Product Catalog

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# Safety Standards Information 

Since 2006 machine owners and manufacturers have had the choice of complying with the old Machine Safety Directive, based on EN 954-1, or the new Standards, EN ISO 13849-1 and EN (IEC) 62061. Some have chosen to make the switch early, while others have opted to wait until the last minute - in this case 31st December 2011 - before adopting the new Directive.

The key issue here is EN 954-1 hasn't kept pace with the changes in the industry. In particular, it focuses on calculated risk using a simple category system, whereby system behaviours are set against categories. The issue, is the wider implementation of programmable electronics in safety systems means that such a simple system is no longer appropriate. Essentially the new Machinery Directive brings the regulations into line with what is already current practice and has the potential to improve safety.

For example, while EN ISO 13849-1 takes its core from the familiar categories in EN 954-1:1996, it does so by examining complete safety functions, including all the components involved in their design and it takes things further. This is because it goes beyond this qualitative approach to include a quantitative assessment of the safety functions, based on a performance level (PL) that builds on the category approach.

The components and devices that make up the system require the following safety parameters:

- Category (structural requirement)
- PL: Performance Level
- MTTFd: Mean Time to Dangerous Failure
- B10d: Number of cycles by which $10 \%$ of a random sample of wearing components have failed dangerously
- DC: Diagnostic Coverage
- CCF: Common Cause Failure
- TM: Mission time

In addition, EN ISO 13849-1 includes a description of how to calculate the PL that can be achieved when several safetyrelated parts are combined into one overall system shown in the diagram below, a very important factor in integrated safety systems. Any deviations from EN ISO 13849-1 are referred to IEC 61508.

## Safety-Related Parts of Control Systems General Principles for Design in Accordance with EN ISO 13849-1



Consequently, one of the major benefits of EN ISO 13849-1 is that it enables machine users to take advantage of the latest technologies.

Relationship between Category, DC, MTTF and PL, in Accordance with EN ISO 13849-1


## EN 62061

It's also important to note EN ISO 13849-1 will operate in conjunction with EN 62061, which is a sector-specific standard under IEC 61508. EN 62061, which is based on quantitative and qualitative examinations of the safety-related control functions, examines the overall life cycle from the concept phase through to decommissioning. It also describes the implementation of safety-related electrical and electronic control systems on machinery.

In describing performance level, EN 62061 uses the safety integrity level (SIL) and Probability of Dangerous Failure per Hour (PFHD) parameters - and a number of safety sub-functions are derived from the risk analysis. This arrangement aligns to the sub-systems that make up a safety related control system, so that safety sub-functions are assigned to the software or hardware devices that are sub-systems or sub-system elements. Please see below diagram.

| Safety Integrity Level (SIL) <br> In accordance <br> with EN IEC 62061 | Probability of a dangerous failure per hour PFH/h |
| :---: | :---: |
| No special safety requirement | $10^{-5}<\text { PFH }<10^{-4}$ |
| 1 ( 1 failure in 100000 h ) | $3 \times 10^{-6}<\mathrm{PFH}<10^{-5}$ |
| 1 ( 1 failure in 100000 h ) | $10^{-6}<\mathrm{PFH}<3 \times 10^{-6}$ |
| 2 ( 1 failure in 1000000 h ) | $10^{-7}<\mathrm{PFH}<10^{-6}$ |
| 3 ( 1 failure in 10000000 h ) | $10^{-8}<\text { PFH }<10^{-7}$ |

The calculated probability of failure (PFHD) of each SRECS must be less than the probability of failure required by the safety function. The required probability of failure, depending on the SIL, can be taken from the table. If this condition is not met, the safety function must be implemented differently. The achieved SIL can only be as high as the lowest SILCL (SIL Claim Limit) of a subsystem involved in performing the safety function.

## Looking into the future of safety standards?

Safety is clearly of paramount importance and will be the overriding consideration. However, there are other benefits to early adoption of the new Machine Safety Directive to bear in mind which will amalgamate 62061 and 13849 to one standards. Such implications should also take out all confusion between two standards and make it easier and clear to implement. For example, compliance with the new Directive is likely to have broader acceptance throughout the European Union where machines may be moved between countries. Compliance is also likely to make CE marking more straight forward.

Mechan Controls was established in the early 1970's to design and manufacture non-contact machine guard safety switches for the harsh environments of the can making industry.

With the development of the first electronic non-contact safety switch in 1972, the company now has over 40 years of experience and tens of thousands of installations worldwide that prove the safety and reliability of Mechan safety systems.

With a dedicated technical team, Mechan Controls prides itself on its innovative approach to machine guard safety solutions, continuously developing new products and improving the existing range.

The range includes products that are suitable for use in all machine guarding environments and have been well tried and tested in various industries such as concrete block manufacturing with high levels of dirt, dust and vibration and food processing where high temperatures and high pressure wash down procedures are the norm.

To support our world-wide customer base, Mechan now has agents and distributors throughout the world and is able to provide bespoke solutions as well as the standard product range shown in this catalogue.

Anywhere there is a need for non-contact machine guard safety switches, Mechan Controls aims to provide the most reliable and therefore cost effective solution to your requirements.

## Products

The growing demands for reliability and efficiency in the modern production environment have led to a large increase in the use of non-contact safety switches. Tolerance to misalignment and ease of installation, combined with an ability to cope with harsh conditions such as: wash-down procedures; concrete dust; machine swarf etc. non-contact safety switches are seen as one way to improve not only safety but also productivity.

Mechan Controls now manufactures a complete range of non-contact safety switches to suit nearly all environments.

From standard magnetic safety switches in both ABS and 316 Grade Stainless Steel, through coded magnetic safety switches complete with E'Stop control, right up to fully electronic safety switches with the option of up to 500,000 unique codes for the most secure systems.

The range of applications is endless and with ISO90002000,TUV and UL approvals Mechan Controls guarantees you peace of mind.



## Description

The F-SERIES, is the latest version of Mechan's unique electronic safety system which now has a record of over 30 YEARS reliability in all types of industrial applications.

The DIN rail mounting safety control unit can monitor up to 30 Mechan Safety Switches and/or Emergency Stop Buttons in one system. The electronic non-contact safety switches are fully encapsulated, easy to install and tolerant to misalignment.

Together the switches and control module provide a safety system capable of meeting the requirements CAT 4 SIL 3 PL-e that can be used in the harshest environments, providing long term reliability.

## F-Series

- CAT 4 SIL 3 PL-E Safety System
- Modular Control Unit
- Fully Electronic Safety Switches
- Monitor up to 30 Switches / E'Stops
- Unique Code Safety Switches
(EN 14119 High Code)


## Operation

The F-Series control modules are DIN rail mounted and connect together by the integral 6 way connector strap. Systems can be assembled to monitor up to 30 inputs (safety switches or emergency stop buttons) A typical system could monitor 7 guards and 4 emergency stop buttons each with individual indication for ease of monitoring.

The unique electronic non-contact safety switches connect to the control unit inputs using a simple twisted pair / screened cable. By using the unique Mechan dynamic signals to communicate between the control unit and the switch, the F Series system continuously monitors the whole system. Faults in the switch, cable or control unit are picked up immediately or on the next operation of the safety system to ensure a true CAT 4 SIL 3 performance.


## Features

- Multi-gate monitoring
- Tamper-resistant safety switches
- Long term proven reliability
- Modular system
- Monitor up to 30 guards
- Guard status indication
- Simple to install and expand


## Simple to install, tamper-proof,

 non-contact safety switches

## FM1

- Master Control Module
- 24 V dc / 24 V ac / 110 V ac / 230 V ac
- LED Diagnostics
- Dual Channel Output
- Automatic / Manual-Monitored Reset

The FM1 is the master control module for each F Series safety system. The FM1 provides 2 NO force guided contact safety outputs, internal and external relay monitoring circuit, LED system indication and the dynamic signal input for one Mechan safety switch sensor.

The FM1 can be ordered to operate with $24 V D C, 24 V A C, 110$ VAC or 230 VAC supply.

## FX2

- Dual Safety Switch Extender Module
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Width

- SX1
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Width


The FX1 extender module adds one safety switch input to a F-Series safety system. Connects via a built in 6-way strap to the adjacent FM1 control module ( or extender module) and has the indication output, LED and volt free contact, for that switch.

The FX2 extender module adds two safety switch inputs to a F-Series safety system. Connects via a built in 6-way strap to the adjacent FM1 control module (or extender module) and has the indication output, LED and volt free contact, for each switch.

NOTE: An FX2 must have 2 Mechan safety switches connected to it to operate.

Examples of F-Series Safety System control unit combinations

| Number of Gates | FM1 | FX1 | FX2 |
| :---: | :---: | :---: | :---: |
| 2 Gate System | 1 | 1 |  |
| 5 Gate System | 1 |  | 2 |
| 12 Gate System | 1 | 1 | 5 |

## Dimensions: FM1

## Dimensions: FX1 \& FX2




## F2 Hand Override

- One Safety Switch Input
- Monitored 2 Button Input
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Width

The F2HO extender module provides the option of using a 2 button control station (not supplied) to override one Mechan safety switch in an F Series safety system.

Simple connection via a built in 6-way strap to the adjacent F Series module, the F2HO has the input for 1 Mechan safety switch and connections for the 2 Button override station. When fitted correctly the buttons can be used to override the Mechan switch connected to the F2HO. Both buttons need to be pressed to override the connected Mechan switch. Releasing either button activates the switch.


## F Limited Inch

- One Safety Switch Input
- Monitored Limited Inch Button Input
- 2, 4 or 5secs Versions
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5mm Width

The FLI extender module provides the option of using a Limited Inch Button (not supplied) to override one Mechan safety switch in an $F$ Series safety system for a maximum set time.

Simple connection via a built in 6-way strap to the adjacent F Series module, the FLI has the input for 1 Mechan safety switch and connections for the Limited Inch Button. When fitted correctly the button can override the Mechan switch, connected to the FLI, for up to the maximum time allowed. Releasing the button or reaching the maximum allowed time activates the switch.


## Emergency Stop Module

- Dual Channel Volt Free Contact Input - Monitored Limited Inch Button Input
- LED and Volt Free Contact Indication
- 35 mm DIN Rail Mounting
- 17.5 mm Width

The ESM module gives the option to add Emergency Stop Buttons to the FSeries Safety System and maintain CAT4 SIL3 PLe performance.

The ESM connects via a built in 6-way strap to the adjacent F Series module and is a simple way to add Emergency Stop Buttons to an existing system. The ESM accepts 2 closed contact inputs from either an emergency stop button or mechanical safety switch (locking or non- locking) indicator. LED's on the ESM provide diagnostic information along with volt free contact status indicator for the emergency stop button.

## Dimensions: F2HO / FLI / ESM



FMA

Electronic Safety Switch

- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- Built-in Liquid Tight Anaconda Adaptor
- RFID Available

FMA electronic safety switches are part of our most robust design, with built in cable protection adaptors for the harshest environments.

Fully encapsulated into blue ABS housings, with 6 mm fixing holes directly through the body of the switch and a consistent 10 mm switching even when mounted on metal frames, the F-Type switches are easy to fit and offer exceptional physical strength for long term reliability.

FMG

- Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15 m Cable (max 100 m )
- Built-in Cord Grip Gland
- RFID Available

FMG electronic safety switches are part of our most robust design, with built in cable protection adaptors for the harshest environments.

Fully encapsulated into blue ABS housings, with 6 mm fixing holes directly through the body of the switch and a consistent 10 mm switching even when mounted on metal frames, the F-Type switches are easy to fit and offer exceptional physical strength for long term reliability.


## FMT

- Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- Built in 20 mm Brass Thread Conduit Gland
- RFID Available

FMT electronic safety switches are part of our most robust design, with built in cable protection adaptors for the harshest environments.

Fully encapsulated into blue ABS housings, with 6 mm fixing holes directly through the body of the switch and a consistent 10 mm switching even when mounted on metal frames, the F-Type switches are easy to fit and offer exceptional physical strength for long term reliability.

## Dimensions: FMT



Dimension through the fixing holes 32 mm . Fixing hole diameter 6 mm .


## SFMA

- Electronic Safety Switch
- Enhanced EMC Immunity
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- Built-in Liquid Tight Anaconda Adaptor

The SFMA electronic safety switches are the same robust design as the F-Type switches with additional protection for areas of high electronic noise pollution.

Fully encapsulated into white $A B S$ housings, with 6 mm fixing holes directly through the body of the switch and a consistent 10 mm switching even when mounted on metal frames, the S-Type switches offer the same ease of fitting and long term reliability.

## Dimensions: SFMA



## SFMG

- Electronic Safety Switch
- Enhanced EMC Immunity
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- Built-in Cord Grip Gland

The SFMG electronic safety switches are the same robust design as the F-Type switches with additional protection for areas of high electronic noise pollution.

Fully encapsulated into white ABS housings, with 6 mm fixing holes directly through the body of the switch and a consistent 10 mm switching even when mounted on metal frames, the S-Type switches offer the same ease of fitting and long term reliability.

Dimensions: SFMG


Dimension through the fixing holes 32 mm . Fixing hole diameter 6 mm .


Dimension through the fixing holes 32 mm . Fixing hole diameter 6 mm .


## SFMT

- Electronic Safety Switch
- Enhanced EMC Immunity
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- Built-in 20 mm Brass Thread Conduit Gland

The SFMT electronic safety switches are the same robust design as the F-Type switches with additional protection for areas of high electronic noise pollution.

Fully encapsulated into white ABS housings, with 6 mm fixing holes directly through the body of the switch and a consistent 10 mm switching even when mounted on metal frames, the S-Type switches offer the same ease of fitting and long term reliability.


## RMA

- Unique Code Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- Built-in Liquid Tight Anaconda Adaptor

The NEW RMA safety switches are uniquely coded electronic RFID safety switches.

Fully encapsulated into orange ABS housings the RMA safety switches have all the strengths of the F-Series switches with the additional benefit of unique coding.

The R-Series meets the highest requirement of EN 14119, enabling unique switches to be mounted on every guarding position. The RMA can also be used along with the standard F-Type switches if only a few guards in the system need the additional security unique coding.

## Dimensions: RMA



Dimension through the fixing holes 32 mm . Fixing hole diameter 6 mm .


Dimension through the fixing holes 32 mm . Fixing hole diameter 6 mm .


## FM6

- Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15 m Cable (max 100 m )
- Slimline Housing for Retro-fit

The FM6 electronic safety switches have the same Mechan electronic safety switching fully encapsulated into industry standard slimline blue ABS housings.

Designed to make it even easier to upgrade from older magnetic safety switches to higher performance electronic switches, the FM6 can replace many standard safety switches without the need to change mounting brackets or fixing holes.


## Our most robust design just got smaller!



## FM7

- Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100 m )
- 80 mm Euro Standard Housing
- RFID Available

The FM7 electronic safety switches have the same Mechan electronic safety switching fully encapsulated into industry standard 80 mm Euro blue ABS housings.

Designed to make it even easier to upgrade from older magnetic safety switches to higher performance electronic switches, the FM7 can replace many standard safety switches without the need to change mounting brackets or fixing holes.


## Dimensions: BMS

Dimensions: BMR


Dimension through the fixing holes 28 mm .
Fixing hole diameter 4 mm .


## DNK1-05M DINKY PRE-WIRED

- Smallest Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (max 100m)
- RFID Available

The DNK1 electronic safety switches use the same electronic switching and robust design features encapsulated into our smallest ABS housing.
Ideal for use on lightweight guarding normally found on packing, filling and food processing machinery, the DNK switches offer the same long term reliability as the standard F-Series safety switches.

## Dimensions: DNK1-05M




## DNK2-QD DINKY QUICK DISCONNECT

- Smallest Electronic Safety Switch
- Fully Encapsulated, IP67
- M8 Quick Disconnect
- 5 or 10m Cable
- RFID Available

The DNK1 \& DNK2 electronic safety switches use the same electronic switching and robust design features encapsulated into our smallest ABS housing.

Ideal for use on light weight guarding normally found on packing, filling and food processing machinery, the DNK switches offer the same long term reliability as the standard F-Series safety switches.

Dimensions: DNK2-QD


> The Mechan safety switch just got smaller again!


## Description

The Mechan PLU Air Operated Locking Unit is a complete, failsafe system designed to lock a gate or access lid securely until it is safe to enter.

This can be determined either by a Motion Stop detector or a simple timer. It incorporates both a Bolt Position Sensor Switch and a Mechan Guard Switch to sense when the locking bar (not shown) is in position


## Robust pneumatic locking systems

## Features

- Stainless steel housing
- Unique codes available
- Operatorindication
- Wash down
- Versions available for 'F'series Control Modules
- Compact, safe, simple to install
- Quick fit pneumatic connections
- Fail safe totally sealed cylinder
- Uniquely coded sensors available


## Operation

The Mechan Pneumatic Locking Unit (PLU) is connected to the Safety Switch Sensor input and a timed air supply as shown.

When the guard is closed, the Mechan Safety Switch Sensors are aligned and the pneumatic bolt fully extended locking the handle in position, the control module relays (13/14 and 23/24) can be energised by pressing the reset button.

When the timer relay T1 is energised the supply to the solenoid valve is removed and the solenoid bolt cannot be unlocked.

Pressing the stop button de-energises T1 and the air supply can be restored to the PLU via the time delay operated valve.


