Guard Locking Safety Interlock Switches

APPLICATION:

IDEM Guard Locking Interlock switches are engineered to deliver robust position interlock detection for moving guards, featuring a locking mechanism to secure the guard until the hazard is eliminated.

These tongue-operated switches are designed for installation on the leading edge of sliding or hinged machine guards, ensuring positively operated switching contacts and incorporating a tamper-resistant key mechanism that is difficult to defeat.

Available in various materials and housing styles, these switches offer complete flexibility for different applications. They come with a selection of output circuits, LED diagnostics, and various actuators, facilitating installation and maintaining durability across demanding applications in Factory Automation, Packaging, Food Processing, Pharmaceutical, and Petrochemical industries.

OPERATION:

The switch is firmly mounted to the guard or machine frame, while the actuator is attached to the moving part of the guard and aligned with the switch entry aperture. The actuator's profile matches a cam mechanism within the switch head, creating a positively operated interlock switch.

In both Standard and RFID versions, inserting the actuator into the switch closes the safety contacts, enabling the machine start circuit. When the solenoid receives the appropriate signal, the safety contacts open, breaking the machine circuit and allowing the guard door to be opened.

These switches can be used with safety timers to delay guard opening, which is useful for machines that require a run-down period.

For Power to Lock (P2L) versions, the safety circuits close and the switch locks only when power is applied to the solenoid.

The switches are available in high-specification plastic or die-cast housings, sealed to IP67 for long-term moisture protection. For harsh environments like Food Processing, Pharmaceutical, and Petrochemical industries, the Stainless Steel 316 range offers IP69K protection, suitable for high-pressure chemical cleaning or CIP/SIP applications.

FEATURES:

- Large Range of Housings Available.
- Plastic, Die-Cast and Stainless Steel 316 Options.
- Up to 4000N Holding Force (Model Dependant).
- Optional Rear Release.
- Versions with Integrated Machine Control Function.
- Direct Machine Frame Mounting.
- Self Monitoring on Z-Range Versions.

FUNCTION GUIDE:

All Guard Locking Switches are designed to prevent operators from accidentally opening a guard door and being exposed to hazards.

When selecting the appropriate switch, consider the dimensions and weight of the guard door, ensuring the switch is installed to avoid unnecessary forces on the locking mechanism during normal use.

Each switch is specified with a holding force value (Fzh). It is crucial to choose a switch that can withstand the static forces during normal use and ensure that dynamic effects, such as guard bouncing, do not create an impact reaction force exceeding the holding force. If expected impact reaction forces exceed the specified holding force, design measures must be implemented to mitigate the force.

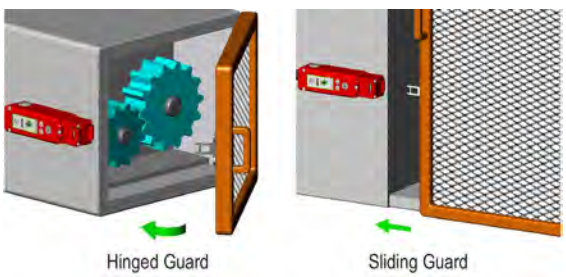
Additional components such as door catches, stops, and guides should be fitted alongside the safety switch to prevent damage. When the guard is closed, the switch actuator automatically locks, and the safety contacts close.

The guard remains closed and can only be opened after the switch solenoid is energized, unlocking the actuator.

Operators cannot accidentally open the guard until the hazard is removed. Upon energizing the solenoid, the safety contacts open, allowing the actuator to be released.

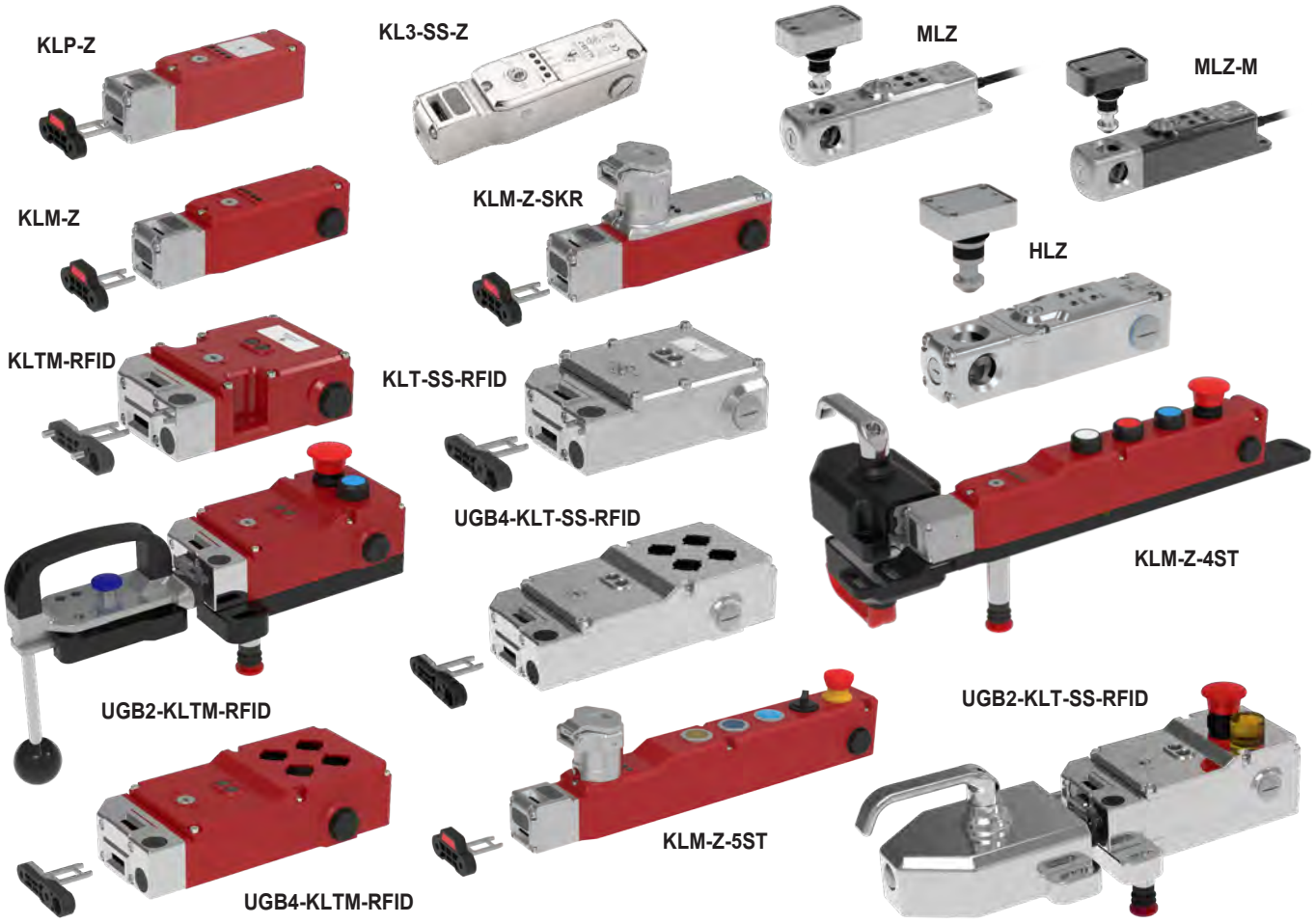
Depending on the risk assessment for the application, the solenoid is typically energized by:

1. A request push button (for applications with immediate removal of the hazard).
2. A request push button and safety timer (for applications with a run down hazard after removing the machine power).
3. From a PLC or if necessary a Safety PLC via a machine control command.

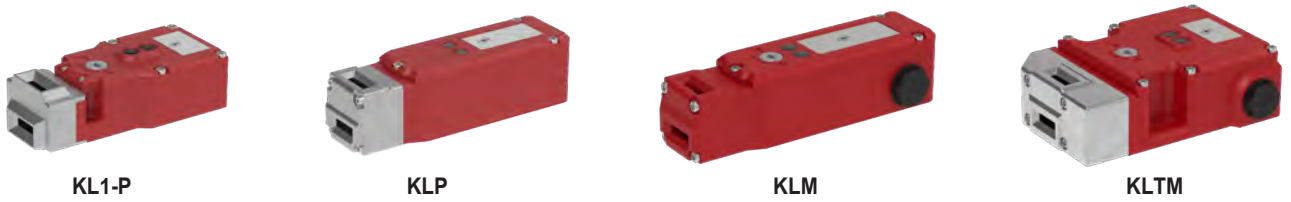


Guard Locking Safety Interlock Switches

RFID INTEGRATED VERSIONS (Uses RFID Interlocking with Solid State Outputs):



POWER-TO-UNLOCK VERSIONS:



POWER-TO-LOCK VERSIONS:

Only suitable for applications where immediate unlocking is required at removal or loss of solenoid power.
Not suitable for machines with a running down time.

RFID Guard Locking Switch Metal: **MLZ-M**

FEATURES:

NEW

TYPE 4 INTERLOCK

3 Actuator entry positions for maximum compatibility with mounting.

Adjustable spring ball catch for increasing or decreasing latching force.

MLZ-M is compatible with rear release accessory (PN 470401)

Flexible actuator with bevelled plunger for reducing friction on entry and ensuring a long mechanical life cycle.

Rugged and Reliable

Introducing the MLZ-M, a Type 4 guard locking switch with RFID technology, designed to prevent unintended access to hazardous areas and eliminate costly machine stoppages by securely locking units during machine operation.

Compact and Versatile Design

The MLZ-M features a small physical footprint, ensuring seamless integration into any machine setup. Its unobtrusive design enhances mounting versatility, reduces the risk of tampering, and minimizes potential damage.

Exceptional Holding Force

With an impressive holding force of 4000N, the MLZ-M ensures operators cannot forcibly enter hazardous areas when locked, providing unparalleled safety and security.

Instant Status Identification

The MLZ-M is equipped with high-brightness, angular cut indicators that allow for easy recognition of the open/close status of all access points at a quick glance. Conveniently located, these indicators are visible from a distance and multiple directions, ensuring instant status identification.

Effortless Mounting

Mounting the MLZ-M is straightforward with its built-in mounting holes, allowing direct installation onto a machine frame. The MLZ-M also features three actuator entry points to accommodate any door style, making it one of the most flexible solutions on the market.

Unmatched Flexibility

The MLZ-M offers a level of flexibility unmatched by other locking type interlocks. It includes a flexible locking bolt and beveled entry points, ensuring proper mating even if a door sags, providing reliable performance in various conditions.

Simplified Wiring

Wiring the MLZ-M is simpler and easier than ever, thanks to its built-in cascading function. Connect safety interlocks throughout the machine and reduce the total number of safety outputs to a single pair of OSSDs, simplifying your safety system setup.

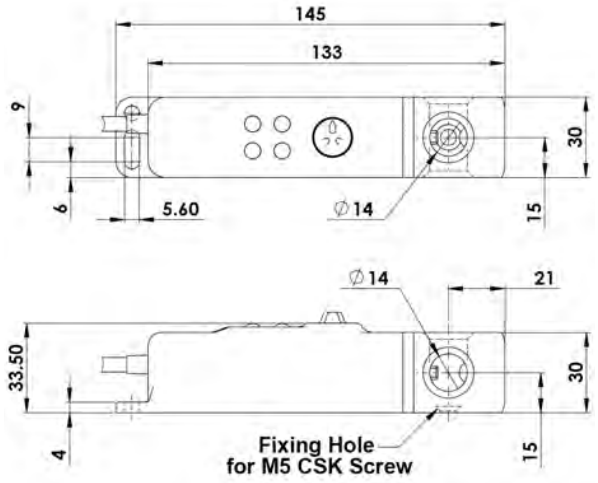
Features:

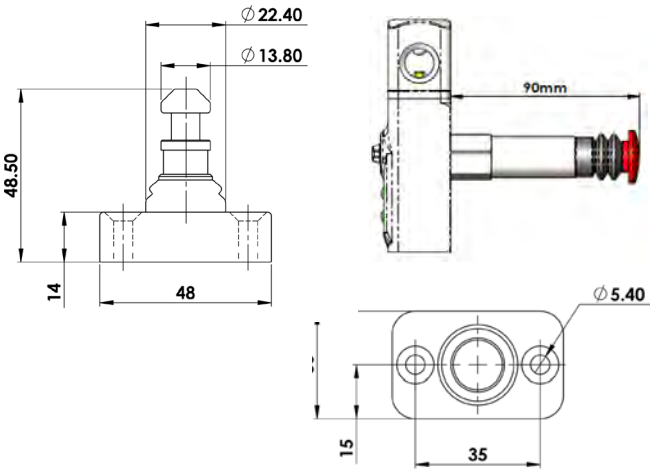
- Type 4 Guard Locking Switch with RFID
- Compact Design for Easy Integration
- 4000N Holding Force
- Rear escape release options.
- High-Visibility Status Indicators
- Direct Machine Frame Mounting
- Built-In Cascading Function

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	Fzh 4000N
Operating Frequency	1Hz
Material	Die-Cast Body / Stainless Steel 316 Head
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

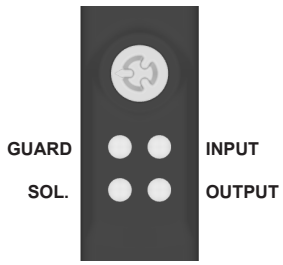
RFID Guard Locking Switch Metal: **MLZ-M**

DIMENSIONS:





INDICATION DIAGRAM:



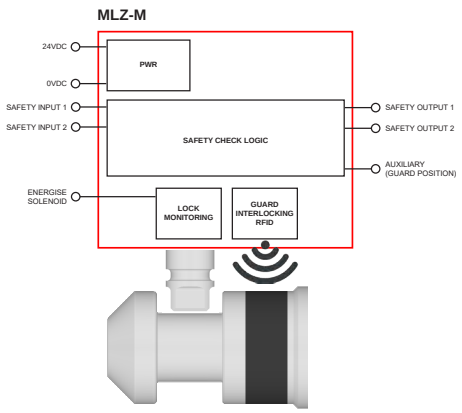
LED 1 Guard State	
Guard Locked	Green (Steady)
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green (Steady)
Safety Inputs Missing	Green (Flash)
Safety Inputs Off	Off
Internal Fault	Red (Steady)

LED 3 Output	
Safety Outputs On	Green (Steady)
Safety Outputs Off	Off
External Fault	Red (Flashng)

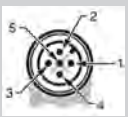
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

CONNECTION DIAGRAM:



CONNECTIVITY:

Quick Connect Pin View from Switch (M12)	Flying Lead Colour	Switch Circuit
		
2	Red	Supply +24V.dc
3	Blue	Supply 0V.dc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
8	Orange	Guard open signal +24V.dc
5	Brown	Solenoid enable +24V.dc

Quick Connect Pin View from Switch (M12)	Switch Circuit
	
1	Supply +24V.dc
2	Safety Output 1
3	Supply 0V.dc
4	Safety Output 2
5	Unlock (Solenoid enable +24V.dc)

ORDERING:

Part Number	Description
473001	MLZ-M 24VDC, 5m Pre-Wired (Inc. Actuator)
473002	MLZ-M 24VDC, 10m Pre-Wired (Inc. Actuator)
473004	MLZ-M 24VDC, 15m Pre-Wired (Inc. Actuator)
473005	MLZ-M 24VDC, 20m Pre-Wired (Inc. Actuator)
473003	MLZ-M 24VDC, M12-QC 8way on 250mm Flying Lead (Inc. Actuator)
473103	MLZ-M 24VDC, M12-QC 5way on 250mm Flying Lead (Inc. Actuator)
473420	Spare / Replacement Actuator
Accessories	
470410-L	MLZ Single Action Latching Pull Handle SS (Left)
470410-R	MLZ Single Action Latching Pull Handle SS (Right)
470402	Sliding Handle (Gate Bolt)
470403	Optional Spring Catch for Sliding Handle
470401	Rear Release Button (90mm)
470404	Rear Gasket Set for Switch and Actuator

470402

470410-L

470410-R

470403

470404

470401

RFID Guard Locking Switch Plastic: **ARTALOCK KLP-Z**

FEATURES:

TYPE 4 INTERLOCK

Available with M12 quick connect

Solenoid Locking Interlock Safety Switch featuring RFID Interlocking

The KLP-Z Series Guard Locking switches have been designed to incorporate high anti-tamper RFID coding and provide PLe safety levels to ISO13849-1.

The RFID sensing is complemented by a traditional cam locking system which has been developed with a holding Force of 2000N to keep guard doors closed until hazards have been removed.

Unique rotating head to offer both Front and End actuation.

32 million RFID codes – each switch unique – high coding to ISO14119.

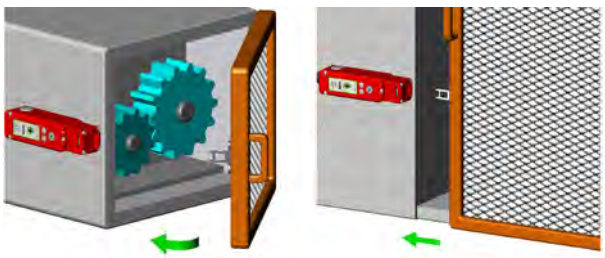
Rugged IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2in) frame sections or to applications where space is restricted and the head will rotate to provide up to 8 actuator entry positions and includes front and end entry sensing.

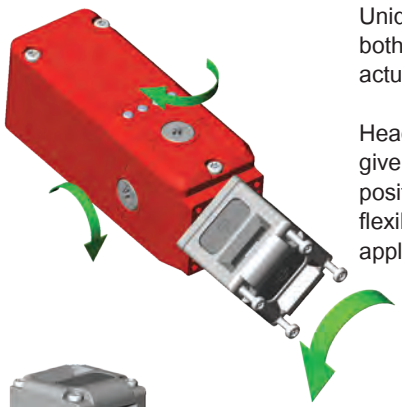
High specification plastic housing with robust Stainless Steel 316 head.

Choice of standard or flexible actuators.

M12 Quick connect version available.



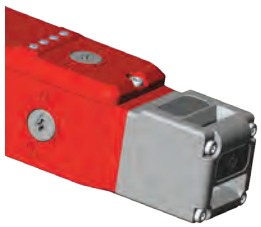
Hinged Guard | Sliding Guard



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.



End entry actuation direction.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards: IEC60947-5-3 ISO14119 ISO13849-1
IEC62061 UL 60947-5-1

Safety Classification and Reliability Data:

Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.)
	S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 2000N Fzh 1538N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Polyester
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz
	Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

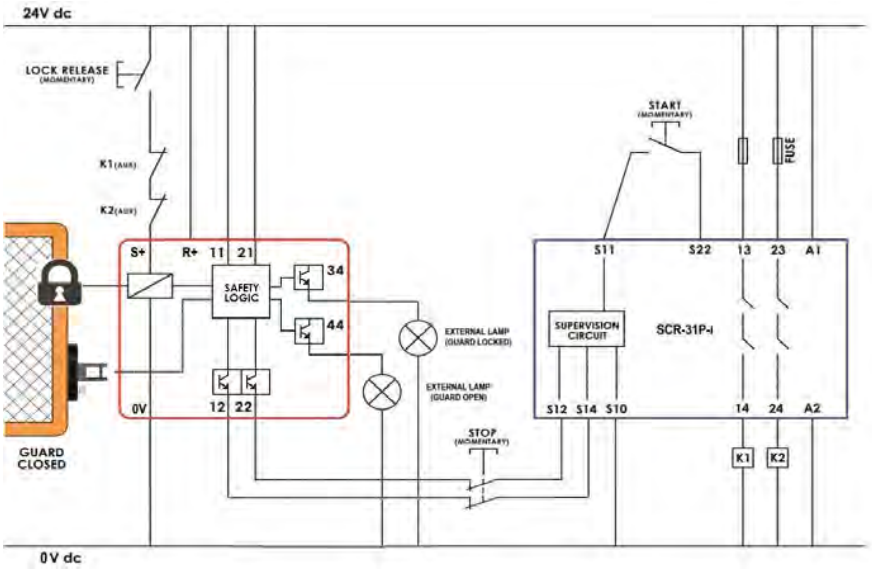
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Characteristic data according to EN ISO13849-1

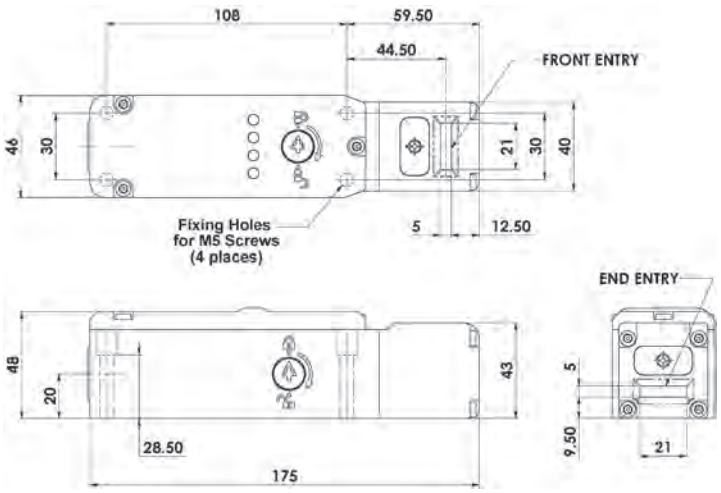
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

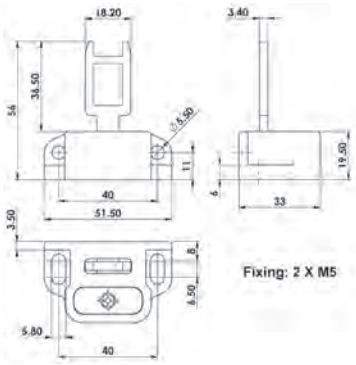
RFID Guard Locking Switch Plastic **Type: ARTALOCK KLP-Z**

CONNECTION EXAMPLE:

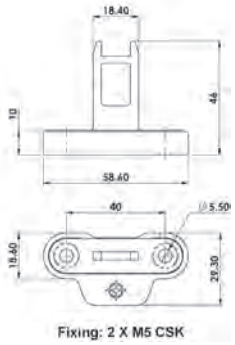


DIMENSIONS:

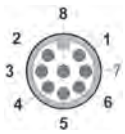




Heavy Duty Flexible Actuator (HFZ)



Standard Actuator (AZ)



FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

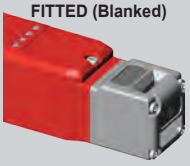
LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 24V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
5	S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

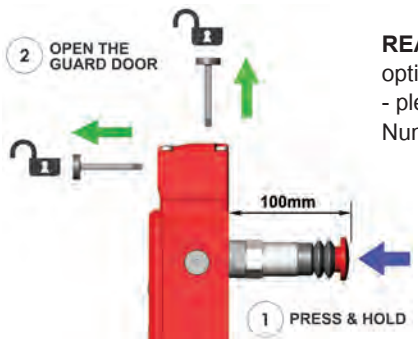
	STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
									
DESCRIPTION	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12
KLP-Z Switch with STANDARD Actuator	455001AZ	455002AZ	455003AZ	455401AZ	455402AZ	455403AZ	455301AZ	455302AZ	455303AZ
KLP-Z Switch with HEAVY DUTY FLEXIBLE Actuator	455001HFZ	455002HFZ	455003HFZ	455401HFZ	455402HFZ	455403HFZ	455301HFZ	455302HFZ	455303HFZ

RFID Guard Locking Switch Metal: **AYLOCK KLM-Z**

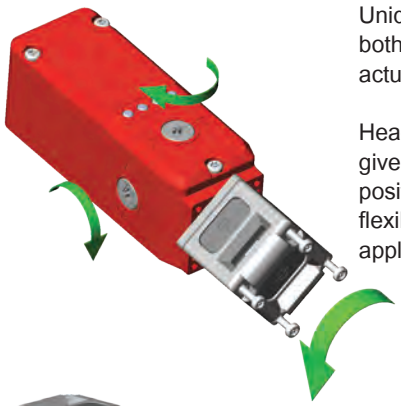
FEATURES:

TYPE 4 INTERLOCK

Available with M12 quick connect



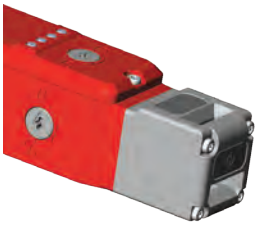
REAR RELEASE option also available - please see Sales Numbers.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.



End entry actuation direction.

Solenoid Locking Interlock Safety Switch featuring RFID Interlocking

The KLM-Z Series Guard Locking switches have been designed to incorporate high anti-tamper RFID coding and provide PLe safety levels to ISO13849-1.

The RFID sensing is complemented by a traditional cam locking system which has been developed with a holding Force of 3000N to keep guard doors closed until hazards have been removed.

Unique rotating head to offer both Front and End actuation.

32 million RFID codes – each switch unique – high coding to ISO14119.

The die cast metal IP67 enclosure protection is maintained by a double seal lid gasket design.

They have a slim profile and are designed to fit on 50mm (2in) frame sections or to applications where space is restricted and the head will rotate to provide up to 8 actuator entry positions and includes front and end entry sensing.

Die cast housing fitted with a robust Stainless Steel 316 head.

Choice of standard or flexible actuators.

M12 Quick connect version available.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
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ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1 IEC62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Die cast metal (painted red)
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

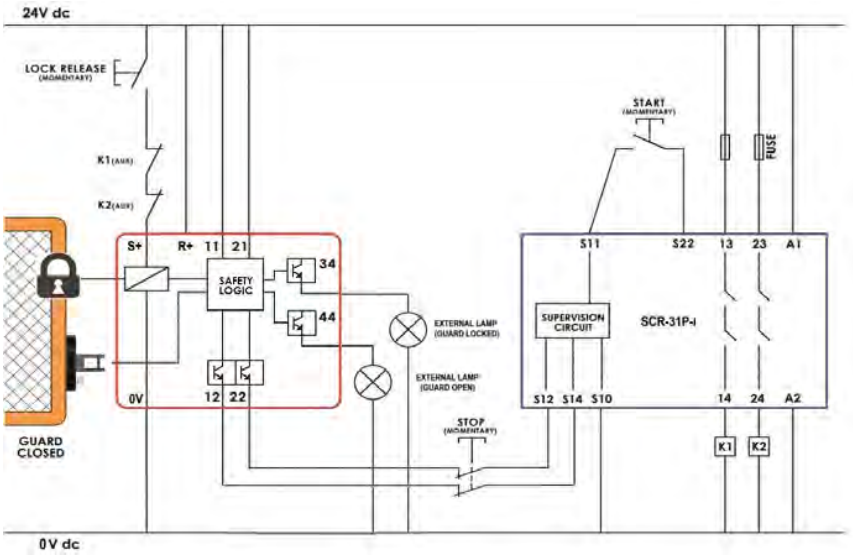
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

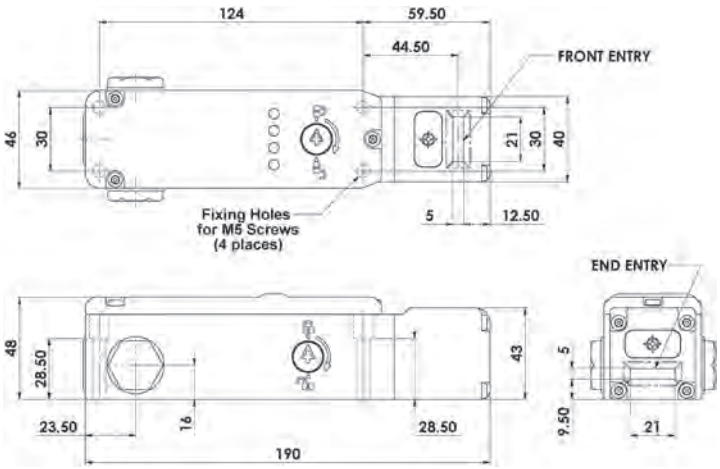
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

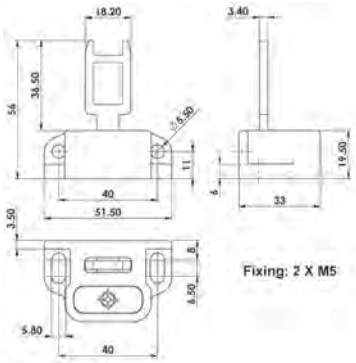
RFID Guard Locking Switch Metal: **AYLOCK KLM-Z**

CONNECTION EXAMPLE:

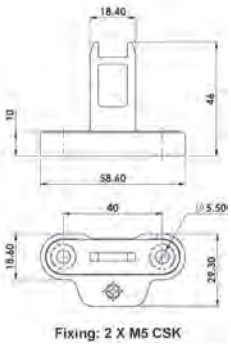


DIMENSIONS:





Heavy Duty Flexible Actuator (HFZ)



Standard Actuator (AZ)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

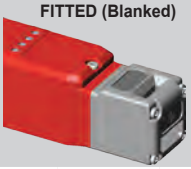
Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 24V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
5	S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

	STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
									
SALES NUMBERS	**M20**	**1/2" NPT**	**QC M12**	**M20**	**1/2" NPT**	**QC M12**	**M20**	**1/2" NPT**	**QC M12**
KLM-Z Switch with STANDARD Actuator	454001AZ	454002AZ	454003AZ	454401AZ	454402AZ	454403AZ	454301AZ	454302AZ	454303AZ
KLM-Z Switch with HEAVY DUTY FLEXIBLE Actuator	454001HFZ	454002HFZ	454003HFZ	454401HFZ	454402HFZ	454403HFZ	454301HFZ	454302HFZ	454303HFZ
REAR RELEASE OPTION SALES NUMBERS									
KLM-Z-RR Switch with STANDARD Actuator	454011AZ	454012AZ	454013AZ	454411AZ	454412AZ	454413AZ	454311AZ	454312AZ	454313AZ
KLM-Z-RR Switch with HEAVY DUTY FLEXIBLE Actuator	454011HFZ	454012HFZ	454013HFZ	454411HFZ	454412HFZ	454413HFH	454311HFZ	454312HFZ	454313HFZ

Hygienic RFID Guard Locking Switch S/Steel: **MLZ**

FEATURES:

NEW

TYPE 4 INTERLOCK

IP69K

3 Actuator entry positions for maximum compatibility with mounting.

Adjustable spring ball catch for increasing or decreasing latching force.

