

# MECHAN CONTROLS PLC



## Operating Instructions for MS-M18 Safety Switches

### KEEP THIS GUIDE FOR FUTURE REFERENCE

This information is designed to help suitably qualified personnel install and operate Mechan Safety Switch equipment.

Before using this product, read this guide thoroughly along with any relevant European and/or National standards e.g. Machinery Directive 89/392/EEC and its amendments, Provision and Use of Work Equipment Regulations.

**Further information can be obtained from  
Mechan Controls**

### Description

The Mechan MS-M18 Safety switches are magnetic, non-contact safety switches for machine guarding applications.

Robust and reliable, the M18 housing is easy to install and, with a 10mm switching distance, tolerant to misalignment and machine guard vibration.

The MS-M18 is fully encapsulated to IP67 and is suitable for use in wet, wash-down or dusty areas.

Available either pre-wired or with an M12, 4 pole, IP67 connector to simplify installation. The MS-M18 safety switch has 2 x N/O contacts capable of switching up to 300mA, 24Vdc and is ideal for use with most of the modern 'low in-rush current' safety relays where category 3 or 4 performance is required for a safety application.

### Operation

When the safety switch and actuator are within the specified operating range (See table on page 4 for switching distances), the **Safety Contacts** will be closed.

When the actuator moves out of the operating range, the **Safety Contacts** will open.

The MS-M18 safety switch and actuator are designed to approach each other from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

### Applications

Interlocked guards where door locking is not required.  
Food and Beverage packing/filling systems  
Dairy  
Pharmaceutical  
Paper Industry  
Can Forming and Filling, (Aluminum, Steel, Plastic)  
Semiconductor Manufacture/Assembly.



MS-M18-20-DC-QD



### Approvals

CE	Complies with the relevant sections of the CE marking directive.
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### EUROPEAN DIRECTIVES

Machinery Directive 98/37/EC

Low Voltage Directive 73/23/EC

Electromagnetic Compatibility Directive 89/336/EC

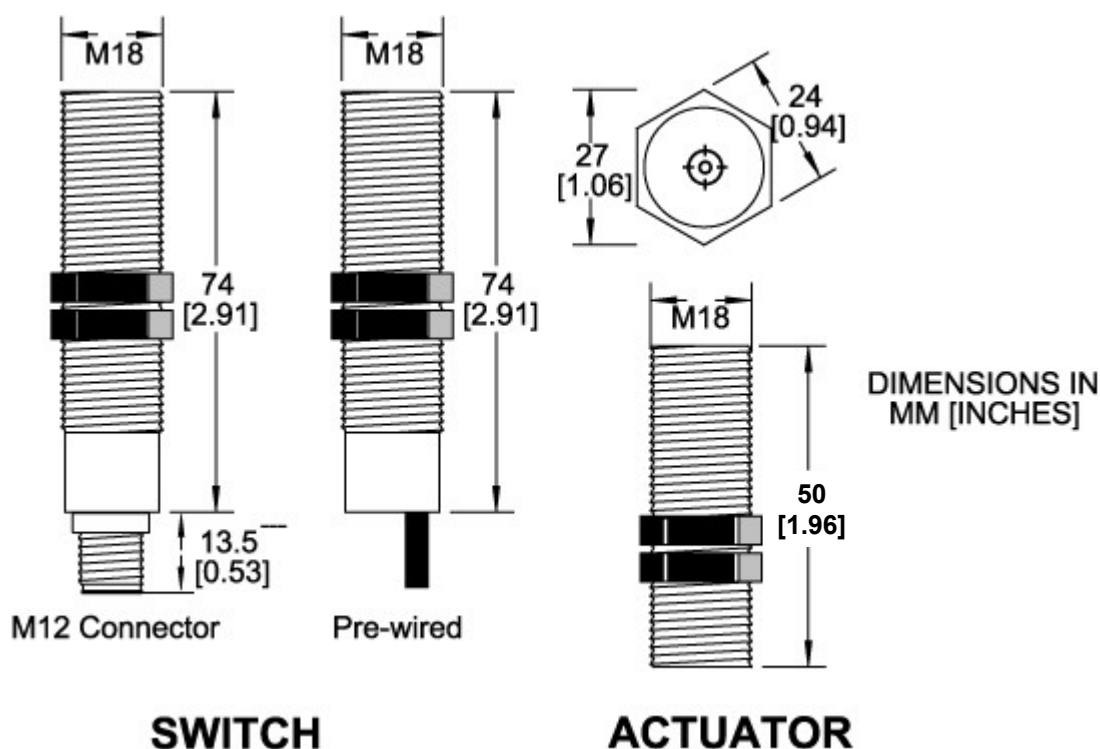
### EUROPEAN STANDARDS

EN292	Safety of Machinery Basic concepts, general principles for design.
EN 60204	Safety of Machinery Electrical equipment of machines.
EN 954-1 EN 13849-1	Safety of Machinery Safety related parts of controls systems
EN 1088	Interlocking devices associated with guards.
EN 60947-5-3	Safety of Machinery Specification for low voltage switchgear and control gear.

