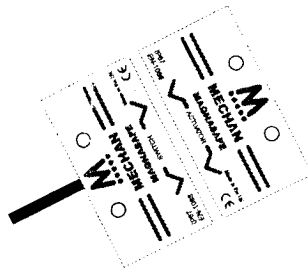


# MECHAN CONTROLS

## MAGNASAFE MS5-21 SAFETY SWITCH INSTALLATION GUIDE



### 1) PART NUMBERS:

Standard  
MS5-21-DC-03M  
MS5-SS-21-DC-05M

High Temperature  
MS5-SS-21-DC-05M-HT

### CAUTION

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 Limited

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

|                 |                      |                           |                                      |
|-----------------|----------------------|---------------------------|--------------------------------------|
| <b>CONTENTS</b> | 1 PART NUMBERS       | 4 INSTALLATION            | 7 PART NUMBERS AND STOCK ORDER CODES |
|                 | 2 DESCRIPTION        | 5 DIMENSIONS              |                                      |
|                 | 3 CONNECTION & FUSES | 6 TECHNICAL SPECIFICATION |                                      |

### 2) DESCRIPTION

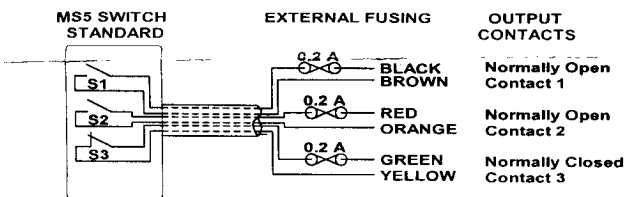
The MAGNASAFE safety switch is a magnetically operated non-contact safety switch for use in machine guarding applications. With correct fitting, it complies with the guidelines given in EN1088. When fitted to a machine guard as shown below, (4) safety contacts 1 & 2 will be closed when the guard door is closed and will open when the guard door is opened. Safety Contact 3 will be open when the guard door is closed and close when the guard door is open.

### 3) CONNECTION & FUSES

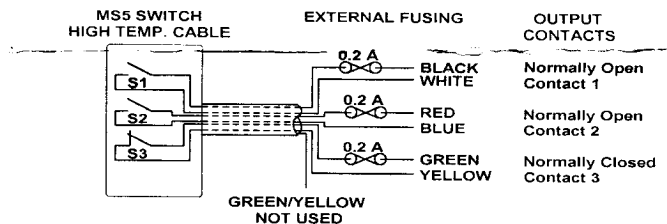
The MS5 MAGNASAFE safety switches are designed to be connected to safety relays which have less than 0.5 Amps inrush current.  
Examples : DUELCO NST-9; HONEYWELL 59252

*The safety contact must be fused externally. DC SWITCH — External Fuse = 0.2 Amps Fast Acting*

#### STANDARD CABLE CONNECTIONS



#### HIGH TEMP. CABLE CONNECTIONS



NOTE N/O Contacts are open when the gate switch is open.

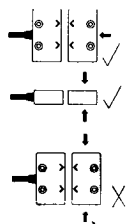
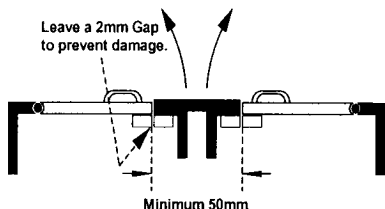
### 4) INSTALLATION

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

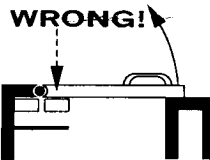
Mount the switch on to the machine frame and the actuator on to the opening edge of the door.

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.

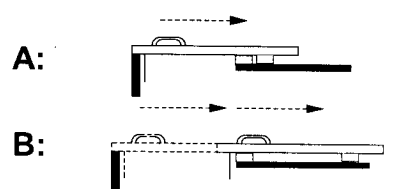


Do not mount the switch on to the hinge side of the door.