MLZ is compatible with rear release accessory (PN 470401)

Flexible actuator with bevelled plunger for reducing friction on entry and ensuring a long mechanical life cycle.

OVERVIEW:

MLZ is the World's Smallest Type 4 Hygienic Guard Lock with RFID. This Compact Hygienic Safety Interlock Switch is manufactured from mirror polished 316 Stainless Steel and Tested to IP67 and IP69K for Extreme Washdown Environments.

The MLZ Hygienic RFID Guard Locking Switch is a 30mm-wide Stainless Steel safety interlock switch that houses three entry actuation points. The device's super-compact size means it is compatible with the narrowest of machine guard rails and requires no mounting plate, making it simple to install.

With actuation capability on three sides, this small but mighty device is also incredibly versatile making it applicable for a vast range of guarding applications.

Manufactured from mirror-polished 316 Stainless Steel to Ra4 standard, the device's diminutive size belies its strength and durability. Tested to IP67 and IP69K and suitable for SIP and CIP cleaning, this robust interlock is ideal for outdoor use as well as for strict washdown environments, particularly food contact, beverage, and pharmaceutical manufacturing.

Features:

- Type 4 Guard Locking Switch with RFID
- Compact Design for Easy Integration
- 4000N Holding Force
- Rear escape release options.
- High-Visibility Status Indicators
- Direct Machine Frame Mounting
- Built-In Cascading Function

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1. Guard interlocking and lock monitoring to CAT 4, PL e and SIL 3. Safety ratings are maintained with up to 30 devices in series.

Safety circuits are active when the guard is closed and locked.
1 auxiliary circuits; guard position.

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	Fzh 4000N
Operating Frequency	1Hz
Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

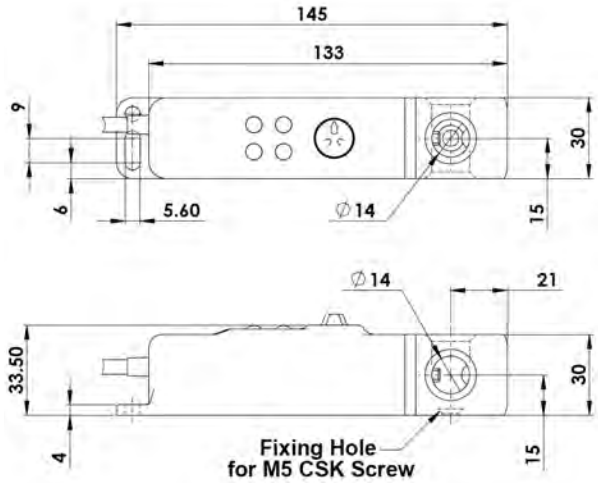
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

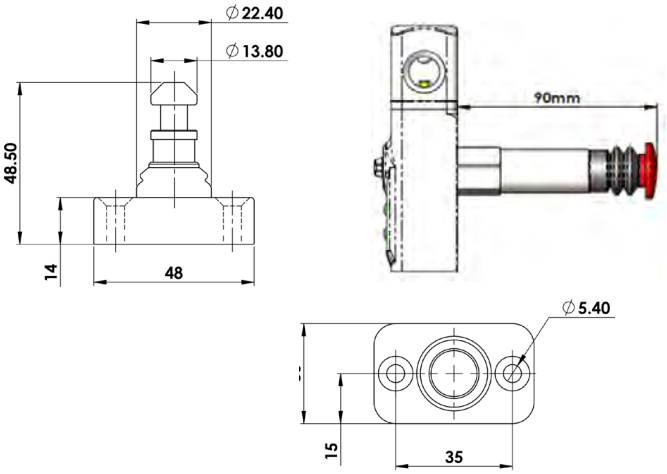
Charateristic data according to EN ISO13849-1

Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

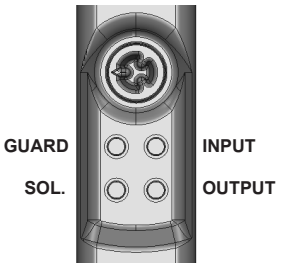
Hygienic RFID Guard Locking Switch S/Steel: **MLZ**

DIMENSIONS:





INDICATION DIAGRAM:



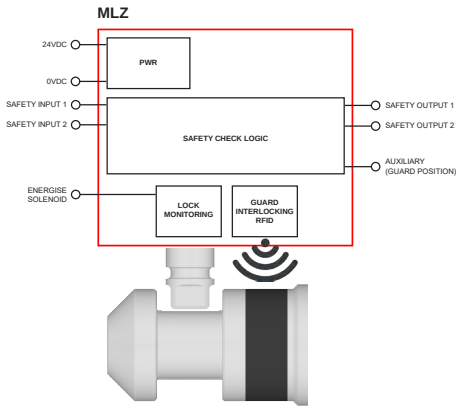
LED 1 Guard State	
Guard Locked	Green (Steady)
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green (Steady)
Safety Inputs Missing	Green (Flash)
Safety Inputs Off	Off
Internal Fault	Red (Steady)

LED 3 Output	
Safety Outputs On	Green (Steady)
Safety Outputs Off	Off
External Fault	Red (Flashng)

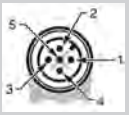
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

CONNECTION DIAGRAM:



CONNECTIVITY:

Quick Connect Pin View from Switch (M12) 	Flying Lead Colour	Switch Circuit
2	Red	Supply +24V.dc
3	Blue	Supply 0V.dc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
8	Orange	Guard open signal +24V.dc
5	Brown	Solenoid enable +24V.dc

Quick Connect Pin View from Switch (M12) 	Switch Circuit
1	Supply +24V.dc
2	Safety Output 1
3	Supply 0V.dc
4	Safety Output 2
5	Unlock (Solenoid enable +24V.dc)

ORDERING:

Part Number	Description
470001	MLZ 24VDC, 5m Pre-Wired (Inc. Actuator)
470002	MLZ 24VDC, 10m Pre-Wired (Inc. Actuator)
470004	MLZ 24VDC, 15m Pre-Wired (Inc. Actuator)
470005	MLZ 24VDC, 20m Pre-Wired (Inc. Actuator)
470003	MLZ 24VDC, M12-QC 8way on 250mm Flying Lead (Inc. Actuator)
470103	MLZ 24VDC, M12-QC 5way on 250mm Flying Lead (Inc. Actuator)
470420	Spare / Replacement Actuator
Accessories	
470410-L	MLZ Single Action Latching Pull Handle SS (Left)
470410-R	MLZ Single Action Latching Pull Handle SS (Right)
470402	Sliding Handle (Gate Bolt)
470403	Optional Spring Catch for Sliding Handle
470401	Rear Release Button (90mm)
470404	Rear Gasket Set for Switch and Actuator

470402

470410-L

470410-R

470403

470404

470401

Heavy-Duty Hygienic RFID Guard Locking Switch S/Steel **Type: HLZ**

FEATURES:

NEW

TYPE 4 INTERLOCK

11,000N HOLDING FORCE

Adjustable spring ball catch for increasing or decreasing latching force.

IP69K

MLZ is compatible with rear release accessory (PN 470401)

3 Actuator entry positions for maximum compatibility with mounting.

Flexible actuator with bevelled plunger for reducing friction on entry and ensuring a long mechanical life cycle.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1. Guard interlocking and lock monitoring to CAT 4, PL e and SIL 3. Safety ratings are maintained with up to 30 devices in series.

Safety circuits are active when the guard is closed and locked.
2 auxiliary circuits; one for guard position and one for lock position.

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

The HLZ, is a Type 4 guard locking switch with RFID, designed for safety and reliability in even the most demanding environments. Engineered with precision and manufactured from premium 316 grade stainless steel, the HLZ boasts a stunning mirror-polished finish that is both durable and hygienic.

Manufactured from 316 grade stainless steel, the HLZ ensures superior resistance to corrosion and wear, making it a robust and long-lasting solution. It has been rigorously tested to meet IP69K standards, making it ideal for stringent washdown environments and offering protection against water and dust ingress.

The HLZ incorporates an integrated RFID coded sensor for tamper proof security and reliability in guard locking applications. It delivers an impressive holding force of 11,000N, providing robust protection and stability. With OSSD outputs, the HLZ ensures safe and reliable operation, and it is suitable for series connectivity of up to 30 units while CAT / SIL is maintained due to OSSD technology, performance level is a measure of reliability of an individual device.

Designed for versatile mounting, the head of the HLZ features three entry positions, allowing for seamless integration into machine guarding systems. The spring-loaded tongue actuator accommodates greater tolerance to misalignment, ensuring consistent performance. Clear and easily visible LEDs on the lid display all device states, facilitating straightforward monitoring and maintenance. The spacious design of the HLZ supports pre-wiring via M20 conduit entries, simplifying installation and enhancing cable management.

The HLZ is perfect for a variety of industrial applications requiring stringent safety standards and reliable performance, including food and beverage processing, pharmaceutical manufacturing,

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 11,000N
Operating Frequency	1Hz
Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

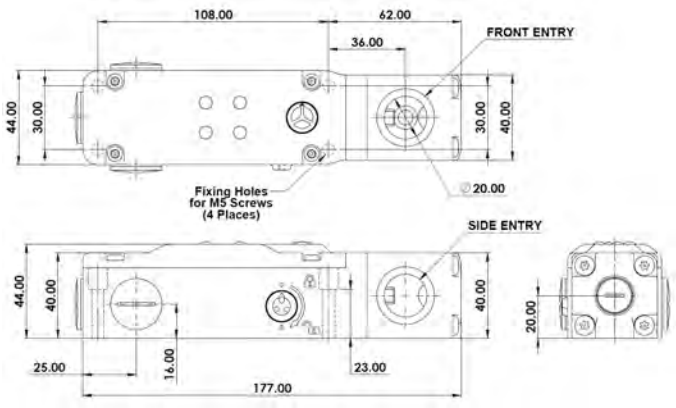
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

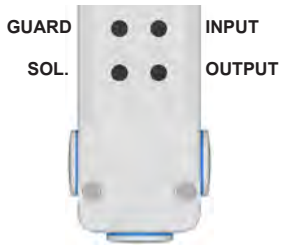
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

Heavy-Duty Hygienic RFID Guard Locking Switch S/Steel **Type: HLZ**

DIMENSIONS:



INDICATION DIAGRAM:



LED 1 Guard State	
Guard Locked	Green (Steady)
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

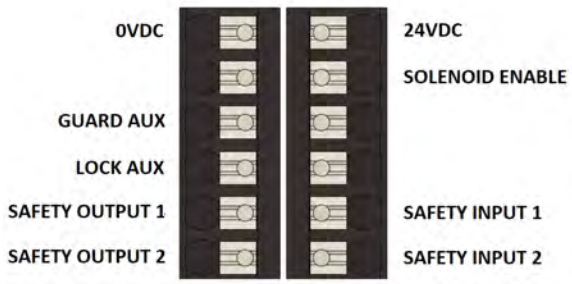
LED 2 Input	
Safety Inputs On	Green (Steady)
Safety Inputs Missing	Green (Flash)
Safety Inputs Off	Off
Internal Fault	Red (Steady)

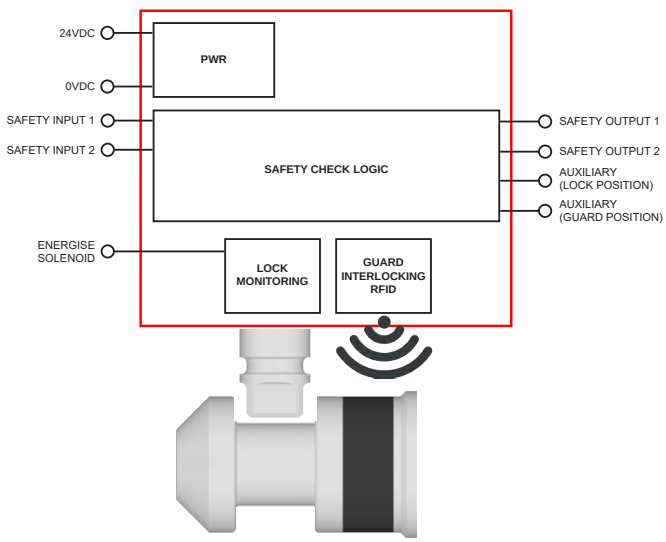
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

LED 3 Output	
Safety Outputs On	Green (Steady)
Safety Outputs Off	Off
External Fault	Red (Flashng)

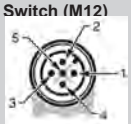
TERMINAL BLOCK:

For pre-wiring options, see terminal block layout below.





Quick Connect Pin View from Switch (M12) 	Flying Lead Colour	Switch Circuit
2	Red	Supply +24V.dc
3	Blue	Supply 0V.dc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
8	Orange	Guard open signal +24V.dc
5	Brown	Solenoid enable +24V.dc

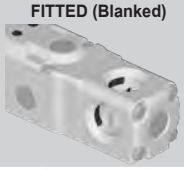
Quick Connect Pin View from Switch (M12) 	Switch Circuit
1	Supply +24V.dc
2	Safety Output 1
3	Supply 0V.dc
4	Safety Output 2
5	Unlock (Solenoid enable +24V.dc)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

ORDERING:

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

SALES NUMBERS	STANDARD MANUAL RELEASE LID AND SIDE 			MANUAL RELEASE LID ONLY (Not SIDE) 			NO MANUAL RELEASE FITTED (Blanked) 		
	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12
HLZ Switch with Standard Actuator	471001	471002	471003	471401	471402	471403	471301	471302	471303

140120

470401

Accessories	
470401	Rear Release Button (90mm)
140120	Stainless Steel M20 Gland for IP69K Seal

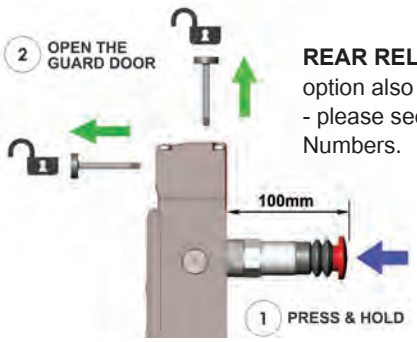
RFID Guard Locking Switch S/Steel: **PARSALOCK KL3-SS-Z**

FEATURES:

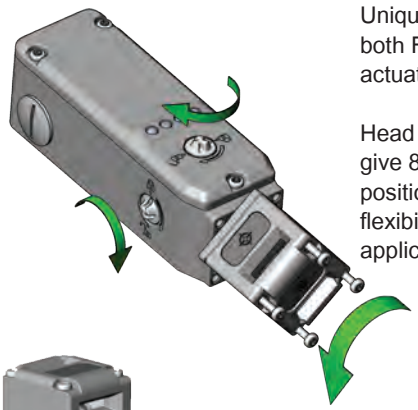
TYPE 4 INTERLOCK

IP69K

Available with M12 quick connect (IP67)



REAR RELEASE option also available - please see Sales Numbers.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.

End entry actuation direction.

Solenoid Locking Interlock Safety Switch featuring RFID Interlocking

The KL3-SS-Z Series Guard Locking switches have been designed to incorporate high anti-tamper RFID coding and provide PLe safety levels to ISO13849-1.

The RFID sensing is complemented by a traditional cam locking system which has been developed with a holding Force of 3000N to keep guard doors closed until hazards have been removed.

Unique rotating head to offer both Front and End actuation.

32 million RFID codes – each switch unique – high coding to ISO14119.

The fully Stainless Steel 316 enclosure has IP69K ingress protection which is maintained by a double seal lid gasket design.

They have a slim profile and are designed to fit on 50mm (2in) frame sections or to applications where space is restricted and the head will rotate to provide up to 8 actuator entry positions and includes front and end entry sensing.

Can be high pressure hosed at high temperature with detergent.

Choice of standard or flexible actuators.

M12 Quick connect version available.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

ACTUATOR OPTIONS:

AZ Standard Actuator

HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1 IEC62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.)
	S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Stainless Steel 316
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP67/IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

Characteristic data according to IEC62061 (used as a subsystem)

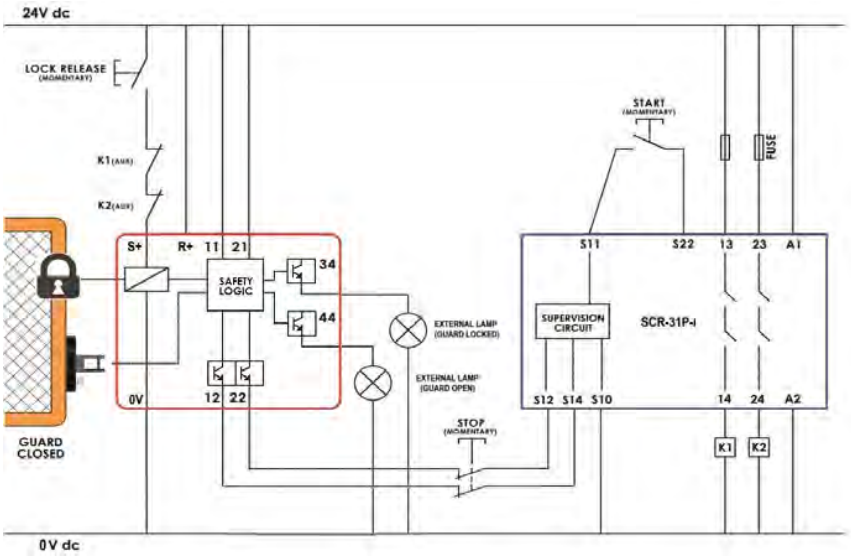
Safety Integrity Level	SIL 3	
PFH (1/h)	4.80 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

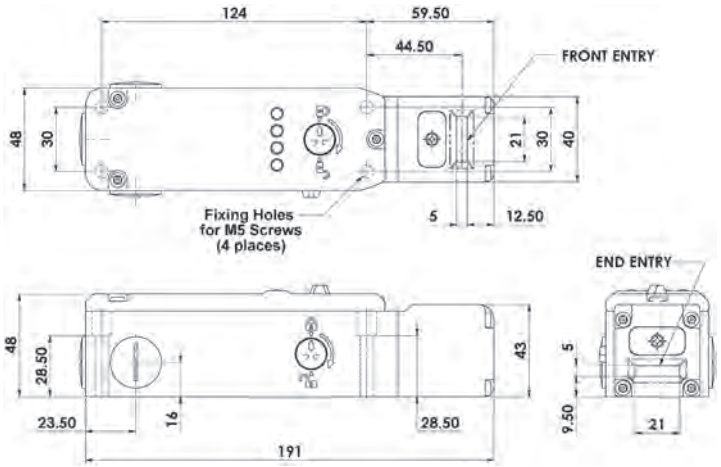
Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

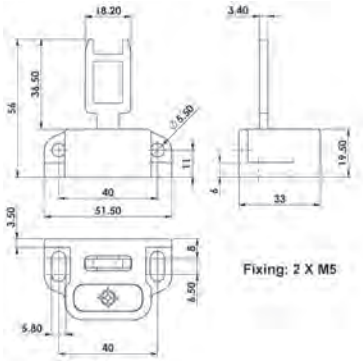
RFID Guard Locking Switch S/Steel: **PARSALOCK KL3-SS-Z**

CONNECTION EXAMPLE:

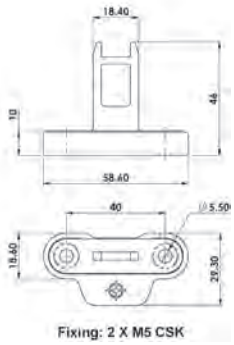


DIMENSIONS:





Heavy Duty Flexible Actuator (HFZ)



Standard Actuator (AZ)

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 24V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
5	S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

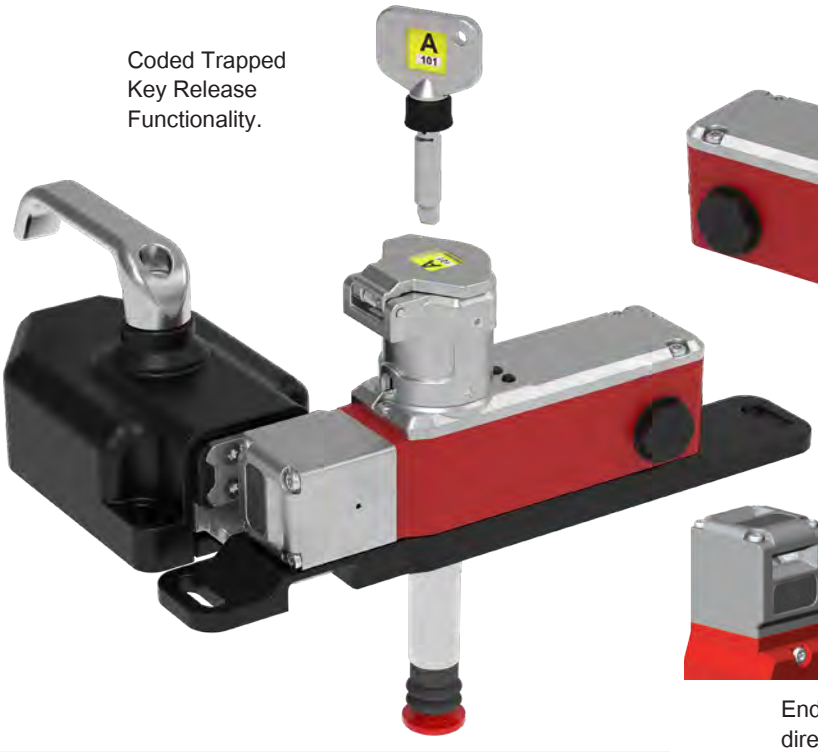
NO MANUAL RELEASE FITTED (Blanked)

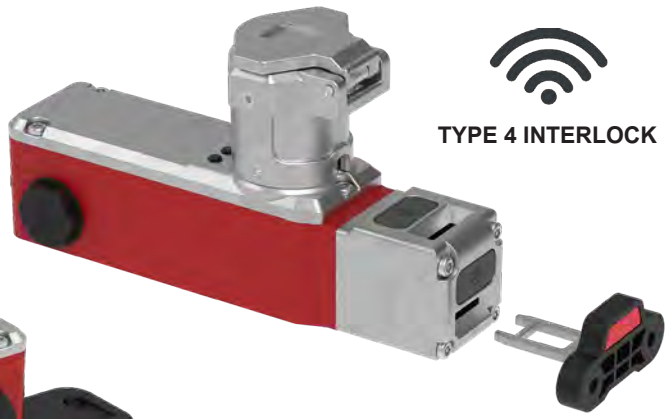
SALES NUMBERS	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12	M20	1/2" NPT	QC M12
KL3-SS-Z Switch with Standard Actuator	456001AZ	456002AZ	456003AZ	456401AZ	456402AZ	456403AZ	456301AZ	456302AZ	456303AZ
KL3-SS-Z Switch with Heavy Duty Flexible Actuator	456001HFZ	456002HFZ	456003HFZ	456401HFZ	456402HFZ	456403HFZ	456301HFZ	456302HFZ	456303HFZ
REAR RELEASE OPTION SALES NUMBERS									
KL3-SS-Z-RR Switch with Standard Actuator	456011AZ	456012AZ	456013AZ	456411AZ	456412AZ	456413AZ	456311AZ	456312AZ	456313AZ
KL3-SS-Z-RR Switch with Heavy Duty Flexible Actuator	456011HFZ	456012HFZ	456013HFZ	456411HFZ	456412HFZ	456413HFZ	456311HFZ	456312HFZ	456313HFZ

RFID Guard Locking with Trapped Key: **KLM-Z-SKR**

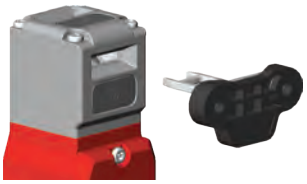
FEATURES:

Coded Trapped Key Release Functionality.





TYPE 4 INTERLOCK



End entry actuation direction.

Front entry actuation direction.

OVERVIEW:

Guard Locking Switch with RFID Interlocking and Coded Trapped Key.

The KLM-Z-SKR Guard Locking Switches are engineered with high anti-tamper RFID coding, providing PLe safety levels according to ISO13849-1.

Integrated Coded Key: The key is released when the unlock signal is present. The guard cannot be relocked until the key is trapped, reducing the risk of inadvertent startup.

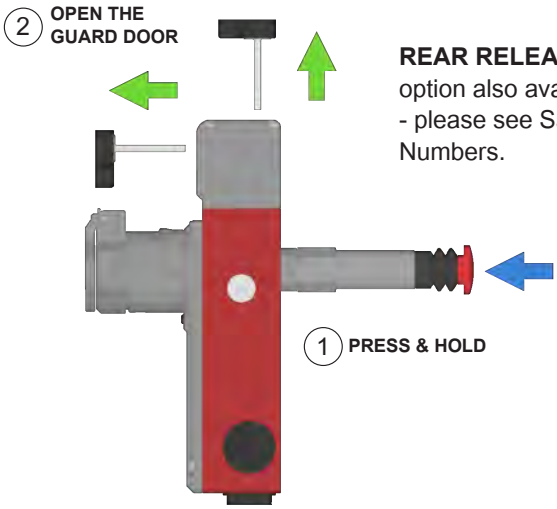
Dual Locking System: RFID sensing is complemented by a traditional cam locking system, designed with a holding force of 3000N to ensure guard doors remain closed until hazards are removed.

Rotating Head: Offers both front and end actuation.

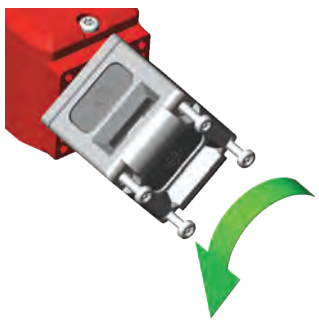
High Coding Level: Features 32 million unique RFID codes, meeting high coding standards per ISO14119.

Robust Construction: The die-cast metal enclosure is rated IP67, with a double seal lid gasket design for enhanced protection.

Compact Design: Slim profile suitable for 50mm (2in) frame sections or applications with limited space. The head rotates to provide up to 8 actuator entry positions, including front and end entry sensing.