### Declaration of Conformity

A Declaration of Conformity may be obtained from Mechan Controls PLC, Tel +44(0)1695 722264  
or from the Mechan Web Site at [www.mechancontrols.co.uk](http://www.mechancontrols.co.uk)

## Dimensions



## Mounting

The MS safety switches can approach each other from most angles. When the guard is closed the targets on the printed face of the switch and actuator must be aligned.

Mount the switch on to the machine frame and the actuator on to the opening edge of the door. Always try to mount the switch on non-ferrous material. (*Ferrous materials may reduce the switching distance.*)

Use the tamper proof screws provided to make more secure.

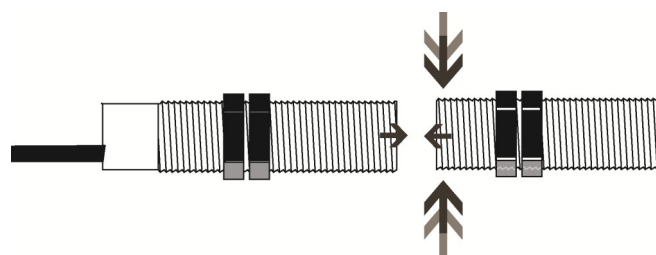
Do not use the safety switch as a door stop.

Leave a minimum of 50 mm between any adjacent switches.

EN 1088

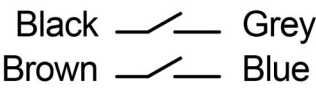
Provides some mounting suggestions, see example opposite.

When fixing the safety switch to a sliding door (A), ensure that when the door is opened (B) it is not easily accessible, helping prevent the system being overridden.

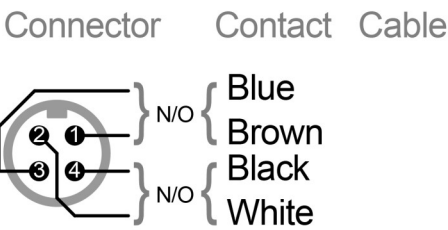


CONNECTIONS

ABS - Pre-wired



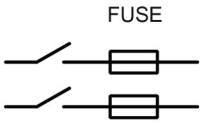
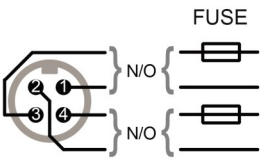
ABS - Connector



Connector  
Micro DC M12

Note : The N/O safety contacts on the Mechan switches are open when the actuator is away from the switch.  
When the actuator is in place the N/O contacts will close.

FUSES

Pre-Wired	Connector	Switch	Fuse
		ABS Pre-wired or Connector	0.2A
All N/O contacts should be fused externally. All external fuses should be a 'FAST ACTING'			

## Technical Specifications

		MS-M18-20-DC-QD
Contact Arrangements		2 x N/O
Safety Contact Rating		24Vdc / 300mA
Safety Contact Operating Distance		10mm ON / 30mm OFF
Safety Contact Close/Drop/Bounce		3ms / 2.1ms / 0.7ms
External Fuse (Customer Supplied)		0.2 Amp Fast Acting
IP Rating		IP67
Vibration / Shock		50—100Hz / 10g
Operating Temperature	Pre-wired, ABS	- 10°C to + 55°C
	Quick Disconnect	- 10°C to + 55°C
Mounting & Fixture		Target to Target
Connection		Pre-wired or M12 Connector, 4 Pole, Single Key Way
Construction		Red ABS

## Notes

The safety contacts of the MS switches are described as normally open (N/O)  
i.e. With the guard open the contact will be open. When the guard is closed and the actuator is in place the contact will be closed.

## Specification Changes

In the interest of product development, specifications are subject to change without notice.

It is the responsibility of the user to ensure compliance with any acts or by-laws that may be in force.

All information regarding Mechan Equipment is believed to be accurate at the time of printing. Responsibility cannot be accepted for errors or omissions.

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