## Applications

- Foodmixers
- Concrete block mixing
- Acoustic enclosures


## Technical Specifications

|  | FM1 | FX1 | FX2 | F2HO |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | 24 V DC / 24 V AC $1110 \mathrm{VAC} / 230 \mathrm{VAC}$ | - | - | - |
| Power Consumption | 6VA | 3VA | 3VA | - |
| Safety Output | 2 NORMALLY OPEN | - | - | - |
| Safety Output Rating | $\begin{gathered} 4 \mathrm{~A} / 230 \mathrm{~V} \mathrm{AC} ; 2 \mathrm{~A} / 24 \mathrm{~V} \text { DC (RES.) } \\ \text { @COS }=1 \end{gathered}$ | - | - | - |
| Cable/Connector | SCREW TERMINALS | SCREW TERMINALS | SCREW TERMINALS | SCREW TERMINALS |
| Cable Length | - | - | - | - |
| Coding | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE |
| Input | 1 ELECTRONIC SAFETY SWITCH | 1 ELECTRONIC SAFETY SWITCH | 2 ELECTRONIC SAFETY SWITCHES | 1 ELECTRONIC SAFETY SWITCH +2 HAND OVERRIDE |
| Reset Options | MANUAL / AUTOMATIC | - | - | - |
| Indication | LED'S FOR POWER, RUN \& FAULT. GUARD STATUS LED | GUARD STATUS LED AND VOLT FREE CONTACT | $2 \times$ GUARD STATUS LED AND $2 \times$ VOLT FREE CONTACT | GUARD STATUS LED AND VOLT FREE CONTACT |
| Dimensions of Switch (mm) | - | - | - | - |
| Dimensions of Actuator (mm) | - | - | - | - |
| Dimensions of Control Unit (mm) | $105 \times 90 \times 59 \mathrm{~mm}$ | $17.5 \times 90 \times 58 \mathrm{~mm}$ | $17.5 \times 90 \times 58 \mathrm{~mm}$ | $17.5 \times 90 \times 58 \mathrm{~mm}$ |
| Weight | $D C=290 \mathrm{G} \mathrm{AC}=420 \mathrm{G}$ | - | - | - |
| IP Rating | HOUSING IP30, TERMINALS IP20 | HOUSING IP30, TERMINALS IP20 | HOUSING IP30, TERMINALS IP20 | HOUSING IP30, TERMINALS IP20 |
| Construction | GREY PC-GF | GREY PC-GF | GREY PC-GF | GREY PC-GF |
| Mounting | 35 mm DIN RAIL | 35 mm DIN RAIL | 35 mm DIN RAIL | 35 mm DIN RAIL |
| Operating Temp. | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 | - |
| :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL3 | SIL3 | SIL3 | - |
| PFHD in Accordance with EN IEC 62061 | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ | - |
| PFH | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ | - |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | - |
| MTTFD | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | - |
| TM | 20 YEARS | 20 YEARS | 20 YEARS | - |
| DC | 99\% | 99\% | 99\% | - |
| SFF | 99.50\% | 99.50\% | 99.50\% | - |

As part of an F Series system

## Technical Specifications

|  | FLI | ESM | FMA / FMG / FMT | SFMA / SFMG / SFMT |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | FROM FM1 | - | - |
| Power Consumption | - | - | - | - |
| Safety Output | - | - | - | - |
| Safety Output Rating | - | - | - | - |
| Cable/Connector | SCREW TERMINALS | SCREW TERMINALS | PRE-WIRED | PRE-WIRED |
| Cable Length | - | - | 5,10 or 15m LONGER TO ORDER | 5,10 or 15m LONGER TO ORDER |
| Coding | ELECTRONIC, GENERIC CODE | - | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE |
| Input | 1 ELECTRONIC SAFETY SWITCH + LIMITED INCH BUTTON | 2 NORMALLY CLOSED | - | - |
| Reset Options | - |  | AT CONTROL UNIT | AT CONTROL UNIT |
| Indication | GUARD STATUS LED AND VOLT FREE CONTACT | LEDs FOR FAULT, RUN, INPUT 1 AND 2 | AT CONTROL UNIT | AT CONTROL UNIT |
| Dimensions of Switch (mm) | - | - | $75 \times 34 \times 32 \mathrm{~mm}$ | $75 \times 34 \times 32 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | ${ }^{-}$ | - | $75 \times 34 \times 32 \mathrm{~mm}$ | $75 \times 34 \times 32 \mathrm{~mm}$ |
| Dimensions of Control Unit (mm) | $17.5 \times 90 \times 58 \mathrm{~mm}$ | $17.5 \times 90 \times 58 \mathrm{~mm}$ | - | - |
| Weight | - | - | - | - |
| IP Rating | HOUSING IP30, TERMINALS IP20 | HOUSING IP30, TERMINALS IP20 | IP67 | IP67 |
| Construction | GREY PC-GF | GREY PC-GF | BLUE ABS, RESIN FILLED | WHITE ABS, RESIN FILLED |
| Mounting | 35 mm DIN RAIL | 35 mm DIN RAIL | $4 \times$ M6 BOLTS | $4 \times$ M6 BOLTS |
| Operating Temp. | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |

## Safety Related

Data


## Technical Specifications

|  | RMA | FM6 | FM7 | BMS |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - | - |
| Power Consumption | - | - | - | - |
| Safety Output | - | - | - | - |
| Safety Output Rating | - | - | - | - |
| Cable/Connector | PRE-WIRED | PRE-WIRED | PRE-WIRED | PRE-WIRED |
| Cable Length | 5,10 or 15m LONGER TO ORDER | 5,10 or 15m LONGER TO ORDER | 5,10 or 15m LONGERTO ORDER | 5,10 or 15m LONGER TO ORDER |
| Coding | ELECTRONIC, UNIQUE CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE |
| Input | - | - | - | - |
| Reset Options | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Indication | GUARD STATUS LED | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Dimensions of Switch (mm) | $75 \times 34 \times 32 \mathrm{~mm}$ | $82.5 \times 19 \times 17 \mathrm{~mm}$ | $78 \times 27.2 \times 13.5 \mathrm{~mm}$ | $52 \times 27 \times 28 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $75 \times 34 \times 32 \mathrm{~mm}$ | $82.5 \times 19 \times 19 \mathrm{~mm}$ | $78 \times 27.2 \times 13.5 \mathrm{~mm}$ | $52 \times 27 \times 28 \mathrm{~mm}$ |
| Dimensions of Control Unit (mm) | - | - | - | - |
| Weight | - | - | - | - |
| IP Rating | IP67 | IP67 | IP67 | IP67 |
| Construction | ORANGE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED |
| Mounting | $4 \times \mathrm{M6}$ BOLTS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ |
| Operating Temp. | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 |
| :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL3 | SIL3 | SIL3 | SIL3 |
| PFHD in Accordance with EN IEC 62061 | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ |
| PFH | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) |
| TM | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS |
| DC | 99\% | 99\% | 99\% | 99\% |
| SFF | 99.50\% | 99.50\% | 99.50\% | 99.50\% |

## Technical Specifications

|  | BMR | DNK1 | DNK2 | PLU |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - | - |
| Power Consumption | - | - | - | - |
| Safety Output | - | - | - | AT CONTROL UNIT |
| Safety Output Rating | - | - | - | - |
| Cable/Connector | PRE-WIRED | PRE-WIRED | M8 QUICK DISCONNECT | PRE-WIRED |
| Cable Length | 5,10 or 15m LONGER TO ORDER | 5,10 or 15m LONGERTO ORDER | 5 or 15 m | 5,10 or 15m LONGER TO ORDER |
| Coding | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE |
| Input | - | - | - | - |
| Reset Options | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Indication | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Dimensions of Switch (mm) | $52 \times 27 \times 28 \mathrm{~mm}$ | $28 \times 52 \times 14 \mathrm{~mm}$ | $28 \times 52 \times 14 \mathrm{~mm}$ | - |
| Dimensions of Actuator (mm) | $52 \times 27 \times 28 \mathrm{~mm}$ | $28 \times 52 \times 14 \mathrm{~mm}$ | $28 \times 52 \times 14 \mathrm{~mm}$ | - |
| Dimensions of Control Unit (mm) | - | - | - | SEE INSTALL GUIDE |
| Weight | - | - | - | - |
| IP Rating | IP67 | IP67 | IP67 | IP67 |
| Construction | BLUE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED | ALUMINIUM |
| Mounting | $4 \times \mathrm{M} 4$ | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | - |
| Operating Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | - |
| Storage Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | - |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 | - |
| :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL3 | SIL3 | SIL3 | - |
| PFHD in Accordance with EN IEC 62061 | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ | $6.0 \times 10^{-9}$ | - |
| PFH | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ | $6.52 \times 10^{-9}$ | - |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | - |
| MTTFD | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | - |
| TM | 20 YEARS | 20 YEARS | 20 YEARS | - |
| DC | 99\% | 99\% | 99\% | - |
| SFF | 99.50\% | 99.50\% | 99.50\% | - |

## SRL1



## Safety Relay <br> ( $\epsilon_{\text {nuwooe }}$

Safety Control Module

- 24Vac/dc Supply
- LED Diagnostics
- Dual Channel Output
- Automatic/Manual Monitored Reset


## Description

The SRL-1 Safety Relay has dual channel, low voltage inputs, two normally open control contact outputs and one normally closed indication contact.

With LED indication to speed up fault finding and a slim 22.5 mm DIN rail mounting enclosure the SRL-1 takes up minimum control panel space.
Designed for operation with the Mechan range of noncontact safety switches, the SRL-1 is also suitable for use with dual channel Emergency Stop buttons, or safety devices with 2 safety outputs e.g mechanical safety switches.

Depending on installation the SRL-1 can be used in CAT-4 / SIL 3 safety circuits.

## Dimensions: SRL1



## Connection: SRL 1



## Operation

## POWERON

The SRL- 1 Safety relay requires a 24 Vdc or 24 Vac power supply. When power is applied to the control unit POWER LED will be illuminated RED.

## AUTOMATICRESET

When the reset circuit $\mathrm{X} 1 / \mathrm{X} 2$ is in automatic reset mode, closing the contacts on the input circuit S13/S14 and S23/S24 will illuminate the Green K1 and K2 LED's and energise the internal relays. The N/O outputs on terminals $13 / 14$ and 23/24 will close and the N/C indication output on $31 / 32$ will open.

## MANUAL RESET

If the reset circuit is set to manual/monitored mode the outputs will only change when the input circuits are closed and the normally open, momentary reset button is operated.


The control modules are designed to be mounted in an IP55 (minimum) control cabinet.

The modules clip onto standard 35 mm symmetric DIN-Rail.

## Applications

- Suitable for control circuits requiring CAT-4 / SIL 3 / PL-e performance
- Monitoring dual channel safety circuits including:

Non-contact safety switches
Mechanical safety switches
Emergency stop buttons
Light curtains


## Description

The Mechan MAGNASAFE switches are magnetically operated safety switches. Easy to install and maintain, the MAGNASAFE switches are fully encapsulated non-contact switches ideal for long term for use in harsh / wet environments.

Available in a wide variety of sizes and contact configurations, MAGNASAFE switches are suitable for machine guarding applications where guard locking is not required.

Tolerant to misalignment, the MAGNASAFE range of noncontact safety switches are suitable for use in wash-down areas making them ideal for use in the food processing / filling and packing industries as well as many other nonlocking machine guard applications.

## Advantages

- AC and DCVersions
- $8-10 \mathrm{~mm}$ Switching Distance
- 1 or 2 Safety Contacts
- Guard Indication Contact Available
- M18 or M30 Barrel Mounting Option
- 316 Stainless Steel Available Option
- Compliant with Relevant EU Directives


## MAGNASAFE CE numooe IND.CONT.EQ 2HAO

- Non-contact Operation
- IP67 Fully Sealed, Washdown
- ABS or Stainless Steel
- Max 2A Switching Capability
- Large Range of Sizes / Fittings
- Quick Disconnect Options


## Operation

The Mechan MAGNASAFE safety switches are magnetically operated. When the actuator is within the operating range of the switch the Normally Open safety contacts will close and the Normally Closed indicator contacts will open. When the actuator is moved outside the operating area of the switch the Normally Open contacts will open and the Normally Closed contacts will close for indication.

## Contact Options

2 Safety, 1 Auxiliary


MS1, MS2, MS3, MS5, MS6, MS7, MS8, MS21


MS1, MS3, MS5,
MS1, MS3, MS5, MS6, MS8, MS21


MS1, MS2, MS3, MS1, MS2, MS3,
MS4, MS6, MS7

1 Safety, 0 Auxiliary


MS1, MS2, MS3, MS4, MS6, MS21

## Features

- Ease of installation
- Tolerant to misalignment
- IP67 suitable for wet and wash-down areas
- Guard status indication available


## Applications

- Food processing
- Dairies
- Packaging machinery
- Bottling plants
- Pharmaceutical



## MS1

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
(3A 110VAC Version Available)
- 10mm Switching
- Fully Sealed IP67

The MAGNASAFE MS1 are magnetically operated safety switches, suitable for use in machine guarding applications. Encapsulated into red ABS housings, the MS1 safety switches are easy to install, tolerant to misalignment.

With an $8-10 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life.


MS2

- Max Contacts 1 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- 10mm Switching
- M18 Housing
- Fully Sealed IP67
- Armoured Cable Option

The MAGNASAFE MS2 are 'barrel' mounted, magnetically operated safety switches. Encapsulated into M18 dia. housings, these safety switches are easy to install, and adjust and are tolerant to misalignment.

With an 10 mm switching distance helping to ensure a long and trouble free operating life.

Dimensions: MS2


SWITCH


ACTUATOR


## MS3

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- 10 mm Switching
- M30 Housing
- Fully Sealed IP67

The MAGNASAFE MS3 are 'barrel' mounted magnetically operated safety switches. Encapsulated into M30 dia. housings, these safety switches are easy to install, and adjust and are tolerant to misalignment.

With a 10 mm switching distance helping to ensure a long and trouble free operating life.

Dimensions: MS3


SWITCH
ACTUATOR


## MS4

- Max Contacts 1 Safety 1 Auxiliary
- Contact Rating 2Amp 110VAC / 1Amp 24VDC
- 10mm Switching
- Compact Housing, 22mm Fixing
- Fully Sealed IP67

The MAGNASAFE MS4 are magnetically operated safety switches, suitable for use in machine guarding applications.

Encapsulated into red ABS housings, the MS4 safety switches have a 10 mm switching distance, are easy to install and tolerant to misalignment, ensuring a long and trouble free operating life.

## Dimensions: MS4




## MS4-SS

- Max Contacts 1 Safety 1 Auxiliary
- Contact Rating 1Amp 24VDC
- 10mm Switching
- Compact Stainless Steel Housing, 22mm Fixing
- Fully Sealed IP67

The MAGNASAFE MS4 are magnetically operated safety switches, suitable for use in machine guarding applications.
Encapsulated into a 316 grade stainless steel housing, the MS4 safety switches have an 8 mm switching distance, are easy to install and tolerant to misalignment, ensuring a long and trouble free operating life.

## Dimensions: MS4-SS



## A small switch with large current capabilities!

## Only available in DC.



## MS5 / MS5-SS

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp / 24VDC
- Min 7 mm Switching ( 10 mm MS5-SS)
- Compact Housing / Stainless Steel Housing, 22mm Fixing
- Fully Sealed IP67

The MAGNASAFE MS5 are compact, non-contact safety switches designed for use with modern safety relays. Encapsulated into red ABS or 316 grade stainless steel housings, the MS5 safety switches are easy to install, tolerant to misalignment.

The non-contact operation has an $7-10 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life.

## Dimensions: MS5




MS5-SS-HT

- Max Contacts 2 Safety 1 Auxiliary - Contact Rating 0.3Amp 24VDC
- $125^{\circ} \mathrm{C}$ Operating Temp
- 10 mm Switching
- Compact Stainless Steel Housing, 22mm Fixing
- Fully Sealed IP67

The MAGNASAFE MS5-SS-HT is a compact, non-contact safety switches designed for use with modern safety relays. Encapsulated into 316 grade stainless steel housings, the MS5-SS-HT are equipped with a special cable for use in high temperature environments, eg cooking/food processing.
The non-contact operation has a $7-10 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life.

## Dimensions:

 MS5-SS / MS5-SS-HT

MS5-LQD / MS5-SS-LQD


## MS5-LQD / MS5-SS-LQD

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- Min 7mm Switching
- Compact Housing, 22mm Fixing
- M12 Connector

The MAGNASAFE MS5-LQD are compact, non-contact safety switches designed for use with modern safety relays. Encapsulated into red ABS housings, the MS5 safety switches are easy to install, tolerant to misalignment.

The non-contact operation has an $7-10 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life.

The LQD version has 150 mm connecting cable with M12, 6 pole connector, and can be supplied with 5 or 10 metre matching cable.

## Dimensions: MS5-LQD



Dimensions: MS5-SS-LQD


## MS6 / MS6-SS

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- Pre-wired 3, 6 or 10metre (Longer available to order)
- 10 mm Switching
- Slimline ABS or Steel Housing, Fully Sealed IP67

The MAGNASAFE MS6 non-contact safety switches are an industry standard, slimline, space saving design. Encapsulated into red ABS or 316 grade stainless steel housings, the MS6 safety switches are easy to install, tolerant to misalignment.
The non-contact operation has a 10 mm switching distance helping to ensure a long and trouble free operating life.


## MS6-SS-HT

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- Temperature range $-25^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$
- Pre-wired 3, 6 or 10metre (Longer available to order)
- 10 mm Switching
- Slimline Stainless Steel Housing, Fully Sealed IP67

The MAGNASAFE MS6 non-contact safety switches are an industry standard, slimline, space saving design. Encapsulated into 316 grade stainless steel housings, the MS6 safety switches are easy to install, tolerant to misalignment.
The non-contact operation has a 10 mm switching distance helping to ensure a long and trouble free operating life.

Dimensions: MS6 / MS6-SS / MS6-SS-HT


ACTUATOR


SWITCH


## MS6-QD

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- M12 Quick Disconnect
- 10 mm Switching
- Slimline ABS or Steel Housing, Fully Sealed IP67

The MAGNASAFE MS6 non-contact safety switches are an industry standard, slimline, space saving design. Encapsulated into red ABS or 316 grade stainless steel housings, the MS6 safety switches are easy to install, tolerant to misalignment.
The non-contact operation has an $8-10 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life.

## Dimensions: MS6-QD



Dimensions: MS6-SS-QD




- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- 7mm Switching
- ABS Euro Standard Housing
- Fully Sealed IP67

The MAGNASAFE MS7 safety switches are tamper resistant magnetic safety switches suitable for use in machine guarding applications. Encapsulated into red ABS housings, the MS7 safety switches are easy to install, tolerant to misalignment.

The magnetic non-contact operation has a minimum 7 mm switching distance helping to ensure a long and trouble free operating life.


## MS7-SS

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- 7 mm Switching
- Stainless Steel Euro Standard Housing
- Fully Sealed IP67

The MAGNASAFE MS7 safety switches are tamper resistant magnetic safety switches suitable for use in machine guarding applications. Encapsulated into 361 Grade stainless steel housings, the MS7 safety switches are easy to install, tolerant to misalignment.

The magnetic non-contact operation has a minimum 7 mm switching distance helping to ensure a long and trouble free operating life.

## Dimensions: MS7



## Dimensions: MS7-SS




## MS7-LQD

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- Min 7mm Switching
- Compact Housing, 22mm Fixing
- M12 Connector

The MAGNASAFE MS7-LQD are compact, non-contact safety switches designed for use with modern safety relays. Encapsulated into red ABS housings, the MS7 safety switches are easy to install, tolerant to misalignment.

The non-contact operation has a $7-10 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life.

The LQD version has 150 mm connecting cable with M12, 6 pole connector, and can be supplied with 5 or 10 metre matching cable.

## Dimensions: MS7-LQD




## MS8

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- $15-25 \mathrm{~mm}$ Switching
- 3 Operating Faces
- ABS Slimline Housing
- Fully Sealed IP67

The MAGNASAFE MS8 non-contact safety switches are an industry standard, slim-line, space saving housing made from Red ABS. Fully encapsulated, the MS8 safety switches have been designed with a larger than standard switching distance to ensure easy to install, tolerant to misalignment.
The non-contact operation has a $15-25 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life where guarding alignment is an issue.


## MS8-SS

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- 15-25mm Switching
- 3 Operating Faces
- Stainless Steel Slimline Housing
- Fully Sealed IP67

The MAGNASAFE MS8-SS non-contact safety switches are an industry standard, slim-line, space saving housing made from 316 Grade Stainless Steel. Fully Encapsulated, the MS8 safety switches have been designed with a larger than standard switching distance to ensure easy to install, tolerant to misalignment.

The non-contact operation has a $15-25 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life where guarding alignment is an issue.

## Dimensions: MS8-SS




## MS8-SS-QD

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- 15-25mm Switching
- 3 Operating Faces
- Stainless Steel Slimline Housing
- M12 Connector

The MAGNASAFE MS8-SS-LQD noncontact safety switches are an industry standard, slim-line, space saving housing made from 316 Grade Stainless Steel. Fully Encapsulated, the MS8 safety switches have been designed with a larger than standard switching distance to ensure easy to install, tolerant to misalignment.

The non-contact operation has a $15-25 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life where guarding alignment is an issue.
The LQD version has 150 mm connecting cable with M12, 6 pole connector, and can be supplied with 5 or 10 metre matching cable

## Dimensions: MS8-SS-QD




## MS21

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- Pre-wired 3, 6 or 10metre (Longer available to order)
- 10 mm Switching
- ABS Housing, Fully Sealed IP67

The MAGNASAFE MS21 safety switches are fully encapsulated into an ABS wide bodied housing.

The MS21 safety switches are easy to install, tolerant to misalignment and the non-contact operation has a 10 mm switching distance helping to ensure a long and trouble free operating life.

```
Dimensions: MS21
```




## MS21-SS

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 2Amp 230VAC / 1Amp 24VDC
- Pre-wired 3, 6 or 10 metre (Longer available to order)
- 10 mm Switching
- Slimline Stainless Steel Housing,
- Fully Sealed IP67

The MAGNASAFE MS21 safety switches are fully encapsulated into a 316 Grade stainless steel wide bodied housing.