REAR RELEASE option also available - please see Sales Numbers.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

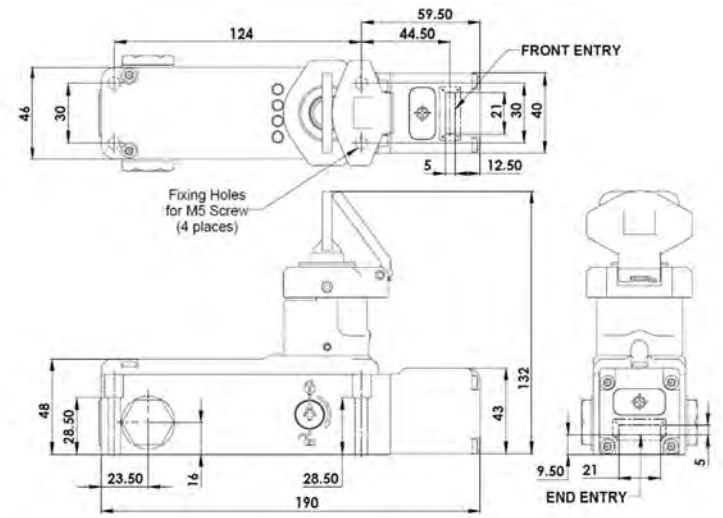
ACTUATOR OPTIONS:

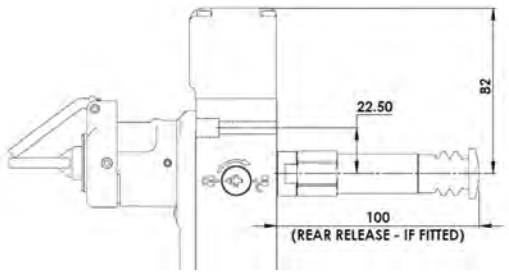
AZ Standard Actuator

HFZ Flexible Actuator

RFID Guard Locking with Trapped Key: **KLM-Z-SKR**

DIMENSIONS:





INDICATION DIAGRAM:

LED 1	Guard State
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2	Input
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3	Output
Safety Outputs On	Green
Safety Outputs Off	Off

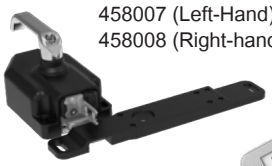
LED 4	Solenoid
Solenoid Energised	Red
Solenoid De-energised	Off

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.) S+ (500mA Max) (Solenoid)
Safety Circuits	24V 0.2A
Auxiliary Circuits	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N
Operating Frequency	1Hz
Material	Die-Cast Metal (Painted Red)
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

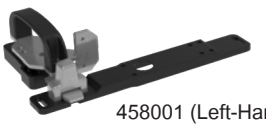
CONNECTIVITY:

Quick Connect (QC) M12 8 Way Male Plug	Terminal	Function	Switch Circuit
2	R+	24V dc	Supply 24V dc
3	0V	0V dc	Supply 24V dc (Ground)
7	11	Safety Input 1	Safety Circuit 1
1	12	Safety Output 1	
4	21	Safety Input 2	Safety Circuit 2
6	22	Safety Output 2	
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out
N/A	34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out
5	S+	Unlocked	Unlock signal apply +24V dc

ACCESSORIES:



458007 (Left-Hand)
458008 (Right-hand)



458001 (Left-Hand)
458002 (Right-hand)

Key sold separately
(see page 263)

527005-L
527005-R

210005

ORDERING:

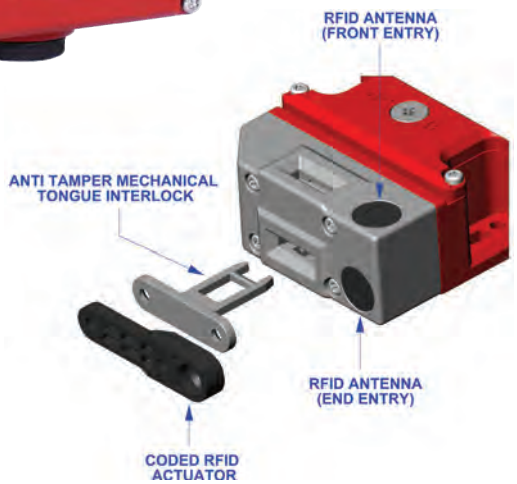
KLM-Z-SKR (Configuration Descriptor)	With Side Manual Release			Without Side Manual Release		
	M20	*1/2" NPT*	*M12-QC*	*M20*	*1/2" NPT*	*QC-M12*
Standard (KLM-Z-SKR)	454004	454005	454006	454304	454305	454306
Rear Release (KLM-Z-SKR-RR)	454014	454015	454016	454314	454314	454316

RFID Guard Locking Switch Metal: **RAMZLOCK KLTM-RFID**

FEATURES:

TYPE 4 INTERLOCK

Spring to lock when actuator is inserted. Energise solenoid to unlock.



Solenoid Locking Door Interlock Safety Switch with Integral Unique RFID Coding featuring Guard Holding up to 3000N (300Kg) (F1Max)

IDEM's KLTM-RFID Series Guard Locking switches are advanced tongue-type safety interlock devices that integrate traditional mechanical anti-tamper technology, featuring IDEM's patented cam system, with uniquely coded RFID non-contact sensor technology in a single unit.

These switches effectively interlock and securely hold guard doors closed, safeguarding operators from exposure to moving or hazardous machinery. They are particularly well-suited for environments that demand high-level anti-tamper protection to prevent accidental or intentional attempts to bypass the interlock system.

To start the machine, both the mechanical and RFID technologies must be engaged.

Built with a rugged metal body, these switches offer a maximum holding force of 3000N, making them ideal for securing medium to large guard doors until all hazards have been addressed.

The IP67-rated enclosure protection is ensured through a double-seal lid gasket design and metal fixings, providing robust durability in challenging environments.

Featuring a low-profile design and industry-standard 73mm center mounting holes, these switches are easily retrofitted to both new and existing guards, particularly in applications where additional anti-tamper measures are required.

CONTACTS:

KLTM-RFID (incorporating RFID coding)

4NC Safety Contacts

1NO Auxiliary PNP Signal (Guard Open)
1NO Auxiliary PNP Signal (Guard Locked)

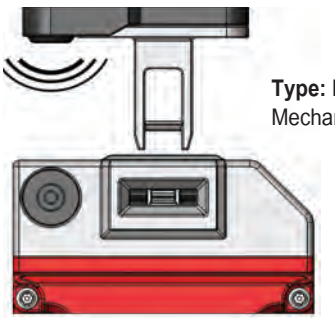
LED1 RED Solenoid Power On
LED2 GREEN Switch Locked
LED2 YELLOW Diagnostic Fault

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Rugged Die Cast Metal Housing with Stainless Steel 316 Head
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
2 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR:

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

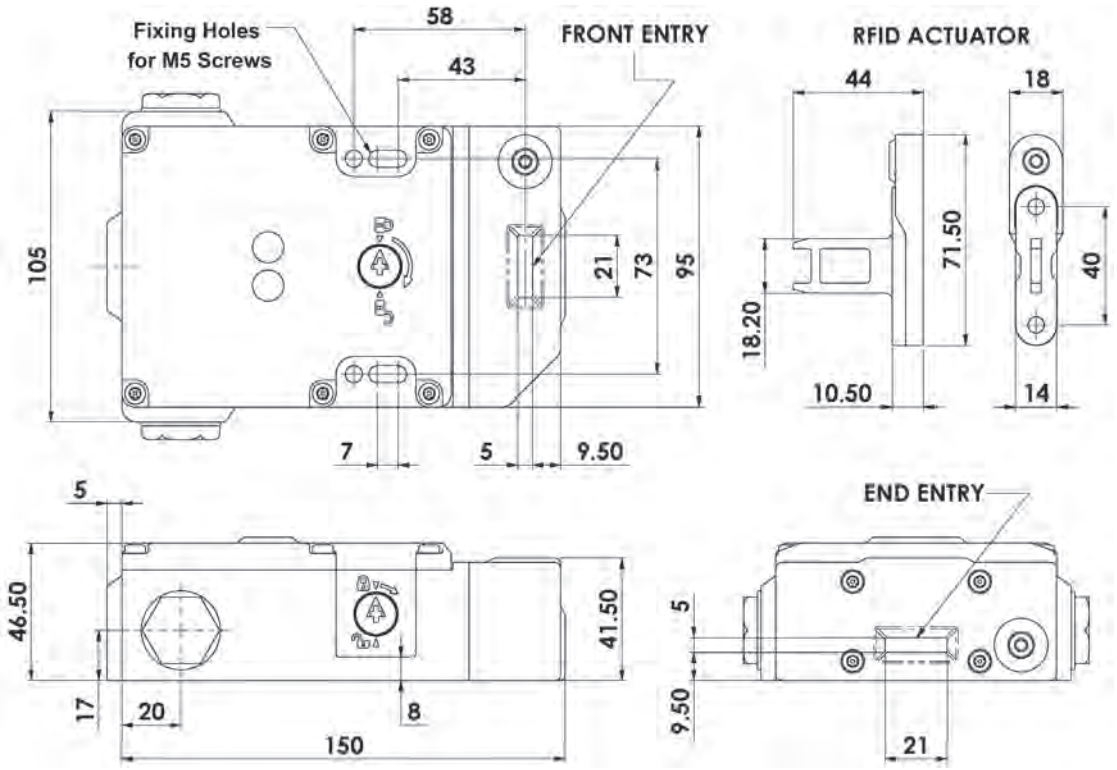


Type: KLTM-RFID
Mechanical and RFID Coding

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
KLTM-RFID Supply/Solenoid Voltage	24Vdc
Solenoid Wattage	12W
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast Metal (painted red)
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

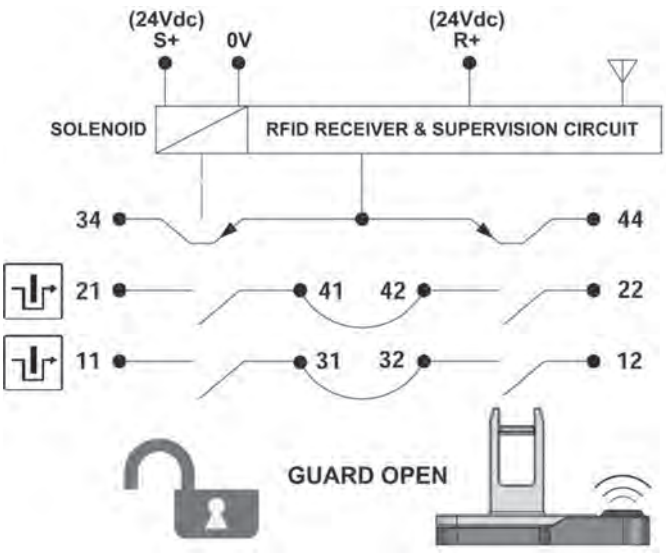
RFID Guard Locking Switch Metal: **RAMZLOCK KLTM-RFID**

DIMENSIONS:



SCHEMATIC CIRCUIT:

KLTM-RFID Version (incorporating RFID Coding)



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLTM-RFID Switch Circuit
1	0V
2	R+ 24V dc
3	S+ 24V dc
4 6	11/12
7 8	21/22
5	44
9	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
RAMZLOCK KLTM-RFID Switch Supplied complete with uniquely coded actuator		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	450201	450202	450203
		24V dc Actuator Entry Positions: Rear Entry Front Entry (Upper)	450301	450302	450303

RFID Guard Locking Switch Stainless Steel: **KLT-SS-RFID**

FEATURES:

TYPE 4 INTERLOCK

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Door Interlock Safety Switch with Integral Unique RFID Coding featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KLT-SS-RFID Series Guard Locking switches are advanced tongue-type safety interlock devices that combine traditional mechanical anti-tamper technology, utilizing IDEM's patented cam system, with innovative RFID non-contact coded sensor technology in a single unit.

These switches secure and lock guard doors, ensuring operator safety by preventing access to moving or hazardous machinery. They are ideal for environments requiring high-level anti-tamper protection to guard against accidental or intentional bypassing of the interlock system.

To initiate the machine, both the mechanical and RFID technologies must be satisfied.

Constructed with a mirror-polished Stainless Steel 316 body, these switches deliver a maximum holding force of 3000N, making them suitable for keeping medium to large guard doors securely closed until all hazards are eliminated.

The IP69K-rated enclosure protection is achieved through a double-seal lid gasket design and metal fixings, ensuring durability in harsh conditions.

With a low-profile design and 73mm center mounting holes, these switches are easily retrofitted to both new and existing guards, especially in applications requiring enhanced anti-tamper protection.

CONTACTS:

KLT-SS-RFID (incorporating RFID coding)

4NC Safety Contacts

1NO Auxiliary PNP Signal (Guard Open)
1NO Auxiliary PNP Signal (Guard Locked)

LED1 RED Solenoid Power On
LED2 GREEN Switch Locked
LED2 YELLOW Diagnostic Fault

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Mirror Polished (Ra10) Stainless Steel 316
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
1 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR

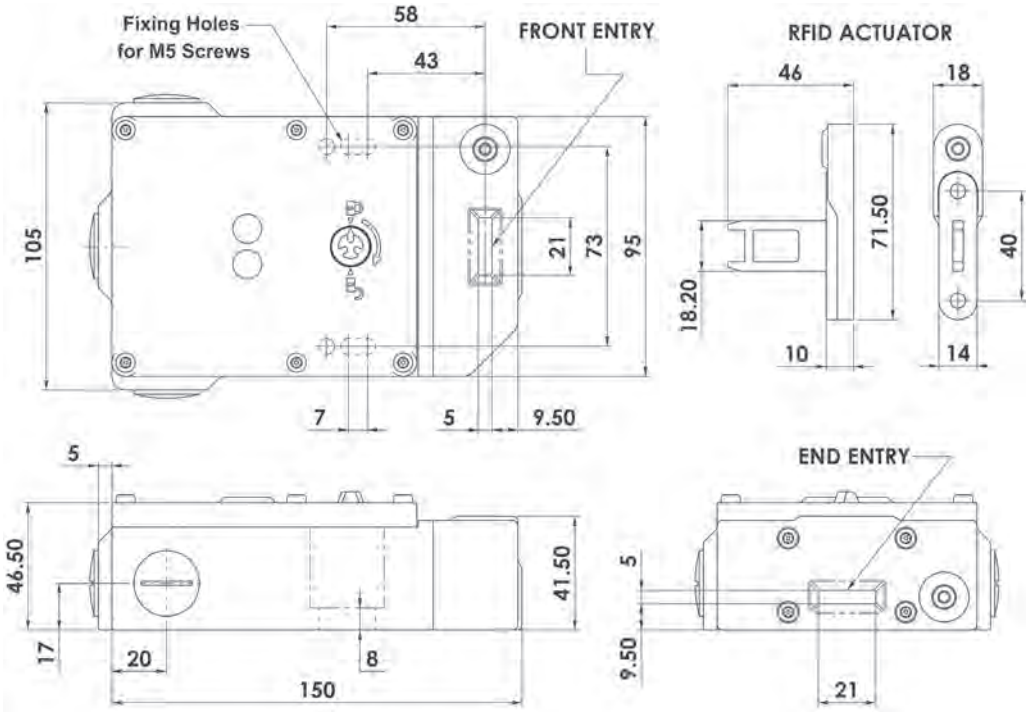
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Type: KLT-SS-RFID
Mechanical and RFID Coding

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
KLT-SS-RFID Supply/Solenoid Voltage	24V dc
Solenoid Wattage	12W
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Polished Stainless Steel 316
Head Material	Polished Stainless Steel 316
Enclosure Protection	IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

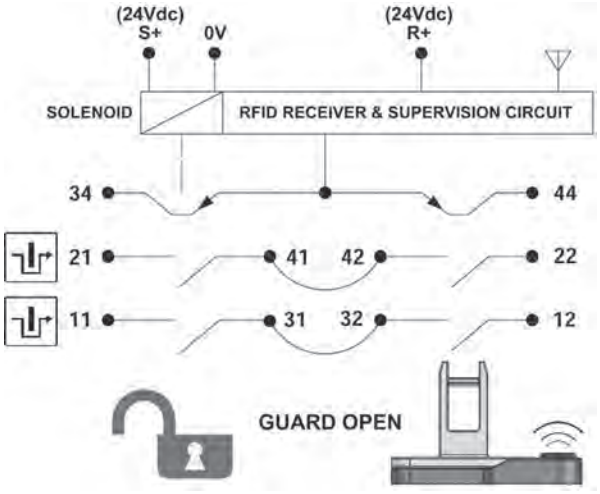
RFID Guard Locking Switch Stainless Steel: **KLT-SS-RFID**

DIMENSIONS:



SCHEMATIC CIRCUIT:

KLT-SS-RFID Version (incorporating RFID Coding)



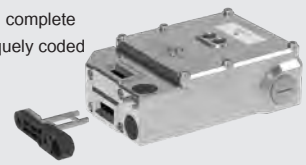
Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLT-SS-RFID Switch Circuit
1	0V
2	R+ 24V dc
3	S+ 24V dc
4 6	11/12
7 8	21/22
5	44
9	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
KLT-SS-RFID Switch Supplied complete with uniquely coded actuator 		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	451201	451202	451203
Manual Release Key (order separately - not supplied with switches)  Sales Number: 140123		24V dc Actuator Entry Positions: Rear Entry Front Entry (Upper)	451301	451302	451303

Guard Locking Switch Plastic: **LEILOCK KL1-P**

FEATURES:

STAINLESS STEEL HEAD

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 1400N (140Kg) (F1Max)

The KL1-P Series Guard Locking switches have a compact plastic body design and have been developed with a holding force of 1400N to keep small to medium guard doors closed until hazards have been removed.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

The KL1-P switch has a low profile and fixing holes are on an industry standard 40mm centre to enable easy fitting to new or existing guards (or where replacement of a non locking tongue switch is required).

The head will rotate to provide up to 4 actuator entry positions.

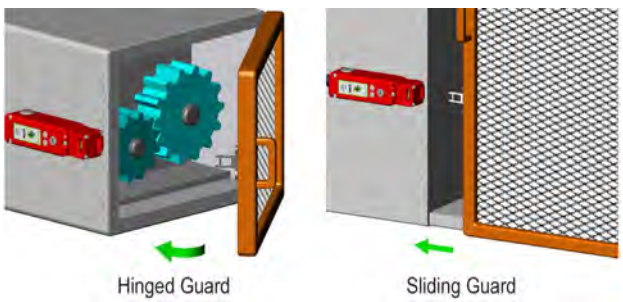
CONTACTS/LED DIAGNOSTICS:

STANDARD - Version 1:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Lock Open)
LED1 Solenoid Power

EXTRA LED2 - Version 2:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED2 Lock Status:
Closed and Locked
LED1 Solenoid Power



FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
High specification polyester housing with Stainless Steel Head
Connects to most Safety Relays to give up to PLe Cat.4
Will fit on 40mm fixing centres
2 manual override points
Universal M12 8 way microlock
Quick Connector version available for ease of installation

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
			
A	F	HF	HFH

ACCESSORIES (see p155)

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

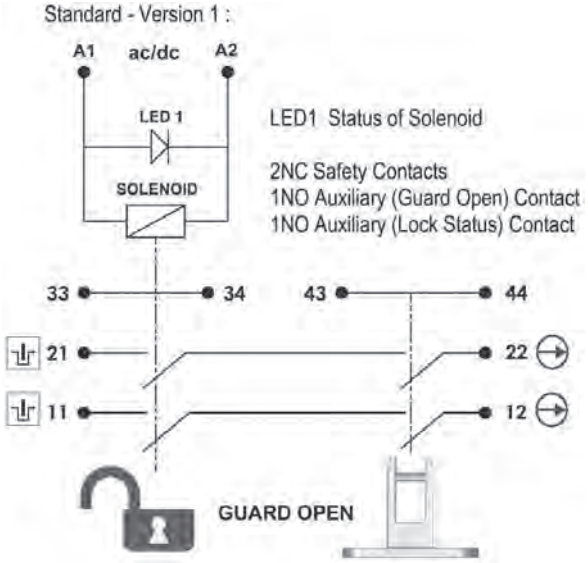
Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

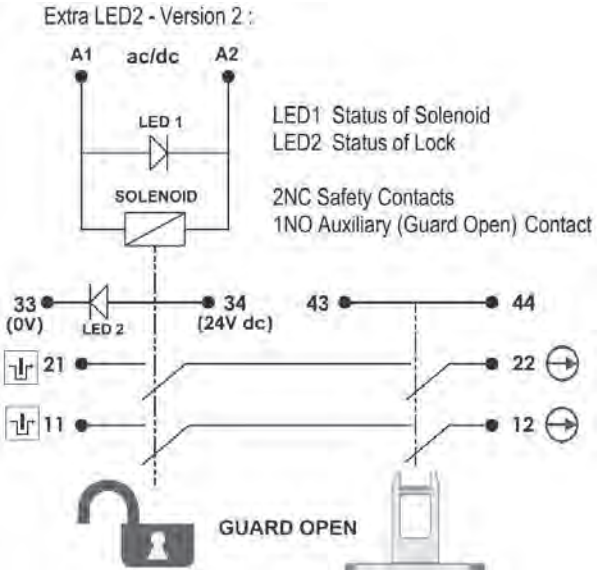
Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Version Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 1400N Fzh 1076N
Body Material	Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

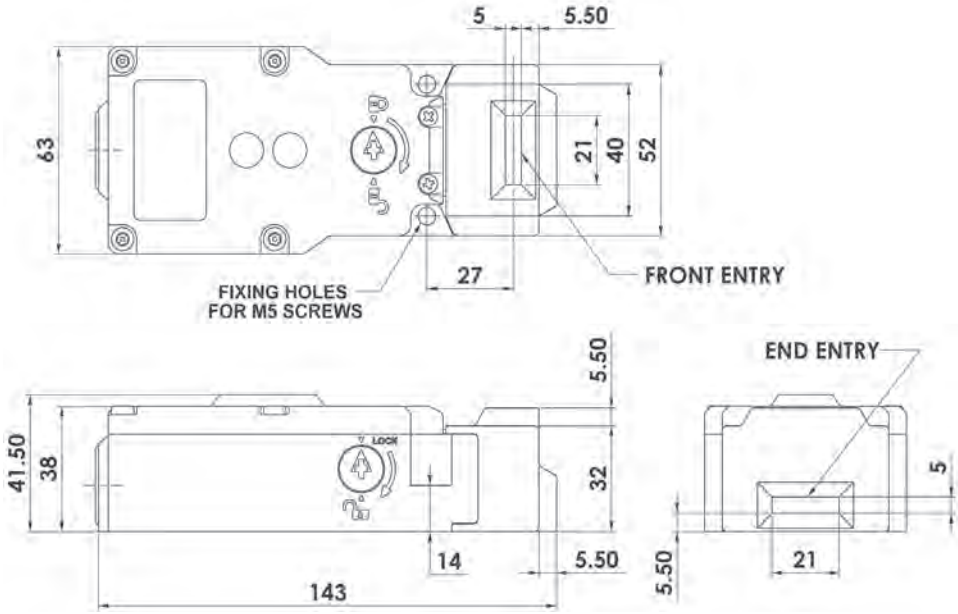
Guard Locking Switch Plastic: **LEILOCK KL1-P**

SCHEMATIC CIRCUITS:





DIMENSIONS:



FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch	Switch Circuit
2 7	A1 A2
4 6	11/12
8 5	21/22
3 1	43/44

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

STANDARD VERSION 1 (Solenoid LED only)

EXTRA LED VERSION 2 (Lock Status)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M12	M20	1/2" NPT
Kobra KL1-P Switch	24V ac/dc	221001	221002	221003	221301	221302
Kobra KL1-P Switch	110V ac	221004	221005	221006	221304	221305
Kobra KL1-P Switch	230V ac	221007	221008	221009	221307	221308

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number

Ordering Examples:
Kobra KL1-P 24V Solenoid M20 Conduit LED2 Version Heavy Flexible Actuator: Sales Number: 221301-HF
Kobra KL1-P 110V Solenoid 1/2" NPT Conduit Standard Version Standard Actuator: Sales Number: 221005-A

Guard Locking Switch Plastic: **SEZYLOCK KLP**

FEATURES:

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 2000N (200Kg) (F1Max)

The KLP Series of Guard Locking switches have a slim plastic body design and have been developed with a holding force of 2000N to keep medium guard doors closed until hazards have been removed.

The high specification polyester body has a high resistance to chemical and washdown solutions and the stainless steel head provides a durable robust protection of the cam interlock.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2") frame sections or to applications where space is restricted.

The Head will rotate to provide up to 8 actuator entry positions.

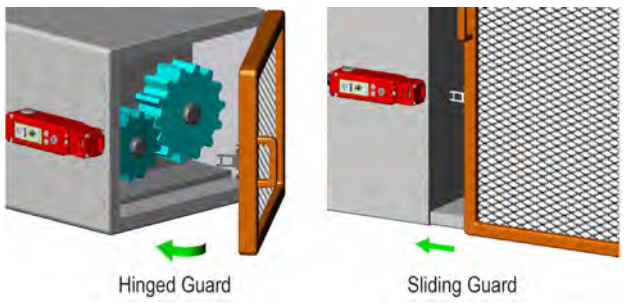
An LED is available to indicate Lock Status.

Accessories include a Sliding Handle Gate Bolt and lock off actuators.

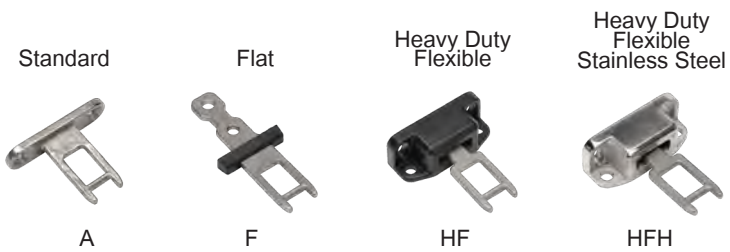
FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
High specification polyester housing with Stainless Steel Head
Connects to most Safety Relays to give up to PLe Cat.4
Will fit on 50mm (2") frame sections or where space is restricted
Quick Connector version available for ease of installation

2NC Safety Circuits:
Solenoid/Lock and Actuator/Guard wired in series
1NO Auxiliary Circuit:
For indication of Actuator Status
1NO Auxiliary Circuit:
For Lock Status (selectable with LED2)



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

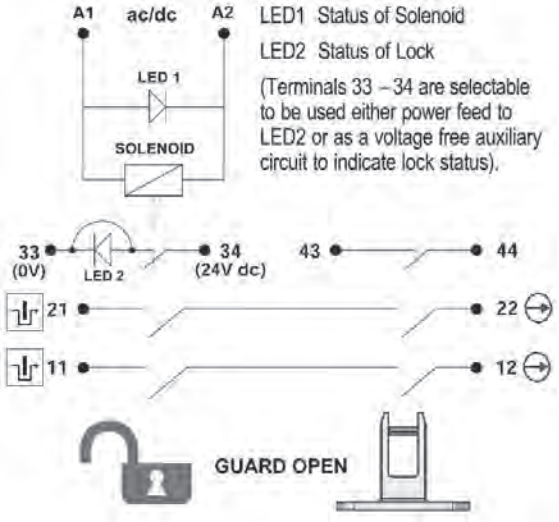
	6.0	5.0	0mm
11/12	Open		
21/22	Open		
33/34			Open
43/44		Open	

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

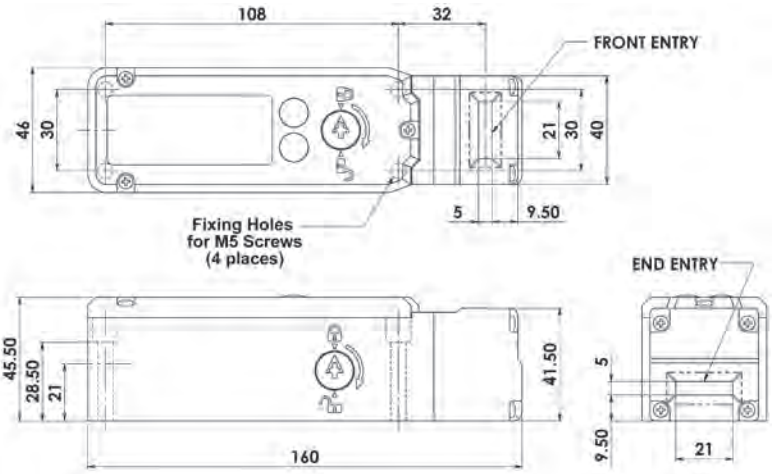
Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 2000N Fzh 1538N
Body Material	Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Plastic: **SEZYLOCK KLP**

SCHEMATIC CIRCUIT:



DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p155)

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and supplied with plastic handle and flat actuator.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9 10	33/34

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KLP Switch	24V ac/dc	201001	201002	201003	201401	201402	201403	201301	201302	201303
Kobra KLP Switch	110V ac	201004	201005	201006	201404	201405	201406	201304	201305	201306
Kobra KLP Switch	230V ac	201007	201008	201009	201407	201408	201409	201307	201308	201309
Kobra Actuator	Standard	Add A to Sales Part Number								
Kobra Actuator	Flat	Add F to Sales Part Number								
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number								
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number								

Ordering Examples:

Kobra KLP 24V Solenoid M20 Conduit Standard Manual Release Heavy Flexible Actuator: Sales Number: 201001-HF

Kobra KLP 110V Solenoid 1/2" NPT Conduit Manual Release Lid only Standard Actuator: Sales Number: 201405-A

Guard Locking Switch Metal: **SAMLOCK KLM**

FEATURES:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

STAINLESS STEEL HEAD

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KLM Series Guard Locking safety switches feature rugged die-cast housings and are engineered with a high holding force of 3000N, ensuring that medium to large guard doors remain securely closed until all hazards are eliminated.

