

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 or your local distributor

Description

MAGNASAFE MS5 safety switches are magnetically operated non-contact safety switch for use in machine guarding applications.

MS5 CONNECTING TO SAFETY RELAY

Designed to work with **safety relays that have a low inrush current on the switch input**, the MS5 provides an economical method of switching for the higher category, dual channel circuits.

The MS5 safety switches are available in a robust ABS, or 316 Grade Stainless Steel housing, and both switch and actuator are fully sealed to IP67 making them suitable for use in wet or dusty environments. The MS5 is easy to install and tolerant to misalignment.

With correct installation, The MS5 safety switches comply with the guidelines given in EN1088.

Operation

When the safety switch and actuator are within the specified operating range (See table on page 3 for switching distances), the **Safety Contacts** will be closed and the **Auxiliary Contact** will be open.

When the actuator moves out of the operating range, the **Safety Contacts** will open the **Auxiliary Contact** will close for indication.

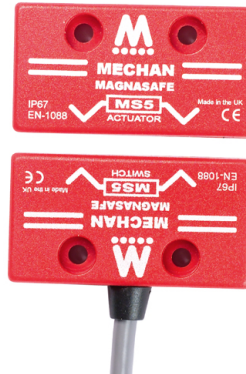
The MS5 safety switch and actuator are designed to approach each other from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

Applications

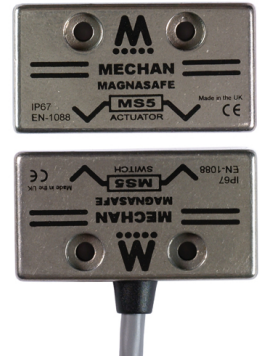
Interlocked guards where door locking is not required.
Food and Beverage packing/filling systems
Diary
Pharmaceutical
Paper Industry
Can Forming and Filling, (Aluminum, Steel, Plastic)
Semiconductor Manufacture/Assembly.

MS5 Safety Switch

MS5 ABS



MS5 SS



MS5 SS-LQD



Listed



Approvals

CE	Complies with the relevant sections of the CE marking directive.
UL	UL 508, Industrial Control Equipment

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	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,

Mounting

The MS5 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.

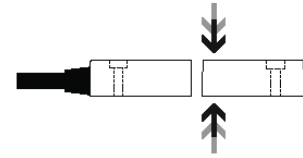
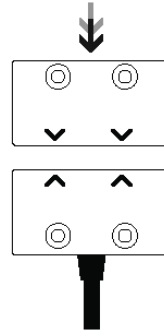
Do not use the safety switch as a door stop.

Leave a minimum of 50 mm between any adjacent switches.

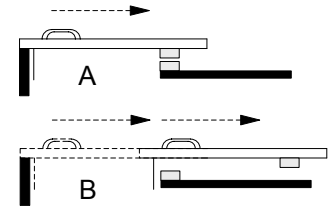
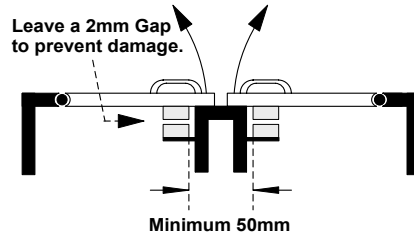
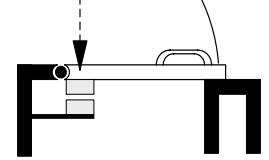
EN 1088

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.

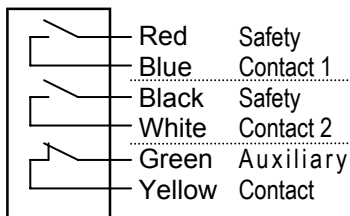


WRONG!

