

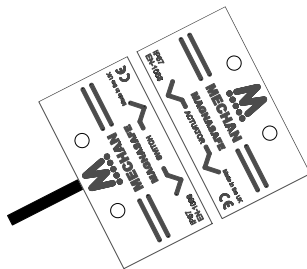
MECHAN CONTROLS

MAGNASAFE

MS4

SAFETY SWITCH

INSTALLATION GUIDE



1) PART NUMBERS:

MS4-10-DC-03M / MS4-11-DC-03M
 MS4-SS-10-DC-03M / MS4-SS-11-DC-03M
 MS4-SS--11-DC-03M-HT
 MS4--10-DC-03M SE

Note: Longer cable lengths can be ordered by changing the last 3 digits of the part number (eg 10M = 10 metre cable)



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 it's amendments, Provision and Use of Work Equipment Regulations. Further information can be obtained from Mechan Controls PLC

***** KEEP THIS GUIDE FOR FUTURE REFERENCE *****

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2) DESCRIPTION

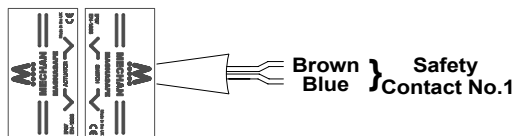
The MAGNASAFE safety switch is a magnetically operated non-contact safety switch for use in machine guarding applications. With correct fitting, it complies with the guidelines given in EN1088. When fitted to a machine guard as shown below, (5) the safety contact will be closed when the guard door is closed and will open when the guard door is opened.

NOTE: The auxiliary contact is for indication purposes and will close when the guard door opens.

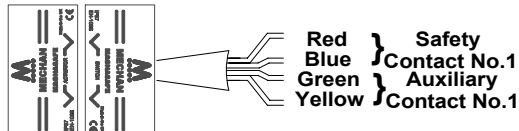
Mechan Controls also manufacture a range of tamper-resistant and tamper-proof safety systems which may be more suitable for some applications. For more information ask for details on the **ISIS** ; F-SERIES and **CODEX** safety systems.

3) CONNECTIONS

MS4-10-DC-03M



MS4-11-DC-03M



4) CONTACTS & FUSES

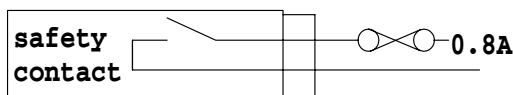
Safety Contact

MAGNASAFE DC rated switches must be used to **switch DC loads**

Fuses

The safety contact must be fused externally.

DC SWITCH
 External Fuse = 0.8 Amps Fast Acting



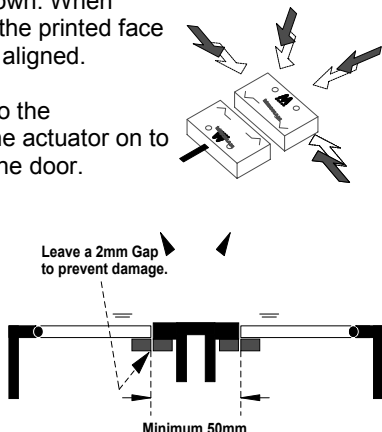
5) INSTALLATION

The Magnasafe safety switches can approach each other from any angle as shown. When closed the arrows on the printed face of the switch must be aligned.

Mount the switch on to the machine frame and the actuator on to the opening edge of the door.

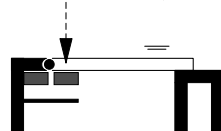
Do not use the safety switch as a door stop.

Leave a minimum of 50 mm between any adjacent switch.



Always try to mount the switch on non-ferrous material. Ferrous material will affect the switching distance.

WRONG!



Do not mount the switch on to the hinge side of the door.

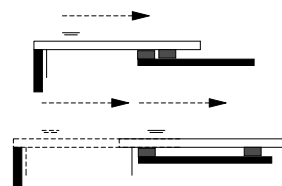
SLIDING DOORS

EN 1088 provides some mounting suggestions, see below.

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

A:

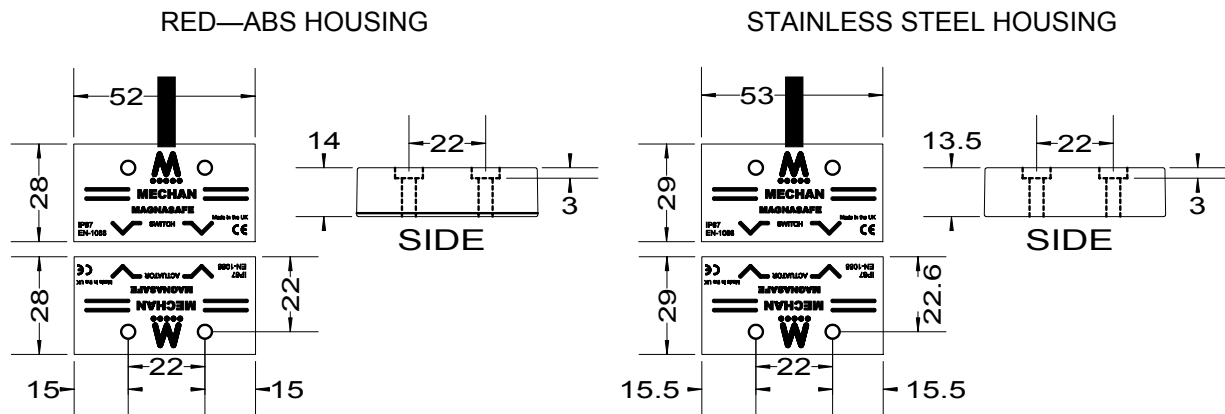
B:



Mechan Controls plc

MECHAN CONTROLS PLC, 14/16 SEDDON PLACE, STANLEY INDUSTRIAL ESTATE, SKELMERSDALE, LANCASHIRE, WN8 8EB, UK
 TELEPHONE : + 44 (0)1695 722264 FAX : + 44 (0)1695 729664 EMAIL : info@mechancontrols.co.uk WEB : www.mechancontrols.co.uk

7) DIMENSIONS



7) TECHNICAL SPECIFICATION

PART NUMBER & VOLTAGE	RED - ABS (DC ONLY)		STAINLESS STEEL (DC ONLY)	
	MS4-10-DC	MS4-11-DC	MS4-SS-10-DC	MS4-SS-11-DC
Contact Arrangement (Safety are N/O Auxiliary are N/C)				
Safety Contact Rating	30V DC / 1 AMPS INDUCTIVE / RESISTIVE		30V DC / 1 AMPS INDUCTIVE / RESISTIVE	
Safety Contact Operating Distance	7-10mm ON / 12mm OFF		7-10mm ON / 12mm OFF	
Safety Contact: Close; Drop; Bounce	3ms / 2.1ms / 0.7ms		3ms / 2.1ms / 0.7ms	
Auxiliary Contact Rating	15W / 10VA		15W / 10VA	
Auxiliary Contact Operating Distance	8mm OFF / 10mm ON		8mm OFF / 10mm ON	
Auxiliary Contact: Close; Drop; Bounce	0.5ms / 0.3ms / 0.7ms		0.5ms / 0.3ms / 0.7ms	
Internal Fuse	1 AMPS FAST ACTING		1 AMPS FAST ACTING	
External Fuse (Customer Supplied)	0.8 AMPS FAST ACTING		0.8 AMPS FAST ACTING	
IP Rating	IP67		IP67	
Vibration / Shock	50 - 100 Hz / 10g		50 - 100 Hz / 10g	
Operating Temperature	-10 to +55C		-10 to +55C	
Mounting & Fixture	TARGET TO TARGET, FIX WITH TAMPER PROOF SCREWS SUPPLIED		TARGET TO TARGET, FIX WITH TAMPER PROOF SCREWS SUPPLIED	
Colour & Construction	RED ABS CASE, RESIN FILLED		STAINLESS STEEL (316), RESIN FILLED	

8) PART NUMBERS & ORDER CODES

DESCRIPTION	PART NUMBER	STOCK NUMBER
Safety Switch: 1 x Safety Contact	MS4-10-DC 03M	353.001
Safety Switch: 1 x Safety Contact/1 x Auxiliary Contact	MS4-11-DC-03M	353.002
Safety Switch: Actuator only	MS4-ACT	353.099
Safety Switch, Stainless Steel, 1 x Safety Contact	MS4-SS-10-DC 03M	353.006
Safety Switch, Stainless Steel, 1 x Safety Contact/1 x Auxiliary Contact	MS4-SS-11-DC-03M	353.005
Safety Switch, Stainless Steel, Actuator only	MS4-SS-ACT	353.098



Mechan Safety switches comply with the relevant EMC and Low Voltage Directives along with the Essential Health and Safety Requirements of the Machinery Directive (89/392/EEC & amendments 91/368/EEC, 94/44/EEC) where required. Copies of the Certificate of Conformity can be obtained from Mechan Controls Limited

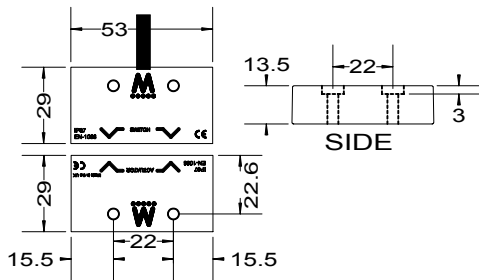
In the interest of product development, specifications are subject to change without notice.
Document No. - 353-400v6(Complete)17/9/04