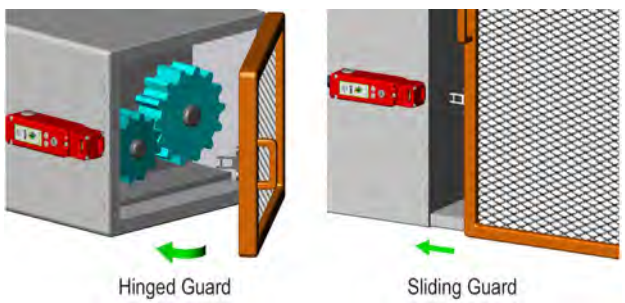
With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited.

The head can rotate to offer up to 8 actuator entry positions, providing flexibility in installation.

They are equipped with two independent contact blocks that separately monitor the Lock Status and Door Status, with an optional LED available to indicate Lock Status.

Versions of the KLM Series are available with a Rear Manual Escape Release for emergency situations.

Accessories include a Sliding Handle Bolt, ideal for securing heavy or hinged doors, as well as lock-off actuators.

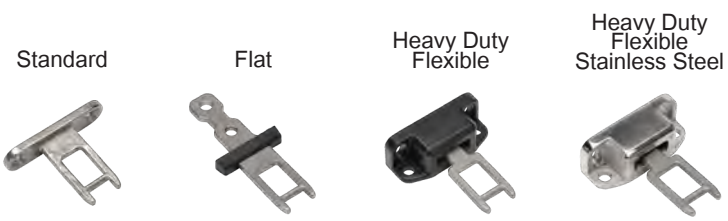


FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation

4NC Safety Circuits:
2 Solenoid/Lock 2 Actuator/Guard
1NO Auxiliary Circuit:
For indication of Actuator Status (guard open)
1NO Auxiliary Circuit:
For Lock Status (selectable with LED2)

ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

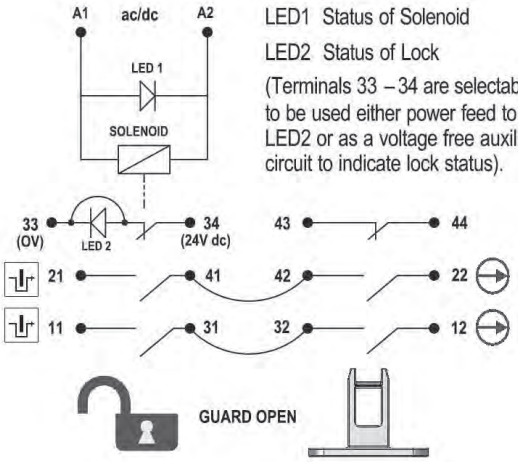
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast (painted red)
Head Material	Die Cast (painted red) or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Metal: **SAMLOCK KLM**

SCHEMATIC CIRCUIT:

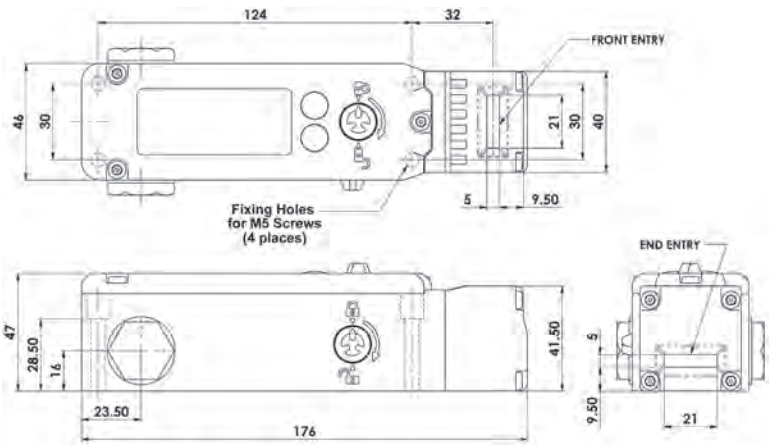


LED1 Status of Solenoid

LED2 Status of Lock

(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).

DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p155)

Sliding Handle Gate Bolt with Lock Off Feature

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and comes with plastic handle and flat actuator.

REAR MANUAL RELEASE VERSION

Rear push button manual release version provides a means of escape from inside the guarded area.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
										
SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KLM Switch	24V ac/dc	202001	202002	202003	202401	202402	202403	202301	202302	202303
Kobra KLM Switch	110V ac	202004	202005	202006	202404	202405	202406	202304	202305	202306
Kobra KLM Switch	230V ac	202007	202008	202009	202407	202408	202409	202307	202308	202309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number
Stainless Steel Head Versions		Add SS to Sales Part Number

Ordering Examples:

Kobra KLM 24V Solenoid M20 Conduit Standard Manual Release Stainless Steel Head Flat Actuator: Sales Number: 202001-SS-F

Kobra KLM 110V Solenoid 1/2" NPT Conduit No Manual Release Standard Actuator: Sales Number: 202305-A

Guard Locking Switch Metal: **RAMZLOCK KLTM**

FEATURES:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Door Interlock Safety Switch
Guard Holding up to 3000N (300Kg) (F1Max)

The KLTM Series Guard Locking switch is a tongue-type safety interlock device that integrates traditional mechanical anti-tamper technology, utilizing IDEM Safety Switches' patented cam system.

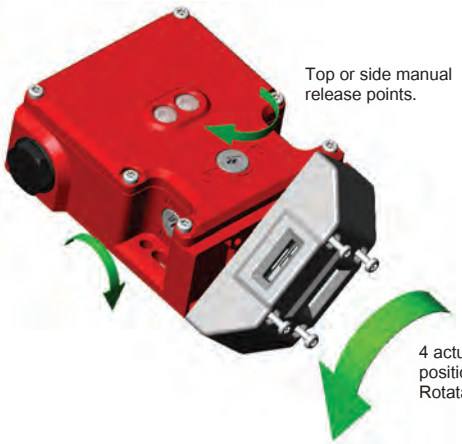
These switches securely interlock and hold guard doors closed, safeguarding operators from moving or hazardous machinery. They are particularly well-suited for applications where high anti-tamper protection is essential to prevent accidental or intentional attempts to bypass the interlock.

The KLTM solenoid locking switch features a robust metal body, designed to deliver a maximum holding force of 3000N, ensuring that medium to large guard doors remain securely closed until all hazards have been removed.

With IP67 enclosure protection, provided by a specialized double-seal lid gasket design and metal fixings, these switches are built to withstand challenging environments.

The KLTM has a low-profile design, with industry-standard 73mm center mounting holes, allowing for easy retrofitting to both new and existing guards, especially in scenarios requiring enhanced anti-tamper measures.

The head is designed to rotate, offering up to 4 actuator entry positions for flexible installation.



Top or side manual release points.

4 actuator entry positions. Rotatable head.

CONTACTS:

KLTM

4NC Safety Contacts

1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Guard Locked)
(selectable option for LED2 Guard Locked)

LED1 RED Solenoid Power On
LED2 GREEN Switch Locked (if selected)

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
Rugged Die Cast Metal Housing with Stainless Steel 316 Head
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
2 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR OPTIONS (see p154)

Standard

A

Flat

F

Heavy Duty Flexible

HF

Heavy Duty Flexible Stainless Steel

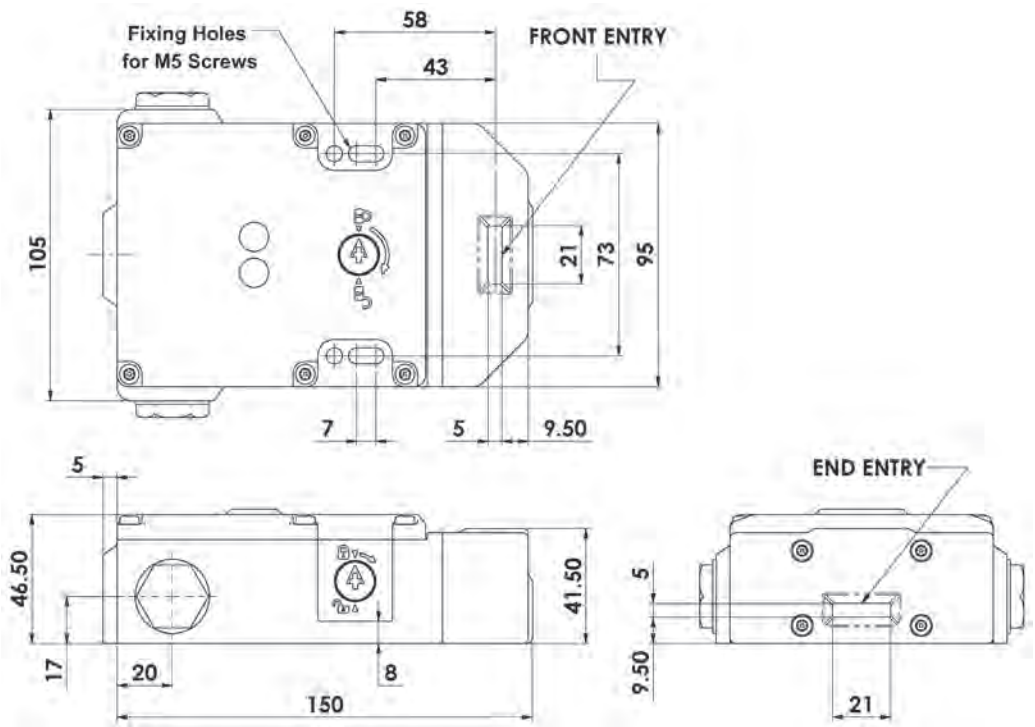
HFH

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast Metal (painted red)
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

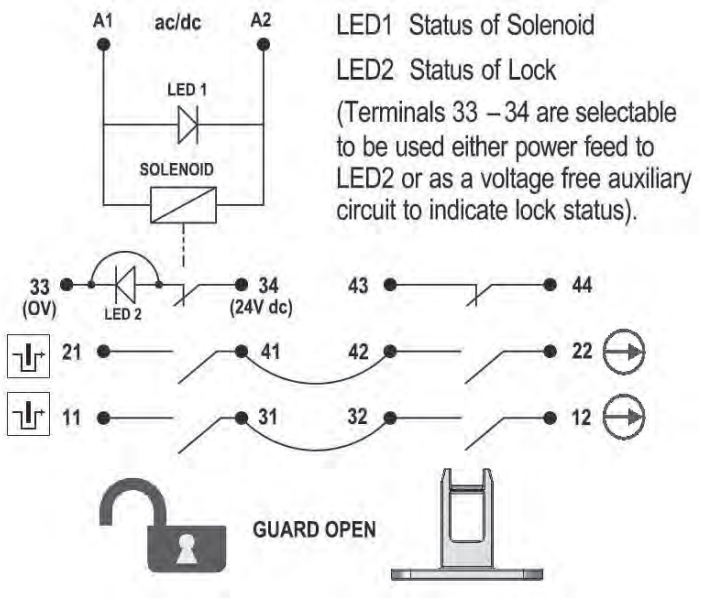
Guard Locking Switch Metal: **RAMZLOCK KLTM**

DIMENSIONS:



SCHEMATIC CIRCUIT:

KLTM Version (Mechanical only)



Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLTM Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
RAMZLOCK KLTM Switch	24V ac/dc	450001	450002	450003
RAMZLOCK KLTM Switch	110V ac	450004	450005	450006
RAMZLOCK KLTM Switch	230V ac	450007	450008	450009
RAMZLOCK KLTM Actuator	Standard	Add A to Sales Part Number		
RAMZLOCK KLTM Actuator	Flat	Add F to Sales Part Number		
RAMZLOCK KLTM Actuator	Heavy Duty Flexible	Add HF to Sales Part Number		
RAMZLOCK KLTM Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number		

Ordering Example: KLTM M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 450001-HF

Guard Locking Switch Stainless Steel: **RYANLOCK KL1-SS**

FEATURES:

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 2000N (200Kg) (F1Max)

The KL1-SS Series Guard Locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 2000N to keep medium to large guard doors closed until hazards have been removed.

They are designed to cope with the rigorous applications of the Food Processing, Packaging, Pharmaceutical and Petro-Chemical Industries.

They have IP69K enclosure protection (maintained by a double seal lid gasket and seals) and can be high pressure hosed with detergent at high temperature.

They have a low profile compact body profile with fixing holes on an industry standard 40mm centre to enable easy fitting to new or existing guards (or where replacement of a non locking tongue switch is required).

The Head will rotate to provide up to 4 actuator entry positions.

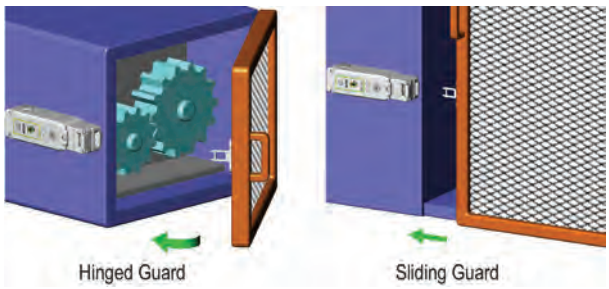
CONTACTS/LED DIAGNOSTICS:

STANDARD - Version 1:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Lock Open)
LED1 Solenoid Power

EXTRA LED2 - Version 2:

2NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED2 Lock Status:
Closed and Locked
LED1 Solenoid Power



FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Body and Head
Connects to most Safety Relays to give up to PLe Cat.4
Universal 8 Way MicroLock Connector version available
2 manual override points
IP69K suitable for SIP and CIP Processes
Will fit on 40mm fixing centres

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
			
A	F	HF	HFH

ACCESSORIES (see p155)

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

INSERTION OF ACTUATOR

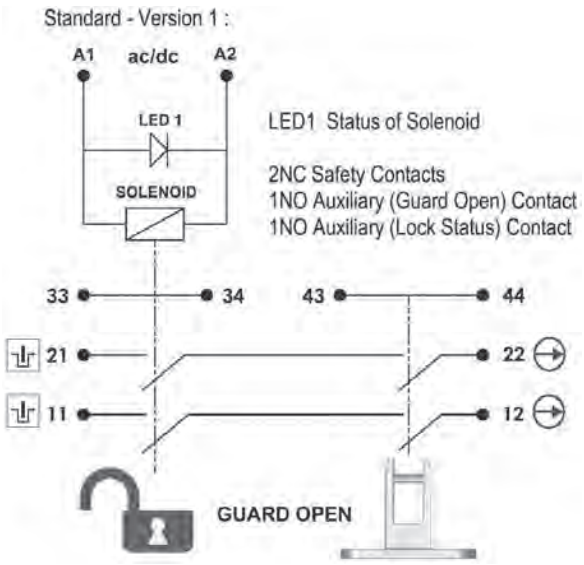
	6.0	5.0	0mm
11/12	Open		
21/22	Open		
33/34			Open
43/44			Open

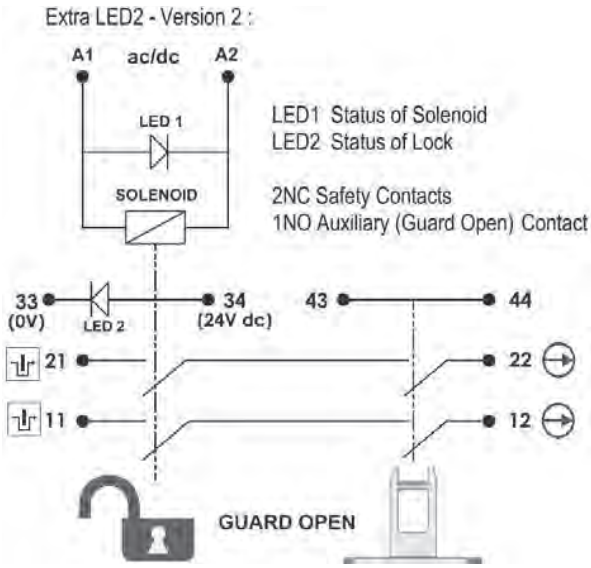
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 2000N Fzh 1538N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

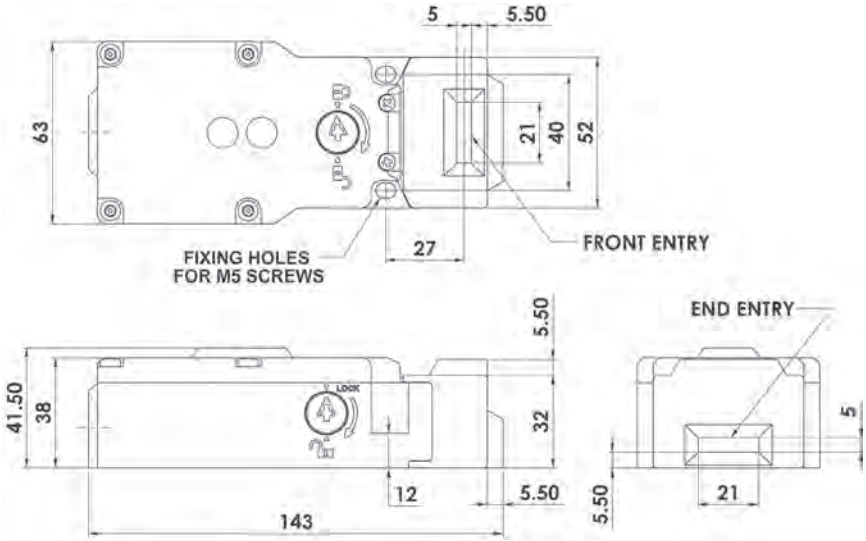
Guard Locking Switch Stainless Steel: **RYANLOCK KL1-SS**

SCHEMATIC CIRCUITS:





DIMENSIONS:

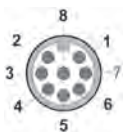


QC Quick Connect
M12 8 Pin Flying Lead 250mm (10")
Available on Standard Version only
Connector Rated IP67

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.



Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch	Switch Circuit
2 7	A1 A2
4 6	11/12
8 5	21/22
3 1	43/44

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

		STANDARD VERSION 1 (Solenoid LED only)			EXTRA LED VERSION 2 (Lock Status)	
SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M12	M20	1/2" NPT
Kobra KL1-SS Switch	24V ac/dc	220001	220002	220003	220301	220302
Kobra KL1-SS Switch	110V ac	220004	220005	220006	220304	220305
Kobra KL1-SS Switch	230V ac	220007	220008	220009	220307	220308
Kobra Actuator	Standard	Add A to Sales Part Number				
Kobra Actuator	Flat	Add F to Sales Part Number				
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number				
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number				

Ordering Examples:
Kobra KL1-SS 24V Solenoid M20 Conduit LED2 Version Heavy Flexible Actuator: Sales Number: 220301-HF
Kobra KL1-SS 110V Solenoid 1/2" NPT Conduit Standard Version Standard Actuator: Sales Number: 220005-A

Guard Locking Switch Stainless Steel: **HYGIELOCK KL3-SS**

FEATURES:

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.

Manual override available on the lid and side. Requires manual release key.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KL3-SS Series guard locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 3000N to keep medium to large guard doors closed until hazards have been removed.

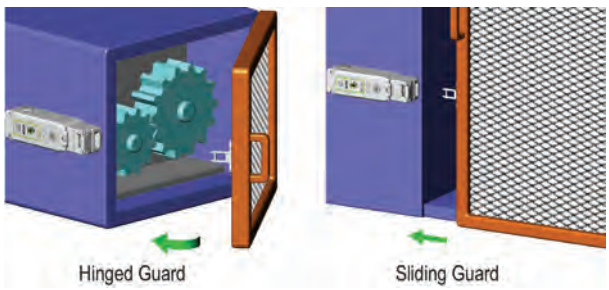
They are designed in accordance with EHEDG guidelines for hygienic design (EHEDG European Hygienic Engineering & Design Group). The mirror-polished surface to Ra10 is designed to cope with direct food splash and cleaning found in the tough applications of the Food Processing Industries.

They have IP69K enclosure protection and can be high pressure hosed with detergent at high temperature.

Designed with slim body under 50mm wide the KL3-SS series can be fitted to 50mm (2") frame sections or to applications where space is restricted.

The head will rotate to provide up to 8 actuator entry positions.

2 Manual override points are provided (by using anti-tamper key).

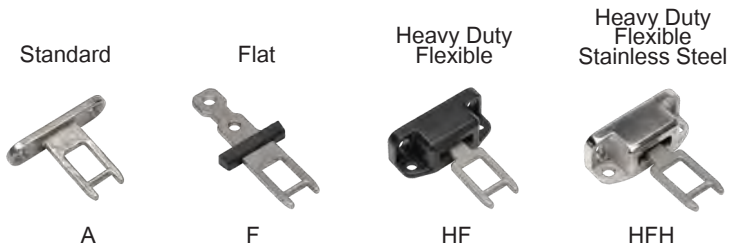


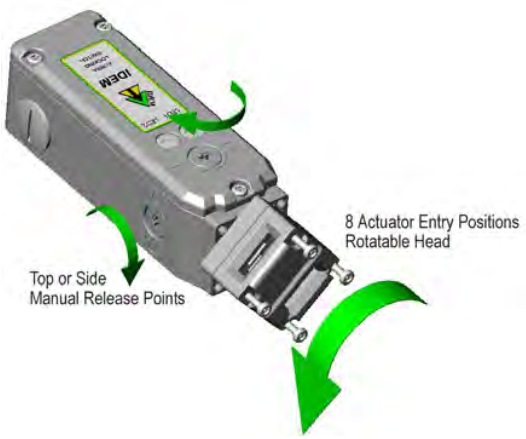
CONTACTS/LED DIAGNOSTICS:

A unique mechanical design featuring 2 independent contact blocks gives a high function and diagnostic specification.

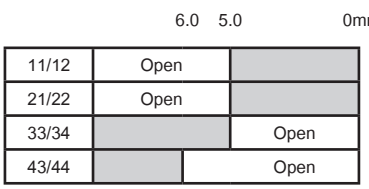
4NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED1 Solenoid Power
LED2 Lock Status indication or 1NO Auxiliary Contact (Lock Open)

ACTUATOR OPTIONS (see p154)





INSERTION OF ACTUATOR



For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

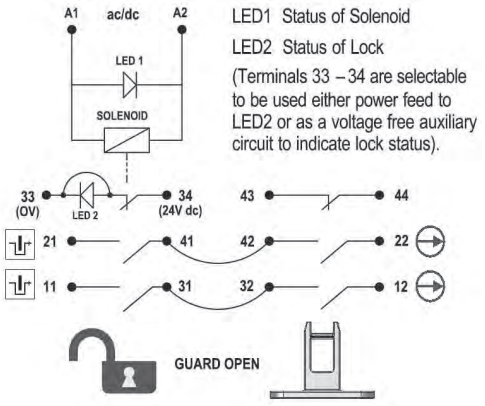
FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Body and Head - Mirror Polished to Ra10
Connects to most Safety Relays to give up to PLe Cat.4
IP69K suitable for SIP and CIP Processes
Will fit on 50mm frame sections or where space is restricted
4NC Safety Contacts independently selectable

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Stainless Steel: **HYGIELOCK KL3-SS**

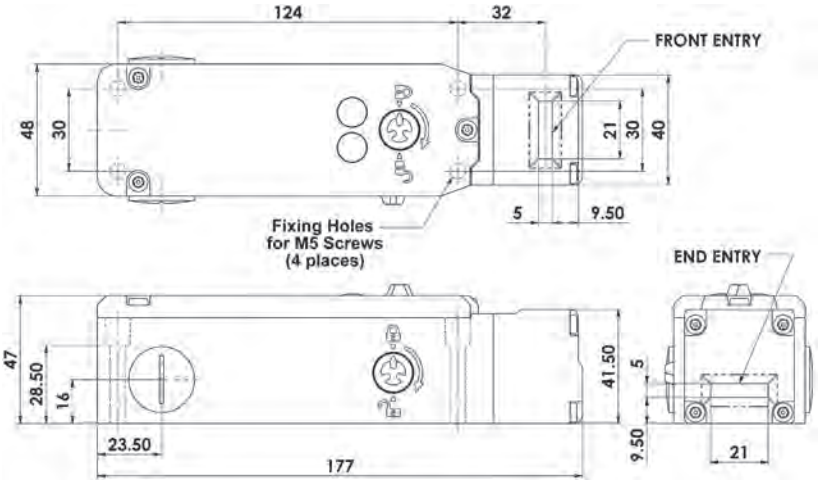
SCHEMATIC CIRCUIT & DIMENSIONS:



LED1 Status of Solenoid

LED2 Status of Lock

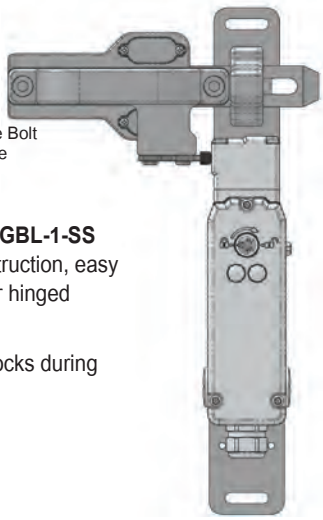
(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

ACCESSORIES (see p151)



Sliding Handle Gate Bolt with Lock Off feature

GATE BOLT LOCK GBL-1-SS

Stainless Steel construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
										
SALES NUMBER	**SOLENOID VOLTAGE**	**M20**	**1/2" NPT**	**QC M23**	**M20**	**1/2" NPT**	**QC M23**	**M20**	**1/2" NPT**	**QC M23**
Kobra KL3-SS Switch	24V ac/dc	205001	205002	205003	205401	205402	205403	205301	205302	205303
Kobra KL3-SS Switch	110V ac	205004	205005	205006	205404	205405	205406	205304	205305	205306
Kobra KL3-SS Switch	230V ac	205007	205008	205009	205407	205408	205409	205307	205308	205309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

Ordering Examples:
24V Solenoid M20 Conduit Standard Manual Release Flat Actuator: Sales Number: 205001-F
110V Solenoid 1/2" NPT Conduit No Manual Release Standard Actuator: Sales Number: 205305-A

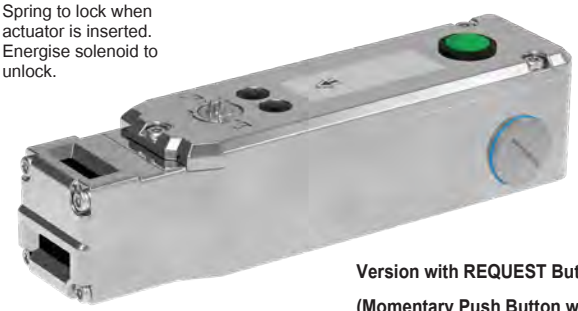
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Guard Locking Switch Stainless Steel: **HYGIELOCK KL4-SS**

FEATURES:

IP69K

Spring to lock when actuator is inserted. Energise solenoid to unlock.



Version with REQUEST Button

(Momentary Push Button with 1 set of changeover contacts in Lid Assembly)

Version without Request button.

Solenoid Locking Interlock Safety Switch featuring Guard Holding up to 3000N (300Kg) (F1Max)

The KL4-SS Series Guard Locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 3000N to keep medium to large guard doors closed until hazards have been removed.

They are designed to cope with the rigorous applications of the Food Processing, Packaging, Pharmaceutical and Petro-Chemical Industries.