The MS21 safety switches are easy to install, tolerant to misalignment and the non-contact operation has a 10 mm switching distance helping to ensure a long and trouble free operating life.

## Dimensions: MS21-SS



## Dimensions: MS21-QD

Dimensions: MS21-SS-QD

MS21-QD / MS21-SS-QD


## MS21-QD / MS21-SS-QD

- Max Contacts 2 Safety 1 Auxiliary
- Contact Rating 0.3Amp 24VDC
- 15 mm Switching
- 3 Operating Faces
- ABS / 316 Grade Stainless Steel, Wide Bodied Housing
- M12 Connector

The MAGNASAFE MS21-QD noncontact safety switches are an industry standard, ABS wide bodied housing. Fully encapsulated, the MS21 safety switches have been designed with a larger than standard switching distance to ensure easy to install, tolerant to misalignment.

The non-contact operation has a $15-25 \mathrm{~mm}$ switching distance helping to ensure a long and trouble free operating life where guarding alignment is an issue.

The QD version has an M12, 6 pole connector, and can be supplied with 5 or 10 metre matching cable.


## Technical Specifications

|  | MS1 | MS2 | MS3 | MS4 / MS4-SS | MS5 / MS5-SS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - | - | - |
| Power Consumption | - | - | - | - | - |
| Auxiliary Output Rating | 15W / 10V AC | 15W/10V AC | 15W / 10V AC | 15W / 10V AC | 15W / 10V AC |
| Auxiliary Output | UPTO $1 \times$ NC | UPTO $1 \times \mathrm{NC}$ | UPTO $1 \times$ NC | UPTO $1 \times \mathrm{NC}$ | UPTO $1 \times$ NC |
| Safety Output | UPTO $2 \times \mathrm{NO}$ | 1 XNO | 1 XNO | 1 XNO | UPTO $2 \times$ NO |
| Safety Output Rating | 230V AC / 2Amps or 30V DC / 1 Amp INDUCTIVE / RESISTIVE | 230 V AC / 2Amps or 30V DC / 1 Amp INDUCTIVE / RESISTIVE | 230 V AC / 2Amps or 30V DC / 1 Amp INDUCTIVE / RESISTIVE | 230V AC / 2Amps or 30V DC / 1 Amp INDUCTIVE / RESISTIVE | $24 \mathrm{VCC} / 300 \mathrm{MA}$ |
| Cable Connector | PRE-WIRED | PRE-WIRED | PRE-WIRED | PRE-WIRED | PRE-WIRED |
| Cable Length | 3,6 or 10m | 3m- LONGER MADE TO ORDER | 3,6 or 10m | 3, 6 or 10m | 3,6 or 10m |
| Coding | NONE | NONE | NONE | NONE | TAMPER RESISTANT |
| Input | MAGNETIC | MAGNETIC | MAGNETIC | MAGNETIC | MAGNETIC |
| Reset Options | - | - | - | - | - |
| Indication | - | - | - | - | - |
| Dimensions of Switch (mm) | $87 \times 24 \times 17 \mathrm{~mm}$ | M18 $\times 74 \mathrm{~mm}$ | M $30 \times 74 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm} / 53 \times 29 \times 13.5 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $87 \times 24 \times 17 \mathrm{~mm}$ | M18 $\times 57 \mathrm{~mm}$ | M $30 \times 45 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm} / 53 \times 29 \times 13.5 \mathrm{~mm}$ |
| Dimensions of Controls Unit (mm) | - | - | - | - | - |
| Weight | - | - | - | - | - |
| IP Rating | 1P67 | 1P67 | IP67 | IP67 | IP67 |
| Construction | RED ABS, RESIN FILLED | RED ABS, RESIN FILLED | RED ABS, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times$ M4 SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ |
| PFH | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH> 100 YEARS <br> (based on usage rate of 360 days) |
| TM | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS |
| DC | 99\% | 99\% | 99\% | 99\% | 99\% |
| SFF | 98\% | 98\% | 98\% | 98\% | 98\% |

## Technical Specifications

|  | MS5-LQD / MS5-SS-LQD | MS5-SS-HT | MS6 / MS6-SS | MS6-QD / MS6-SS-QD | MS6-SS-HT |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - | - | - |
| Power Consumption | - | - | - | - | - |
| Auxiliary Output Rating | 15W/10V AC | 15W/10V AC | 15W / 10V AC | 15W / 10V AC | 15W/10V AC |
| Auxiliary Output | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC |
| Safety Output | UPTO $2 \times$ NO | UPTO $2 \times$ NO | UPTO $2 \times$ NO | UPTO $2 \times$ NO | UPTO $2 \times$ NO |
| Safety Output Rating | 24 V DC / 300 mA | 24 V DC / 300 mA | 230V AC / 2Amps or 110 V DC / 3 Amps or 24V DC / 1 Amp | 230V AC / 2Amps or 110V DC / 3 Amps or 24V DC / 1 Amp | 230V AC / 2Amps or 110 V DC / 3 Amps or 24V DC / 1 Amp |
| Cable Connector | LEADED QUICK DISCONNECT | PRE-WIRED | PRE-WIRED | QUICK DISCONNECT | PRE-WIRED |
| Cable Length | 0,5 or 10m | 5 or 10 m | 3,6 or 10m | 0,3,6 or 10m | 5 or 10m |
| Coding | TAMPER RESISTANT | TAMPER RESISTANT | NONE | NONE | NONE |
| Input | MAGNETIC | MAGNETIC | MAGNETIC | MAGNETIC | MAGNETIC |
| Reset Options | - | - | - | - | - |
| Indication | - | - | - | - | - |
| Dimensions of Switch (mm) | $\begin{gathered} 52 \times 28 \times 14 \mathrm{~mm} \\ / 53 \times 29 \times 13.5 \mathrm{~mm} \end{gathered}$ | $53 \times 29 \times 13.5 \mathrm{~mm}$ | $\begin{aligned} & 82.5 \times 19 \times 17 \mathrm{~mm} \\ & / 81.5 \times 19 \times 19 \mathrm{~mm} \end{aligned}$ | $\begin{aligned} & 82.5 \times 19 \times 17 \mathrm{~mm} \\ & / 81.5 \times 19 \times 19 \mathrm{~mm} \end{aligned}$ | $81.5 \times 19 \times 19 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $\begin{gathered} 52 \times 28 \times 14 \mathrm{~mm} \\ / 53 \times 29 \times 13.5 \mathrm{~mm} \end{gathered}$ | $53 \times 29 \times 13.5 \mathrm{~mm}$ | $\begin{aligned} & 82.5 \times 19 \times 17 \mathrm{~mm} \\ & / 81.5 \times 19 \times 19 \mathrm{~mm} \end{aligned}$ | $\begin{aligned} & 82.5 \times 19 \times 17 \mathrm{~mm} \\ & / 81.5 \times 19 \times 19 \mathrm{~mm} \end{aligned}$ | $81.5 \times 19 \times 19 \mathrm{~mm}$ |
| Dimensions of Controls Unit (mm) | - | - | - | - | - |
| Weight | - | - | - | - | - |
| IP Rating | 1P67 | IP67 | 1P67 | 1P67 | 1P67 |
| Construction | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $125^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $125^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $125^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $125^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ |
| PFH | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) |
| TM | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS |
| DC | 99\% | 99\% | 99\% | 99\% | 99\% |
| SFF | 98\% | 98\% | 98\% | 98\% | 98\% |

## Technical Specifications

|  | MS7 / MS7-SS | MS7-LQD | MS8 / MS8-SS | MS8-SS-QD | MS21 / MS21-SS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - | - | - |
| Power Consumption | - | - | - | - | - |
| Auxiliary Output Rating | 15W/10V AC | 15W/10V AC | 15W/10V AC | 15W / 10V AC | 15W / 10V AC |
| Auxiliary Output | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC |
| Safety Output | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times$ NO |
| Safety Output Rating | $24 \mathrm{VDC} / 300 \mathrm{MA}$ | 24 V D / 300MA | $24 \mathrm{VDC} / 400 \mathrm{MA}$ | $24 \mathrm{VDC} / 400 \mathrm{MA}$ | 230 V AC / 2 Amps or 24V DC / 1 Amp |
| Cable Connector | PRE-WIRED | LEADED QUICK DISCONNECT | PRE-WIRED | QUICK DISCONNECT | PRE-WIRED |
| Cable Length | 3,6 or 10m | 0, 5or 10m | 3 or 6 m | 0, 5or 10 m | 3, 6 or 10m |
| Coding | TAMPER RESISTANT | TAMPER RESISTANT | NONE | NONE | NONE |
| Input | MAGNETIC | MAGNETIC | MAGNETIC | MAGNETIC | MAGNETIC |
| Reset Options | - | - | - | - | - |
| Indication | - | - | - | - | - |
| Dimensions of Switch (mm) | $87.5 \times 27.2 \times 13.5 \mathrm{~mm}$ | $87.5 \times 27.2 \times 13.5 \mathrm{~mm}$ | $81.5 \times 19 \times 19 \mathrm{~mm}$ | $81.5 \times 19 \times 19 \mathrm{~mm}$ | $76.3 \times 30.3 \times 16 \mathrm{~mm}$ $179 \times 33 \times 16 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $87.5 \times 27.2 \times 13.5 \mathrm{~mm}$ | $87.5 \times 27.2 \times 13.5 \mathrm{~mm}$ | $81.5 \times 19 \times 19 \mathrm{~mm}$ | $81.5 \times 19 \times 19 \mathrm{~mm}$ | $\begin{gathered} 76.3 \times 30.3 \times 16 \mathrm{~mm} \\ / 79 \times 33 \times 16 \mathrm{~mm} \end{gathered}$ |
| Dimensions of Controls Unit (mm) | - | - | - | - | - |
| Weight | - | - | - | - | - |
| IP Rating | 1P67 | IP67 | 1P67 | 1P67 | IP67 |
| Construction | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times$ M4 SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS |
| Operating Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-25^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ |
| PFH | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH $>100$ YEARS (based on usage rate of 360 days) | HIGH>100 YEARS (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS (based on usage rate of 360 days) |
| TM | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS | 20 YEARS |
| DC | 99\% | 99\% | 99\% | 99\% | 99\% |
| SFF | 98\% | 98\% | 98\% | 98\% | 98\% |

## Technical Specifications

|  | MS21-QD / MS21-SS-QD |
| :---: | :---: |
| Supply Voltage Options | - |
| Power Consumption | - |
| Auxiliary Output Rating | 15W / 10V AC |
| Auxiliary Output | UPTO 1 XNC |
| Safety Output | UPTO $2 \times$ NO |
| Safety Output Rating | 230 V AC / 2Amps or 24 V DC / 1 Amp |
| Cable Connector | QUICK DISCONNECT |
| Cable Length | 0,5 or 10m |
| Coding | NONE |
| Input | MAGNETIC |
| Reset Options | - |
| Indication | - |
| Dimensions of Switch (mm) | $76.3 \times 30.3 \times 16 \mathrm{~mm}$ $179 \times 33 \times 16 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $\begin{gathered} 76.3 \times 30.3 \times 16 \mathrm{~mm} \\ / 79 \times 33 \times 16 \mathrm{~mm} \end{gathered}$ |
| Dimensions of Controls Unit (mm) | - |
| Weight | - |
| IP Rating | IP67 |
| Construction | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times \mathrm{M} 4$ SECURITY SCREWS |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance <br> with ENISO 13849-1 PL-E, CAT 3 <br> SIL CL in Accordance <br> with EN IEC 62061 SIL 3 <br> PFHD in Accordance <br> with EN IEC 62061 $4.3 \times 10^{-8}$ <br> PFH $6.52 \times 10^{-8}$ <br> B10D $2,000,000$ <br> MTTFD HIGH $>100$ YEARS <br> (based on usage rate of 360 days) <br> TM 20 YEARS <br> DC $99 \%$ <br> SFF $98 \%$ |
| :--- |


|  | SRL1 |
| :---: | :---: |
| Supply Voltage Options | 24V AC/DC (+/-15\%) |
| Power Consumption | 3VA |
| Auxiliary Output Rating | 4A / 230V AC; 2A / 24V DC (RES.)@COS=1 |
| Auxiliary Output | 1 XNC |
| Safety Output | $2 \times \mathrm{NO}$ |
| Safety Output Rating | 4A / 230V AC; 2A <br> / 24V DC (RES.)@COS=1 |
| Cable Connector | - |
| Cable Length | - |
| Coding | - |
| Input | UP TO 30 SAFETY SWITCHES |
| Reset Options | MANUAL / AUTOMATIC |
| Indication | LEDs FOR POWER \& OUTPUT K1 \& K2 |
| Dimensions of Switch (mm) | - |
| Dimensions of Actuator (mm) | - |
| Dimensions of Controls Unit (mm) | $22.5 \times 84 \times 119 \mathrm{~mm}$ |
| Weight | - |
| IP Rating | HOUSING IP40, TERMINALS IP20 |
| Construction | RED POLYCARBONATE |
| Mounting | 35MM DIN RAIL |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance <br> with ENISO 13849-1 | PL-E, CAT 4 |
| :--- | :---: |
| SIL CL in Accordance <br> with EN IEC 62061 | SIL 3 |
| PFHD in Accordance <br> with EN IEC 62061 | $3.42 \times 10^{-9}$ |
| PFH | $4.43 \times 10^{-9}$ |
| B10D | $2,000,000$ |
| MTTFD | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) |
| TM | $>20$ YEARS |
| DC | $96.50 \%$ |
| SFF | $98.20 \%$ |



## Description

The S-Type are electronically operated safety switches. Based on Mechan's unique frequency operated switching system the S-Type safety switches provide a more secure non-contact safety switch, with precise switching and indication on the switch for reliable operation is assured along with easy operator identification of guard status.

The S-Type safety switches are available in three sizes with up to 2 NO safety contacts and 1 NC auxiliary contact.

CSS type switches are available with uniquely coded actuators.

## SSS-11


S-Type
CE (11)
IND.CONT.EQ
2 HAO

- Tamper-proofElectronic Safety Switches
- Unique Code Versions Available
- 10 mm Switching Distance
- GuardStatus Indication
- Quick Disconnect Option


## Operation

Mechan S-Type safety switches can approach each other from most directions. When closed the targets printed on the front face of the switches must be aligned. (Large target to large target and small target to small target). When the power is on and the switch and actuator are apart the Normally Open contact(s) will be open and the Normally Closed contact will be closed. When the actuator is brought within the specified switching distance the Normally Open contact(s) will close and the Normally Closed contact will open.

The SSS has a green LED which is illuminated when the switch is powered and the gate is closed. The SS-R and SS-C have a dual colour LED (red \& green) red when the power is on and gate open, green when the gate is closed.

## Simple to install stand-alone, tamper-proof, non-contact safety switches

## Features

- Tamper-proof
- IP67
- Reliable electronic switching
- Quick disconnectoption
- $8-10 \mathrm{~mm}$ switching distance
- Guard status indication
- East to install


## Applications

- Food processing
- Dairies
- Packaging Industry
- Bottling plants
- Pharmaceutical



## SSS / SSS-QD

- Electronic Safety Switch
- 2 NO or 1NO + 1NC Contacts
- Fully Encapsulated, IP67
- LED Indication

The SSS and SSSQD safety switches are standalone electronic, non-contact, safety switches. With 2NO or 1NO + 1 NC contacts, capable of switching 2 A at 30 V dc or 230 V ac.

These tamper resistant, non-contact safety switches are suitable for use with most safety relays and have a built in LED to assist the operator in speedy fault diagnosis.

The SSS is available with 3,6 or 10 m pre-wired cables and is fully sealed and suitable for use in most wet / harsh environments.

The SSSQD has an M12 connector with 5 or 10 m cables.

## Dimensions: SSS



## Dimensions: SSS-QD




## SSR / SSR-LQD

- Electronic Safety Switch
- 2 NO + 1NC Contacts
- Fully Encapsulated, IP67
- Pre-wired, 3, 5, 6, 10 or 15m Cable
- Dual Colour LED Indication

SS-R safety switches are standalone electronic, non-contact, safety switches. With $2 \mathrm{NO}+1 \mathrm{NC}$ contacts, capable of switching 2 A at 30 Vdc or 110 Vac .

With tamper resistant, electronic switching, the SS-R are suitable for use with most safety relays. A dual colour, built in LED, helps the operator in speedy fault diagnosis.

The SS-R safety switches are available with $3,5,6,10$ or 15 m pre-wired cables which are fully sealed and suitable for use in most wet/harsh environments.

The SS-R safety switches are available with M12 quick disconnect and 5 or 10 m cables.

## Dimensions: SSR / SSR-LQD




## SSC / SSC-LQD

Electronic Safety Switch

- 2 NO or 1NO + 1NC Contacts
- Fully Encapsulated, IP67
- M12 Quick Disconnect
- Dual Colour LED Indication

SS-C safety switches are standalone electronic, non-contact, safety switches. With 2 NO or $1 \mathrm{NO}+1 \mathrm{NC}$ contacts, capable of switching 500 mA at 30 Vdc or 110 Vac .

With tamper resistant, electronic switching, the SS-C are suitable for use with most modern, low inrush current, safety relays. A dual colour, built in LED, helps the operator in speedy fault diagnosis. The SS-C safety switches are available with M12 quick disconnect and 5 or 10m cables.

Dimensions: SSC / SSC-LQD


## Switching Characteristics

N/C on


Leaded Quick Disconnect:
2 Normally Open Contacts

SS-C-20


Connector
150mm Lead, M12
8 Pole, Single Key way

Quick Disconnect: 1 Normally Open Contact
Connector Description Cable


Connector
M12
4 Pole, Single Key way

## Mounting

Do not use safety switches as a stop. 1 mm separation when closed provides the best results.

Minimum separation 50 mm between adjacent switches.

DO NOT mount on hinged side of the guard.


The chart shows the switching points in mm.

## Technical Specifications

|  | SSS / SSS-QD | SSR / SSR-LQD | SSC / SSC-LQD |
| :---: | :---: | :---: | :---: |
| Supply Voltage Options | 24 V DC | 24 V DC | 24 V DC |
| Power Consumption | - | - | - |
| Safety Output | UP TO $2 \times$ NO. | UPTO $2 \times$ NO. | UPTO $2 \times$ NO. |
| Safety Output Rating | 230 V AC / 2 AMPS or $30 \mathrm{VDC} / 2$ AMPS | 230 V AC / 2 AMPS or $30 \mathrm{VDC} / 2$ AMPS | 110 V AC / 500MA or $24 \mathrm{VDC} / 500 \mathrm{MA}$ |
| Auxiliary Output | UPTO 1 XNC | UPTO $1 \times$ XNC | UPTO $1 \times$ NC |
| Auxiliary Output Rating | 230 V AC / 2 AMPS or 30 V DC / 2 AMPS | 230 V AC / 2 AMPS or 30 V DC / 2 AMPS | 110 V AC / 500MA or 24 V DC / 500MA |
| Cable/Connector | PRE-WIRED / QUICK DISCONNECT | PRE-WIRED / LEADED QUICK DISCONNECT | PRE-WIRED / LEADED QUICK DISCONNECT |
| Cable Length | 3,6 or 10m | $3,5,6,10$ or 15 m | 3,5 or 10 m |
| Coding | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE |
| Input | - | - | - |
| Reset Options | - | - | - |
| Indication | GREEN LED | DUAL COLOUR LED | DUAL COLOUR LED |
| Dimensions of Switch (mm) | $87 \times 24 \times 19 \mathrm{~mm}$ | $92 \times 24.5 \times 23 \mathrm{~mm}$ | $87 \times 24 \times 19 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $87 \times 24 \times 17 \mathrm{~mm}$ | $92 \times 23 \times 18 \mathrm{~mm}$ | $87 \times 24 \times 17 \mathrm{~mm}$ |
| Dimensions of Control Unit (mm) | - | - | - |
| Weight | - | - | - |
| IP Rating | IP67 | IP67 | IP67 |
| Construction | BLUE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED | BLUE ABS, RESIN FILLED |
| Mounting | 4 X M4 SECURITY SCREWS | $4 \mathrm{X} \mathrm{M4} \mathrm{SECURITY} \mathrm{SCREWS}$ | 4 X M4 SECURITY SCREWS |
| Operating Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 |  |  |  |
| :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 |  |  |  |
| PFHD in Accordance with EN IEC 62061 | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ | $4.3 \times 10^{-8}$ |
| PFH | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ | $6.52 \times 10^{-8}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) |
| TM | >20 YEARS | $>20$ YEARS | >20 YEARS |
| DC | 99\% | 99\% | 99\% |
| SFF | 98\% | 98\% | 98\% |
|  | Based on dual channel wiring according to CAT3 diagnostic coverage provided by downstream control logic DC - medium, the MTTFD $=100$ years | Based on dual channel wiring according to CAT3 diagnostic coverage provided by downstream control logic DC - medium, the MTTFD $=100$ years | Based on dual channel wiring according to CAT3 diagnostic coverage provided by downstream control logic DC - medium, the MTTFD $=100$ years |



## Description

The Mechan HE-Series is a coded magnetic safety system.