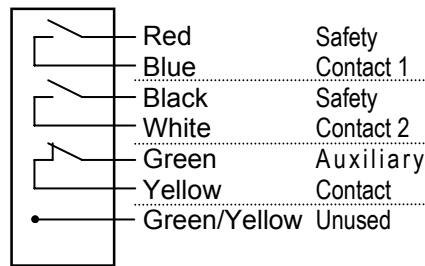


Contacts & Connections

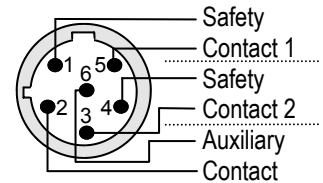
MS5-21-DC
MS5-SS-21-DC



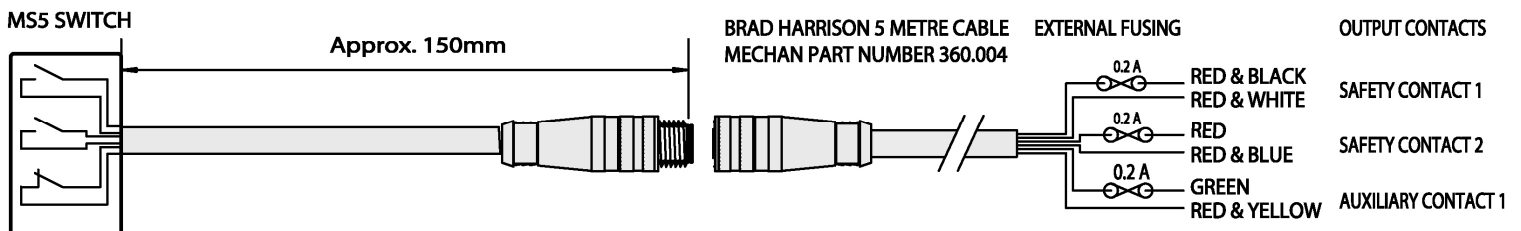
MS5-SS-21-DC-HT



MS5-21-DC-LQD
MS5-SS-21-DC-LQD
QUICK DISCONNECT



Quick Disconnect 'LQD' Version



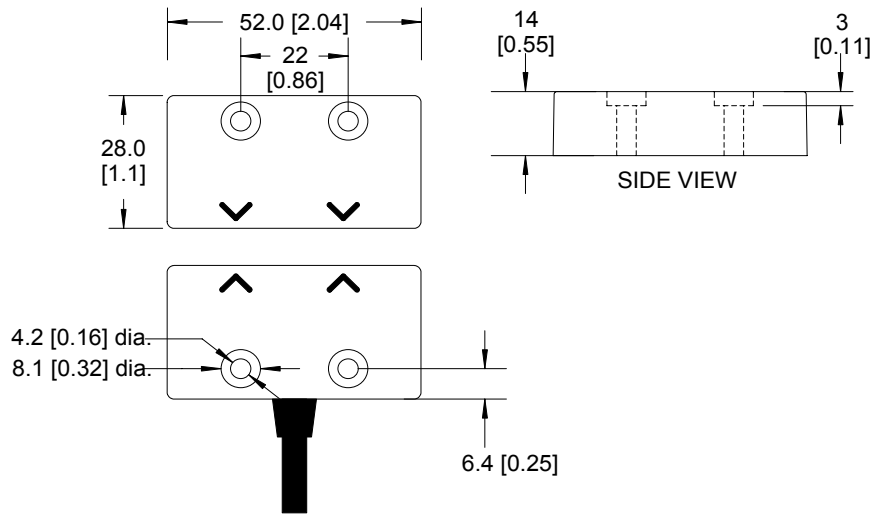
All contacts should be fused externally

MS5-21 All types

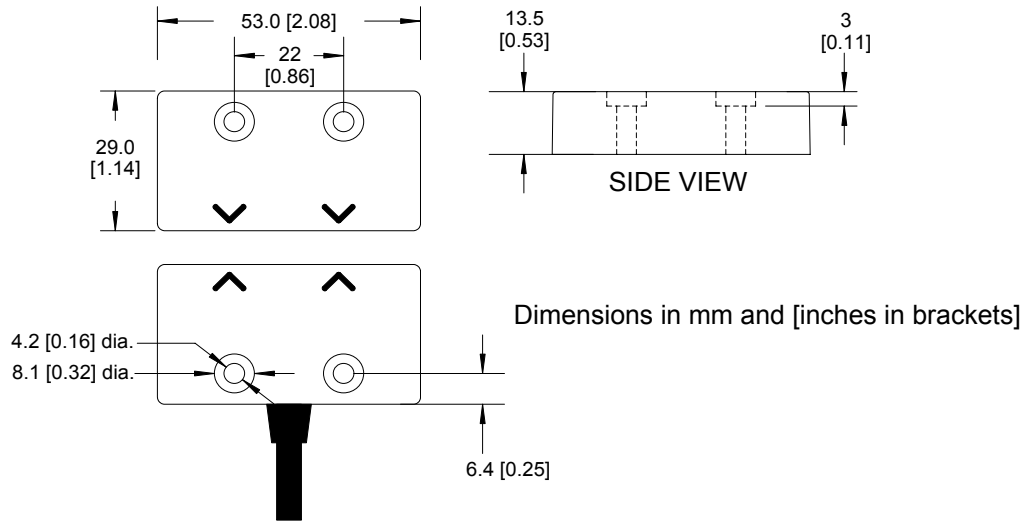
All Contacts
0.2 Amps Quick Blow

Dimensions

Red ABS Housing



316 Stainless Steel



Technical Specifications

	DC		
Type	MS5-21 MS5-SS-21	MS5-21-LQD MS5-SS-21-LQD	MS5-SS-21-DC-HT
Contact Arrangement	2xN/O Safety & 1 x N/C Aux.	2xN/O Safety & 1 x N/C Aux.	2xN/O Safety & 1xN/C Aux.
Safety Contact Rating	24Vdc / 0.3Amps Inductive/ Res.	24Vdc / 0.3Amps Inductive/ Res.	24Vdc / 0.3Amps Inductive/ Res.
Safety Contact Operating Distance	6mm ON / 17mm OFF	6mm ON / 17mm OFF	6mm ON / 17mm OFF
Safety Contact Close/Drop/Bounce	0.3ms / 0.2ms / 0.7ms	0.3ms / 0.2ms / 0.7ms	0.3ms / 0.2ms / 0.7ms
Auxiliary Contact Rating	24Vdc / 0.3Amps Inductive/ Res.	24Vdc / 0.3Amps Inductive/ Res.	24Vdc / 0.3Amps Inductive/ Res.
Auxiliary Contact Operating Distance	6mm OFF / 17mm ON	6mm OFF / 17mm ON	6mm OFF / 17mm ON
Auxiliary Contact Close/Drop/Bounce	0.5ms / 0.3ms / 0.7ms	0.5ms / 0.3ms / 0.7ms	0.5ms / 0.3ms / 0.7ms
External Fuse (Customer Supplied)	0.2 Amp Fast Acting	0.2 Amp Fast Acting	0.2 Amps Fast Acting
IP Rating	IP67	IP67	IP67
Vibration / Shock	50—100Hz / 10g	50—100Hz / 10g	50—100Hz / 10g
Operating Temperature	-10 to +55C	-10 to +55C	-10 to +95C
Mounting & Fixture	Target to Target	Target to Target	Target to Target