They have IP69K enclosure protection and can be high pressure hosed with detergent at high temperature.

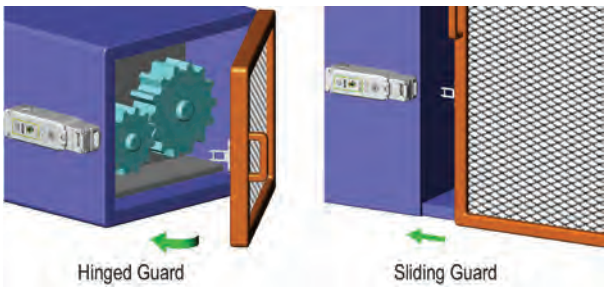
With a slim body design of under 50mm wide they can be fitted to 50mm (2") frame sections or to applications where space is restricted. The Head will rotate to provide up to 8 actuator entry positions.

2 manual override points are provided (this is achieved by using an anti-tamper key).

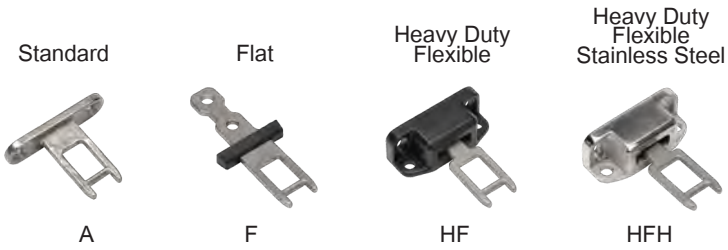
CONTACTS/LED DIAGNOSTICS:

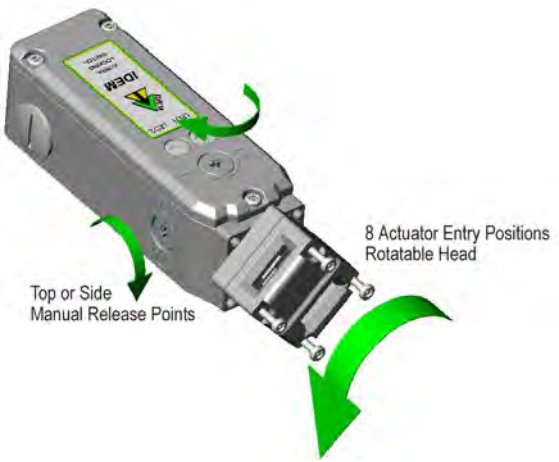
A unique mechanical design featuring 2 independent contact blocks gives a high function and diagnostic specification.

4NC Safety Contacts
1NO Auxiliary Contact (Guard Open)
LED1 Solenoid Power
LED2 Lock Status indication or 1NO Auxiliary Contact (Lock Open)



ACTUATOR OPTIONS (see p154)





FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Housings
Connects to most Safety Relays to give up to PLe Cat.4
IP69K suitable for SIP and CIP Processes
Will fit on 50mm frame sections or where space is restricted
4NC Safety Contacts independently selectable

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Technical Specification:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED2 Supply Voltage	24Vdc
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K IP67
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

INSERTION OF ACTUATOR

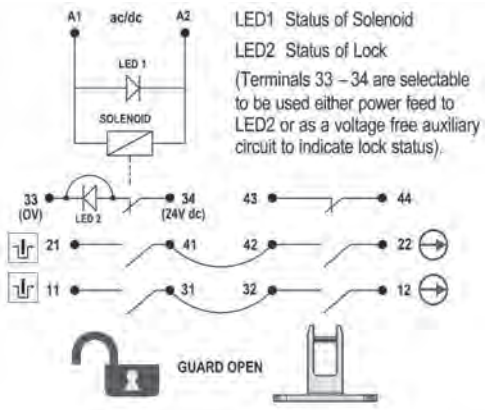
6.0 5.0 0mm

11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Guard Locking Switch Stainless Steel: **HYGIELOCK KL4-SS**

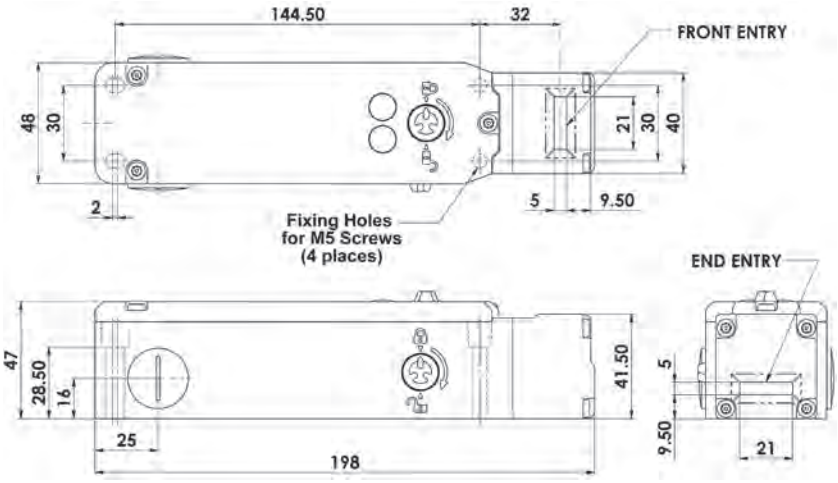
SCHEMATIC CIRCUIT & DIMENSIONS:



LED1 Status of Solenoid

LED2 Status of Lock

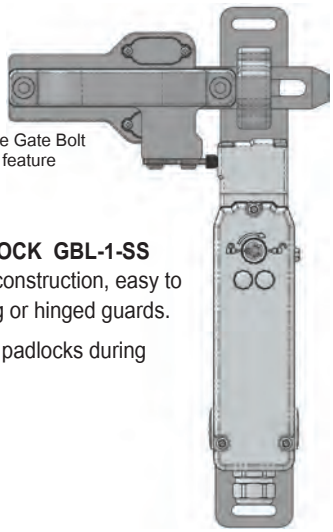
(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

ACCESSORIES (see p151)



Sliding Handle Gate Bolt with Lock Off feature

GATE BOLT LOCK GBL-1-SS

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

		STANDARD MANUAL RELEASE LID AND SIDE			MANUAL RELEASE LID ONLY (Not SIDE)			NO MANUAL RELEASE FITTED (Blanked)		
										
SALES NUMBER	**SOLENOID VOLTAGE**	**M20**	**1/2" NPT**	**QC M23**	**M20**	**1/2" NPT**	**QC M23**	**M20**	**1/2" NPT**	**QC M23**
Kobra KL4-SS Switch	24V ac/dc	209001	209002	209003	209401	209402	209403	209301	209302	209303
Kobra KL4-SS Switch	110V ac	209004	209005	209006	209404	209405	209406	209304	209305	209306
Kobra KL4-SS Switch	230V ac	209007	209008	209009	209407	209408	209409	209307	209308	209309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number
Momentary Request Push Button (fitted to Lid) 1 x Changeover Contact	Common - Closed/Open	Add PB to Sales Part Number
Manual Release Key (order separately - not supplied with switches) Sales Number: 140123		**Ordering Examples:** 24V Solenoid M20 Conduit Standard Manual Release Flat Actuator: Sales Number: 209001-F 110V Solenoid 1/2" NPT Conduit No Manual Release Push Button Standard Actuator: Sales Number: 209305-A-PB 24V Solenoid M20 Conduit No Manual Release S/Steel Heavy Flexible Actuator: Sales Number: 209301-HFH

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Guard Locking Switch Stainless Steel: **KLT-SS**

FEATURES:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

IP69K

Solenoid Locking Door Interlock Safety Switch with Guard Holding up to 3000N (300Kg) (F1Max)

The KLT-SS Series Guard Locking switch is a tongue-type safety interlock device that incorporates traditional mechanical anti-tamper technology, utilizing IDEM Safety Switches' patented cam system.

These switches effectively interlock and secure guard doors, ensuring operator safety by preventing access to moving or hazardous machinery. They are especially suited for applications requiring a high level of anti-tamper protection to prevent accidental or intentional bypassing of the interlock.

The KLT-SS Solenoid Locking Switch features a mirror-polished Stainless Steel 316 body, designed to deliver a maximum holding force of 3000N, ensuring medium to large guard doors remain securely closed until all hazards are eliminated.

With IP69K enclosure protection, achieved through a double-seal lid gasket design and metal fixings, these switches are built for durability in harsh environments.

The KLT-SS has a low-profile design, with industry-standard 73mm center mounting holes, making it easy to retrofit to both new and existing guards, particularly in situations where additional anti-tamper measures are needed.

The head is designed to rotate, allowing for up to 4 actuator entry positions, providing flexibility in installation.

CONTACTS:

KLT-SS

4NC Safety Contacts

1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Guard Locked)
(selectable option for LED2 Guard Locked)

LED1 RED Solenoid Power On
LED2 GREEN Switch Locked (if selected)

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
Mirror Polished (Ra10) Stainless Steel 316
Will fit on 73mm fixing centres
Connects to most Safety Relays to give up to PLe Cat.4
M23 Quick Connector version available for ease of installation
1 manual override points
LED diagnostics for Solenoid, Lock and faults

ACTUATOR OPTIONS (see p154)

Standard

A

Heavy Duty Flexible

HF

Flat

F

Heavy Duty Flexible Stainless Steel

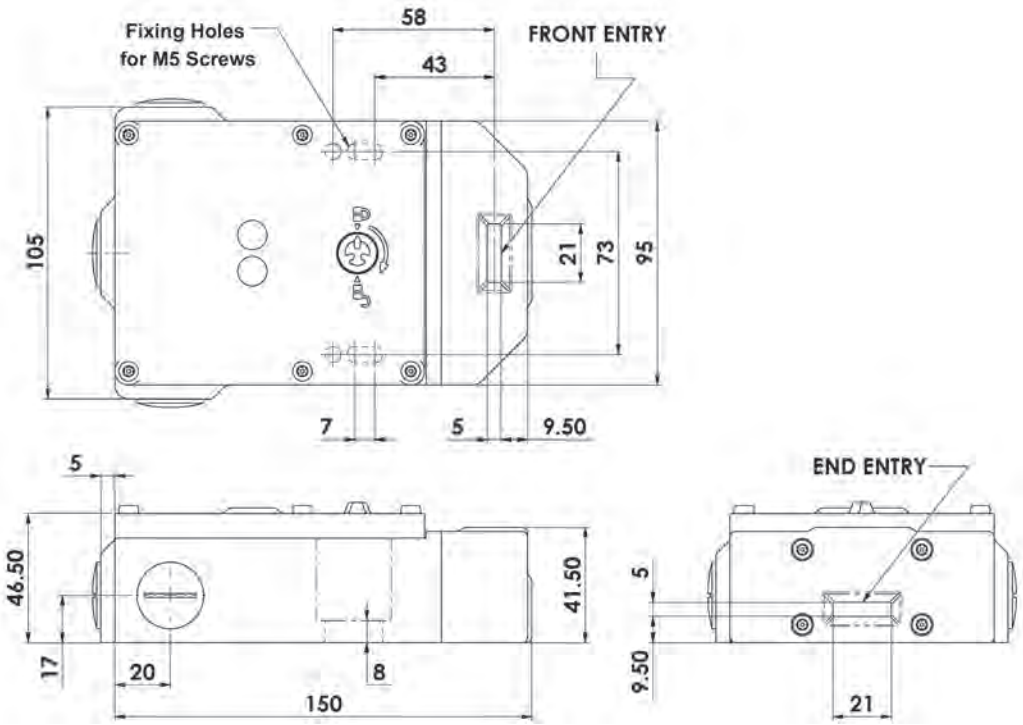
HFH

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
Solenoid Voltage (by Sales Number)	24V ac/dc or 110V ac or 230V ac
Solenoid Wattage	12W
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Polished Stainless Steel 316
Head Material	Polished Stainless Steel 316
Enclosure Protection	IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	2 x M5

Guard Locking Switch Stainless Steel: **KLT-SS**

DIMENSIONS:

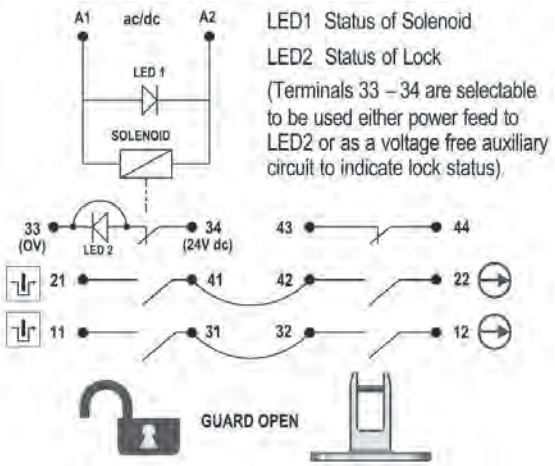


Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLT-SS Switch Circuit
1 3	A1 A2
4	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

SCHEMATIC CIRCUIT:

KLT-SS Version (Mechanical only)



FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
KLT-SS Switch	24V ac/dc	451001	451002	451003
KLT-SS Switch	110V ac	451004	451005	451006
KLT-SS Switch	230V ac	451007	451008	451009
KLT-SS Actuator	Standard	Add A	to Sales Part Number	
KLT-SS Actuator	Flat	Add F	to Sales Part Number	
KLT-SS Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
KLT-SS Actuator	Stainless Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Ordering Example: KLT-SS M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 451001-HF

Guard Locking - Rear Manual Escape Release Switches
KLM-RR & HYGIELOCK KL3-SS-RR

FEATURES & APPLICATION:

KLM-RR - IP67 Die-Cast (painted red)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

KL3-SS-RR - IP69K
Stainless Steel 316 Housing with mirror polished finish (Ra10)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

Solenoid Locking Door Interlock Safety Switches featuring Guard Holding up to 3000N (300Kg) (F1Max) and Rear Manual Escape Release

All the features and specifications of the standard KLM and KL3-SS are maintained with the addition of an extra Rear Manual Escape Release button being provided at the rear of the housing.

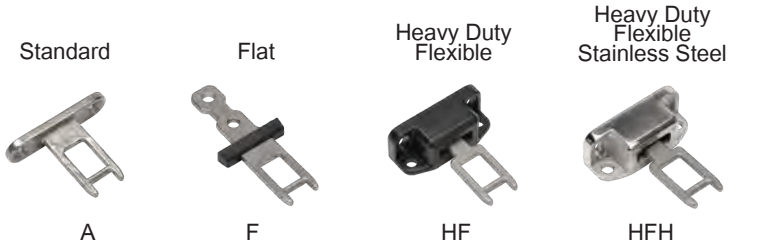
APPLICATION:

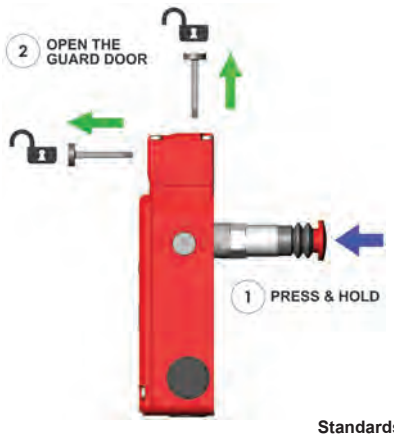
Where the risk assessment for the application permits, a non-latching manual escape release is provided to enable quick release of the switch lock in case of emergency.

The switch can be mounted such that access to the release button is available from inside the active guard area.

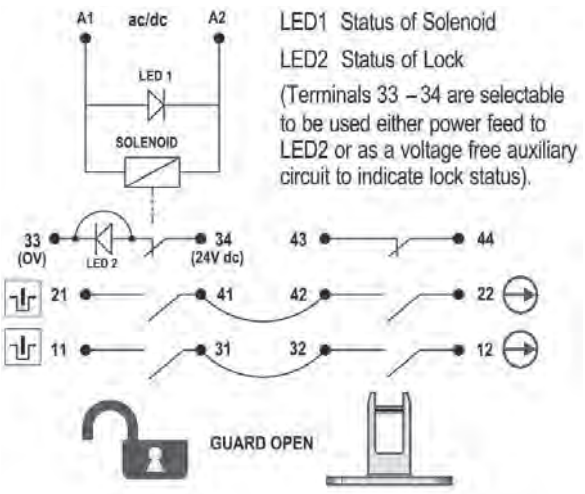
Pressing and holding the red button will release the lock mechanism and open the lock monitoring contacts whilst the guard can be pushed open.

ACTUATOR OPTIONS (see p154)





SCHEMATIC CIRCUIT:

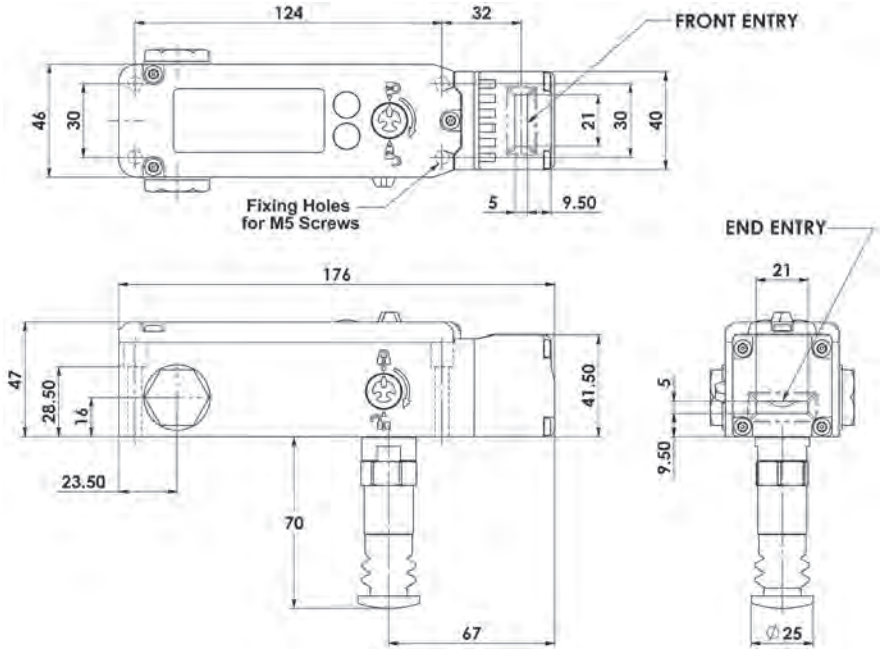


LED1 Status of Solenoid
LED2 Status of Lock
(Terminals 33 – 34 are selectable to be used either power feed to LED2 or as a voltage free auxiliary circuit to indicate lock status).

Standards:	ISO14119 EN60947-5-1 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1
Safety Classification and Reliability Data:	
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years
Technical Specification:	
KLT-SS - Solenoid Voltage (by Sales Number)	24V ac/dc or 110Vac or 230Vac
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vac
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	KLM-RR Die Cast (painted red) KL3-SS-RR Polished Stainless Steel 316
Head Material	KLM-RR Die Cast or Stainless Steel 316 KL3-SS-RR Polished Stainless Steel 316
Enclosure Protection	KLM-RR IP67 KL3-SS-RR IP69K
Operating Temperature	-25C +50C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking - Rear Manual Escape Release Switches
KLM-RR & HYGIELOCK KL3-SS-RR

DIMENSIONS:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

KLM-RR
Die Cast painted red
(Stainless Steel Head option available)

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

NO MANUAL RELEASE FITTED (Blanked)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KLM-RR Switch	24V ac/dc	212001	212002	212003	212401	212402	212403	212301	212302	212303
Kobra KLM-RR Switch	110V ac	212004	212005	212006	212404	212405	212406	212304	212305	212306
Kobra KLM-RR Switch	230V ac	212007	212008	212009	212407	212408	212409	212307	212308	212309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number
Stainless Steel Head Versions		Add SS to Sales Part Number

Ordering Example: 24V Solenoid M20 Conduit Standard Manual Release Standard Actuator: Sales Number: 212001-A

KL3-SS-RR
Stainless Steel 316
(Mirror Polished Finish to Ra10)

STANDARD MANUAL RELEASE LID AND SIDE

MANUAL RELEASE LID ONLY (Not SIDE)

NO MANUAL RELEASE FITTED (Blanked)

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23	M20	1/2" NPT	QC M23
Kobra KL3-SS-RR Switch	24V ac/dc	215001	215002	215003	215401	215402	215403	215301	215302	215303
Kobra KL3-SS-RR Switch	110V ac	215004	215005	215006	215404	215405	215406	215304	215305	215306
Kobra KL3-SS-RR Switch	230V ac	215007	215008	215009	215407	215408	215409	215307	215308	215309

Kobra Actuator	Standard	Add A to Sales Part Number
Kobra Actuator	Flat	Add F to Sales Part Number
Kobra Actuator	Heavy Duty Flexible	Add HF to Sales Part Number
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH to Sales Part Number

Manual Release Key
(order separately - not supplied with switches)

Sales Number: 140123

Ordering Example:
24V Solenoid 1/2" NPT Conduit Manual Release Lid Only Flat Actuator: Sales Number: 215402-F

Z-Range with OSSD: **KLP-Z-P2L, KLM-Z-P2L**

FEATURES:

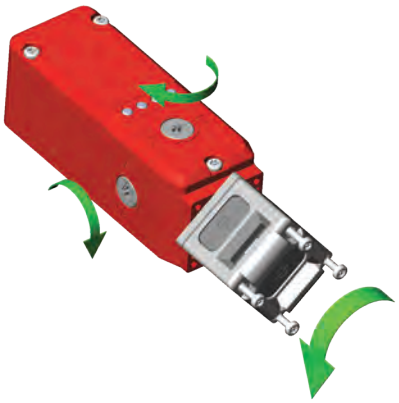
Power to Lock Guard Locking Switches: RFID-Coded with OSSD Outputs for CAT4, SIL3, PLe Safety in Accordance with the Latest Internatonal Safety Standards.

The KLP-Z-P2L and KLM-Z-P2L Series Guard Locking switches feature an RFID-coded sensor and OSSD outputs, ensuring reliable safety and security. These switches have a slim plastic or die-cast metal body design, developed with a holding force of 2000N (plastic) and 3000N (die-cast) to keep medium to large guard doors securely closed until hazards have been removed.

They operate on a **Power to Lock** - Spring to Unlock mechanism, making them suitable for applications where immediate unlocking is necessary upon removal or loss of power. (Note: They are not suitable for machines with a running down time.)

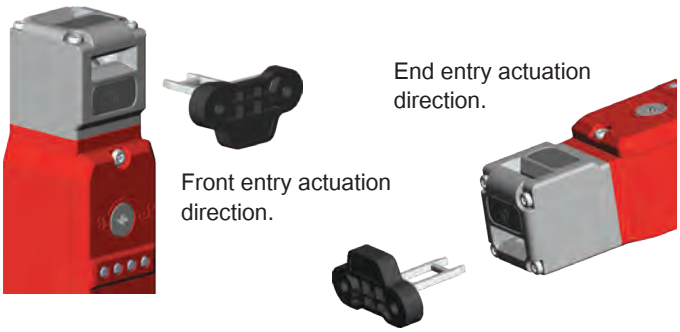
The high-specification plastic body offers high resistance to chemicals and washdown solutions, while the Stainless Steel Head provides robust protection of the cam interlock. The die-cast body is designed to withstand high levels of shock, making it ideal for exposed areas of machine guarding.

IP67 enclosure protection is ensured by a double seal lid gasket design and metal fixings, maintaining durability in demanding environments. With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited. Additionally, the head rotates to provide up to 8 actuator entry positions.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.



End entry actuation direction.

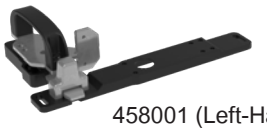
Front entry actuation direction.

TECHNICAL SPECIFICATIONS:

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	KLP (F1 Max 2000N) / KLM (F1 Max 3000)
Operating Frequency	1Hz
Material	KLP (Polyester) / KLM (Die-Cast)
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

COMPATIBLE ACCESSORIES:

458007 (Left-Hand)
458008 (Right-hand)



458001 (Left-Hand)
458002 (Right-hand)

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

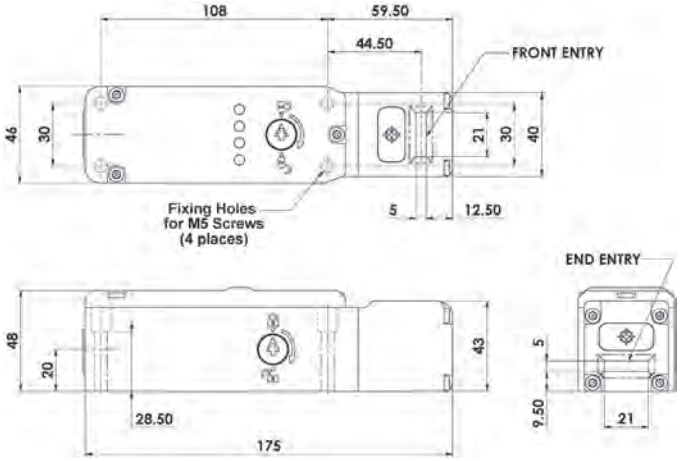
2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.

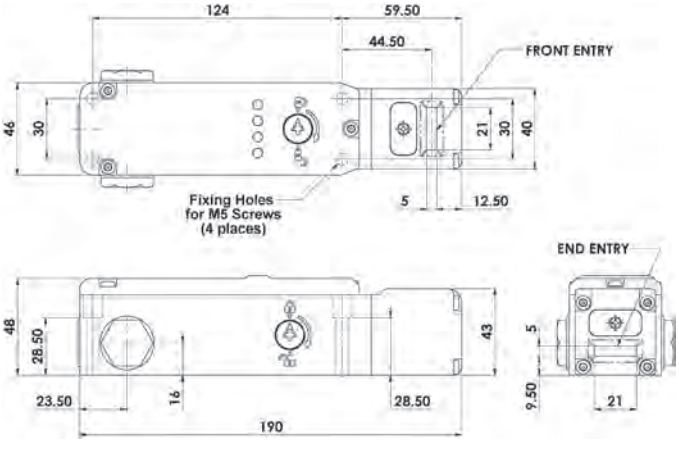
Z-Range with OSSD: **KLP-Z-P2L, KLM-Z-P2L**

DIMENSIONS:

KLP-Z-P2L



KLM-Z-P2L



INDICATION:

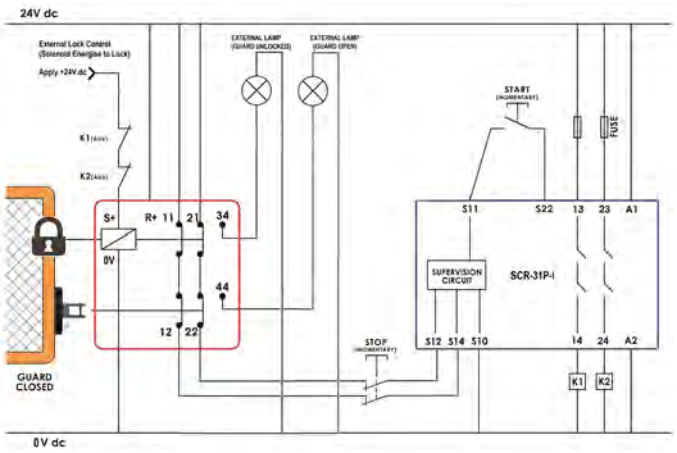
LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

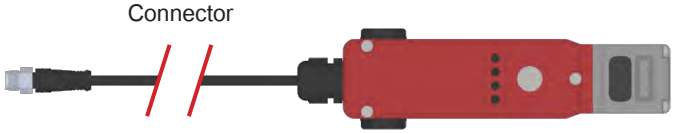
LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

CONNECTION DIAGRAM:



CONNECTIVITY:

250mm Pigtail Connector



Quick Connect (QC) M12 8 Way Male Plug Pin View from Switch	Terminal	Function	Switch Circuit	Rating
2	R+	24V dc	Supply 24V dc	50mA max.
3	0V	0V dc	Supply 0V dc (Ground)	
7	11	Safety Input 1	Safety Circuit 1	200mA max.
1	12	Safety Output 1		
4	21	Safety Input 2	Safety Circuit 2	200mA max.
6	22	Safety Output 2		
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
N/A	34	Auxiliary (Guard Locked)	Guard unlocked signal +24V dc out	200mA max.
5	S+	Lock	Lock signal apply +24V dc	500mA max.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

ORDERING:

KLP-Z-P2L

Part Number	Description	Material
455021AZ	KLP-Z-P2L M20 - Std Actuator	Plastic
455021HFZ	KLP-Z-P2L M20 - Heavy Duty Actuator	Plastic
455022AZ	KLP-Z-P2L 1/2" NPT - Std Actuator	Plastic
455022HFZ	KLP-Z-P2L 1/2" NPT - Heavy Duty Actuator	Plastic
455023AZ	KLP-Z-P2L QC-M12 - Std Actuator	Plastic
455023HFZ	KLP-Z-P2L QC-M12 - Heavy Duty Actuator	Plastic

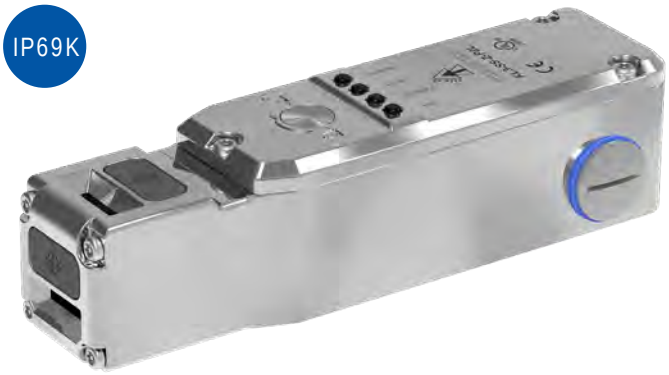
KLM-Z-P2L

Part Number	Description	Material
454021AZ	KLM-Z-P2L M20 - Std Actuator	Die-Cast
454021HFZ	KLM-Z-P2L M20 - Heavy Duty Actuator	Die-Cast
454022AZ	KLM-Z-P2L 1/2" NPT - Std Actuator	Die-Cast
454022HFZ	KLM-Z-P2L 1/2" NPT - Heavy Duty Actuator	Die-Cast
454023AZ	KLM-Z-P2L QC-M12 - Std Actuator	Die-Cast
454023HFZ	KLM-Z-P2L QC-M12 - Heavy Duty Actuator	Die-Cast

Z-Range with OSSD Stainless Steel: **KL3-SS-Z-P2L**

FEATURES:

IP69K



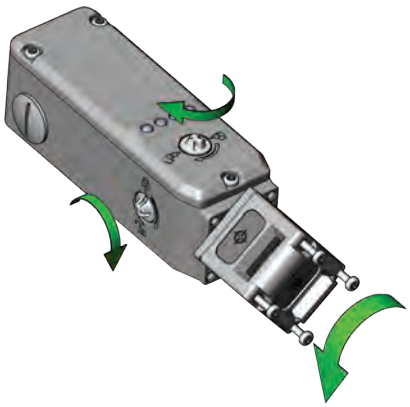
Power to Lock Guard Locking Switches: RFID-Coded with OSSD Outputs for CAT4, SIL3, PLe Safety in Accordance with the Latest Internatonal Safety Standards.