Made up of a slimline Safety Control Unit and fully encapsulated solid state safety switches.

The HE-Series is designed to combine the ease of use and maintenance of a simple magnetic safety switch along with the improved security, performance levels and indication of Mechan's electronic switching.

The fully encapsulated HE switches withstand vibration, wash down and most harsh environments, making them ideal for use in the food processing / filling and packing industries as well as many other non-locking machine guard applications.

## Applications

- Food processing
- Dairies
- Bottling plants
- Pharmaceutical
- Concrete block/building material manufacture


## Features

- Shock proof
- Tamper-resistant
- IP67
- Quick disconnectoption
- Guard status indication
- Easyto install


# HE-Series <br> - Cat 4 Sil 3 PL-E Safety System <br> - Solid State Coded Magnetic Switches <br> - Dual Colour Indication on the Switch <br> - Unique Double Door Safety Switches 

## Operation

## CONTROLMODULE

The SCU-1 is a 22.5 mm wide, DIN rail mounting safety control unit, tested and approved by TUV to work with the HE-Series safety switches.
Operating voltage is 24 V AC/DC the SCU-1 has $2 \mathrm{NO}+1$ NC outputs rated at $4 \mathrm{~A} / 230 \mathrm{~V}$ AC or 2 A 24 V DC. With switch selectable manual or automatic reset function, and LED indication of Power and each input channel the SCU-1 is a simple control unit link into your existing safety system

## SAFETY SWITCHES

The HE safety switches are fully encapsulated into a variety of shapes and sizes, in either ABS or 316 grade stainless steel housings, helping to make installation on all types of guarding systems / applications as easy as possible. The unique HED dual switch, capable of monitoring 2 doors with one switch makes monitoring double doors even easier.

The HE safety switches have a coded magnetic input ensuring the switch cannot be overridden by a simple magnet / piece of metal / screwdriver etc and $8-10 \mathrm{~mm}$ switching distance makes the HE safety switches easy to install, tolerant to misalignment and providing a long and trouble free operating life.

Each switch has up to $2 \times \mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bi-directional solid state outputs. The electronic activation of all three contacts simultaneously eliminates the problem of 'lockout' and ensures the correct operation of the safety circuits every time.
The HE switches have built in dual colour LED indicators for easy identification of switch status and fault diagnostics.
When installed and power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open. When the actuator moves out of the operating range, the N/O Outputs will open, the N/C Output will close.
The HE safety switches are available with a pre-wired $3 / 5$ or 10 m cable. Longer cables can be ordered if required. Some versions are available with an M12 Leaded Quick Disconnect option.

The HE safety switches have been designed to connect to the SCU-1 Safety Control Unit but can also work with other safety relay products.
(Please check input specification first)


- CAT 4 SIL 3 PL-E
- Safety Control Unit
- 24Vac/dc Supply
- LED Diagnostics
- Dual Channel Output
- Automatic/Manual Monitored Reset

The SCU is the control unit for the HE Series safety switches. The SCU provides 2 NO force guided contact safety outputs, internal and external relay monitoring circuit, LED system indication.

The SCU requires 24 V AC/DC power supply and has 2 NO safety contact outputs capable of switching up to 4Amps @ 230 VAC .


MANUAL RESET
Internal switch is set to the LOWER position.

Circuit X1/X2 requires a momentary N/O button to initialise rest.


AUTOMATIC RESET
Internal switch is set to the UPPER position.

Circuit X1/X2 requires a link.
Closed contacts on K3 and K4 can still be monitored.

## Dimensions: SCU



## SCU CONNECTION DRAWING 1



SCU CONNECTION DRAWING 2




## HE1 / HE1-SS

- Coded Magnetic Operation
- ABS or Stainless Steel Housing
- 2 Normally Open +

1 Normally Closed Output

- Solid State Bi-directional Outputs
- 24V DC Operation
- LED Indication

The HE safety switches have up to 2 x $\mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open.
The HE safety switches are fully encapsulated into an ABS housing and are available with 5,10 or 15 m prewired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

Dimensions: HE1 / HE1-SS
Dimensions: HE2 / HE2-SS


The HE safety switches have up to 2 x $\mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open.

The HE safety switches are fully encapsulated into an ABS housing and are available with 5,10 or 15 m prewired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

## HE2-SS-LQD



## HE2-SS-LQD

- Coded Magnetic Operation
- Stainless Steel Housing
- 2 Normally Open +

1 Normally Closed Output

- Solid State Bi-directional Outputs
- 24 V DC Operation
- LED Indication
- M12 Leaded Quick Disconnect

Dimensions: HE2-SS-LQD



HE3-SS

- Coded Magnetic Operation
- ABS or Stainless Steel Housing
- 2 Normally Open +1 Normally Closed Output
- Solid State Bi-directional Outputs
- 24V DC Operation
- LED Indication

The HE safety switches have up to $2 \times \mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will beopen.

The HE safety switches are fully encapsulated into a 316 grade stainless steel housing and available with 5,10 or 15 m pre-wired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

Dimensions: HE3-SS


HE4 / HE4-SS


## HE4 / HE4-SS

- Coded Magnetic Operation
- ABS or Stainless Steel Housing
- 2 Normally Open + 1 Normally Closed Output
- Solid State Bi-directional Outputs
- 24 V DC Operation
- LED Indication

The HE safety switches have up to $2 \times \mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open.

The HE safety switches are fully encapsulated into an ABS housing and are available with 5,10 or 15 m pre-wired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

Dimensions: HE4


Dimensions: HE4-SS



## HE6-SS

- Coded Magnetic Operation
- Stainless Steel Housing
- 2 Normally Open + 1 Normally Closed Output
- Solid State Bi-directional Outputs
- 24V DC Operation
- LED Indication

The HE safety switches have up to $2 \times \mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open.

The HE safety switches are fully encapsulated into a 316 grade stainless steel housing and available with 5,10 or 15 m pre-wired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

Dimensions: HE6-SS



## HEM40

- Coded Magnetic Operation
- Stainless Steel Housing
- 2 Normally Open + 1 Normally Closed Output
- Solid State Bi-directional Outputs
- 24V DC Operation

The HE safety switches have up to $2 \times \mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open.

The HEM40 safety switches are fully encapsulated into a 316 grade stainless steel 40 mm barrel housing and available with 6 m pre-wired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When the switch is closed the targets on the printed face of the switch must be aligned.

Dimensions: HEM40



## HED

The HED safety switch monitors 2 adjacent doors with only one switch, saving on installation time, cabling and cost.

With $2 \times \mathrm{N} / \mathrm{O}+1 \mathrm{~N} / \mathrm{C}$ bidirectional solid state outputs along with a built in LED(s) for indication. When installed on a machine guard, power is applied, and the switch and actuator are within the specified operating range, the N/O Outputs will be closed, the N/C Output will be open.

The HE safety switches are fully encapsulated into an ABS steel housing and available with 5,10 or 15 m pre-wired cable. With a 7 mm switching distance the actuator can approach the switch from most angles. When both switches are closed the targets on the printed face of the switch must be aligned.

## Dimensions: HED



- Coded Magnetic Operation, ABS Housing
- Dual Switch, Monitors 2 Doors
- 2 Normally Open +1 Normally Closed Output
- Solid State Bi-directional Outputs
- 24 Vdc Operation
- LED Indication
- Also Available in Leaded Quick Disconnect


## Application

The HED double switch is designed to monitor two adjacent doors.

Both actuators need to be in place to close the NO output contacts and open the NC auxiliary contact. Removing one actuator will open the NO contacts and close the NC contact.


## 2 Gate Operation

HED switches are designed to monitor 2 doors with one switch and 2 actuators. Simplifying installation by reducing wiring to the control panel, and the number of brackets required for the switches.

Both gates must be closed to enable the NO contacts of the switch to close and the NC indication contact to be open. Opening either gate will open the NO contacts and close the NC contact. LED indication is available on the switch to help fault diagnosis.


## Technical Specifications

|  | HE1 / HE1-SS | HE2 / HE2-SS | HE2SS-LQD | HE3-SS | HE4 / HE4-SS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | 24 V DC (+--15\%) | 24 V DC (+/-15\%) | 24 V DC (+/-15\%) | 24V DC (+/-15\%) | 24 V DC (+/-15\%) |
| Power Consumption | - | - | - | - | - |
| Auxiliary Output Rating | 24 V DC / 400 mA | 24 V DC / 400 mA | 24 V DC / 400 mA | 24 V DC / 400 mA | 24 V DC / 400mA |
| Auxiliary Output | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times$ NC |
| Safety Output | UPTO $2 \times$ NO | UPTO $2 \times$ NO | UPTO $2 \times$ NO | UPTO $2 \times$ NO | UPTO $2 \times$ NO |
| Safety Output Rating | 24 V DC / 400mA | 24 V DC / 400 mA | 24 V DC / 400 mA | 24 V DC / 400mA | 24 V DC / 400mA |
| Cable Connector | PRE-WIRED | PRE-WIRED | LEADED QUICK DISCONNECT | PRE-WIRED | PRE-WIRED |
| Cable Length | 3,6 or 10m | 3,6 or 10m | 0,5 or 10m | 3,6 or 10m | 3,6 or 10m |
| Coding | SOLID STATE, SINGLE CODE | SOLID STATE, SINGLE CODE | SOLID STATE, SINGLE CODE | SOLID STATE, SINGLE CODE | SOLID STATE, SINGLE CODE |
| Input | CODED MAGNETIC | CODED MAGNETIC | CODED MAGNETIC | CODED MAGNETIC | CODED MAGNETIC |
| Reset Options | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Indication | GUARD STATUS LED \& VOLT FREE CONTACT | GUARD STATUS LED \& VOLT FREE CONTACT | GUARD STATUS LED \& VOLT FREE CONTACT | GUARD STATUS LED \& VOLT FREE CONTACT- | GUARD STATUS LED \& VOLT FREE CONTACT |
| Dimensions of Switch (mm) | $\begin{gathered} 28 \times 52 \times 14 \mathrm{~mm} \\ / 29 \times 53 \times 13.5 \mathrm{~mm} \end{gathered}$ | $27.2 \times 87.5 \times 13.5 \mathrm{~mm}$ | $27.2 \times 87.5 \times 13.5 \mathrm{~mm}$ | $28 \times 52 \times 14 \mathrm{~mm}$ | $\begin{aligned} & 76.3 \times 30.3 \times 16 \mathrm{~mm} \\ & / 79 \times 33 \times 16 \mathrm{~mm} \end{aligned}$ |
| Dimensions of Actuator (mm) | $\begin{gathered} 28 \times 52 \times 14 \mathrm{~mm} \\ / 29 \times 53 \times 13.5 \mathrm{~mm} \end{gathered}$ | $27.2 \times 87.5 \times 13.5 \mathrm{~mm}$ | $27.2 \times 87.5 \times 13.5 \mathrm{~mm}$ | $28 \times 52 \times 14 \mathrm{~mm}$ | $\begin{aligned} & 76.3 \times 30.3 \times 16 \mathrm{~mm} \\ & / 79 \times 33 \times 16 \mathrm{~mm} \end{aligned}$ |
| Dimensions of Controls Unit (mm) | SEE SCU1 | SEE SCU1 | SEE SCU1 | SEE SCU1 | SEE SCU1 |
| Weight | - | - | - | - | - |
| IP Rating | 1P67 | 1P67 | IP67 | IP67 | 1P67 |
| Construction | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times$ M4 SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS |
| Operating Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $3.62 \times 10^{-9}$ | $3.62 \times 10^{-9}$ | $3.62 \times 10^{-9}$ | $3.62 \times 10^{-9}$ | $3.62 \times 10^{-9}$ |
| PFH | $4.43 \times 10^{-9}$ | $4.43 \times 10^{-9}$ | $4.43 \times 10^{-9}$ | $4.43 \times 10^{-9}$ | $4.43 \times 10^{-9}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) |
| TM | >20 YEARS | >20 YEARS | >20 YEARS | >20 YEARS | >20 YEARS |
| DC | 96.50\% | 96.50\% | 96.50\% | 96.50\% | 96.50\% |
| SFF | 98.2\% | 98.2\% | 98.2\% | 98.2\% | 98.2\% |

## Technical Specifications

|  | HE6-SS | HED | HEM40 |
| :---: | :---: | :---: | :---: |
| Supply Voltage Options | 24 V DC (+/-15\%) | 24 V DC (+/-15\%) | 24 V DC (+/-15\%) |
| Power Consumption | - | - | - |
| Auxiliary Output Rating | 24 V DC/ 400 mA | 24 V DC / 400 mA | 24 V DC/ 400 mA |
| Auxiliary Output | UPTO $1 \times$ NC | UPTO $1 \times$ NC | UPTO $1 \times \mathrm{NC}$ |
| Safety Output | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times \mathrm{NO}$ |
| Safety Output Rating | 24 V DC/ 400 mA | 24 V DC/ 400 mA | 24 V D / 400 mA |
| Cable Connector | PRE-WIRED | PRE-WIRED | PRE-WIRED |
| Cable Length | 3, 6 or 10m | 3, 6 or 10m | 3, 6 or 10m |
| Coding | SOLID STATE, SINGLE CODE | SOLID STATE, SINGLE CODE | SOLID STATE, SINGLE CODE |
| Input | CODED MAGNETIC | CODED MAGNETIC | CODED MAGNETIC |
| Reset Options | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Indication | GUARD STATUS LED \& VOLT FREE CONTACT | GUARD STATUS LED \& VOLT FREE CONTACT | - |
| Dimensions of Switch (mm) | $81.5 \times 19 \times 19 \mathrm{~mm}$ | $150 \times 40 \times 14 \mathrm{~mm}$ | - |
| Dimensions of Actuator (mm) | $81.5 \times 19 \times 19 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm}$ ( $\times 2$ ) | - |
| Dimensions of Controls Unit (mm) | SEE SCU1 | SEE SCU1 | SEE SCU1 |
| Weight | - | - | - |
| IP Rating | IP67 | 1P67 | IP67 |
| Construction | 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times$ M4 SECURITY SCREWS | $6 \times$ M4 SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS |
| Operating Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 4 | PL-E, CAT 4 | PL-E, CAT 4 |
| :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $3.62 \times 10^{-9}$ | $3.62 \times 10^{-9}$ | $3.62 \times 10^{-9}$ |
| PFH | $4.43 \times 10^{-9}$ | $4.43 \times 10^{-9}$ | $4.43 \times 10^{-9}$ |
| B10D | 2,000,000 | 2,000,000 | 2,000,000 |
| MTTFD | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) |
| TM | >20 YEARS | >20 YEARS | >20 YEARS |
| DC | 96.50\% | 96.50\% | 96.50\% |
| SFF | 98.2\% | 98.2\% | 98.2\% |


|  | SCU1 |
| :---: | :---: |
| Supply Voltage Options | 24 V AC/ DC (+/-15\%) |
| Power Consumption | 3VA |
| Auxiliary Output Rating | 4A / 230V AC; <br> 2A / 24v DC (RES.)@COS=1 |
| Auxiliary Output | 1 XNC |
| Safety Output | $2 \times \mathrm{NO}$ |
| Safety Output Rating | 4A / 230V AC; <br> 2A / 24v DC (RES.)@COS=1 |
| Cable Connector | - |
| Cable Length | - |
| Coding | - |
| Input | UP TO 30 SAFETY SWITCHES |
| Reset Options | MANUAL / AUTOMATIC |
| Indication | LEDs FOR POWER \& OUTPUT K1 \& K2 |
| Dimensions of Switch (mm) | - |
| Dimensions of Actuator (mm) | - |
| Dimensions of Controls Unit (mm) | $22.5 \times 84 \times 119 \mathrm{~mm}$ |
| Weight | - |
| IP Rating | HOUSING IP40, TERMINALS IP20 |
| Construction | RED POLYCARBONATE |
| Mounting | 35MM DIN RAIL |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| Data |
| :--- |
| PL in Accordance <br> with ENISO 13849-1 PL-E, CAT 4 <br> SIL CL in Accordance <br> with EN IEC 62061 SIL 3 <br> PFHD in Accordance <br> with EN IEC 62061 $3.62 \times 10^{-9}$ <br> PFH $4.43 \times 10^{-9}$ <br> B10D $2,000,000$ <br> MTTFD HIGH $>100$ YEARS <br> (based on usage rate of 360 days) <br> TM $>20$ YEARS <br> DC $96.50 \%$ <br> SFF $98.2 \%$ |



## Description

The ISIS safety system is a tamper resistant non-contact safety switch system, suitable for use in most types of machine guarding applications where guard locking is not required.

The ISIS Safety control units can monitor 2 (ISIS-2) or 4 (ISIS-4) safety switches with the ISIS-E being used to add more safety switch inputs to a system. The ISIS-4 can also be used to monitor the Emergency Stop button.

The non-contact safety switches are available in stainless steel or ABS and have a simple 2 wire connection to the control unit which can detect open and short circuit faults as they happen.

## Maximum Cable Length



ISIS


Listed IND.CONT.EQ ${ }_{2} \mathrm{HAO}$

- CAT 3 SIL 3 PL-E Safety System
- Control Unit Monitors Safety Switches \& E'Stops
- GuardStatus Indication
- Tamper Resistant
- Coded Magnetic
- Simple 2 Wire Connection


## Operation

The ISIS system comprises of a control unit and 1 or more safety switches. (The ISIS-4 can also monitor and E'Stop inputs).

Each ISIS safety switch has a 2-wire connection to the control unit. The safety switch is continuously monitored by the control unit, detecting both open and short circuit faults immediately and returning the control unit to the off state even if the gate is not operated.

Using one of the ISIS control unit and one or more ISIS Extender modules, systems can be assembled to monitor up to 30 inputs.


## Simple to install tamper-resistant, non-contact safety switches

## Features

- Multi-gatemonitoring
- Tamper-resistant safety switches
- Long term proven reliability
- Modular system
- Monitor up to 30 guards
- Guard status indication


## Applications

- Food processing
- Dairies
- Bottling plants
- Pharmaceutical
- Concrete block/building material manufacture
- Multi-gate systems on large production lines



## ISIS-4

- 4 Gate Safety Control Module
- Integrated E'Stop function
- 24 V AC/DC, 110 V AC or 230 V AC
- LED Diagnostics
- Dual Channel Output + Auxiliary
- Automatic / Manual-Monitored Reset

The ISIS-4 is a combined Safety Switch and E-Stop control unit. Along with the ability to monitor up to four ISIS safety switches it can also monitor the normally closed contacts of emergency stop buttons or mechanical safety switches in dual channel control circuits.