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

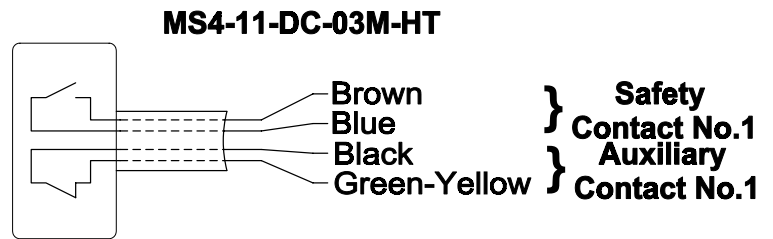
All information regarding Mechan equipment is believed to be accurate at the time of printing. Responsibility cannot be accepted for errors or omissions.

1) ADDITIONAL INFORMATION FOR HIGH TEMPRETURE VERSION

STAINLESS STEEL HOUSING



CONNECTION TO HIGH TEMPRETURE VERSION



Contacts shown without actuator present.

2) TECHNICAL SPECIFICATION (HIGH TEMPERATURE VERSION)

Type	MS4-SS--11-DC-03M HT
Contact arrangement	
1 x Safety Contacts N/O 2 x Auxiliary Contacts N/C	
Normally Open Contact: Rating	30V DC / 1 Amp Inductive / Resistive
Normally Open Contacts : Operating Distance	7 to 10mm On / 12 mm Off
Normally Open Contacts : Close; Drop; Bounce	3ms / 2.1ms / 0.7ms
Normally Closed Contact: Contact Rating	30V DC / 1 Amp Inductive / Resistive
Normally Closed Contact: Operating Distance	8mm Off / 10mm On
Normally Closed Contact: Close; Drop; Bounce	0.5ms / 0.3ms / 0.7ms
Internal Fuse	1 Amp Fast Acting
External Fuses (Customer supplied)	0.8 Amps Fast Acting
IP Rating	IP67
Vibration / Shock	50 to 100 Hz / 10g
Operating Temperature	-10 to +95 C
Mounting & Fixture	Target to Target, Use tamper-proof screws supplied
Colour & Construction	Stainless Steel (316) Resin Filled
Connection	Pre-wired, 3 or 5 Metre

3) PART NUMBERS & STOCK ORDER CODES

DESCRIPTION	PART NUMBER	STOCK NUMBER
Safety Switch, Stainless Steel, High temperature rating : 1 x Normally Open Contact / 1 x Normally Closed Contact	MS4-SS-11-DC-03M HT	
Safety Switch, Stainless Steel Actuator only	MS4-SS-ACT	



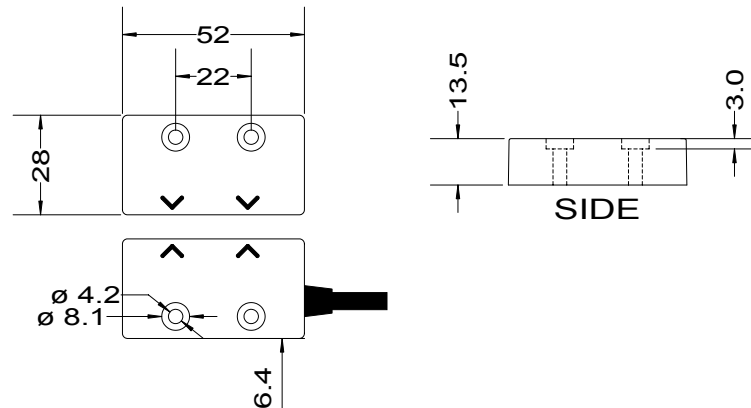
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1) ADDITIONAL INFORMATION FOR SIDE ENTRY SAFETY SWITCHES



2) TECHNICAL SPECIFICATION

Type	MS4--10-DC-03M SE
Contact arrangement 1 x Safety Contacts N/O	
Normally Open Contact: Rating	30V DC / 1 Amp Inductive / Resistive
Normally Open Contacts : Operating Distance	7 to 10mm On / 12 mm Off
Normally Open Contacts : Close; Drop; Bounce	3ms / 2.1ms / 0.7ms
Internal Fuse	1 Amp Fast Acting
External Fuses (Customer supplied)	0.8 Amps Fast Acting
IP Rating	IP67
Vibration / Shock	50 to 100 Hz / 10g
Operating Temperature	-10 to +55 C
Mounting & Fixture	Target to Target, Use tamper-proof screws supplied
Colour & Construction	Red ABS case Resin Filled
Connection	Pre-wired, 3 meter

3) PART NUMBERS & STOCK ORDER CODES

DESCRIPTION	PART NUMBER	STOCK NUMBER
Safety Switch: 1 x Normally Open Contact	MS4-10-DC-03M SE	353.003
Safety Switch, Actuator only	MS4-ACT	353.099



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