The KL3-SS-Z-P2L Series Guard Locking switches feature an RFID-coded sensor and OSSD outputs, ensuring reliable safety and security. These switches have a rugged 316 stainless steel body design, developed with a holding force of 3000N to keep medium to large guard doors securely closed until hazards have been removed.

They operate on a **Power to Lock** - Spring to Unlock mechanism, making them suitable for applications where immediate unlocking is necessary upon removal or loss of power. (Note: They are not suitable for machines with a running down time.)

The 316 grade stainless steel has a high resistance to chemicals and washdown solutions, while provideing a robust interlocking solution. The robust design can withstand high levels of shock, making it ideal for exposed areas of machine guarding.

IP69K enclosure protection is ensured by a double seal lid gasket design and metal fixings, maintaining durability in demanding environments. With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited. Additionally, the head rotates to provide up to 8 actuator entry positions.



Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

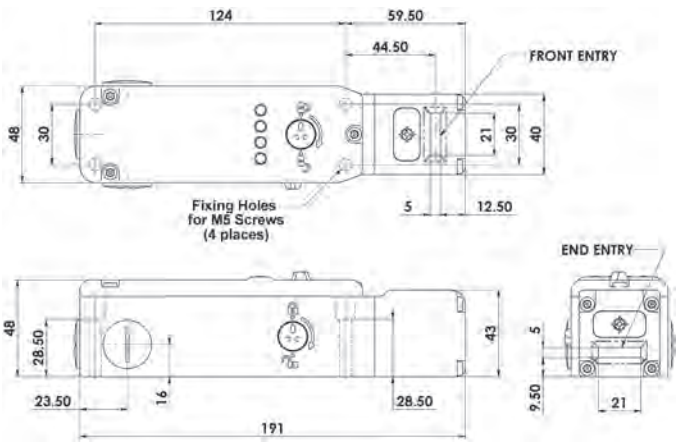
Front entry actuation direction.

End entry actuation direction.

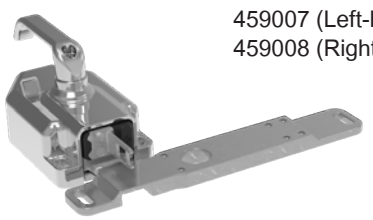
TECHNICAL SPECIFICATIONS:

Technical Specification	
Standards	IEC60947-5-3, ISO14119, ISO13849-1, IEC62061
Supply Voltage	24VDC (-15% / +10%)
Power Consumption	50mA (no load) 500mA peak (solenoid energised)
Safety Outputs	24VDC, 0.2A
Auxiliary Outputs	24VDC, 0.1A
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N
Operating Frequency	1Hz
Material	Stainless Steel 316
Enclosure Protection	IP67 IP69K
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5 x 10^6 cycles
Vibration and Shock are tested to IEC 60068-2-6 and -2-27	IEC88-2-6, 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min

DIMENSIONS:



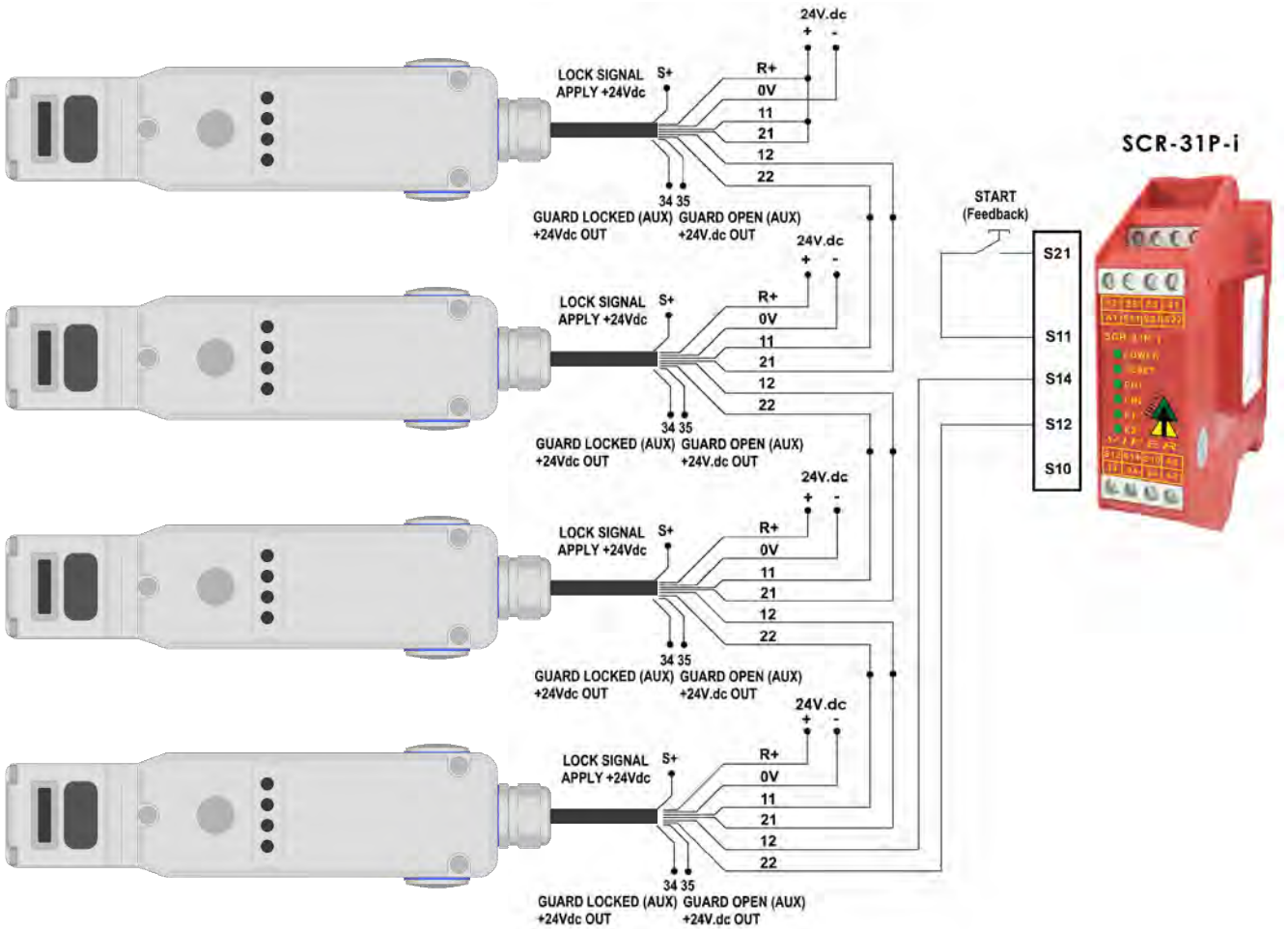
COMPATIBLE ACCESSORIES:



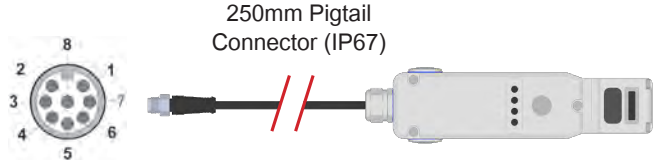
459007 (Left-Hand)
459008 (Right-hand)

Z-Range with OSSD Stainless Steel: **KL3-SS-Z-P2L**

CONNECTION DIAGRAM:



CONNECTIVITY:



Quick Connect (QC) M12 8 Way Male	Terminal	Function	Switch Circuit
2	R+	24V dc	Supply 24V dc
3	0V	0V dc	Supply 0V dc (Ground)
7	11	Safety Input 1	Safety Circuit 1
1	12	Safety Output 1	
4	21	Safety Input 2	Safety Circuit 2
6	22	Safety Output 2	
8	44	Auxiliary (Guard Open)	Guard open signal +24V dc out
N/A	34	Auxiliary (Guard Locked)	Guard unlocked signal +24V dc out
5	S+	Lock	Lock signal apply +24V dc

INDICATION:

LED 1 Guard State	
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2 Input	
Safety Inputs On	Green
Safety Inputs Off	Off

LED 3 Output	
Safety Outputs On	Green
Safety Outputs Off	Off

LED 4 Solenoid	
Solenoid Energised	Red
Solenoid De-energised	Off

ORDERING:

Part Number	Description	Material
456021AZ	KL3-SS-Z-P2L M20 - Std Actuator	316 S/Steel
456021HFZ	KL3-SS-Z-P2L M20 - Heavy Duty Actuator	316 S/Steel
456021AZ	KL3-SS-Z-P2L 1/2" NPT - Std Actuator	316 S/Steel
456021HFZ	KL3-SS-Z-P2L 1/2" NPT - Heavy Duty Actuator	316 S/Steel
456021AZ	KL3-SS-Z-P2L QC-M12 - Std Actuator	316 S/Steel
456021HFZ	KL3-SS-Z-P2L QC-M12 - Heavy Duty Actuator	316 S/Steel

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

Guard Locking Switch Plastic: **SEZYLOCK KLP-P2L**

FEATURES:

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

Solenoid Locking Interlock Safety Switch featuring
POWER TO LOCK with Guard Holding up to 2000N (200Kg) (F1Max)

The KLP-P2L Series Guard Locking switches have a slim plastic body design and have been developed with a holding force of 2000N to keep medium guard doors closed until hazards have been removed.

They are Power to Lock - Spring to Unlock, suitable for applications where immediate unlocking is required at removal or loss of power.
(They are NOT suitable for machines with a running down time).

The high specification plastic body has a high resistance to chemical and washdown solutions, and the Stainless Steel Head provides a durable robust protection of the cam interlock.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2") frame sections or to applications where space is restricted.

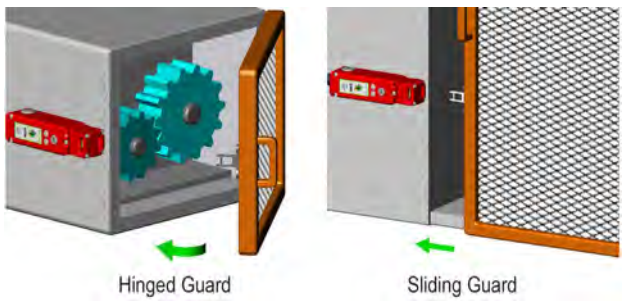
The head will rotate to provide up to 8 actuator entry positions.

FUNCTIONAL SPECIFICATIONS:

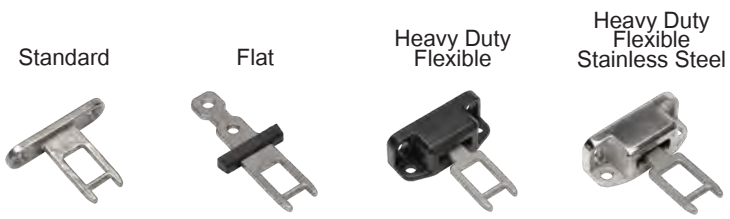
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
High Specification Polyester Housing
Stainless Steel 316 Head
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

2NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open		Solenoid Energised
21/22	Open		Solenoid Energised
33/34	Open		Tongue Inserted
43/44		Open	Tongue Inserted

For all IDEM Power to Lock switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted and power is applied to the solenoid.

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

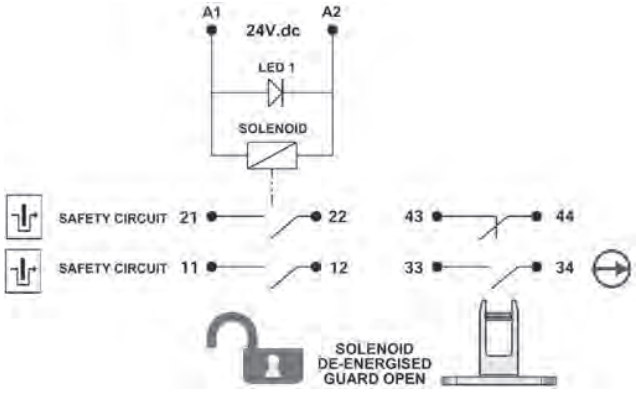
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

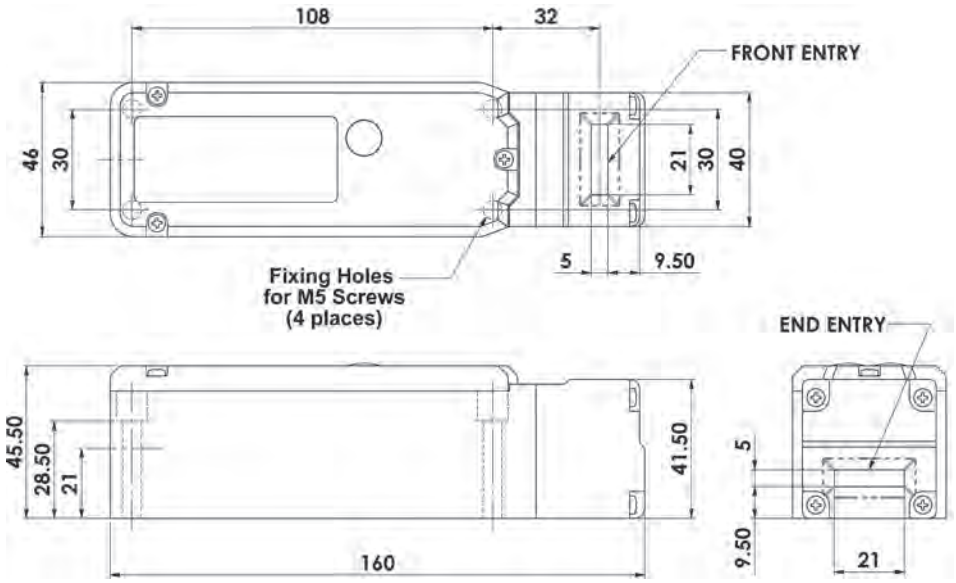
Solenoid Voltage (by Sales Number)	24Vdc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 2000N Fzh 1538N
Body Material	Polyester
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Plastic: **SEZYLOCK KLP-P2L**

SCHEMATIC CIRCUIT:



DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p150)

Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and comes with plastic handle and flat actuator.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KLP-P2L Switch	24V dc	201021	201022	201023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Guard Locking Switch Metal: **SAMLOCK KLM-P2L**

FEATURES:

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

STAINLESS STEEL HEAD

Solenoid Locking Interlock Safety Switch featuring POWER TO LOCK with Guard Holding to 3000N (300Kg) (F1Max)

The KLM-P2L Series Guard Locking switches have a slim metal body design and have been developed with a holding force of 3000N to keep large guard doors closed until hazards have been removed.

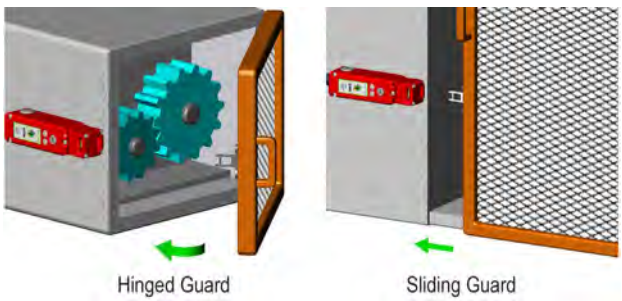
They are Power to Lock - Spring to Unlock - suitable for applications where immediate unlocking is required at removal or loss of power. (They are NOT suitable for machines with a running down time).

The rugged die cast body provides a durable robust hold closed interlock protection and is available with Stainless Steel Heads for extra durability. Flexible actuators are available to aid where some alignment is a problem.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a slim profile and are designed to fit on 50mm (2") frame sections or to applications where space is restricted.

The head will rotate to provide up to 8 actuator entry positions.

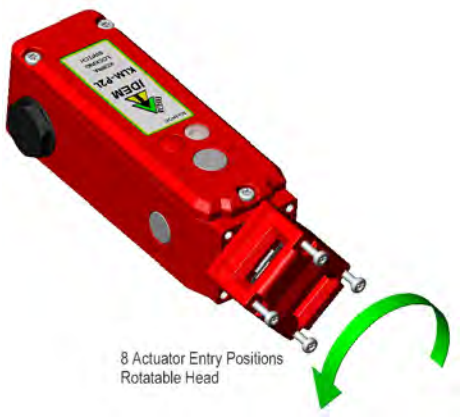


FUNCTIONAL SPECIFICATIONS:

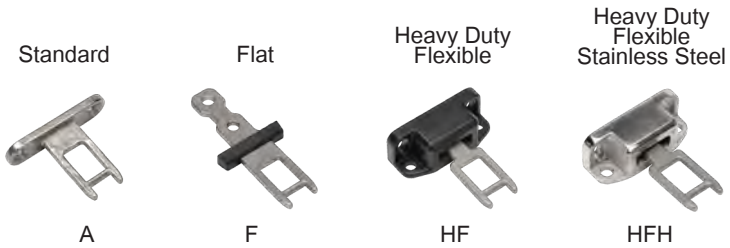
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Die Cast Metal Housing (painted red)
Stainless Steel Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

2NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status



ACTUATOR OPTIONS (see p154)



INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open		Solenoid Energised
21/22	Open		Solenoid Energised
33/34	Open		Tongue Inserted
43/44		Open	Tongue Inserted

For all IDEM Power to Lock switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted and power is applied to the solenoid.

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

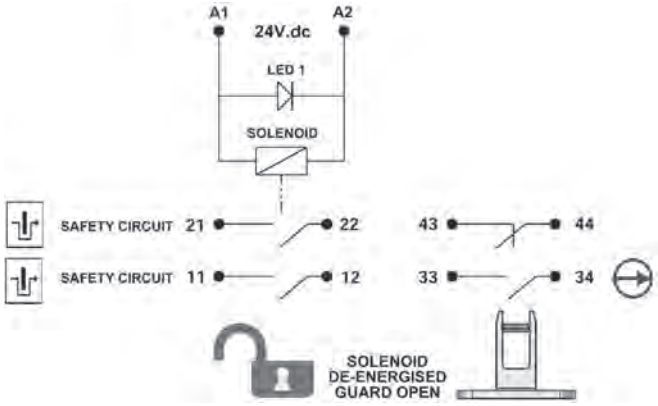
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

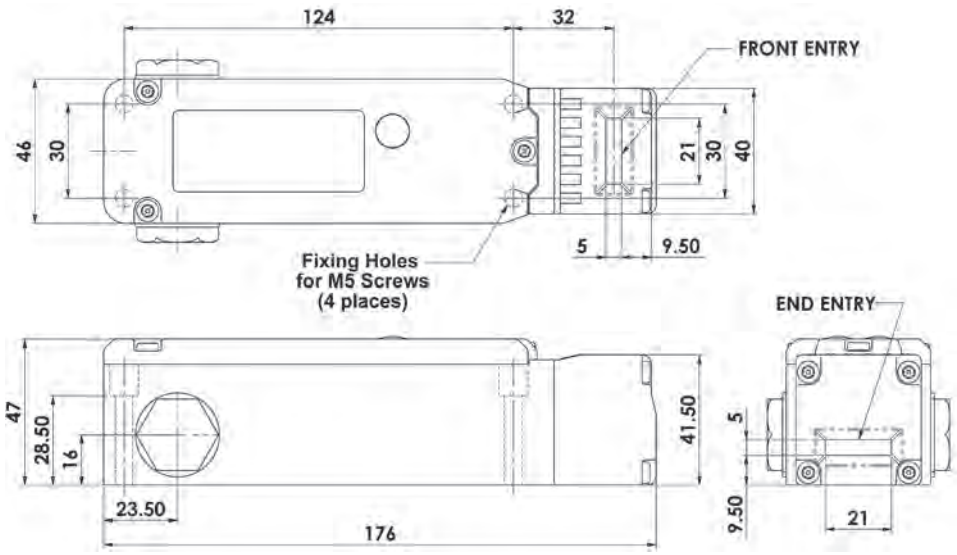
Solenoid Voltage (by Sales Number)	24Vdc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast (painted red)
Head Material	Die Cast (painted red) or Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Metal: **SAMLOCK KLM-P2L**

SCHEMATIC CIRCUIT:



DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p150)

Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

Sliding Handle Gate Bolt with Lock Off Feature

GATE BOLT LOCK

Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

Painted yellow and comes with plastic handle and flat actuator.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KLM-P2L Switch	24V dc	202021	202022	202023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	
Stainless Steel Head Version		Add SS to Sales Part Number		

Guard Locking Switch Metal: **RAMZLOCK KLTM-P2L**

FEATURES:

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

STAINLESS STEEL HEAD

Solenoid Locking Interlock Safety Switch featuring POWER TO LOCK with Guard Holding up to 3000N (300Kg) (F1Max)

KLTM-P2L Series Guard Locking switches have a rugged die cast metal body design with a stainless steel head. They have been developed with a holding force of 3000N to keep large guard doors closed until hazards have been removed.

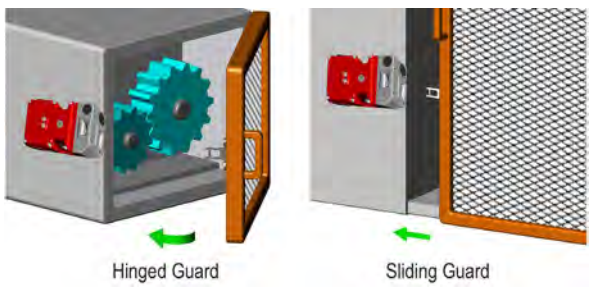
They are Power to Lock - Spring to Unlock - suitable for applications where immediate unlocking is required at removal or loss of power.
(They are NOT suitable for machines with a running down time).

The rugged die cast body provides a durable robust hold closed interlock protection and the stainless steel head provides extra durability. Flexible actuators are available to aid where some alignment is a problem.

IP67 enclosure protection is maintained by a double seal lid gasket design and metal fixings.

They have a low profile and fixing holes are on an industry standard 73mm centre to enable easy retrofitting to new or existing guards.

The head will rotate to provide up to 4 actuator entry positions.



Hinged Guard Sliding Guard

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Die Cast Metal Housing (painted red)
Stainless Steel Head version available
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

4NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status

KLTM-P2L

4NC Safety Contacts:
2 Guard Closed
2 Switch Locked
1NO Auxiliary Contact (Guard Open)
1NO Auxiliary Contact (Guard Locked)

LED RED Solenoid Power On

ACTUATOR OPTIONS (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
			
A	F	HF	HFH

Standards: EN14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

Safety Classification and Reliability Data:

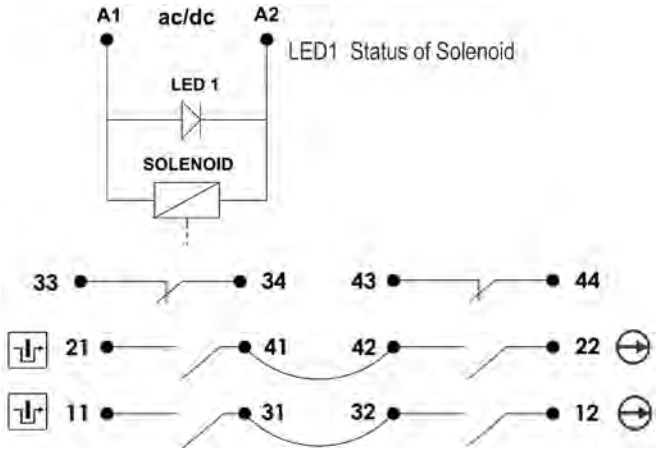
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

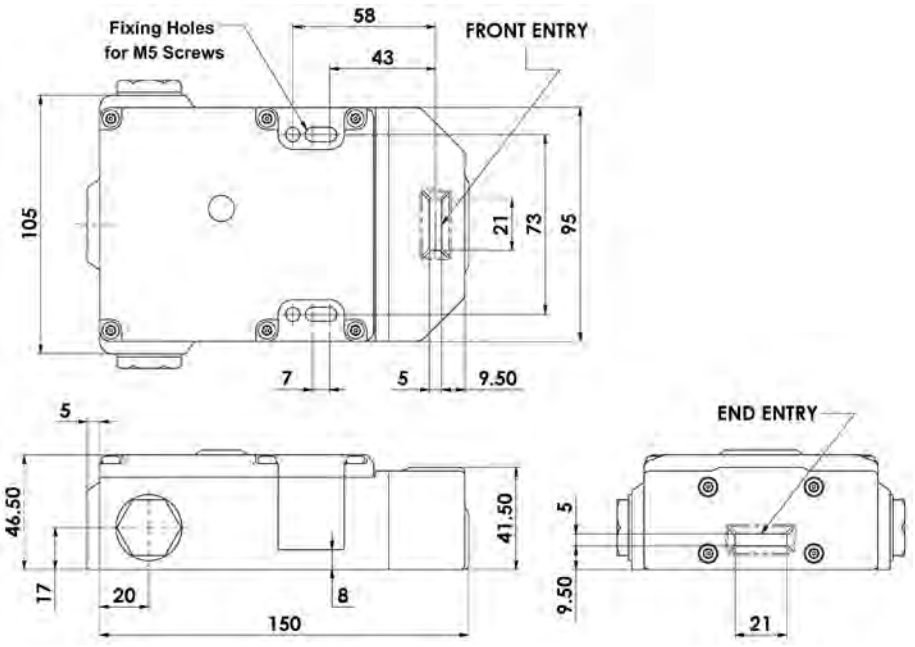
Solenoid Voltage (by Sales Number)	24Vdc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Die Cast (painted red)
Head Material	Stainless Steel 316
Enclosure Protection	IP67
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Metal: **RAMZLOCK KLTM-P2L**

SCHEMATIC CIRCUIT:



DIMENSIONS:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	KLTM Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

For all IDEM Power to Lock switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted and power is applied to the solenoid.