The ISIS-4 has 2 normally open safety contact outputs and 1 normally closed auxiliary output, an external reset/proving circuit and LED indication for 'Power,' 'Run' and the status of each activated gate switch.


## ISIS-2

- 2 Gate Safety Control Module
- 24 V AC/DC
- LED Diagnostics
- Dual Channel Output + Auxiliary
- Automatic / Manual-Monitored Reset

The ISIS-2 control unit is a 24 V AC/DC system that can monitor up to 2 ISIS safety switches.

The ISIS-2 has 2 normally open safety contact outputs and 1 normally closed auxiliary output, an external reset/proving circuit and LED indication for 'Power', 'Run' and the status of each activated gate switch.


- 5 Gate Safety Extender Module
- 24 V AC/DC
- LED Diagnostics

The ISIS-E Extender module is a 24 V AC/DC unit that can be added to either the ISIS-4 or ISIS-2 to monitor an additional 5 ISIS safety switches.

Connection to the main control unit is by a simple 2-wire bus connection. The status of each guard switch is shown by the YELLOW LED's. Additional ISIS-E extender modules can be added to monitor larger systems.

Dimensions: ISIS-4



## Dimensions: ISIS-2 / ISIS-E




## ISIS / ISIS-SS

- Coded Magnetic Safety Switch
- ABS or 316 Stainless Steel Housing
- Fully Encapsulated, IP67
- M8 Quick Disconnect, 5 or 10m Cables

The ISIS safety switches are noncontact, tamper resistant safety switches. Resin encapsulated into an ABS housing, providing environmental protection to IP67. The switches can withstand most conditions including: water, dust and high pressure hose cleaning.

The 2-wire connection to each safety switch is monitored by the control unit, detecting both open and short circuit faults immediately and returning the control unit to the off state even if the gate is not operated.


DIMENSIONS: ISIS-SS



## ISIS-SS-HT

- Coded Magnetic Safety Switch
- 316 Grade Stainless Steel Housing
- High Temp Rating $-10^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$
- Fully Encapsulated, IP67
- Pre-wired, 3m Cable (longer to order)

The ISIS safety switches are noncontact, tamper resistant safety switches. Resin encapsulated into a stainless steel housing, providing environmental protection to IP67. The switches can withstand most conditions including: water, dust and high pressure hose cleaning.

The 2-wire connection to each safety switch is monitored by the control unit, detecting both open and short circuit faults immediately and returning the control unit to the off state even if the gate is not operated.

DIMENSIONS: ISIS-SS-HT



## ISIS-QD / ISIS-SS-QD

- Coded Magnetic Safety Switch
- ABS or 316 Grade Stainless Steel Housing
- Fully Encapsulated, IP67
- M8 Quick Disconnect, 5 or 10 m Cables

The ISIS safety switches are noncontact, tamper resistant safety switches. Resin encapsulated into an ABS or 316 grade stainless steel housing, providing environmental protection to IP67, The switches can withstand most conditions including: water, dust and high pressure hose cleaning.

The 2-wire connection to each safety switch is monitored by the control unit, detecting both open and short circuit faults immediately and returning the control unit to the off state even if the gate is not operated.

## DIMENSIONS: ISIS-QD



DIMENSIONS: ISIS-SS-QD


## Technical Specifications

|  | ISIS-4 | ISIS-2 | ISIS-E |
| :---: | :---: | :---: | :---: |
| Supply Voltage Options | 110V AC or 24V AC/DC (+/- 15\%) | 24V AC/DC (+/-15\%) | 24V AC/DC (+/- 15\%) |
| Power Consumption | 6VA | 3VA | 3VA |
| Auxiliary Output Rating | $\begin{gathered} \text { 4A / 230V AC; 2A / 24V DC } \\ \text { (RES.)@COS=1 } \\ \hline \end{gathered}$ | 4A / 230V AC; 2A / 24V DC (RES.)@COS $=1$ <br> (RES.)@COS=1 | - |
| Auxiliary Output | UPTO $1 \times \mathrm{NC}$ | UPTO $1 \times \mathrm{NC}$ | - |
| Safety Output | UPTO $2 \times \mathrm{NO}$ | UPTO $2 \times$ NO | - |
| Safety Output Rating | $\begin{gathered} 4 \mathrm{~A} / 230 \mathrm{AC} ; 2 \mathrm{~A} / 24 \mathrm{VDC} \\ \text { (RES.)@COS=1} \end{gathered}$ | $\begin{gathered} \text { 4A / 230V AC; } 2 \mathrm{AA} / 24 \mathrm{VDC} \\ \text { (RES.)@COS=1 } \\ \hline \end{gathered}$ | - |
| Cable Connector | - | - | - |
| Cable Length | - | - | - |
| Coding | - | - | - |
| Input | UP TO 4 ISIS SWITCHES + 1 E'STOP | UP TO 2 ISIS SWITCHES | UP TO 5 ISIS SWITCHES |
| Reset Options | MANUAL / AUTOMATIC | MANUAL / AUTOMATIC | AT CONTROL UNIT |
| Indication | POWER \& RUN LEDS <br> + GUARD SELECT \& STATUS LEDs | POWER \& RUN LEDS <br> + GUARD SELECT \& STATUS LEDs | POWER \& RUN LEDS <br> + GUARD SELECT \& STATUS LEDs |
| Dimensions of Switch (mm) | - | - | - |
| Dimensions of Actuator (mm) | - | - | - |
| Dimensions of Controls Unit (mm) | $75 \times 74 \times 119 \mathrm{~mm}$ | $22.5 \times 84 \times 119 \mathrm{~mm}$ | $22.5 \times 84 \times 119 \mathrm{~mm}$ |
| Weight | - | - | - |
| IP Rating | HOUSING IP40, TERMINALS IP20 | HOUSING IP40, TERMINALS IP20 | HOUSING IP40, TERMINALS IP20 |
| Construction | RED POLYCARBONATE HOUSING AND TERMINALS | RED POLYCARBONATE HOUSING AND TERMINALS | RED POLYCARBONATE HOUSING AND TERMINALS |
| Mounting | 35MM DIN RAIL | 35MM DIN RAIL | 35MM DIN RAIL |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 |
| :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $3.37 \times 10^{-8}$ | $3.37 \times 10^{-8}$ | $3.37 \times 10^{-8}$ |
| PFH | $5.63 \times 10^{-8}$ | $5.63 \times 10^{-8}$ | $5.63 \times 10^{-8}$ |
| B10D | 20,000,000 | 20,000,000 | 20,000,000 |
| MTTFD | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) | HIGH>100 YEARS <br> (based on usage rate of 360 days) |
| TM | 20 YEARS | 20 YEARS | 20 YEARS |
| DC | 99\% | 99\% | 99\% |
| SFF | 99.40\% | 99.40\% | 99.40\% |

## Technical Specifications

|  | ISIS / ISIS-SS | ISIS-QD / ISIS-SS-QD | ISIS-SS-HT |
| :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - |
| Power Consumption | - | - | - |
| Auxiliary Output Rating | - | - | - |
| Auxiliary Output | - | - | - |
| Safety Output | - | - | - |
| Safety Output Rating | - | - | - |
| Cable Connector | PRE-WIRED | QUICK DISCONNECT | PRE-WIRED |
| Cable Length | 3, 6 or 10m | 0,5 or 10m | 3,6 or 10m |
| Coding | CODED MAGNETIC, SINGLE CODE | CODED MAGNETIC, SINGLE CODE | CODED MAGNETIC, SINGLE CODE |
| Input | - | - | - |
| Reset Options | - | - | - |
| Indication | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Dimensions of Switch (mm) | $52 \times 28 \times 14 \mathrm{~mm} / 53 \times 29 \times 13.5 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm} / 53 \times 29 \times 13.5 \mathrm{~mm}$ | $53 \times 29 \times 13.5 \mathrm{~mm}$ |
| Dimensions of Actuator (mm) | $52 \times 28 \times 14 \mathrm{~mm} / 53 \times 29 \times 13.5 \mathrm{~mm}$ | $52 \times 28 \times 14 \mathrm{~mm} / 53 \times 29 \times 13.5 \mathrm{~mm}$ | $53 \times 29 \times 13.5 \mathrm{~mm}$ |
| Dimensions of Controls Unit (mm) | - | - | - |
| Weight | - | - | - |
| IP Rating | IP67 | IP67 | IP67 |
| Construction | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | RED ABS / 316 GRADE STAINLESS STEEL, RESIN FILLED | 316 GRADE STAINLESS STEEL, RESIN FILLED |
| Mounting | $4 \times \mathrm{M} 4$ SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS | $4 \times$ M4 SECURITY SCREWS |
| Operating Temp. | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $55^{\circ} \mathrm{C}$ | $-10^{\circ} \mathrm{C}$ to $125^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | PL-E, CAT 3 | PL-E, CAT 3 | PL-E, CAT 3 |
| :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | SIL 3 | SIL 3 | SIL 3 |
| PFHD in Accordance with EN IEC 62061 | $3.37 \times 10^{-8}$ | $3.37 \times 10^{-8}$ | $3.37 \times 10^{-8}$ |
| PFH | $5.63 \times 10^{-8}$ | $5.63 \times 10^{-8}$ | $5.63 \times 10^{-8}$ |
| B10D | 20,000,000 | 20,000,000 | 20,000,000 |
| MTTFD | HIGH $>100$ YEARS <br> (based on usage rate of 360 days) | HIGH $>100$ YEARS (based on usage rate of 360 days) | HIGH $>100$ YEARS (based on usage rate of 360 days) |
| TM | 20 YEARS | 20 YEARS | 20 YEARS |
| DC | 99\% | 99\% | 99\% |
| SFF | 99.40\% | 99.40\% | 99.40\% |

## Custom Built Systems

Mechan Controls can also provide 'turn-key' solutions to your safety requirements.
Any of the Mechan safety systems can be ordered ready to install. They can be supplied complete in IP67 Stainless Steel or Painted Steel enclosures with a MIMIC panel or just 10 mm LEDs for guard status indication.

Our custom built systems can be designed using any of our products shown in the catalogue and on our website.
Please see the questions below to identify what type of system you require.


Mimic panels to your design...


## System Specification

The following questions will help us provide you with a quotation for the system you require:

1. System Type
2. Supply Voltage
3. Enclosure
4. Number of Safety Switches
5. Safety Switch Cable Length
6. Buffer Relays Required
7. Reset Button
8. LEDs in Enclosure
9. Mimic Panel

F-SERIES / CODEX / ISIS / SSS / MAGNASAFE
$24 v D C / 24 v A C / 110 v$ AC / 230vAC
Painted Steel / Stainless Steel
$5 / 10 / 15$ metres (longer if required)
Yes / No
Yes/No Local/Remote
Yes/No
Send Drawing

If you have any further requirements, please contact our technical department who will be glad to help you to choose your system
Tel: +44 (0)1695 722264


## Description

CODEX is a multi-gate safety switch monitoring system. Easy to install and expand, it can be used to monitor up to 30 gates with one control unit.

The fully electronic safety switches connect to the control unit and when power up are continuously monitored for faults in the switch or the connecting cable. Each switch has an LED and volt free contact indicator output at the control unit ensuring easy identification of open gates or faults.


## The CODEX System is also available in uniquely coded.

## Features

- Multi-gate monitoring
- Tamper-resistant safety switches
- Long term proven reliability
- Modular system
- Monitor up to 30 guards
- Guard status indication


## CODEX

- CAT 4 SIL 3 PL-E Safety System
- Modular Control Unit
- Digital Electronic Safety Switches
- Monitor up to 30 Switches
- Safety Switches with Unique Code Option (EN 14119)


## Operation

The CODEX system uses both Dynamic Signal Processing and Dual Channel/Cross Monitoring techniques to provide a failsafe system which may be used in either single or dual channel control circuits.

The SENSORS: Are solid state electronic devices with no magnets, contacts or moving parts. They are resin encapsulated into an ABS case to provide a fully sealed, IP67, sensor which can withstand the most arduous of conditions. Water, dust, oil, machine vibration and even steam cleaning have little or no effect on their performance.

The CODEX Safety Switches differ from existing Mechan systems in that the actuator (moving sensor) transmits a code to the control module to be decoded. This code can be changed during manufacture to provide uniquely coded sensors, which can provide additional security or be used as 'Electronic Key' systems. (See additional information in CM9/CX9/CS9 installation guide).

The CONTROL MODULES: All systems start with the CM1. This contains the power supply regulation, dual PGC relay outputs, the external re-set/proving circuit and system indication along with the input for one safety switch sensor and it's volt free indicator output.

The CM1 and a CS type safety switch are all that is required for a system monitoring one guard. For larger systems, simply connect the required number of one or two channel extender modules, CX1 or CX2, to the CM1. The extenders modules provide connections for the safety switch inputs, and a volt free indicator output.

## Applications

- Food processing
- Dairies
- Bottling plants
- Pharmaceutical
- Concrete block/building material manufacture
- Multi-gate systems on large production lines

CM1
- Master Control Module
- 24 V DC / 110V AC /230V AC
- LED Diagnostics
- Dual Channel Output
- Automatic/Manual-monitored Reset

The CM1 is the master control module for each CODEX safety system. The CM1 provides 2 NO force guided contact safety outputs, internal and external relay monitoring circuit, LED system indication and the dynamic digital signal input for one Mechan safety switch sensor.

The CM1 can be ordered to operate with $24 \mathrm{Vdc}, 24 \mathrm{Vac}, 110 \mathrm{Vac}$ or 230 Vac supply.


## CX1

- Single Gate Extender Module
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Wide

The CX1 extender module adds one safety switch input to a CODEX safety system. Connects via a built in 6-way strap to the adjacent CM1 control module (or extender module) and has the indication output, LED and volt free contact, for that switch.


- Dual Safety Switch Extender Module
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Wide

The CX2 extender module adds two safety switch inputs to a CODEX safety system. Connects via a built in 6-way strap to the adjacent CM1 control module (or extender module) and has the indication output, LED and volt free contact, for each switch.
NOTE. An CX2 must have 2 Mechan safety switches connected to it to operate.

| Examples of CODEX Safety System control unit combinations |  |  |  |
| :---: | :---: | :---: | :---: |
| Number of Gates | CM1 | CX1 | CX2 |
| 2 Gate System | 1 | 1 | 0 |
| 5 Gate System | 1 | 0 | 2 |
| 9 Gate System | 1 | 0 | 4 |
| System examples |  |  |  |

## Dimensions: CM1

## Dimensions: CX1 / CX2




## CLI

- One Mechan Safety Switch Input
- Monitored Limited Inch Button Input
- 2 or 4sec Versions
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Wide

The CLI extender module provides the option of using a limited inch button control (not supplied) to override one Mechan safety switch in a CODEX safety system for a pre-set maximum time.

Simple connection via a built in 6-way strap to the adjacent CODEX module, the CLI has the input for 1 Mechan safety switch and connections for the limited inch button. When fitted correctly the button can override the Mechan switch, connected to the CLI, for up to the maximum time allowed. Releasing the button or reaching the maximum allowed time re-activates the switch.


## C2HO

- One Mechan Safety Switch Input
- Monitored 2 Button Control Input
- LED and Volt Free Contact Indication
- 35mm DIN Rail Mounting
- 17.5 mm Wide

The C 2 HO extender module provides the option of using a 2 button control station (not supplied) to override one Mechan safety switch in a CODEX safety system.

Simple connection via a built in 6-way strap to the adjacent CODEX module, the C2HO has the input for 1 Mechan safety switch and connections for the 2 button override station. When fitted correctly the buttons can be used to override the Mechan switch connected to the C 2 HO . Both buttons need to be pressed to override the connected Mechan switch. Releasing either button re-activates the switch.

## Dimensions: CLI




- Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15 m Cable (Max 100m)
- Built-in Cable Strain Relief

CS1 digital electronic safety switches are part of the CODEX safety system. Fully encapsulated into green ABS housings, with pre-drilled fixing holes directly through the body of the switch for additional strength and a consistent 10 mm switching even when mounted on metal frames.

The CODEX safety switches are easy to fit and offer exceptional physical strength for long term reliability.


CS2

- Electronic Safety Switch
- Fully Encapsulated, IP67
- Pre-wired, 5, 10, 15m Cable (Max 100m)
- Built-in Cable Strain Relief

CS2 digital electronic safety switches are part of the CODEX safety system. Fully encapsulated into green ABS housings, with off-set, pre-drilled fixing holes directly through the body of the switch for additional strength and a consistent 10 mm switching even when mounted on metal frames.

The CODEX safety switches are easy to fit and offer exceptional physical strength for long term reliability.


## CS3

- Electronic Safety Switch
- Fully Encapsulated, IP67
- Quick Disconnect 5 or 10 m Cable

CS3 digital electronic safety switches are part of the CODEX safety system. Fully encapsulated into green ABS housings, with pre-drilled fixing holes directly through the body of the switch for additional strength and a consistent 10 mm switching even when mounted on metal frames. The CS3 version has 2pole connector to enable easy installation and change if required.

The CODEX safety switches are easy to fit and offer exceptional physical strength for long term reliability.