#### SLIDING DOORS

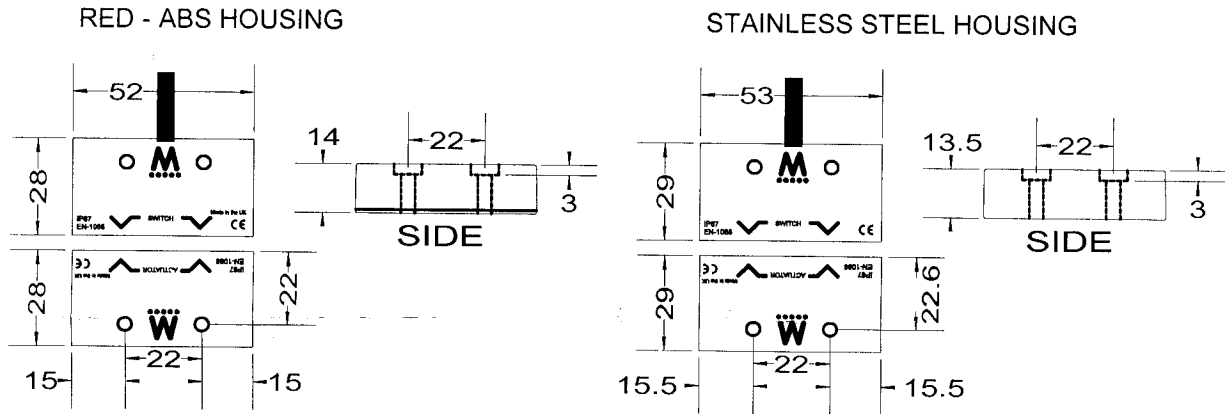
EN 1088 provides some mounting suggestions, see below.

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.



## Mechan Controls plc

## 5) DIMENSIONS



## 6) TECHNICAL SPECIFICATION

| Type  | MS5-21-DC-03M & MS5-SS-21-DC-03M                   | MS5-SS-21-DC-05M HT                                |
|---|--|--|
| Contact arrangement (Safety Contacts N/O<br>Auxiliary Contacts N/C) |  |  |
| Normally Open Contacts: Rating                                      | 24V DC / 0.3 Amps Inductive / Resistive            | 24V DC / 0.3 Amps Inductive / Resistive            |
| Normally Open Contacts : Operating Distance                         | 7 to 10mm On / 12 mm Off                           | 7 to 10mm On / 12 mm Off                           |
| Normally Open Contacts : Close; Drop; Bounce                        | 3ms / 2.1ms / 0.7ms                                | 3ms / 2.1ms / 0.7ms                                |
| Normally Closed Contact: Contact Rating                             | 24V DC / 0.3 Amps Inductive / Resistive            | 24V DC / 0.3 Amps Inductive / Resistive            |
| Normally Closed Contact: Operating Distance                         | 8mm Off / 10mm On                                  | 8mm Off / 10mm On                                  |
| Normally Closed Contact: Close; Drop; Bounce                        | 5ms / 3ms / 0.7ms                                  | 5ms / 3ms / 0.7ms                                  |
| External Fuses (Customer supplied)                                  | 0.2 Amps Fast Acting                               | 0.2 Amps Fast Acting                               |
| IP Rating   | IP67   | IP67   |
| Vibration / Shock   | 50 to 100 Hz / 10g                                 | 50 to 100 Hz / 10g                                 |
| Operating Temperature   | -10 to 55 C  | -10 to 95 C  |
| Mounting & Fixture  | Target to Target, Use tamper-proof screws supplied | Target to Target, Use tamper-proof screws supplied |
| Colour & Construction   | Red ABS or Stainless Steel (316) Resin Filled      | Stainless Steel (316) Resin Filled                 |
| Connection  | Prewired, 3 or 5 Metre, 6 Core                     | Prewired, 5 Metre, 7 Core (Green/Yellow not used)  |

## 7) PART NUMBERS & STOCK ORDER CODES

| DESCRIPTION   | PART NUMBER         | STOCK NUMBER |
|---|---------------------|--------------|
| <b>STANDARD</b>   |                     |              |
| Safety Switch, ABS : 2 x Normally Open Contacts / 1 x Normally Closed Contact   | MS5-21-DC-03M       | 354.050      |
| Safety Switch, Stainless Steel : 2 x Normally Open Contacts / 1 x Normally Closed Contact                             | MS5-SS-21-DC-03M    | 354.051      |
| Safety Switch, ABS Actuator only  | MS5-ACT             | 354.053      |
| Safety Switch, Stainless Steel Actuator only  | MS5-SS-ACT          | 354.054      |
| <b>HIGH TEMPERATURE</b>   |                     |              |
| Safety Switch, Stainless Steel, High temperature rating :<br>2 x Normally Open Contacts / 1 x Normally Closed Contact | MS5-SS-21-DC-05M HT | 354.057      |

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. - 354-400v5 28/11/03

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.