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KLTM-P2L Switch	24V dc	450021	450022	450023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Guard Locking Switch Stainless Steel: **KL3-SS-P2L**

FEATURES:

IP69K

POWER TO LOCK

Energise solenoid to lock.

Spring to unlock when solenoid is de-energised.

Solenoid Locking Interlock Safety Switch featuring POWER TO LOCK with Guard Holding to 3000N (300Kg) (F1Max)

The KL3-SS-P2L Series Guard Locking switches feature a slim, stainless steel 316 body, engineered with a holding force of 3000N to securely close large guard doors until all hazards have been eliminated.

These switches operate on a Power to Lock - Spring to Unlock principle, making them ideal for applications requiring immediate unlocking upon power loss or removal. (They are not suitable for machines with a run-down time.)

The durable Stainless Steel 316 housing ensures a strong and reliable hold, and flexible actuators are available to accommodate situations where alignment may be challenging.

IP69K enclosure protection is achieved through a double-seal lid gasket design and metal fixings, ensuring robustness in harsh environments.

With a slim profile, these switches are designed to fit on 50mm (2") frame sections or in applications where space is limited.

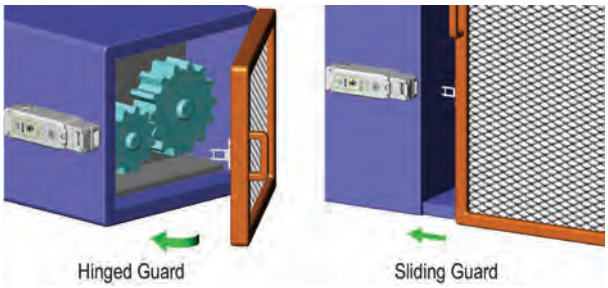
The head can rotate to provide up to 8 actuator entry positions, offering versatile installation options.

FUNCTIONAL SPECIFICATIONS:

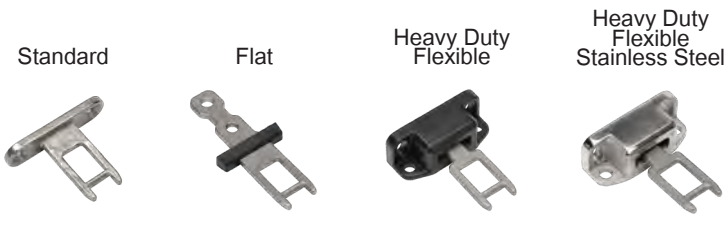
Positive Break Contacts to EN60947-5-1
High Functional Safety to ISO13849-1
Stainless Steel 316 Housing and fittings
Connects to most Safety Relays to give up to PLe Cat.4
Quick Connector version available for ease of installation
Machine safety contacts open when power is released
LED Status of Solenoid Power

2NC Safety Circuits:

1NC 1NO Auxiliary circuits - Actuator/Door Status



ACTUATOR OPTIONS (see p154)



8 Actuator Entry Positions
Rotatable Head

INSERTION OF ACTUATOR

6.0 5.0 0mm

11/12	Open		Solenoid Energised
21/22	Open		Solenoid Energised
33/34	Open		Tongue Inserted
43/44		Open	Tongue Inserted

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

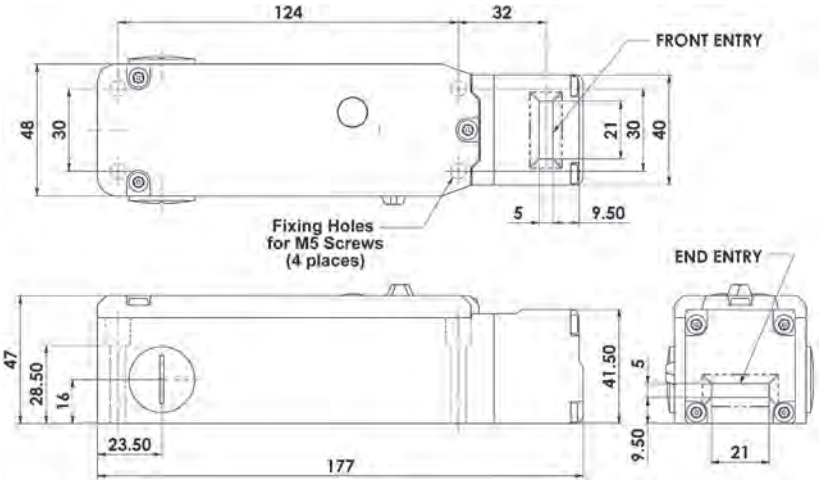
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

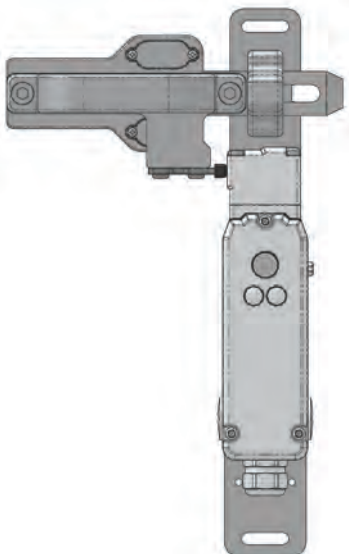
Solenoid Voltage (by Sales Number)	24V dc
Solenoid Wattage	12W (Inrush 50W)
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	Stainless Steel 316
Enclosure Protection	IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

Guard Locking Switch Stainless Steel: **KL3-SS-P2L**

DIMENSIONS:



RELATED PRODUCTS & ACCESSORIES (see p150)



GATE BOLT LOCK

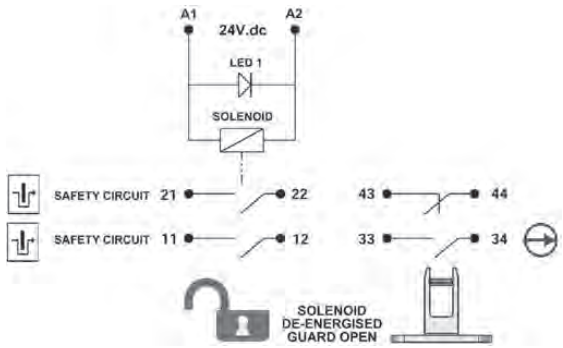
Rugged metal construction, easy to install on sliding or hinged guards.

Holes for fitting padlocks during maintenance.

MAINTENANCE LOCKOUT ACTUATOR

Fits to switch aperture during maintenance and provides multiple padlock holes.

SCHEMATIC CIRCUIT:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
12	Earth

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

SALES NUMBER	SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
Kobra KL3-SS-P2L	24V dc	205021	205022	205023
To order Switch with Actuator				
Kobra Actuator	Standard	Add A	to Sales Part Number	
Kobra Actuator	Flat	Add F	to Sales Part Number	
Kobra Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number	
Kobra Actuator	S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	
Stainless Steel Head Version		Add SS to Sales Part Number		

Guard Locking - Rear Manual Escape Release Switches
KLTM-RR & KLT-SS-RR (also with RFID)

FEATURES & APPLICATION:

KLTM-RFID-RR - IP67 Die-Cast (painted red)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

KLT-RFID-SS-RR - IP69K Stainless Steel 316 Housing with mirror polished finish (Ra10)

Spring to lock when actuator is inserted. Energise solenoid to unlock or press rear release button.

TYPE 4 INTERLOCK

Solenoid Locking Door Interlock Safety Switches featuring Guard Holding up to 3000N (300Kg) (F1Max) and Rear Manual Escape Release

All the features and specifications of the standard KLTM and KLT-SS are maintained with the addition of an extra Rear Manual Escape Release button being provided at the rear of the housing.

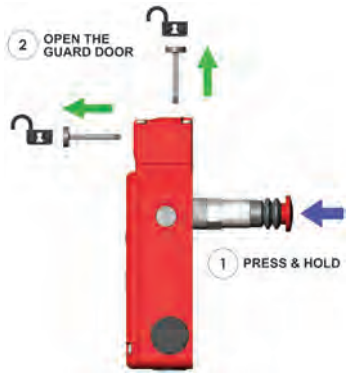
Also available with RFID coding.

APPLICATION:

Where the risk assessment for the application permits, a non-latching manual escape release is provided to enable quick release of the switch lock in case of emergency.

The switch can be mounted such that access to the release button is available from inside the active guard area.

Pressing and holding the red button will release the lock mechanism and open the lock monitoring contacts whilst the guard can be pushed open.



ACTUATORS (KLTM-RR & KLT-SS-RR) (see p154)

Standard	Flat	Heavy Duty Flexible	Heavy Duty Flexible Stainless Steel
			
A	F	HF	HFH

Standards: ISO14119 EN60947-5-1 EN60204-1
ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

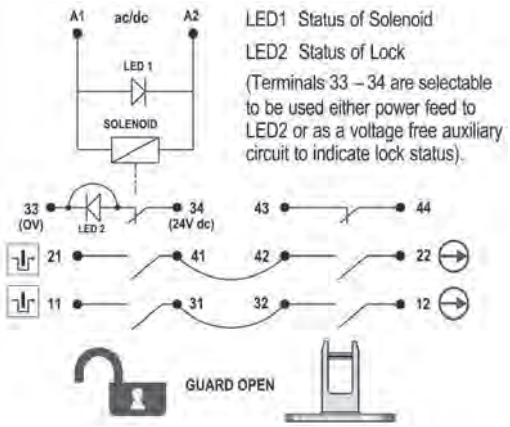
Mechanical Reliability B10d	2.5 x 10^6 operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days MTTFd 356 years

Technical Specification:

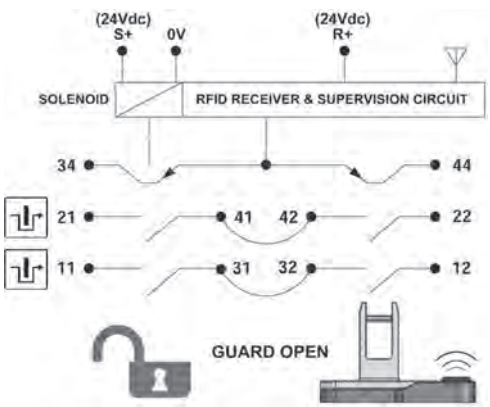
KLTM-RR & KLT-SS-RR Solenoid Voltage	24V ac/dc or 110Vac or 230Vac (by Sales No.)
Solenoid Wattage	12W
LED 2 Supply Voltage	24Vac
Thermal Current (Ith)	5A
Rated Insulation/Withstand Voltages	600Vac/2500Vac
Travel for Positive Opening	10mm
Actuator Entry Minimum Radius	175mm Standard 100mm Heavy Duty
Maximum Approach/Withdrawal Speed	600mm/s
Holding Force	F1Max 3000N Fzh 2307N
Body Material	KLTM-RR Die Cast (painted red) KLT-SS-RR Polished Stainless Steel 316
Head Material	KLTM-RR Die Cast (painted red) KLT-SS-RR Polished Stainless Steel 316
Enclosure Protection	KLTM-RR IP67 KLT-SS-RR IP69K
Operating Temperature	-25C +40C
Vibration	IEC 68-2-6 10-55Hz + 1Hz Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

SCHEMATIC CIRCUITS:

KLTM-RR KLT-SS-RR (Mechnical only version):

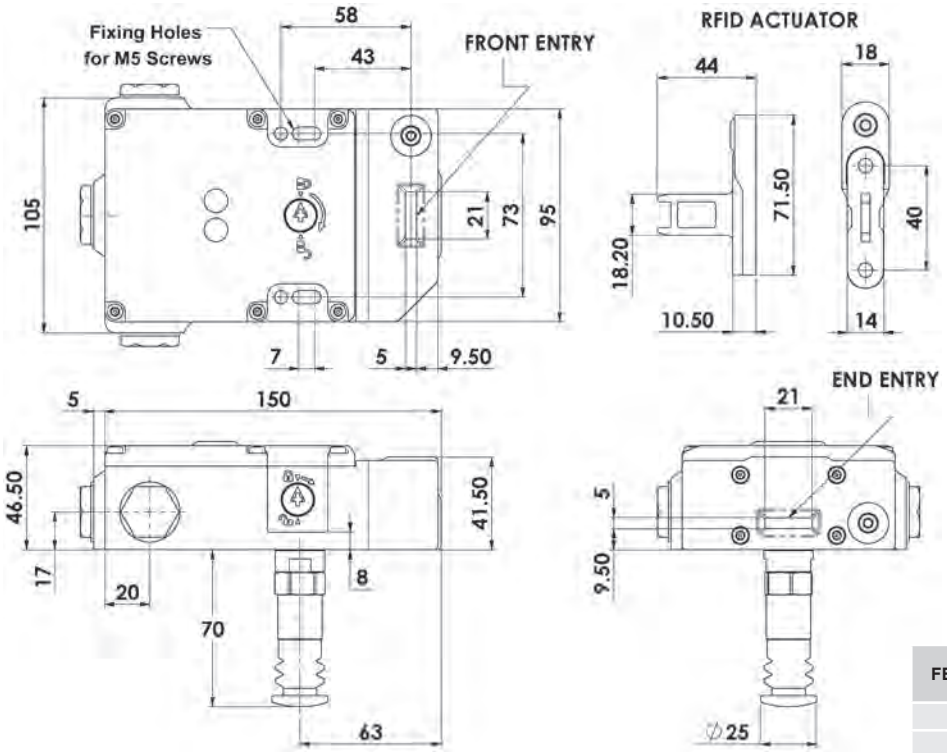


KLTM-RFID-RR KLT-SS-RFID-RR (RFID version):



Guard Locking - Rear Manual Escape Release Switches
KLTM-RR & KLT-SS-RR (also with RFID)

DIMENSIONS:



Connector Rated IP67

Quick Connect (QC) M23 12 Way Male Plug Connector Length 24mm Pin View from Switch	Switch Circuit
1 3	A1 A2
4 6	11/12
7 8	21/22
2 5	43/44
9	33
10	34
Earth	12

FEMALE QC LEADS	LENGTH	SALES NUMBER
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144

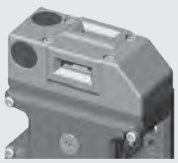
SALES NUMBER		SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
RAMZLOCK KLTM-RR Switch (Mechanical only)		24V ac/dc	452001	452002	452003
RAMZLOCK KLTM-RR Switch (Mechanical only)		110V ac	452004	452005	452006
RAMZLOCK KLTM-RR Switch (Mechanical only)		230V ac	452007	452008	452009
RAMZLOCK KLTM Actuator		Standard	Add A	to Sales Part Number	
RAMZLOCK KLTM Actuator		Flat	Add F	to Sales Part Number	
RAMZLOCK KLTM Actuator		Heavy Duty Flexible	Add HF	to Sales Part Number	
RAMZLOCK KLTM Actuator		S/Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Ordering Example: KLTM-RR M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 452001-HF

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
RAMZLOCK KLTM-RFID-RR Switch Supplied complete with uniquely coded actuator 		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	452201	452202	452203

SALES NUMBER		SOLENOID VOLTAGE	M20	1/2" NPT	QC M23
KLT-SS-RR Switch (Mechanical only)		24V ac/dc	453001	453002	453003
KLT-SS-RR Switch (Mechanical only)		110V ac	453004	453005	453006
KLT-SS-RR Switch (Mechanical only)		230V ac	453007	453008	453009
KLT-SS Actuator		Standard	Add A	to Sales Part Number	
KLT-SS Actuator		Flat	Add F	to Sales Part Number	
KLT-SS Actuator		Heavy Duty Flexible	Add HF	to Sales Part Number	
KLT-SS Actuator		Stainless Steel Heavy Duty Flexible	Add HFH	to Sales Part Number	

Ordering Example: KLT-SS-RR M20 24V ac/dc Heavy Duty Flexible Actuator: Sales Number: 453001-HF

SALES NUMBER		SUPPLY VOLTAGE/HEAD POSITION	M20	1/2" NPT	QC M23
KLT-SS-RFID-RR Switch Supplied complete with uniquely coded actuator 		24V dc Actuator Entry Positions: Front Entry End Entry (Lower)	453201	453202	453203

STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121

IDEM recommend using our Stainless Steel 316 Gland with this switch.

Gate Bolts for Tongue Switches: **GBL-1**

FEATURES & APPLICATION:

GBL-1 shown fitted with KLM
Left Hand Version shown

GBL-1-SS shown fitted with KL3-SS
Left Hand Version shown

The GBL-1 Gate Bolts are available in either steel or 316-grade stainless steel. These bolts can withstand shearing forces of up to 10,000 Newtons (F1Max) on large hinged doors.

They are easy to install on both hinged and sliding guards using four M6 mounting bolts, with no need for additional brackets or door handles once in place.

The design ensures resistance to misalignment damage, and operators must manually close the guard, preventing accidental closure.

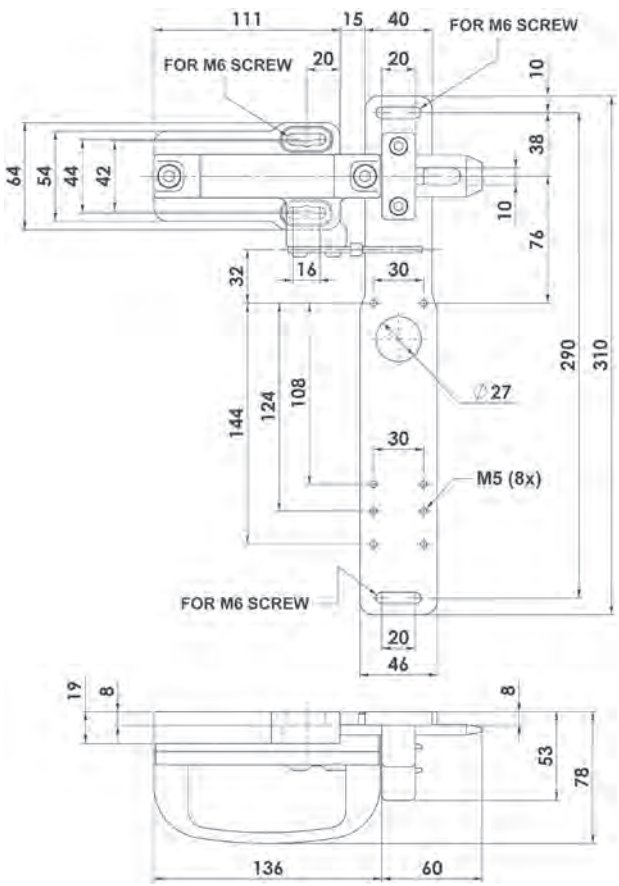
A padlock hole is included, allowing the handle to be locked open, ensuring the guard remains open and the machine cannot be started during maintenance.

The metal version is finished in yellow and black to enhance hazard identification.

Supplied with Handle and Flat Actuator (Type F).

DIMENSIONS:

Type: GBL-1 & GBL-1-SS



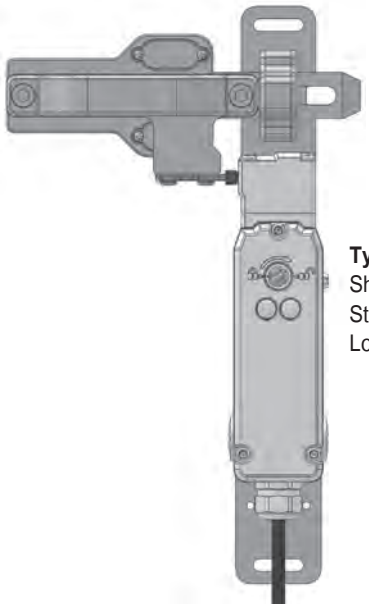
Gate Bolts for Tongue Switches: **GBL-1**

PART NUMBERS FOR DIE-CAST VERSIONS:

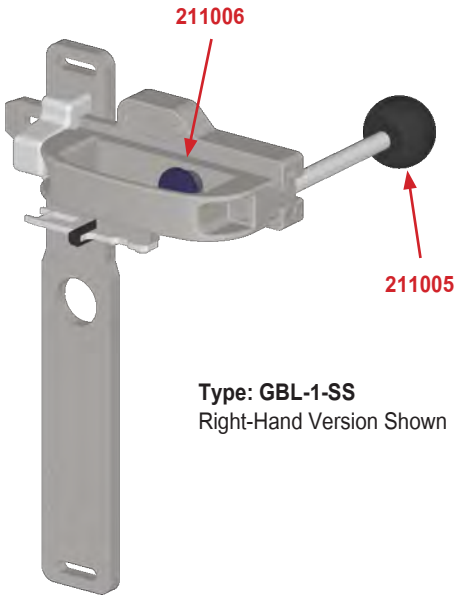
Type: GBL-1
Shown fitted with KLM-RR Solenoid Locking Tongue Switch with optional extra Rear Handle

DESCRIPTION	SALES NUMBER	SUITABILITY
Gate Bolt Lock GBL-1 Left Hand	210001	Suitable for Switch Types: KLP KLM KLM-RR KL4-SS
Gate Bolt Lock GBL-1 Right Hand	210002	
Rear Handle	210005	Suitable for GBL-1 and GBA-1
Spring Loaded Catch	210006	Suitable for GBL-1 and GBA-1

PART NUMBERS FOR STAINLESS STEEL VERSIONS:



Type: GBL-1-SS
Shown fitted with KL3-SS Stainless Steel 316 Solenoid Locking Tongue Switch

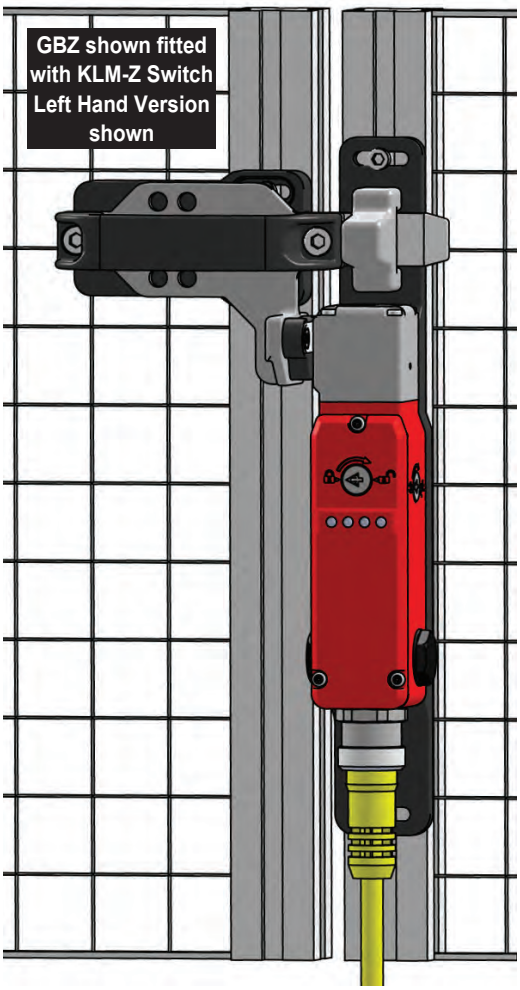


Type: GBL-1-SS
Right-Hand Version Shown

DESCRIPTION	SALES NUMBER	SUITABILITY
Gate Bolt Lock GBL-1 -SS Left Hand	211001	Suitable for Switch Types: KL3-SS KL3-SS-RR KL4-SS
Gate Bolt Lock GBL-1 -SS Right Hand	211002	
Rear Handle - Stainles Steel	211005	Suitable for GBL-1-SS and GBA-1-SS
Spring Loaded Catch - Stainless Steel	211006	Suitable for GBL-1-SS and GBA-1-SS

Gate Bolt for KLM-Z Switch: **GBZ Sliding Gate Bolt**

FEATURES & APPLICATION:



GBZ GATE BOLT SUITABLE FOR KLP-Z and KLM-Z SWITCHES

GBZ Gate Bolts are manufactured with a rugged die-cast metal and steel construction and provide shearing forces up to 10,000N (F1Max) on large hinged doors.

Easy to install on hinged or sliding guards. (4 x M6 Mounting Bolts).

Once installed there is no need for extra brackets or door handles.

Not susceptible to misalignment damage.

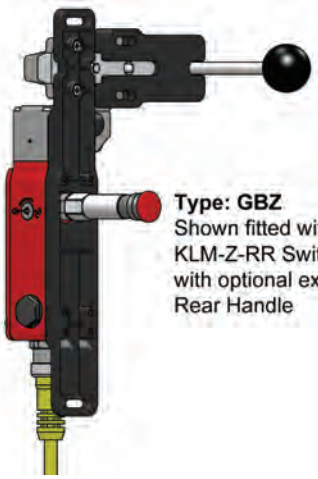
Operators are required to manually close the guard, they cannot close accidentally.

Padlock holes are provided as a means of locking open the handle to prevent the guard from being closed and the machine started during maintenance.

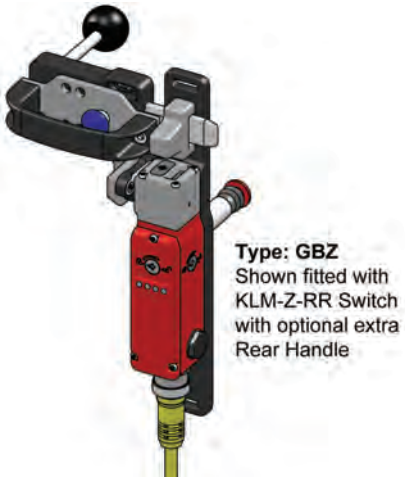
Optional Accessories (which can be fitted later after installation):

Rear Handle where there is a requirement to move the handle from inside the guarded area.

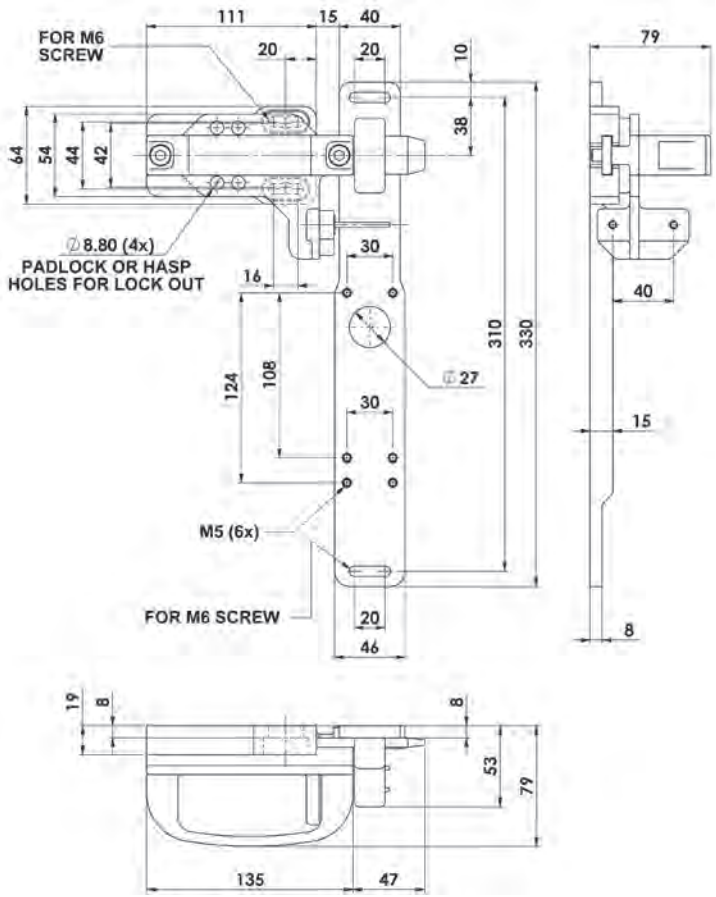
Spring Loaded Catch: To prevent accidental actuation after opening of the handle.