## Dimensions: CS3



## Technical Specifications

|  | CM1 | CX1 | CX2 | CLI |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | 24V DC / 24V AC / <br> 110 V AC/230V AC | - | - | - |
| Power Consumption | $\begin{gathered} \mathrm{AC}=6 \mathrm{VA} ; \mathrm{DC}=100 \mathrm{MA}+ \\ 20 \mathrm{MA} / \mathrm{CHANNEL} \end{gathered}$ | - | - | - |
| Safety Output | 2 NORMALLY OPEN | - | - | - |
| Safety Output Rating | 2A / 240V AC / 2A 30V DC | - | - | - |
| Auxiliary Output | 1 NORMALLY OPEN | - | - | - |
| Auxiliary Output Rating | -0.5A @ 125V AC | - | - | - |
| Coding | DIGITAL ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | DIGITAL ELECTRONIC, GENERIC CODE | DIGITAL ELECTRONIC, GENERIC CODE |
| Input | 1 CODEX SAFETY SWITCH | 1 CODEX SAFETY SWITCH | 2 CODEX SAFETY SWITCHES | 1 CODEX SAFETY SWITCH + LIMITED INCH BUTTON |
| Reset Options | MANUAL / AUTOMATIC | - | - | - |
| Indication | LEDs FOR POWER, RUN \& FAULT GUARD STATUS LED | GUARD STATUS LED AND VOLT FREE CONTACT | GUARD STATUS LEDs AND VOLT FREE CONTACTS | GUARD STATUS LED AND VOLT FREE CONTACT |
| Dimensions of Switch (mm) | - | - | - | - |
| Dimensions of Actuator (mm) | - | - | - | - |
| Dimensions of Control Unit (mm) | 105 X 90 X 59MM | $17.5 \times 90 \times 58 \mathrm{MM}$ | $17.5 \times 90 \times 58 \mathrm{MM}$ | $17.5 \times 90 \times 58 \mathrm{MM}$ |
| Weight | - | - | - | - |
| IP Rating | HOUSING 1P40, TERMINALS IP20 | HOUSING 1P40, TERMINALS IP20 | TERMINALS IP40, TERMINALS IP20 | HOUSING IP40, TERMINALS IP20 |
| Construction | GREY PC - GF | GREY PC-GF | GREY PC-GF | GREY PC - GF |
| Mounting | 35MM DIN RAIL | - | 35MM DIN RAIL | 35MM DIN RAIL |
| Operating Temp. | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ |

## Safety Related

Data


## Technical Specifications

|  | C2HO | CS1 | CS2 | CS3 |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | - | - | - | - |
| Power Consumption | - | - | - | - |
| Safety Output | - | - | - | - |
| Safety Output Rating | - | - | - | - |
| Cable / Connector | - | PRE-WIRED | PRE-WIRED | DEUTSCH 2 PIN QUICK DISCONNECT |
| Cable Length | - | 5,10 or 15 m | 5,10 or 15 m | $5,10,15$ or 20 m |
| Coding | DIGITAL ELECTRONIC, GENERIC CODE | DIGITAL ELECTRONIC, GENERIC CODE | DIGITAL ELECTRONIC, GENERIC CODE | DIGITAL ELECTRONIC, GENERIC CODE |
| Input | 1 CODEX SAFETY SWITCH + 2 HAND OVERRIDE | - | - | - |
| Reset Options | - | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Indication | GUARD STATUS LED AND VOLT FREE CONTACT | AT CONTROL UNIT | AT CONTROL UNIT | AT CONTROL UNIT |
| Dimensions of Switch (mm) | - | $74 \times 30 \times 15 \mathrm{MM}$ | $74 \times 30 \times 15 \mathrm{MM}$ | $74 \times 30 \times 15 \mathrm{MM}$ |
| Dimensions of Actuator (mm) | - | $74 \times 30 \times 15 \mathrm{MM}$ | $74 \times 30 \times 15 \mathrm{MM}$ | $74 \times 30 \times 15 \mathrm{MM}$ |
| Dimensions of Control Unit (mm) | $17.5 \times 90 \times 58 \mathrm{MM}$ | - | - | - |
| Weight | - | - | - | - |
| IP Rating | HOUSING IP40 X TERMINALS IP20 | IP67 | IP67 | IP67 |
| Construction | GREY PC-GF | GREEN ABS, RESIN FILLED | GREEN ABS, RESIN FILLED | GREEN ABS, RESIN FILLED |
| Mounting | 35MM DIN RAIL | 4XM4 | 4XM4 | 4XM4 |
| Operating Temp. | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | CAT 4 | $\text { CAT } 4$ | CAT 4 | CAT 4 |
| :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | - | - | - | - |
| PFHD in Accordance with EN IEC 62061 | - | - | - | - |
| PFH | - | - | - | - |
| B10D | - | - | - | - |
| MTTFD | - | - | - | - |
| TM | - | - | - | - |
| DC | - | - | - | - |
| SFF | - |  | - | - |
| As part of a CODEX system |  | As part of a CODEX system |  |  |



## Description

The MPX range comprises a choice of cost effective, simple to use safety control units that have been specially developed for monitoring Mechan's electronic safety switches.

The control units feature dual relay safety outputs, a monitoring circuit and on-board LED indication, and they are available as $24 \mathrm{Vdc}, 24 \mathrm{Vac}, 110 \mathrm{Vac}$ or 230 Vac options. They can be supplied mounted on a chassis plate or within a steel or stainless steel enclosure.

- The SSP is a safety control unit designed for monitoring a single safety switch.
- The MPX4 monitors 2 to 4 Mechan electronic safety switches.
- The MPX8 monitors 4 to 8 Mechan electronic safety switches.
- The MPX8/DIN monitors 5 to 8 Mechan electronic safety switches.
- Additional indicator boards are available for the SSP, MPX4 and MPX8 safety control units, giving remote LED, lamp, or volt-free contact indication.


# MPX Safety System 

High Performance Safety System

- DIN Rail or Chassis Mounting
- Fully Electronic Safety Switches
- Monitor Up To 8 Electronic Safety Switches
- Unique Code Option (EN 14119)


## Operation

The Mechan MPX4/DIN Control Unit takes signals from the unique Mechan Safety Switch heads and processes them using 'Dynamic Fail Safe Amplifiers'.

The Dual Output Relays are driven directly by this dynamic signal resulting in a system which is inherently proof against total semiconductor failure. Each of the output relays has two contacts in series with the load. The Proving Relay is also powered from the Mechan signal and provides monitoring of the output relays every time they operate.

In the event of a faulty (welded) contact, or even a total relay failure, full system safety is maintained and a re-start is prevented. The"FAULT"LED indicates relay failure.

> Simple, cost effective safety monitoring

Mechan safety control units have been monitoring 1000's of Mechan electronic safety switches of over 40 years. Proving to be safe, reliable and easy to install, the MPX range is a cost effective way to continuously monitor allyour safety switches.

Available in chassis mount or 35 mm DIN rail mount each control unit has dual safety outputs, and indication from each switch. Works with all current switches in the F-Series safety switch range.

## Features

- 1, 2-4 or 4-8 gate operation
- Dual channel switching
- On-board diagnostic LEDs
- Monitoring circuit
- Volt free and LED guard status indication
- Can be used with Mechan electronic safety switches (F-TYPE, B-TYPE, C-TYPE \& DINKY)


## Benefits

- Readily up-scalable
- Fast and easy operation diagnostics
- No false indications or unnecessary downtime


SSP

- 1 Safety Switch Input
- Dual Channel Output \& Monitoring
- 35mm DIN Rail Mounting
- Fully Electronic Safety Switches
- Unique Code Option (EN 14119)

The SSP has 2 NO safety output contacts and a reset/monitoring circuit for simple connection to existing control systems. Designed to monitor 1 fully electronic, Mechan safety switch, the SSP can be added to other MPX safety control units to monitor larger systems. Mounted on a chassis plate the SSP is designed for easy fitting into a control panel. Optional indicator boards give the safety switch input LED, TFR or volt free contact status indication.

The SSP control units are designed to work with the F-Type, B-Type, S-Type, Dinky electronic safety switches and the unique code R-Series electronic safety switches.


## MPX4

- 2-4 Safety Switch Inputs
- Dual Channel Output \& Monitoring
- 35 mm DIN Rail Mounting
- Fully Electronic Safety Switches
- Unique Code Option (EN 14119)

The MPX4 has 2 NO safety output contacts and a reset/monitoring circuit for simple connection to existing control systems. A DIP switch mounted on the PCB of the MPX4 can set the unit to monitor between 2 and 4 fully electronic, Mechan safety switches. Mounted on a chassis plate the MPX4 is designed for easy fitting into a control panel. Optional indicator boards give each safety switch input LED, TFR or volt free contact status indication.

The MPX control units are designed to work with the F-Type, B-Type, S-Type, Dinky electronic safety switches and the unique code R-Series electronic safety switches.


- 4-8 Safety Switch Inputs
- Dual Channel Output \& Monitoring
- 35mm DIN Rail Mounting
- Fully Electronic Safety Switches
- Unique Code Option (EN 14119)

The MPX8 has 2 NO safety output contacts and a reset/monitoring circuit for simple connection to existing control systems. A DIP switch mounted on the PCB of the MPX8 can set the unit to monitor between 4 and 8 fully electronic, Mechan safety switches. Mounted on a chassis plate the MPX8 is designed for easy fitting into a control panel. Optional indicator boards give each safety switch input LED, TFR or volt free contact status indication.

The MPX control units are designed to work with the F-Type, B-Type, S-Type, Dinky electronic safety switches and the unique code R-Series electronic safety switches.

Dimensions: SSP


Dimensions: MPX4


Dimensions: MPX8



## MPX4/DIN

- 1-4 Safety Switch InputS
- Dual Channel Output \& Monitoring
- 35mm DIN Rail Mounting
- Fully Electronic Safety Switches
- Unique Code Option (EN 14119)

The MPX4/DIN has 2 NO safety output contacts and a reset/monitoring circuit for simple connection to existing control systems. A DIP switch mounted under the lid of the MPX4/DIN can set the unit to monitor between 1 and 4 fully electronic, Mechan safety switches. Each safety switch input has a LED status indicator on the control unit and a volt free contact for remote signalling to PLC or mimic panel.

The MPX/DIN control units are designed to work with the F-Type, BType, S-Type, Dinky electronic safety switches and the unique code R-Series electronic safety switches.

## MPX8/DIN



## MPX8/DIN

- 5-8 Safety Switch Inputs
- Dual Channel Output \& Monitoring
- 35mm DIN Rail Mounting
- Fully Electronic Safety Switches
- Unique Code Option (EN 14119)

The MPX8/DIN has 2 NO safety output contacts and a reset/monitoring circuit for simple connection to existing control systems. A DIP switch mounted under the lid of the MPX8/DIN can set the unit to monitor between 5 and 8 fully electronic, Mechan safety switches. Each safety switch input has a LED status indicator on the control unit and a volt free contact for remote signalling to PLC or mimic panel.

The MPX/DIN control units are designed to work with the F-Type, BType, S-Type, Dinky electronic safety switches and the unique code R-Series electronic safety switches.



## INDICATOR

- Add-on Indicator for MPX Chassis Mount
- 1,4 or 8 Way Versions
- Simple Plug Connection
- LED - On-board LED
- TFR - Remote 24V Lamp
- RLY - Relay, Volt Free Contact Outputs

The MPX indicator boards are a simple add-on to the chassis mounted MPX safety control units. Providing each safety switch input with either LED, lamp or relay output for easy indication of fault/gate status to the operator, or signalling to PLC for system monitoring.

MPX4/DIN


Dimensions currently unavailable

## Technical Specifications

|  | MPX4DIN | MPX8DIN | MPX4 | MPX8 |
| :---: | :---: | :---: | :---: | :---: |
| Supply Voltage Options | 24 V DC / 24 V AC / <br> 110 V AC/230V AC | 24V DC / 24V AC / <br> $110 \mathrm{VAC} / 230 \mathrm{~V}$ AC | 24V DC / 24V AC / <br> 110 V AC/230V AC | 24V DC / 24V AC / <br> 110 V AC/230V AC |
| Power Consumption | 6VA | 6VA | 6VA | 6VA |
| Safety Output | 2 NORMALLY OPEN | 2 NORMALLY OPEN | 2 NORMALLY OPEN | 2 NORMALLY OPEN |
| Safety Output Rating | 2A / 240V AC / 2A 30V DC | 2A / 240V AC / 2A 30V DC | 2A / 240V AC / 2A 30V DC | 2A / 240V AC / 2A 30V DC |
| Cable/Connector | - | - | - | - |
| Cable Length | - | - | - | - |
| Coding | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE | ELECTRONIC, GENERIC CODE |
| Input | 1 TO 4 ELECTRONIC SAFETY SWITCHES | 5 TO 8 ELECTRONIC SAFETY SWITCHES | 2 TO 4 ELECTRONIC SAFETY SWITCHES | 4 TO 8 ELECTRONIC SAFETY SWITCHES |
| Reset Options | EXTERNAL PROVING / RESET CONNECTION | EXTERNAL PROVING / RESET CONNECTION | EXTERNAL PROVING / RESET CONNECTION | EXTERNAL PROVING / RESET CONNECTION |
| Indication | LEDs FOR POWER, RUN \& FAULT GUARD STATUS LED | LEDs FOR POWER, RUN \& FAULT GUARD STATUS LED | LEDs FOR POWER, RUN \& FAULT GUARD STATUS LED | LEDs FOR POWER, RUN \& FAULT GUARD STATUS LED |
| Dimensions of Switch (mm) | - | - | - | - |
| Dimensions of Actuator (mm) | - | - | - | - |
| Dimensions of Control Unit (mm) | $100 \times 75 \times 110 \mathrm{MM}$ | $150 \times 75 \times 110 \mathrm{MM}$ | PCB ONLY 136(D) X 115(W) X 40(H)MM / CHASSIS PLATE | PCB ONLY 136(D) X 155(W) X 40(H)MM / CHASSIS PLATE |
| Weight | - | - | - | - |
| IP Rating | HOUSING 1P40, TERMINALS IP20 | HOUSING 1P40, TERMINALS IP20 | TERMINALS IP20 | TERMINALS IP20 |
| Construction | GREY PC - BLUE TERMINALS | GREY PC - BLUE TERMINALS | OPEN PCB | OPEN PCB |
| Mounting | 35MM DIN RAIL | 35MM DIN RAIL | CHASSIS PLATE | CHASSIS PLATE |
| Operating Temp. | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $50^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with ENISO 13849-1 | - | - |  |  |
| :---: | :---: | :---: | :---: | :---: |
| SIL CL in Accordance with EN IEC 62061 | - | - |  | - |
| PFHD in Accordance with EN IEC 62061 | - | - | - | - |
| PFH | - | - |  | - |
| B10D | - | - | - | - |
| MTTFD | - | - | - |  |
| TM | - | - | - |  |
| DC | - | - |  |  |
| SFF | - | - |  |  |

## Technical Specifications

|  | SSP | INDICATOR |
| :---: | :---: | :---: |
| Supply Voltage Options | 24V DC / 24V AC / <br> 110 V AC / 230V AC | - |
| Power Consumption | 6VA | - |
| Safety Output | 2 NORMALLY OPEN | - |
| Safety Output Rating | 2A / 240V AC / 2A 30V DC | - |
| Cable/Connector | - | PRE-WIRED CONNECTORTO CONTROL BOARD |
| Cable Length | - | - |
| Coding | ELECTRONIC, GENERIC CODE | - |
| Input | 1 ELECTRONIC SAFETY SWITCH | - |
| Reset Options | EXTERNAL PROVING / RESET CONNECTION | - |
| Indication | ON BOARD LEDS FOR POWER, RUN \& FAULT OPTIONAL IND | - |
| Dimensions of Switch (mm) | - | - |
| Dimensions of Actuator (mm) | ${ }^{-}$ | - |
| Dimensions of Control Unit (mm) | PCB ONLY 137(D) X 71(W) X 40(H)MM / CHASSIS PLATE | - |
| Weight | - |  |
| IP Rating | - | - |
| Construction | OPEN PCB | OPEN PCB |
| Mounting | CHASSIS PLATE | RIGHT ANGLE BRACKET |
| Operating Temp. | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ | $0^{\circ} \mathrm{C}$ to $45^{\circ} \mathrm{C}$ |
| Storage Temp. | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ | $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}$ |

## Safety Related

Data

| PL in Accordance with <br> ENISO 13849-1 | - | - |
| :--- | :---: | :---: |
| SIL CL in Accordance <br> with EN IEC 62061 | - | - |
| PFHD in Accordance <br> with EN IEC 62061 | - | - |
| PFH | - | - |
| B10D | - | - |
| MTTFD | - | - |
| TM | - | - |
| DC | - | - |
| SFF | - |  |

## Ordering Information

## F Series - Control Unit and Switches

| Stock No. | Description | Part No. |
| :---: | :---: | :---: |
| 327.000 | FM1 24V DC Safety Control Unit | FM1-24V DC |
| 327.001 | FM1 24V AC Safety Control Unit | FM1-24V AC |
| 327.002 | FM1 110V AC Safety Control Unit | FM1-110V AC |
| 327.003 | FM1 240V AC Safety Control Unit | FM1-240V AC |
| 328.000 | FX1 Extender Module | FX1 |
| 328.001 | FX2 Extender Module | FX2 |
| 330.003 | ESM F-Series Emergency Stop Module | ESM |
| 329.000 | F2HO F-Series 2 Hand Override | F2HO |
| 308.000 | FMA-5M F-Type Safety Switch \& Actuator | FMA-5M |
| 308.001 | FMA-10M F-Type Safety Switch \& Actuator | FMA-10M |
| 308.002 | FMA-15M F-Type Safety Switch \& Actuator | FMA-15M |
| 308.003 | FMG-5M F-Type Safety Switch \& Actuator | FMG-5M |
| 308.004 | FMG-10M F-Type Safety Switch \& Actuator | FMG-10M |
| 308.005 | FMG-15M F-Type Safety Switch \& Actuator | FMG-15M |
| 308.006 | FMT-5M F-Type Safety Switch \& Actuator | FMT-5M |
| 308.007 | FMT-10M F-Type Safety Switch \& Actuator | FMT-10M |
| 308.008 | FMT-15M F-Type Safety Switch \& Actuator | FMT-15M |
| 312.013 | FMS-5M F-Type Safety Switch \& Actuator | FMS-5M |
| 312.014 | FMS-10M F-Type Safety Switch \& Actuator | FMS-10M |
| 310.002 | FM7-5M F-Type Safety Switch \& Actuator | FM7-05M |
| 310.003 | FM7-10M F-Type Safety Switch \& Actuator | FM7-10M |
| 310.004 | FM7-15M F-Type Safety Switch \& Actuator | FM7-15M |
| 309.000 | BMS-5M B-Type Safety Switch \& Actuator | BMS-5M |
| 309.001 | BMS-10M B-Type Safety Switch \& Actuator | BMS-10M |
| 309.002 | BMS-15M B-Type Safety Switch \& Actuator | BMS-15M |
| 309.003 | BMR-5M B-Type Safety Switch \& Actuator | BMR-5M |
| 309.004 | BMR-10M B-Type Safety Switch \& Actuator | BMR-10M |
| 309.005 | BMR-15M B-Type Safety Switch \& Actuator | BMR-15M |
| 309.021 | BMP-5M B-Type Safety Switch \& Actuator | BMP-5M |
| 309.022 | BMP-10M B-Type Safety Switch \& Actuator | BMP-10M |
| 309.023 | BMP-15M B-Type Safety Switch \& Actuator | BMP-15M |
| 309.024 | BMQD-5M Quick Disconnect B-Type Safety Switch (with 5M cable) | BMQD-5M |
| 309.025 | BMQD-15M Quick Disconnect B-Type Safety Switch (with 15M cable) | BMQD-15M |
| 374.000 | DNK1-5M DINKY Safety Switch \& Actuator | DNK1-5M |
| 374.001 | DNK1-10M DINKY Safety Switch \& Actuator | DNK1-10M |
| 374.002 | DNK1-15M DINKY Safety Switch \& Actuator | DNK1-15M |
| 374.004 | DNK1-20M DINKY Safety Switch \& Actuator | DNK1-20M |
| 374.050 | DNK2-QD DINKY Safety Switch \& Actuator (M8-3PIN) | DNK2-QD |
| 374.052 | DNK2-QD-05M DINKY Quick Disconnect Switch \& Actuator | DNK2-QD-05M |
| 374.053 | DNK2-QD-15M DINKY Quick Disconnect Switch \& Actuator | DNK2-QD-15M |

## F Series - Uniquely Coded Switches

| Stock No. | Description |
| :--- | :--- |
| 311.000 | RMA-10M F-Type Coded Safety Switch \& Actuator |
| 311.001 | RMA-10M-TR F-Type Safety Switch \& Actuator (key set) |
| 311.002 | RMA-5M F-Type Coded Safety Switch \& Actuator |
| 311.003 | RMA-15M F-Type Coded Safety Switch \& Actuator |
| 311.005 | CMT-15M F-Type Coded Safety Switch \& Actuator |
| 311.006 | CMP-10M F-Type Coded Safety Switch \& Actuator |
| 311.007 | CMP-15M F-Type Coded Safety Switch \& Actuator |

Part No.
RMA-10M
RMA-10M-TR
RMA-5M
RMA-15M
CMT-15M
CMP-10M
CMP-15M

If you'd like to inquire about ordering the RFID switches please contact Norstat at 973-586-2500 or email sales@norstat.com

