal transfer functions, by the use Modbus Serial (RTU), Modbus TCP/IP, Profibus DP for non-safety related communication, and SafeEthernet protocol for transferring safety related data between modular/compact safety PLCs and remote I/O modules.



Customisation

XPS MF combines ongoing flexibility and modularity. Create and design as required using certified function blocks and IEC function blocks.



Simplicity



Compact safety PLC

24 configurable IO terminals, with SafeEthernet protocol
24 configurable IO terminals with SafeEthernet and Modbus TCP/IP server protocols
24 configurable IO terminals with SafeEthernet and Modbus Serial (RTU) slave protocols
24 configurable IO terminals with SafeEthernet, Modbus Serial (RTU) slave and Modbus TCP/IP server protocols
24 configurable IO terminals with SafeEthernet and Profibus DP (V0) slave protocols
24 configurable IO terminals with SafeEthernet, Profibus DP (V0) and Modbus TCP/IP server protocols
Programming software
Programming software-update version*
20 digital inputs/8 digital outputs** with SafeEthernet, Modbus TCP/IP server and Modbus Serial (RTU) slave protocols
20 digital inputs/8 digital outputs** with SafeEthernet and Modbus TCP/IP server protocols
24 digital inputs/ 2 counter inputs/ 8 analog inputs/8 digital outputs with SafeEthernet and Modbus TCP/IP server protocols
24 digital inputs/ 2 counter inputs/ 8 analog inputs/8 digital outputs with SafeEthernet, Modbus TCP/IP server and Modbus Serial (RTU) protocols
24 digital inputs/ 2 counter inputs/ 8 analog inputs/8 digital outputs with SafeEthernet, Modbus TCP/IP server and Profibus DP (V0) slave protocols

References

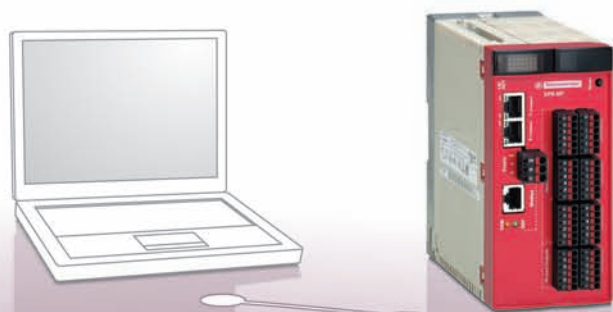
XPSMF4000
XPSMF4002
XPSMF4020
XPSMF4022
XPSMF4040
XPSMF4042
SSV1XPSMFWIN
SSVXPSMFWINUP
XPSMF3022
XPSMF31222
XPSMF3502
XPSMF3522
XPSMF3542

* Only to be used if the previous full version of SSV1XPSMFWIN has been installed (purchased in 2006)

** Configurable as line control outputs

Installation

XPS MF not only saves you time but also reduces your cabling costs as there is no need for long cables between the various products and the I/O field devices.



Create your solution

The systems are very simple to put together. Programming is carried out via Ethernet in point-to-point mode or via the Ethernet network. The compact and modular PLCs can be connected together and transfer safety-related data between the systems.

The safety remote I/O systems require a parent to manage the program. This parent can be a compact or modular PLC. Each compact or modular PLC can manage up to 64 remote I/O modules, and can be further expanded using multiple PLCs. In addition, connection to standard automation devices is simple via Modbus TCP/IP, Modbus Serial (RTU) or Profibus DP.



Compact safety remote I/O modules

16 digital input module
4 digital power (5 A per output) solid state output module
8 relay output module
16 solid state output module
16 relay output module
8 digital input/8 digital output module
16 digital input/8 digital output module
20 digital input/8 digital output module
8 analog input/4 non-safety analog output module

References

XPSMF1DI1601
XPSMF2DO401
XPSMF2DO801
XPSMF2DO1601
XPSMF2DO1602
XPSMF3DI08801
XPSMF3DI016801
XPSMF3DI020802
XPSMF3AI08401

Modular safety PLC

CPU for modular safety PLC
Rack for modular safety PLC
Power supply card for modular safety PLC
24 digital input card for modular safety PLC
32 digital input card for modular safety PLC
8 digital relay output card for modular safety PLC
24 digital input/16 digital output card for modular safety PLC
2 counter input/4 digital output card for modular safety PLC
8 analog input card for modular safety PLC
8 analog output card for modular safety PLC

References

XPSMFCPU22
XPSMFGEH01
XPSMFPS01
XPSMFDI2401
XPSMFDI3201
XPSMFD0801
XPSMFDI0241601
XPSMFCI02401
XPSMFAI801
XPSMFAO801



Security

- System security is very important when dealing with safety.
- Safety PLC systems allow up to 10 user PLCs, giving users the following access rights:
 - No changes allowed
 - Ability to modify program and settings
 - Ability to modify program and settings and user management
- The systems also require a USB hardlock to access the software
- The programming terminal requires a user ID and password
- All changes to the software are managed using CRC (Cyclic Redundancy Check) or check sums of the CPU configuration. These values can be transferred to a standard PLC or HMI and can provide a warning, to inform the user that the configuration has been changed.
- The CRC is unique for every configuration.

Accessories for safety PLC	References
SUBD9-RJ45 converter	XPSMFADAPT
Cover plate for modular safety PLC	XPSMFBLK



The efficiency of Telemecanique branded *solutions*

Used in combination, Telemecanique products provide quality solutions, meeting all your **Automation & Control** applications requirements.



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- Schneider Electric provides you with all necessary technical assistance, throughout the world.

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