Connection	Pre-wired cable	M12 Quick Disconnect	Pre-wired cable
Construction	Red ABS Resin Filled or 316 Grade Stainless Steel	Red ABS Resin Filled or 316 Grade Stainless Steel	316 Grade Stainless Steel

LONGER CABLES AVAILABLE

Part Numbers

PART NUMBER	DESCRIPTION	STOCK CODE
Pre-wired		
MS5-21-DC-03M	2 x N/O + 1 x N/C, DC, ABS, Safety Switch & Actuator, 3 metre Pre-wired	354.050
MS5-21-DC-05M	2 x N/O + 1 x N/C, DC, ABS, Safety Switch & Actuator, 5 metre Pre-wired	354.059
MS5-21-DC-6M	2 x N/O + 1 x N/C, DC, ABS, Safety Switch & Actuator, 6 metre Pre-wired	354.062
MS5-21-DC-10M	2 x N/O + 1 x N/C, DC, ABS, Safety Switch & Actuator, 10 metre Pre-wired	354.061
MS5-SS-21-DC-03M		
MS5-SS-21-DC-03M	2 x N/O + 1 x N/C, DC, Stainless Steel, Safety Switch & Actuator, 3 metre Pre-wired	354.051
MS5-SS-21-DC-05M	2 x N/O + 1 x N/C, DC, Stainless Steel, Safety Switch & Actuator, 5 metre Pre-wired	354.058
MS5-SS-21-DC-10M	2 x N/O + 1 x N/C, DC, Stainless Steel, Safety Switch & Actuator, 10 metre Pre-wired	354.060
MS5-SS-21-DC-12M	2 x N/O + 1 x N/C, DC, Stainless Steel, Safety Switch & Actuator, 12 metre Pre-wired	354.055
MS5-SS-21-DC-05M-HT	2 x N/O + 1 x N/C, DC, Stainless Steel, Safety Switch & Actuator, 5 metre Pre-wired, High Temp.	354.057
Quick Disconnect		
MS5-21-DC-LQD	2 x N/O + 1 x N/C, DC, ABS, Safety Switch & Actuator, M12 Quick Disconnect	354.056
MS5-SS-21-LQD	2 x N/O + 1 x N/C, DC, Stainless Steel, Safety Switch & Actuator, M12 Quick Disconnect	354.052
LONGER CABLES AVAILABLE		

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.



Represented by:



300 Roundhill Dr. Rockaway, NJ 07866
 Tel: 973-586-2500
 www.norstat.com
 email: sales@norstat.com