## F Series Switches with Enhanced EMC Immunity / Limited Inch

| Stock No. | Description | Part No. |
| :--- | :--- | :--- |
| 312.000 | SFMA-5M S-Type Safety Switch \& Actuator | SFMA-5M |
| 312.001 | SFMA-10M S-Type Safety Switch \& Actuator | SFMA-10M |
| 312.002 | SFA-5M S-Type Safety Switch \& Actuator | SFA-5M |
| 312.003 | SFA-10M S-Type Safety Switch \& Actuator | SFA-10M |
| 312.004 | SFMG-5M S-Type Safety Switch \& Actuator | SFMG-5M |
| 312.005 | SFMG-10M S-Type Safety Switch \& Actuator | SFMG-10M |
| 312.006 | SFG-5M S-Type Safety Switch \& Actuator | SFG-5M |
| 312.007 | SFG-10M S-Type Safety Switch \& Actuator | SFG-10M |
| 312.008 | SFMT-5M S-Type Safety Switch \& Actuator | SFMT-5M |
| 312.009 | SFMT-10M S-Type Safety Switch \& Actuator | SFMT-10M |
| 312.010 | SFT-5M S-Type Safety Switch \& Actuator | SFT-5M |
| 312.011 | SFT-10M S-Type Safety Switch \& Actuator | SFT-10M |
| 312.015 | SFMA-15M S-Type Safety Switch \& Actuator | SFMA-15M |
| 312.016 | SFMA-20M S-Type Safety Switch \& Actuator | SFMA-20M |
| 312.017 | SFMA-25M S-Type Safety Switch \& Actuator | SFMA-25M |
| 330.000 | FLI-2 F-Series Limited Inch Safety Switch \& Actuator | FLI-2 |
| 330.001 | FLI-4 F-Series Limited Inch Safety Switch \& Actuator | FLI-4 |
| 330.002 | FLI-5 F-Series Limited Inch Safety Switch \& Actuator | FLI-5 |

## F Series Pneumatic Locking Unit

Stock No. Description
318.001 PLU Pneumatic Locking Unit Complete PL
318.004 BMS-PLU-15M Safety Switch for PLU Locking Unit

Part No.
PLU
BMS-PLU-15M

## MAGNASAFE Safety Switches

Stock No. Description
$350.000 \quad$ MS1-10-AC-03M MAGNASAFE Safety Switch \& Actuator
350.015 MS1-10-AC-06M MAGNASAFE Safety Switch \& Actuator
$350.001 \quad$ MS1-11-AC-03M MAGNASAFE Safety Switch \& Actuator
350.002 MS1-20-AC-03M MAGNASAFE Safety Switch \& Actuator
350.003 MS1-21-AC-03M MAGNASAFE Safety Switch \& Actuator
$350.004 \quad$ MS1-10-110AC-03M MAGNASAFE Safety Switch \& Actuator
$350.005 \quad$ MS1-10-110AC-06M MAGNASAFE Safety Switch \& Actuator
350.006 MS1-11-AC-10M MAGNASAFE Safety Switch \& Actuator
350.007 MS1-21-AC-10M MAGNASAFE Safety Switch \& Actuator
350.008 MS1-10-AC-05M MAGNASAFE Safety Switch \& Actuator
$350.009 \quad$ MS1-11-110AC-03M MAGNASAFE Safety Switch \& Actuator
350.050 MS1-10-DC-03M MAGNASAFE Safety Switch \& Actuator
350.051 MS1-11-DC-03M MAGNASAFE Safety Switch \& Actuator
350.052 MS1-20-DC-03M MAGNASAFE Safety Switch \& Actuator
350.054 MS1-20-DC-05M MAGNASAFE Safety Switch \& Actuator
350.053 MS1-21-DC-03M MAGNASAFE Safety Switch \& Actuator
350.055 MS1-21-DC-10M MAGNASAFE Safety Switch \& Actuator
351.000 MS2-10-AC-03M MAGNASAFE Safety Switch \& Actuator
351.001 MS2-11-AC-03M MAGNASAFE Safety Switch \& Actuator
351.050 MS2-10-DC-03M MAGNASAFE Safety Switch \& Actuator
351.051 MS2-11-DC-03M MAGNASAFE Safety Switch \& Actuator
351.052 MS2-11-DC-20M MAGNASAFE Safety Switch \& Actuator
$352.000 \quad$ MS3-10-AC-03M MAGNASAFE Safety Switch \& Actuator
$352.001 \quad$ MS3-11-AC-03M MAGNASAFE Safety Switch \& Actuator
352.002 MS3-20-AC-03M MAGNASAFE Safety Switch \& Actuator
352.003 MS3-21-AC-03M MAGNASAFE Safety Switch \& Actuator
$352.050 \quad$ MS3-10-DC-03M MAGNASAFE Safety Switch \& Actuator
352.051 MS3-11-DC-03M MAGNASAFE Safety Switch \& Actuator
352.052 MS3-20-DC-03M MAGNASAFE Safety Switch \& Actuator
352.053 MS3-21-DC-03M MAGNASAFE Safety Switch \& Actuator

Part No.
MS1-10-AC-03M
MS1-10-AC-06M
MS1-11-AC-03M
MS1-20-AC-03M
MS1-21-AC-03M
MS1-10-110AC-03M
MS1-10-110AC-06M
MS1-11-AC-10M
MS1-21-AC-10M
MS1-10-AC-05M
MS1-11-110AC-03M
MS1-10-DC-03M
MS1-11-DC-03M
MS1-20-DC-03M
MS1-20-DC-05M
MS1-21-DC-03M
MS1-21-DC-10M
MS2-10-AC-03M
MS2-11-AC-03M
MS2-10-DC-03M
MS2-11-DC-03M
MS2-11-DC-20M
MS3-10-AC-03M
MS3-11-AC-03M
MS3-20-AC-03M
MS3-21-AC-03M
MS3-10-DC-03M
MS3-11-DC-03M
MS3-20-DC-03M
MS3-21-DC-03M

## MAGNASAFE Safety Switches (cntd)

Stock No. Description
352.055 MS3-21-DC-10M MAGNASAFE Safety Switch \& Actuator 353.001 MS4-10-DC-03M MAGNASAFE Safety Switch \& Actuator 353.002 MS4-11-DC-03M MAGNASAFE Safety Switch \& Actuator 353.003 MS4-10-DC-05M-SE MAGNASAFE Safety Switch (side exit cable)
353.004 MS4-10-110AC-03M MAGNASAFE Safety Switch \& Actuator
353.005 MS4-SS-11-DC-03M MAGNASAFE Stainless Steel Safety Switch \& Actuator
353.006 MS4-SS-10-DC-03M MAGNASAFE Stainless Steel Safety Switch \& Actuator
353.009 MS4-SS-10-DC-10M MAGNASAFE Stainless Steel Safety Switch \& Actuator
353.008 MS4-SS-11-24AC-05M MAGNASAFE Stainless Steel Safety Switch \& Actuator
353.007 MS4-SS-11-110AC-05M MAGNASAFE Stainless Steel Safety Switch \& Actuator
354.050 MS5-21-DC-03M MAGNASAFE Safety Switch \& Actuator
354.059 MS5-21-DC-05M MAGNASAFE Safety Switch \& Actuator
354.061 MS5-21-DC-10M MAGNASAFE Safety Switch \& Actuator
354.064 MS5-20-DC-LQD MAGNASAFE Safety Switch \& Actuator (no cable)
354.056 MS5-21-DC-LQD MAGNASAFE Safety Switch \& Actuator (no cable)
$354.051 \quad$ MS5-SS-21-DC-03M MAGNASAFE Safety Switch \& Actuator
354.058 MS5-SS-21-DC-05M MAGNASAFE Safety Switch \& Actuator
354.060 MS5-SS-21-DC-10M MAGNASAFE Safety Switch \& Actuator
354.055 MS5-SS-21-DC-12M MAGNASAFE Safety Switch \& Actuator
354.052 MS5-SS-21-DC-LQD MAGNASAFE Safety Switch \& Actuator (no cable)
354.057 MS5-SS-21-DC-05M MAGNASAFE Safety Switch \& Actuator (high temperature)
354.063 MS5-SS-21-DC-10M MAGNASAFE Safety Switch \& Actuator (high temperature)
356.000 MS6-10-DC-03M MAGNASAFE Safety Switch \& Actuator
356.001 MS6-10-DC-06M MAGNASAFE Safety Switch \& Actuator
356.002 MS6-11-DC-03M MAGNASAFE Safety Switch \& Actuator
356.003 MS6-11-DC-06M MAGNASAFE Safety Switch \& Actuator
356.004 MS6-20-DC-03M MAGNASAFE Safety Switch \& Actuator
356.005 MS6-20-DC-06M MAGNASAFE Safety Switch \& Actuator
356.006 MS6-21-DC-03M MAGNASAFE Safety Switch \& Actuator
356.033 MS6-21-DC-10M MAGNASAFE Safety Switch \& Actuator
356.007 MS6-21-DC-06M MAGNASAFE Safety Switch \& Actuator
356.008 MS6-10-AC-03M MAGNASAFE Safety Switch \& Actuator $356.009 \quad$ MS6-10-AC-06M MAGNASAFE Safety Switch \& Actuator
$356.010 \quad$ MS6-11-AC-03M MAGNASAFE Safety Switch \& Actuator
356.011 MS6-11-AC-06M MAGNASAFE Safety Switch \& Actuator
356.012 MS6-20-AC-03M MAGNASAFE Safety Switch \& Actuator
356.013 MS6-20-AC-06M MAGNASAFE Safety Switch \& Actuator
356.014 MS6-21-AC-03M MAGNASAFE Safety Switch \& Actuator
356.015 MS6-21-AC-06M MAGNASAFE Safety Switch \& Actuator
356.016 MS6-10-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
356.017 MS6-11-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
356.018 MS6-20-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
$356.019 \quad$ MS6-21-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
$356.020 \quad$ MS6-10-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
356.021 MS6-11-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
356.022 MS6-20-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
356.023 MS6-21-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable)
356.024 MS6-10-DC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5 m cable)
356.025 MS6-11-DC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5 m cable)
356.026 MS6-20-DC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable)
356.027 MS6-21-DC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable)
356.028 MS6-10-AC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable)
356.029 MS6-11-AC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable)
$356.030 \quad$ MS6-20-AC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable)
356.031 MS6-21-AC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable)
356.032 MS6-10-110AC-03M MAGNASAFE Safety Switch \& Actuator
356.036 MS6-10-110AC-06M MAGNASAFE Safety Switch \& Actuator
356.050 MS6-SS-10-DC-03M MAGNASAFE Safety Switch \& Actuator
356.058 MS6-SS-10-DC-06M MAGNASAFE Safety Switch \& Actuator
356.051 MS6-SS-11-DC-03M MAGNASAFE Safety Switch \& Actuator
356.052 MS6-SS-20-DC-03M MAGNASAFE Safety Switch \& Actuator
356.057 MS6-SS-20-DC-05M MAGNASAFE Safety Switch \& Actuator

Part No.
MS3-21-DC-10M
MS4-10-DC-03M
MS4-11-DC-03M
MS4-10-DC-03M-SE
MS4-10-110AC-03M
MS4-SS-11-DC-03M
MS4-SS-10-DC-03M
MS4-SS-10-DC-10M
MS4SS11-24AC-05M
MS4SS11-110AC05M
MS5-21-DC-03M
MS5-21-DC-05M
MS5-21-DC-10M
MS5-20-DC-LQD
MS5-21-DC-LQD
MS5-SS-21-DC-03M
MS5-SS-21-DC-05M
MS5-SS-21-DC-10M
MS5-SS-21-DC-12M
MS5-SS-21-DC-LQD
MS5-SS-21-DC-5M-HT
MS5-SS-21-DC-10M-HT
MS6-10-DC-03M
MS6-10-DC-06M
MS6-11-DC-03M
MS6-11-DC-06M
MS6-20-DC-03M
MS6-20-DC-06M
MS6-21-DC-03M
MS6-21-DC-10M
MS6-21-DC-06M
MS6-10-AC-03M
MS6-10-AC-06M
MS6-11-AC-03M
MS6-11-AC-06M
MS6-20-AC-03M
MS6-20-AC-06M
MS6-21-AC-03M
MS6-21-AC-06M
MS6-10-DC-QD
MS6-11-DC-QD
MS6-20-DC-QD
MS6-21-DC-QD
MS6-10-AC-QD
MS6-11-AC-QD
MS6-20-AC-QD
MS6-21-AC-QD
MS6-10-DC-QD-05M
MS6-11-DC-QD-05M
MS6-20-DC-QD-05M
MS6-21-DC-QD-05M
MS6-10-AC-QD-05M
MS6-11-AC-QD-05M
MS6-20-AC-QD-05M
MS6-21-AC-QD-05M
MS6-10-110AC-03M
MS6-10-110AC-06M
MS6-SS-10-DC-03M
MS6-SS-10-DC-06M
MS6-SS-11-DC-03M
MS6-SS-20-DC-03M
MS6-SS-20-DC-05M

MAGNASAFE Safety Switches (entd)

| St | Description | Part No. |
| :---: | :---: | :---: |
| 356.053 | MS6-SS-10-AC-03M MAGNASAFE Safety Switch \& Actuator | MS6-SS-10-AC-03M |
| 356.054 | MS6-SS-10-AC-QD MAGNASAFE Safety Switch \& Actuator | MS6-SS-10-AC-QD |
| 356.055 | MS6-SS-10-AC-QD-05M MAGNASAFE Safety Switch \& Actuator | MS6-SS-10-AC-QD-05M |
| 356.056 | MS6-SS-10-AC-03M-HT MAGNASAFE Safety Switch \& Actuator (high temperature) | MS6-SS-10-AC-03M-HT |
| 356.059 | MS6-SS-10-AC-06M MAGNASAFE Safety Switch \& Actuator | MS6-SS-10-AC-06M |
| 356.063 | MS6-SS-21-DC-03M MAGNASAFE Safety Switch \& Actuator | MS6-SS-21-DC-03M |
| 356.064 | MS6-SS-11-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS6-SS-11-DC-QD |
| 356.065 | MS6-SS-11-DC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable) | MS6-SS-11-DC-05M |
| 356.066 | MS6-SS-20-DC-10M MAGNASAFE Safety Switch \& Actuator | MS6-SS-20-DC-10M |
| 356.067 | MS6-SS-21-DC-05M MAGNASAFE Safety Switch \& Actuator | MS6-SS-21-DC-05M |
| 356.068 | MS6-SS-21-DC-10M MAGNASAFE Safety Switch \& Actuator | MS6-SS-21-DC-10M |
| 356.069 | MS6-SS-21-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS6-SS-21-DC-QD |
| 356.075 | MS6-SS-20-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS6-SS-20-DC-QD |
| 356.076 | MS6-SS-20-DC-QD05 MAGNASAFE Safety Switch \& Actuator | MS6-SS-20-DCQD05 |
| 356.078 | MS6-SS-21-DC-06M MAGNASAFE Safety Switch \& Actuator | MS6-SS-21-DC-06M |
| 356.079 | MS6-SS-11-DC-10M MAGNASAFE Safety Switch \& Actuator | MS6-SS-11-DC-10M |
| 356.080 | MS6-SS-10-DC-10M MAGNASAFE Safety Switch \& Actuator | MS6-SS-10-DC-10M |
| 356.081 | MS6-SS-21-DC-06M-HT MAGNASAFE Safety Switch (high temperature) | MS6-SS-21-DC-06M-HT |
| 357.000 | MS7-21-DC-03M MAGNASFE Safety Switch \& Actuator | MS7-21-DC-03M |
| 357.001 | MS7-21-DC-06M MAGNASAFE Safety Switch \& Actuator | MS7-21-DC-06M |
| 357.004 | MS7-21-DC-LQD MAGNASAFE Safety Switch \& Actuator (with 5m cable) | MS7-21-DC-LQD-5M |
| 357.005 | MS7-30-DC-03M MAGNASFE Safety Switch \& Actuator | MS7-30-DC-03M |
| 357.006 | MS7-11-DC-03M MAGNASFE Safety Switch \& Actuator | MS7-11-DC-03M |
| 357.008 | MS7-21-DC-LQD MAGNASAFE Safety Switch \& Actuator (with 10m cable) | MS7-21-DC-LQD-10M |
| 357.009 | MS7-21-DC-LQD MAGNASAFE Safety Switch \& Actuator (no cable) | MS7-21-DC-LQD NC |
| 357.010 | MS7-11-DC-10M Safety Switch \& Actuator | MS7-11-DC-10M |
| 357.020 | MS7-SS-21-DC-03M MAGNASAFE Safety Switch \& Actuator | MS7-SS-21-DC-03M |
| 357.021 | MS7-SS-21-DC-05M MAGNASFE Safety Switch \& Actuator | MS7-SS-21-DC-05M |
| 358.010 | MS8-20-DC-03M MAGNASAFE Safety Switch \& Actuator | MS8-20-DC-03M |
| 358.011 | MS8-20-DC-06M MAGNASAFE Safety Switch \& Actuator | MS8-20-DC-06M |
| 358.000 | MS8-SS-21-DC-05M MAGNASAFE Safety Switch \& Actuator | MS8-SS-21-DC-05M |
| 358.002 | MS8-SS-21-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS8-SS-21-DC-QD |
| 358.001 | MS8-SS-21-DC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable) | MS8-SS-21-DC-5M |
| 358.004 | MS8-SS-21-DC-03M MAGNASAFE SSafety Switch \& Actuator | MS8-SS-21-DC-03M |
| 358.003 | MS8-SS-21-DC-10M MAGNASAFE Safety Switch \& Actuator | MS8-SS-21-DC-10M |
| 359.000 | MS21-11-DC-03M MAGNASAFE Safety Switch \& Actuator | MS21-11-DC-03M |
| 359.001 | MS21-11-DC-06M MAGNASAFE Safety Switch \& Actuator | MS21-11-DC-06M |
| 359.002 | MS21-20-DC-03M MAGNASAFE Safety Switch \& Actuator | MS21-20-DC-03M |
| 359.003 | MS21-20-DC-06M MAGNASAFE Safety Switch \& Actuator | MS21-20-DC-06M |
| 359.004 | MS21-21-DC-03M MAGNASAFE Safety Switch \& Actuator | MS21-21-DC-03M |
| 359.005 | MS21-21-DC-06M MAGNASAFE Safety Switch \& Actuator | MS21-21-DC-06M |
| 359.006 | MS21-11-AC-03M MAGNASAFE Safety Switch \& Actuator | MS21-11-AC-03M |
| 359.007 | MS21-11-AC-06M MAGNASAFE Safety Switch \& Actuator | MS21-11-AC-06M |
| 359.008 | MS21-20-AC-03M MAGNASAFE Safety Switch \& Actuator | MS21-20-AC-03M |
| 359.009 | MS21-20-AC-06M MAGNASAFE Safety Switch \& Actuator | MS21-20-AC-06M |
| 359.010 | MS21-21-AC-03M MAGNASAFE Safety Switch \& Actuator | MS21-21-AC-03M |
| 359.011 | MS21-21-AC-06M MAGNASAFE Safety Switch \& Actuator | MS21-21-AC-06M |
| 359.017 | MS21-11-DC-10M MAGNASAFE Safety Switch \& Actuator | MS21-11-DC-10M |
| 359.019 | MS21-21-DC-10M MAGNASAFE Safety Switch \& Actuator | MS21-21-DC-10M |
| 359.021 | MS21-11-AC-10M MAGNASAFE Safety Switch \& Actuator | MS21-11-AC-10M |
| 359.023 | MS21-21-AC-10M MAGNASAFE Safety Switch \& Actuator | MS21-21-AC-10M |
| 359.025 | MS21-11-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS21-11-DC-QD |
| 359.026 | MS21-20-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS21-20-DC-QD |
| 359.027 | MS21-21-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS21-21-DC-QD |
| 359.029 | MS21-11-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS21-11-AC-QD |
| 359.030 | MS21-20-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS21-20-AC-QD |
| 359.031 | MS21-21-AC-QD MAGNASAFE Safety Switch \& Actuator (no cable) | MS21-21-AC-QD |
| 359.068 | MS21-SS-11-DC-03M MAGNASAFE Safety Switch \& Actuator | MS21-SS-11-DC-03 |
| 359.073 | MS21-SS-20-DC-10M MAGNASAFE Safety Switch \& Actuator | MS21-SS-20-DC-10 |
| 359.074 | MS21-SS-21-DC-03M MAGNASAFE Safety Switch \& Actuator | MS21-SS-21-DC-03 |
| 359.075 | MS21-SS-21-DC-06M MAGNASAFE Safety Switch \& Actuator | MS21-SS-21-DC-06 |
| 359.076 | MS21-SS-21-DC-10M MAGNASAFE Safety Switch \& Actuator | MS21-SS-21-DC-10 |

## MAGNASAFE Safety Switches (cntd)

| Stock No. | Description |
| :--- | :--- |
| 359.080 | MS21-SS-11-AC-03M MAGNASAFE Safety Switch \& Actuator |
| 359.082 | MS21-SS-11-AC-10M MAGNASAFE Safety Switch \& Actuator |
| 359.086 | MS21-SS-21-AC-03M MAGNASAFE Safety Switch \& Actuator |
| 359.087 | MS21-SS-21-AC-06M MAGNASAFE Safety Switch \& Actuator |
| 359.088 | MS21-SS-21-AC-10M MAGNASAFE Safety Switch \& Actuator |
| 359.089 | MS21-SS-21-DC-QD MAGNASAFE Safety Switch \& Actuator (no cable) |
| 359.061 | MS21-SS-11-AC-QD-05M MAGNASAFE Safety Switch \& Actuator (with 5m cable) |

Part No.
MS21-SS-11-AC-03
MS21-SS-11-AC-10
MS21-SS-21-AC-03
MS21-SS-21-AC-06
MS21-SS-21-AC-10
MS21-SS-21-DC-QD
MS21-SS-11AC-QD-5M

Safety Relay
Stock No. Description
Part No.
307.004 SRL1 Safety Relay 24V AC/DC (MAGNASAFE/S-Type)

SRL1 24V

## S-Type Safety Switches

Stock No. Description
Part No.
360.000 SSS-20-03M Safety Switch \& Actuator SSS-20-03M
360.001 SSS-11-03M Safety Switch \& Actuator SSS-11-DC-03M
360.007 SSS-11-10M Safety Switch \& Actuator SSS-11-10M
360.008 SSS-11-06M Safety Switch \& Actuator SSS-11-06M
360.009 SSS-20-10M Safety Switch \& Actuator SSS-20-10M
360.010 SSS-20-05M Safety Switch \& Actuator SSS-20-05M
360.011 SSS-20-06M Safety Switch \& Actuator SSS-20-06M
360.002 SSS-20-QD Safety Switch \& Actuator SSS-20-DC-QD
360.003 SSS-11-QD Safety Switch \& Actuator (no cable) SSS-11-DC-QD
360.005 SSS-20-QD-05M Safety Switch \& Actuator SSS-20-QD-05M
360.006 SSS-11-QD-05M Safety Switch \& Actuator SSS-11-QD-05M
362.000 SS-R-21-03M Safety Switch \& Actuator SS-R-21-03M
362.001 SS-R-21-10M Safety Switch \& Actuator SS-R-21-10M
362.004 SS-R-21-05M Safety Switch \& Actuator SS-R-21-05M
362.005 SS-R-21-06M Safety Switch \& Actuator SS-R-21-06M
362.006 SS-R-21-15M Safety Switch \& Actuator SS-R-21-15M
362.007 SS-R-21-LQD Safety Switch \& Actuator (no cable) SS-R-21-LQD
362.008 SS-R-21-LQD-05M Safety Switch \& Actuator (with 5m cable) SS-R-21-LQD-05
362.009 SS-R-21-LQD-10M Safety Switch \& Actuator (with 10 m cable) MSS-R-21-LQD-10
363.002 SS-C-11-03M Safety Switch \& Actuator MSS-C-11-03
363.000 SS-C-11-05M Safety Switch \& Actuator MSS-C-11-05
363.001 SS-C-11-10M Safety Switch \& Actuator MSS-C-11-10
363.005 SS-C-20-03M Safety Switch \& Actuator MSS-C-20-03
363.003 SS-C-10-QD Safety Switch \& Actuator (no cable) MSS-C-10-QD
363.004 SS-C-20-LQD Safety Switch \& Actuator (no cable) SS-C-20-LQD

## Safety Control Unit

Stock No. Description
Part No.
340.000 SCU1 Safety Control Unit 24 V DC (HE-Series) SRL1 24V

HE-Series Safety Switches
Stock No. Description
Part No.

| 341.000 | HE1-11-DC-03M Safety Switch \& Actuator |
| :--- | :--- |
| 341.019 | HE1-11-DC-10M Safety Switch \& Actuator |
| 341.001 | HE1-20-DC-03M Safety Switch \& Actuator |
| 341.018 | HE1-20-DC-10M Safety Switch \& Actuator |
| 341.002 | HE1-21-DC-03M Safety Switch \& Actuator |

HE1-11-DC-03M
HE1-11-DC-10M
HE1-20-DC-03M
HE1-20-DC-10M
HE1-21-DC-03M

HE-Series Safety Switches (entd)

| Sto | Description | Part No. |
| :---: | :---: | :---: |
| 341.010 | HE1-21-DC-06M Safety Switch \& Actuator | HE1-21-DC-06M |
| 341.003 | HE1-21-DC-LQD Safety Switch \& Actuator | HE1-21-DC-LQD |
| 341.004 | HE1-21-DC-LQD-5M Safety Switch \& Actuator (with 5m cable) | HE1-21-DC-LQD-5M |
| 341.011 | HE1-21-DC-LQD-10M Safety Switch \& Actuator (with 10 m cable) | HE1-21-DC-LQD-10M |
| 341.005 | HE1-SS-11-DC-03M Safety Switch \& Actuator | HE1-SS-11-DC-03M |
| 341.012 | HE1-SS-11-DC-06M Safety Switch \& Actuator | HE1-SS-11-DC-06M |
| 341.006 | HE1-SS-20-DC-03M Safety Switch \& Actuator | HE1-SS-20-DC-03M |
| 341.013 | HE1-SS-20-DC-06M Safety Switch \& Actuator | HE1-SS-20-DC-06M |
| 341.007 | HE1-SS-21-DC-03M Safety Switch \& Actuator | HE1-SS-21-DC-03M |
| 341.014 | HE1-SS-21-DC-06M Safety Switch \& Actuator | HE1-SS-21-DC-06M |
| 341.008 | HE1-SS-21-DC-LQD Safety Switch \& Actuator | HE1-SS-21-DC-LQD |
| 341.009 | HE1-SS-21-DC-LQD-05M Safety Switch \& Actuator (with 5m cable) | HE1-SS-21-DC-LQD |
| 342.000 | HE2-11-DC-03M Safety Switch \& Actuator | HE2-11-DC-03M |
| 342.001 | HE2-20-DC-03M Safety Switch \& Actuator | HE2-20-DC-03M |
| 342.002 | HE2-21-DC-03M Safety Switch \& Actuator | HE2-21-DC-03M |
| 342.011 | HE2-21-DC-06M Safety Switch \& Actuator | HE2-21-DC-06M |
| 342.003 | HE2-21-DC-LQD Safety Switch \& Actuator | HE2-21-DC-LQD |
| 342.004 | HE2-21-DC-LQD-05M Safety Switch \& Actuator | HE2-21-DC-LQD-05 |
| 342.005 | HE2-SS-11-DC-03M Safety Switch \& Actuator | HE2-SS-11-DC-03M |
| 342.006 | HE2-SS-20-DC-03M Safety Switch \& Actuator | HE2-SS-20-DC-03M |
| 342.007 | HE2-SS-21-DC-03M Safety Switch \& Actuator | HE2-SS-21-DC-03M |
| 342.013 | HE2-SS-21-DC-06M Safety Switch \& Actuator | HE2-SS-21-DC-06M |
| 342.010 | HE2-SS-21-DC-10M Safety Switch \& Actuator | HE2-SS-21-DC-10M |
| 342.008 | HE2-SS-21-DC-LQD Safety Switch \& Actuator | HE2-SS-21-DC-LQD |
| 342.009 | HE2-SS-21-DC-LQD-05M Safety Switch \& Actuator | HE2-SS-21-DC-LQD |
| 344.000 | HE3-SS-21-DC-03M Safety Switch \& Actuator | HE3-SS-21-DC-03M |
| 344.001 | HE3-SS-21-DC-06M Safety Switch \& Actuator | HE3-SS-21-DC-06M |
| 344.002 | HE3-SS-21-DC-10M Safety Switch \& Actuator | HE3-SS-21-DC-10M |
| 344.006 | HE4-21-DC-03M Safety Switch \& Actuator | HE4-21-DC-03M |
| 344.007 | HE4-21-DC-06M Safety Switch \& Actuator | HE4-21-DC-06M |
| 344.008 | HE4-21-DC-10M Safety Switch \& Actuator | HE4-21-DC-10M |
| 344.003 | HE4-SS-21-DC-03M Safety Switch \& Actuator | HE4-SS-21-DC-03M |
| 344.004 | HE4-SS-21-DC-06M Safety Switch \& Actuator | HE4-SS-21-DC-06M |
| 344.005 | HE4-SS-21-DC-10M Safety Switch \& Actuator | HE4-SS-21-DC-10M |
| 346.000 | HE6-SS-21-DC-03M Safety Switch \& Actuator | HE6-SS-21-DC-03M |
| 346.001 | HE6-SS-21-DC-04M Safety Switch \& Actuator | HE6-SS-21-DC-04M |
| 346.002 | HE6-SS-11-DC-LQD Safety Switch \& Actuator (no cable) | HE6-SS-11-DC-LQD |
| 346.003 | HE6-SS-11-DC-LQD-05M Safety Switch \& Actuator | HE6-SS-11-DC-LQD-05M |
| 346.004 | HE6-SS-11-DC-LQD-10M Safety Switch \& Actuator | HE6-SS-11-DC-LQD-10M |
| 347.000 | HEM40-SS-21-DC-06M Safety Switch \& Actuator | HEM40-SS-21-DC-06M |
| 343.000 | HED-21-DC-03M-C Safety Switch \& 2 Actuators | HED-21-DC-03M-C |
| 343.001 | HED-21-DC-06M-C Safety Switch \& 2 Actuators | HED-21-DC-06M-C |
| 343.002 | HED-21-DC-10M-C Safety Switch \& 2 Actuators | HED-21-DC-10M-C |
| 343.003 | HED-21-DC-LQD-C Safety Switch \& 2 Actuators (no cable) | HED-21-DC-LQD-C |
| 343.004 | HED-21-DC-LQD-05M-C Safety Switch \& 2 Actuators | HED-21-DC-LQD-05 |
| 343.005 | HED-21-DC-LQD-10M-C Safety Switch \& 2 Actuators | HED-21-DC-LQD-10 |
| 343.006 | HED-21-DC-03M-L Safety Switch \& 2 Actuators | HED-21-DC-03M-L |
| 343.007 | HED-21-DC-06M-L Safety Switch \& 2 Actuators | HED-21-DC-06M-L |
| 343.008 | HED-21-DC-10M-L Safety Switch \& 2 Actuators | HED-21-DC-10M-L |
| 343.009 | HED-21-DC-LQD-L Safety Switch \& 2 Actuators (no cable) | HED-21-DC-LQD-L |
| 343.010 | HED-21-DC-LQD-05M-L Safety Switch \& 2 Actuators | HED-21-DC-LQD-05 |
| 343.011 | HED-21-DC-LQD-10M-L Safety Switch \& 2 Actuators | HED-21-DC-LQD-10 |
| 343.012 | HED-21-DC-03M-R Safety Switch \& 2 Actuators | HED-21-DC-03M-R |
| 343.013 | HED-21-DC-06M-R Safety Switch \& 2 Actuators | HED-21-DC-06M-R |
| 343.014 | HED-21-DC-10M-R Safety Switch \& 2 Actuators | HED-21-DC-10M-R |
| 343.015 | HED-21-DC-LQD-R Safety Switch \& 2 Actuators (no cable) | HED-21-DC-LQD-R |
| 343.016 | HED-21-DC-LQD-05M-R Safety Switch \& 2 Actuators | HED-21-DC-LQD-05 |
| 343.017 | HED-21-DC-LQD-10M-R Safety Switch \& 2 Actuators | HED-21-DC-LQD-10 |

## ISIS Control Unit \& Switches

| Stock No. | Description | Part No. |
| :--- | :--- | :--- |
| 370.000 | ISIS-4 24V AC/DC Safety Control Unit | ISIS-4-24V |
| 370.001 | ISIS-4 110V AC Safety Control Unit | ISIS-4-110V AC |
| 370.002 | ISIS-4 240V AC Safety Control Unit | ISIS-4-240V AC |
| 371.000 | ISIS-2 24V AC/DC Safety Control Unit | ISIS-2-24V DC |
| 375.000 | ISIS Extender | ISIS-EXT |
| 372.000 | ISIS-03M Safety Switch \& Actuator | ISIS-03M |
| 372.001 | ISIS-05M Safety Switch \& Actuator | ISIS-05M |
| 372.002 | ISIS-10M Safety Switch \& Actuator | ISIS-10M |
| 372.010 | ISIS-SS-03M Stainless Steel Safety Switch \& Actuator | ISIS-SS-03M |
| 372.011 | ISIS-SS-05M Stainless Steel Safety Switch \& Actuator | ISIS-SS-05M |
| 372.012 | ISIS-SS-10M Stainless Steel Safety Switch \& Actuator | ISIS-SS-10M |
| 372.013 | ISIS-SS-03M-HT Stainless Steel Safety Switch \& Actuator | ISIS-SS-03M-HT |
| 372.020 | ISIS-QD-05M Quick Disconnect Safety Switch \& Actuator (with 5m cable) | ISIS-QD-05M |
| 372.021 | ISIS-QD-15M Quick Disconnect Safety Switch \& Actuator (with 15m cable) | ISIS-QD-15M |
| 372.022 | ISIS-SS-QD-05M ISIS Quick Disconnect Stainless Steel Safety Switch \& Actuator (with 5m cable) | ISIS-QD-SS-05M |
| 372.023 | ISIS-SS-QD-15M ISIS Quick Disconnect Stainless Steel Safety Switch \& Actuator (with 15m cable) | ISIS-SS-QD-15M |
|  |  |  |

## CODEX Control Unit \& Switches

Stock No. Description
Part No.
320.000 CM1 24V DC Safety Control Unit CM1-24V DC
$320.001 \quad$ CM1 24V AC Safety Control Unit CM1-24V AC

| 320.002 | CM1 110V AC Safety Control Unit | CM1-110V AC |
| :--- | :--- | :--- |
| 320.003 | CM1 240V AC Safety Control Unit | CM1-240V AC |
| 320.004 | CM9 24V DC Safety Control Unit (unique code) | CM9-24V DC |

$320.005 \quad$ CM9 24V AC Safety Control Unit (unique code) CM9-24V AC

| 320.006 | CM9 110V AC Safety Control Unit (unique code) | CM9-110V AC |
| :--- | :--- | :--- |
| 320.007 | CM9 240V AC Safety Control Unit (unique code) | CM9-240V AC |

321.000 CX1 Extender Module CX1

| 321.001 | CX2 Extender Module | CX |
| :--- | :--- | :--- |
| 321.002 | CX9 Extender Module (unique code) | CX |
| 3250 | C2 | CX |

325.000 C2HO CODEX 2 Hand Override C2HO
322.000 CS1-5M CODEX Safety Switch \& Actuator CS1-5M
322.001 CS1-10M CODEX Safety Switch \& Actuator CS1-10M
322.002 CS1-15M CODEX Safety Switch \& Actuator CS1-15M
322.003 CS2-5M CODEX Safety Switch \& Actuator CS2-5M
322.004 CS2-10M CODEX Safety Switch \& Actuator CS2-10M

| 322.005 | CS2-15M CODEX Safety Switch \& Actuator | CS2-15M |
| :--- | :--- | :--- |
| 322.006 | CS3-5M CODEX Safety Switch \& Actuator | CS3-5M |

322.007 CS3-10M CODEX Safety Switch \& Actuator CS3-10M
322.008 CS3-15M CODEX Safety Switch \& Actuator CS3-15M
322.021 CS5-5M CODEX Safety Switch \& Actuator CS5-5M
322.022 CS5-15M CODEX Safety Switch \& Actuator CS5-15M
322.009 CS9-5M CODEX Safety Switch (unique code) CS9-5M
322.030 CS9-10M CODEX Safety Switch (unique code) CS9-10M
322.030 CS9-10M CODEX Safety Switch (unique code) CS9-10M
324.000 CLI-2 CODEX Limited Inch Safety Switch \& Actuator CLI-2
324.001 CLI-4 CODEX Limited Inch Safety Switch \& Actuator CLI-4

MPX Safety Control Units (Can be used with F-Type, B-Type, C-Type and DINkY switches)

| Stock No. | Description | Part No. |
| :---: | :--- | :--- |
| 301.000 | MPX4/DIN 24V DC Safety Control Unit | MPX4/DIN 24V DC |
| 301.001 | MPX4/DIN 24V AC Safety Control Unit | MPX4/DIN 24V AC |
| 301.002 | MPX4/DIN 110V AC Safety Control Unit | MPX4/DIN110V AC |
| 301.003 | MPX4/DIN 240V AC Safety Control Unit | MPX4/DIN 240V AC |
| 302.000 | MPX8/DIN 24V DC Safety Control Unit | MPX8/DIN 24V DC |
| 302.001 | MPX8/DIN 24V AC Safety Control Unit | MPX8/DIN 24V AC |
| 302.002 | MPX8/DIN 110V AC Safety Control Unit | MPX8/DIN 110V AC |
| 302.003 | MPX8/DIN 240V AC Safety Control Unit | MPX8/DIN 240V AC |
| 303.000 | MPX4 24V DC Safety Control Unit Chassis Mounted | MPX4 24V DC |
| 303.001 | MPX4 24V AC Safety Control Unit Chassis Mounted | MPX4 24V AC |
| 303.002 | MPX4 110V AC Safety Control Unit Chassis Mounted | MPX4 110V AC |
| 303.003 | MPX4 240V AC Safety Control Unit Chassis Mounted | MPX4 240V AC |
| 304.000 | MPX8 24V DC Safety Control Unit Chassis Mounted | MPX8 24V DC |
| 304.001 | MPX8 24V AC Safety Control Unit Chassis Mounted | MPX8 24V AC |
| 304.002 | MPX8 110V AC Safety Control Unit Chassis Mounted | MPX8 110V AC |
| 304.003 | MPX8 240V AC Safety Control Unit Chassis Mounted | MPX8 240V AC |
| 305.000 | SSP 24V DC Safety Control Unit Chassis Mounted | SSP 24V DC |
| 305.001 | SSP 24V AC Safety Control Unit Chassis Mounted | SSP 24V AC |
| 305.002 | SSP 110V AC Safety Control Unit Chassis Mounted | SSP 110V AC |
| 305.003 | SSP 240V AC Safety Control Unit Chassis Mounted | SSP 240V AC |

## Quality Assurance

The quality of Mechan products and service is an important part of the success of Mechan Controls which is why we were one of the first companies to be accredited to the new quality standard: ISO9000:2000 for the...
"Design, development and manufacture of electronic safety equipment including safety switches"

## Standards

All Mechan products are designed to comply with the latest relevant standards covered by the Machinery Directive, EMC Directive and the Low Voltage Directive.
Our design team are members of the international committees that write and update the standards relating to industrial safety. They will be happy to discuss any application queries you may have.


## Stock \& Delivery

All Mechan products are manufactured by Mechan Controls and supported by Norstat Inc in North America.

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