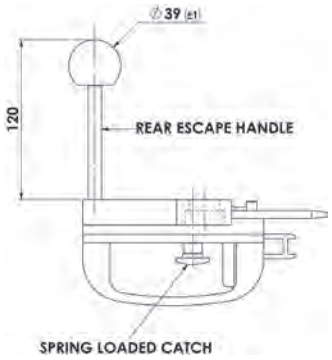


Type: GBZ
Shown fitted with KLM-Z-RR Switch with optional extra Rear Handle



Type: GBZ
Shown fitted with KLM-Z-RR Switch with optional extra Rear Handle





DESCRIPTION (Suitable for Switch Types: KLP-Z and KLM-Z)		SALES NUMBER
Gate Bolt Lock	GBZ Left Hand	458001
Gate Bolt Lock	GBZ Right Hand	458002

DESCRIPTION (Accessories)	SALES NUMBER
Rear Handle (can be fitted later)	210005
Spring Loaded Catch (can be fitted later)	210006

Gate Bolt for KL-Z Switches: **GBZ Rotary Gate Bolt**

FEATURES & APPLICATION:

GBZ ROTARY GATE BOLT SUITABLE FOR KLM-Z, KLM-Z-SKR and KL3-SS-Z SWITCHES

GBZ Rotary Gate Bolts are manufactured with a rugged die-cast metal and 316 stainless steel, providing shearing forces up to 10,000N (F1Max) on large hinged doors.

Easy to install on hinged or sliding guards. (4 x M6 Mounting Bolts).

Once installed there is no need for extra brackets or door handles.

Not susceptible to misalignment damage.

Operators are required to manually close the guard, they cannot close accidentally.

Padlock holes are provided as a means of locking open the handle to prevent the guard from being closed and the machine started during maintenance.

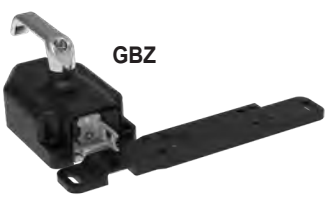
Optional Accessories

Rear Handle where there is a requirement to move the handle from inside the guarded area.

GBZ Rotary Handle
Shown fitted with KLM-Z-SKR-RR switch with rear rotary release.

GBZ-SS Rotary Handle
Shown fitted with KL3-SS-Z-RR switch with rear rotary release.

ORDERING:



GBZ

GBZ-SS

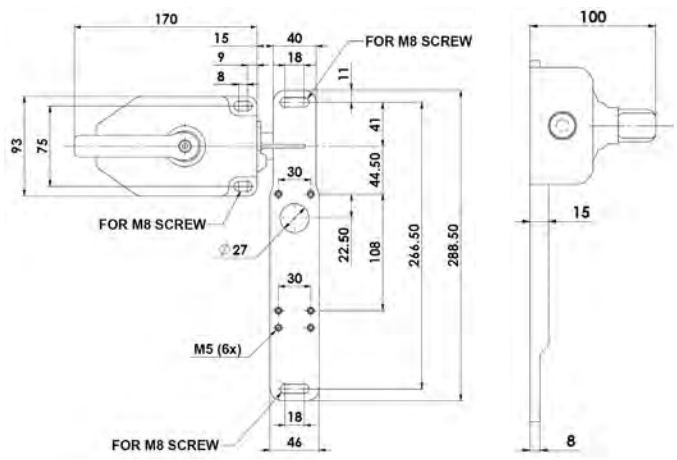
DESCRIPTION (Suitable for Switch Types: KLM-Z, KLM-Z-SKR, KL3-SS-Z)		SALES NUMBER
Rotary Gate Bolt	GBZ Left Hand	458007
Rotary Gate Bolt	GBZ Right Hand	458008
Rotary Gate Bolt S/Steel	GBZ-SS Left Hand	459007
Rotary Gate Bolt S/Steel	GBZ-SS Right Hand	459008

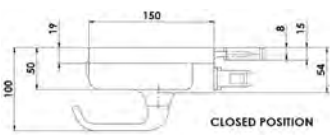
UGB-RERH-M

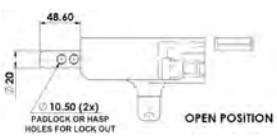
UGB-RERH-SS

DESCRIPTION (Accessories)		SALES NUMBER
Rear Rotary Handle	UGB-RERH-M Left Hand	527005-L
Rear Rotary Handle	UGB-RERH-M Right Hand	527005-R
Rear Rotary Handle S/Steel	UGB-RERH-SS Left Hand	522005-L
Rear Rotary Handle S/Steel	UGB-RERH-SS Right Hand	522005-R

DIMENSIONS:







Accessories for: **Tongue & Locking Switches**

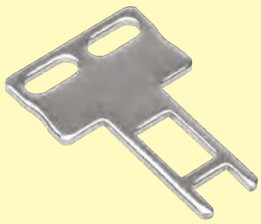
ANGLED ACTUATOR

SALES NUMBER
140103
FITS MODELS
IDIS-1

PLASTIC FLEXIBLE ACTUATOR

SALES NUMBER
140109
FITS MODELS
K-15 KP KM KM-SS K-SS

FLAT ACTUATOR



SALES NUMBER
140104
FITS MODELS
IDIS-1

HEAVY FLEXIBLE ACTUATOR

SALES NUMBER
140110
FITS MODELS
KP K15 KM KLP KLM KL1-P KLTM

PLASTIC FLEXIBLE ACTUATOR

SALES NUMBER
140105
FITS MODELS
IDIS-1

STAINLESS STEEL HEAVY FLEXIBLE ACTUATOR

SALES NUMBER
140111
FITS MODELS
KM-SS K-SS KL1-SS KL3-SS KL4-SS KLT-SS

STANDARD ACTUATOR

SALES NUMBER
140106
FITS MODELS
KP KP-15 (Plastic Heads)

MINIATURE ANGLED ACTUATOR

SALES NUMBER
140180
FITS MODELS
INCH-1 INCH-3 MK1-SS

STANDARD ACTUATOR

SALES NUMBER
140107
FITS MODELS
KP-SS K15-SS K-SS KM KM-SS KLP KLM KL3-SS KL4-SS KL1-P KL1-SS KLTM KLT-SS

MINIATURE FLAT ACTUATOR

SALES NUMBER
140181
FITS MODELS
INCH-1 INCH-3 MK1-SS

FLAT ACTUATOR

SALES NUMBER
140108
FITS MODELS
KP-SS K15-SS K-SS KM KM-SS KLP KLM KL3-SS KL4-SS KL1-P KL1-SS KLTM KLT-SS

MINIATURE PLASTIC FLEXIBLE ACTUATOR

SALES NUMBER
140182
FITS MODELS
INCH-1 INCH-3 MK1-SS

Accessories for: **Tongue & Locking Switches**

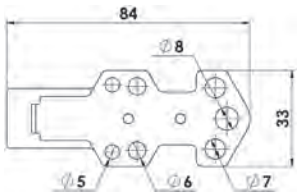
PLASTIC FLEXIBLE ACTUATOR	
	**SALES NUMBER** 140185 **FITS MODELS** KLP-Z, KLM-Z, KL3-SS-Z

STAINLESS STEEL GUIDE (complete with screws)		
	**SALES NUMBER**	
	For INCH-1	140179
	For INCH-3	140179
	For MK1-SS	140179-SS
	MK1-SS supplied with two M3 stainless steel screws. INCH-1 and INCH-3 supplied with two self-tapping screws.	

MANUAL RELEASE KEY	
	**SALES NUMBER** 140123 STAINLESS STEEL KL3-SS KL4-SS KLT-SS KL3-SS-Z

	STAINLESS STEEL MOUNTING SPACERS **Sold in Packs of 4** **Length of Spacer: 20mm**	
	M4 Clearance Hole	Sales Number: 140171
	M5 Clearance Hole	Sales Number: 140172

Maintenance Lock Out Actuator:



Maintenance Lock Out Actuator. Fits to IDEM Tongue Switches.
Manufactured in Stainless Steel.
Fits to switch aperture during maintenance and provides multiple padlock holes.
Shown fitted to KM Switch (padlock not included).

DESCRIPTION	SALES NUMBER
Lockout Actuator	140130

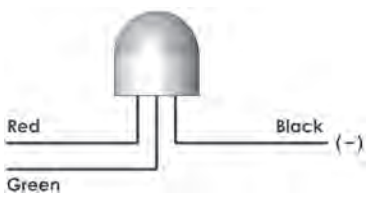
Actuator with Chain Attachment:

Flat Actuator supplied with 300mm (12") chain.
Can be used where poor alignment exists and provides manual insertion of actuator by operator.
Manufactured in Stainless Steel.

DESCRIPTION	SALES NUMBER
Flat Actuator with Chain	140131

CONDUIT FITTING LED BEACON:

2 colour LED (3 wires) Steady Red and Steady Green.
Fits to conduit entry of most switches and provides option for LED indication based upon switch contacts.
The dome shaped LED is visible from narrow angles.
Available voltages 24Vdc, 110Vac or 230Vac and either M20 or 1/2" NPT conduit thread.
PVC conductors, fully encapsulated IP67.
Maximum temperature: 60C.
Housing material is polyester.

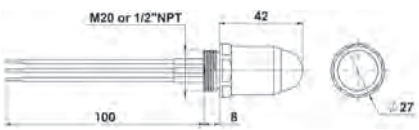


Black is common
(0Vdc or negative for ac versions).

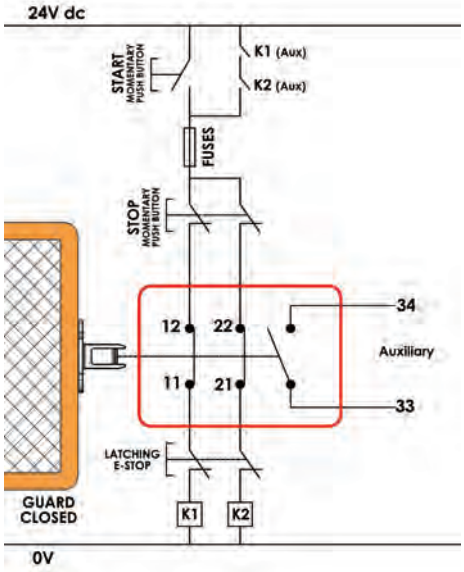
When power is applied to the RED wire the lamp will illuminate Red.

When power is applied to the GREEN wire the lamp will illuminate Green.

DESCRIPTION			SALES NUMBER
Conduit LED Beacon	24Vdc	M20 conduit thread	140134
Conduit LED Beacon	110Vac	M20 conduit thread	140136
Conduit LED Beacon	230Vac	M20 conduit thread	140138
Conduit LED Beacon	24Vdc	1/2" NPT conduit thread	140135
Conduit LED Beacon	110Vac	1/2" NPT conduit thread	140137
Conduit LED Beacon	230Vac	1/2" NPT conduit thread	140139



Kobra Tongue Switches **Application Examples**



Guard Door Mechanical Interlock and E Stop - Dual Channel Non Monitored

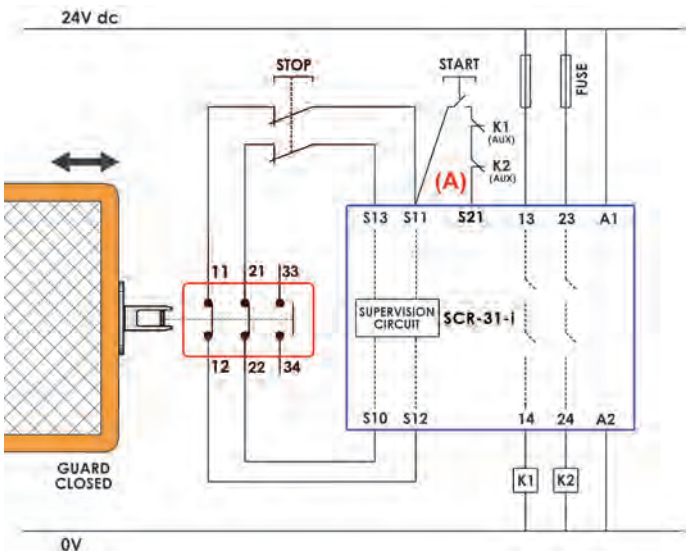
System shows interlock switch circuits 11-12 and 21-22 configured to allow direct feed to contactor coils K1 and K2.

Opening the interlock switch or depressing the E stop will isolate power to the contactor coils.

Re-start can only occur providing the guard is closed and the E stop is reset.

System is shown with machine stopped, guard closed and the contactors able to be energised.

Contacts 33-34 provide an auxiliary circuit for signalling guard open or closed.



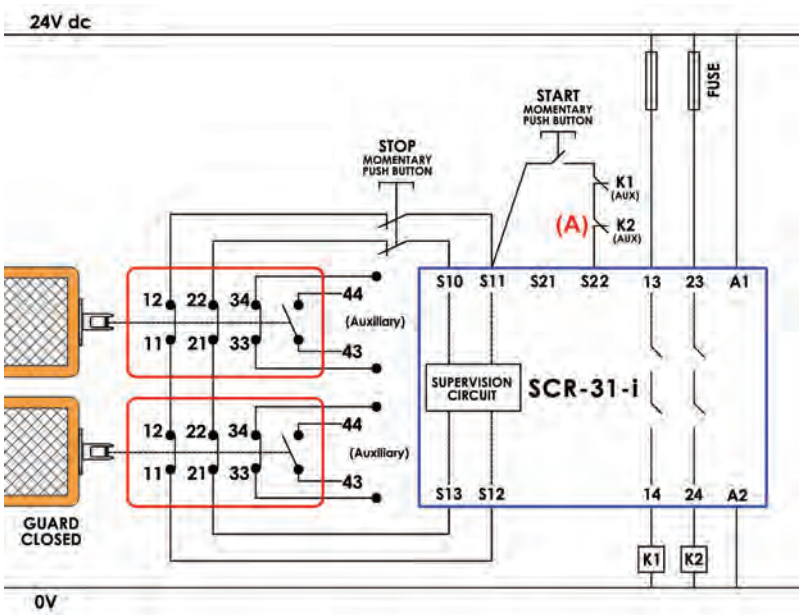
One Guard Door Mechanical Interlock - Dual Channel

The positively operated interlock contacts from circuit 11-12 and 21-22 are connected dual channel input to S11-S12 and S10-S13 on the SCR-31-i Safety Relay.

This provides a positively operated dual channel circuit and provides a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2. The SCR-31-i monitors the switch circuit and the contactors K1and K2 and provides it's own self-monitoring via force guided internal relays.

Opening the guard or pressing the stop button will cause the machine to stop. Re-start can only be achieved if the guard is closed and the contactors K1 and K2 have both opened and the start button is pressed.

System is shown with machine stopped, guards closed and the contactors able to be energised.



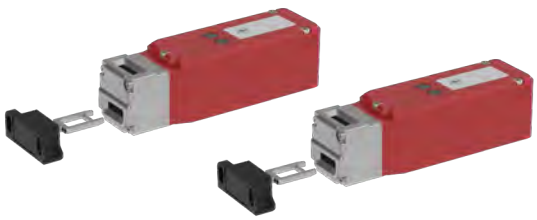
Two Guard Door Mechanical Interlocks in series - Dual Channel

The safety category can be enhanced by connecting two switch circuits 11-12 and 21-22 from mechanical interlocks to an SCR-31-i Safety Relay to monitor for wiring short circuits.

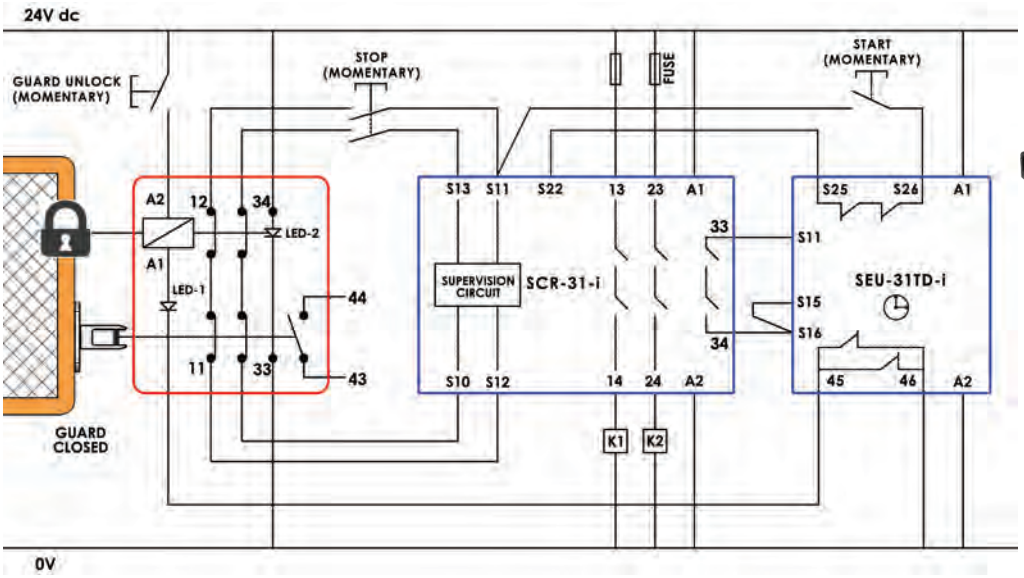
This provides dual channel monitoring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

The SCR-31-i monitors the switch circuits and the contactors K1 and K2 and provides it's own self-monitoring via force guided internal relays.

System is shown with machine stopped, guards closed and the contactors able to be energised.



Kobra Tongue Switches **Application Examples**



Solenoid Locking Guard Switch Dual Channel monitored with time delayed guard opening (manual unlock)

For systems requiring run down after activating a stop, a time delay can be added by connecting the delayed output from an SEU-31TD-i to the solenoid feed.

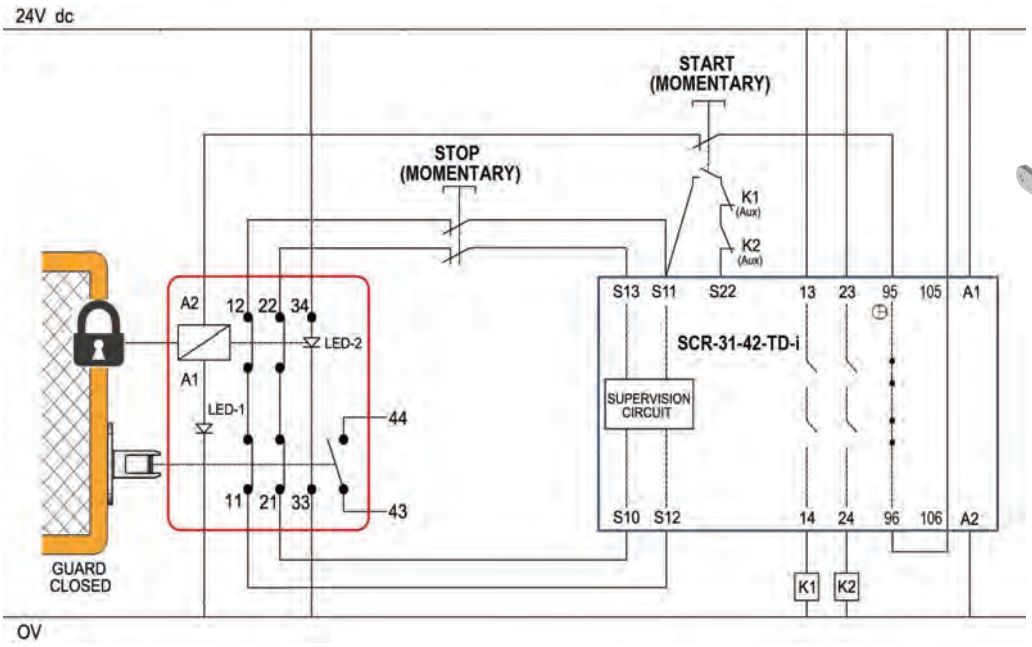
The output contacts 33-34 of the SCR-31-i provide the input to the SEU-31TD-i.

Pressing the top button causes the SCR-31-i contacts to open immediately and isolate power to contactors K1 and K2.

Also the input to the SEU-31TD-i will be opened and activate the preset time delay contacts.

Only when the set time delay has lapsed will the SEU-31TD-i allow the guard unlock button to supply power to the solenoid and enable the guard to be opened.

Providing that the guard is closed and locked the machine can start when the momentary start button is pressed.



Solenoid Locking Guard Switch Dual Channel Monitored with time delayed guard opening (Auto unlock)

Auto unlock after run down can be achieved by using the SCR-31-42-TD-i relay.

Pressing the STOP button causes the SCR-31-42-TD-i instant contacts to open and isolate the power to contactors K1 and K2.

The delayed contacts from 95-105 will supply power to the switch solenoid only after the set delay has been achieved.
The switch will auto unlock and the guard can be opened without pressing a manual button.

Providing that the guard is closed and locked, the machine can start when the START button is pressed.

Non-Contact RFID Locking Switch: **MGL-Series**

SPECIAL FEATURES:

Heavy Duty or Medium holding force versions.
Available in Stainless Steel 316 (with Stainless Magnet), robust Plastic or Die-Cast Metal.
RFID Master Coded or Unique Coding.

High Specification Polyester

Die-Cast Metal

Stainless Steel 316 with Stainless Steel Magnet

IP69K

MGL-3P

DESCRIPTION:

The MGL range of Non-Contact RFID Coded switches has been designed to ensure a high level of functional safety while delivering reliable magnetic door interlocking.

To accommodate various application needs, the switches offer flexibility in holding force, available in two sizes: Heavy Duty and Medium Duty. The Heavy Duty option provides a maximum holding force (F1Max) of 1100N for the Stainless Steel version and 1500N for the Plastic and Die-Cast versions. The Medium Duty option offers 600N (F1Max) for Stainless Steel and 1000N (F1Max) for Plastic and Die-Cast versions.

These switches use a combination of magnetic and RFID technologies for coding, requiring both methods to be satisfied for safe operation.

The MGL range is compatible with most standard safety relays, enabling it to achieve up to PLe/Category 4 safety level according to ISO13849-1.

Available in robust housings made from Stainless Steel 316, high-specification Plastic, or Die-Cast Metal, the MGL switch is suitable for use in a wide range of environments, including those requiring high-pressure cleaning after exposure to contaminants. The Stainless Steel 316 version is particularly suited for CIP (Clean-in-Place) and SIP (Sterilize-in-Place) processes, thanks to its Stainless Steel magnet and IP69K rating.

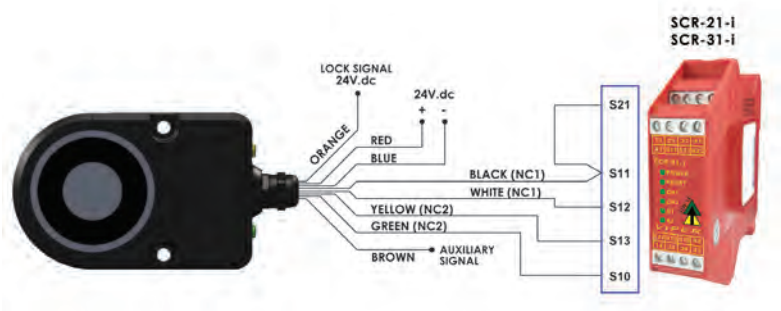
RFID CODING OPTIONS:

The RFID coding is offered in two types and can be either coded by series or uniquely coded.

Type 1: Master Code - by series (any actuator will operate any switch) this is used when unique door activation is not required, but the benefit of RFID makes it virtually impossible to be overridden or by-passed by simple means.
Type 2: 32,000,000 Unique Codes - the switch is factory set and used when unique activation is required in areas where there are many interlocked doors and security of individual areas is required.

The MGL combines magnetic sensing and RFID technology to provide non contact operation and high anti-tamper coding. In addition an electromagnet is used to lock machine guards.

CONNECTION EXAMPLE:



FUNCTIONAL SPECIFICATIONS:

Heavy Duty: 1100N S/Steel, 1500N Plastic and Die Cast
Medium Duty: 600N S/Steel, 1000N Plastic and Die Cast
(All values quoted are F1Max.)

2NC Safety Outputs overload protected

1NO Auxiliary Output for indication of door open

No moving parts - high switch life and provides resistance to Shock and Vibration.

Offered in: Stainless Steel 316 (with Stainless Steel Magnet), High Specification and robust Polyester housings, or Die Cast Metal.

Non-Contact RFID Locking Switch: **MGL-Series**

FEATURES:

Heavy Duty or Medium Duty holding forces available (comprising 6 models - 2 Stainless Steel, 2 High Specification Plastic and 2 Die-Cast Metal).

RFID provides a high degree of anti-tamper - virtually impossible to override.

Uniquely coded RFID or Series Coded RFID available - depending upon user's risk assessment for application.

The actuator (plastic or stainless steel) has been designed to be flexible and therefore has a degree of tolerance to misalignment.

Able to connect to most popular safety relays to achieve up to PLe and Cat.4 for ISO3849-1.

Connect up to 20 switches in series.

Ability to connect other switches and E-Stops in series.

Stainless Steel 316 model available for food processing applications (IP69K rating).

Unique triggering of solenoid latching mechanism to maintain close control of actuator position.

Choices of 8-core cable or M12 quick connect (QC).

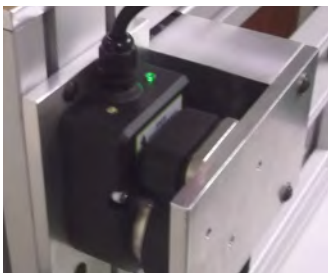
Remanence magnetization holding technique acts as a light magnetic latch after unlocking.

Shown in Guard Open position.

Yellow LED indicates OPEN.

Shown in Guard Closed position.

Green LED indicates CLOSED.



LED OPERATION & SWITCH STATUS INDICATION:

The MGL switch uses 2 LEDs to indicate all the different possible switch states.

The LEDs are in a clearly visible location at either side of the cable exit point.

SWITCH STATUS	GUARD	GREEN LED	YELLOW LED
Locked	Closed	Steady	Off
Solenoid Power OFF (Unlocked)	Closed	Flashing	Off
Guard Open	Open	Off	Steady
Door Forced Open	Open	Off	Flashing

MGL Operating Directions

SPECIFICATIONS:

Standards: ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL 60947-5-1

Safety Classification and Reliability Data:

Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Switching Distance:	Sao 1mm Close Sar 10mm Open
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	MGL-*P = Plastic MGL-*M = Die-Cast Metal MGL-*SS = Stainless Steel 316
Temperature Range:	-25C to +40C
Enclosure Protection:	IP67
Cable Type:	PVC 6 or 8 core 6mm OD
Mounting Bolts:	2 x M5 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d:	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

8-CORE 2M, 5M, 10M CABLE	CONDUCTOR COLOURS	FUNCTION
	Blue	0Vdc
	Red	24Vdc
	Orange	Lock Applied (24Vdc)
	Black	Safety Output 1
	White	Safety Output 1
	Yellow	Safety Output 2
	Green	Safety Output 2
	Brown	Auxiliary Signal

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

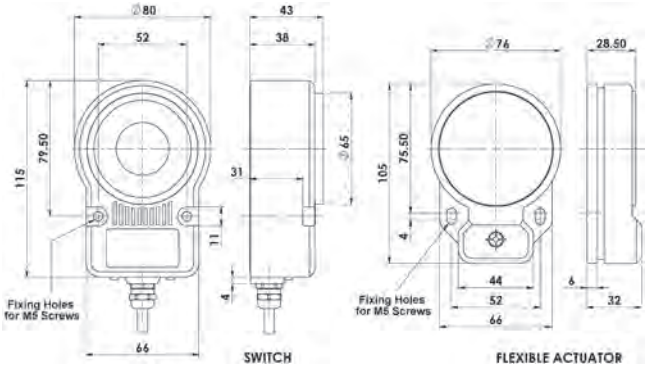
Pin view from Switch on flying lead 250mm (10")

Quick Connect (QC) M12 8 Way Male	Switch Circuit
3	0Vdc
2	24Vdc
8	Lock Applied (24Vdc)
7	Safety Output 1
1	Safety Output 1
4	Safety Output 2
6	Safety Output 2
5	Auxiliary Signal

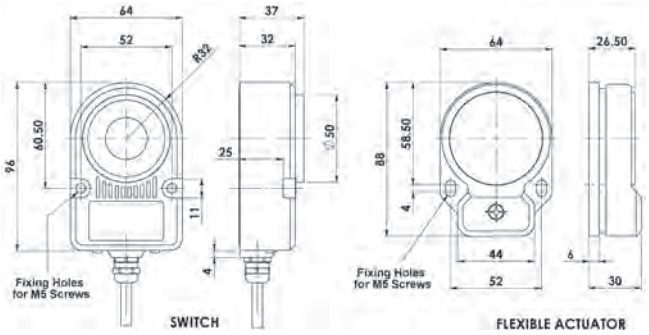
Non-Contact RFID Locking Switch: **MGL-Series**

DIMENSIONS:

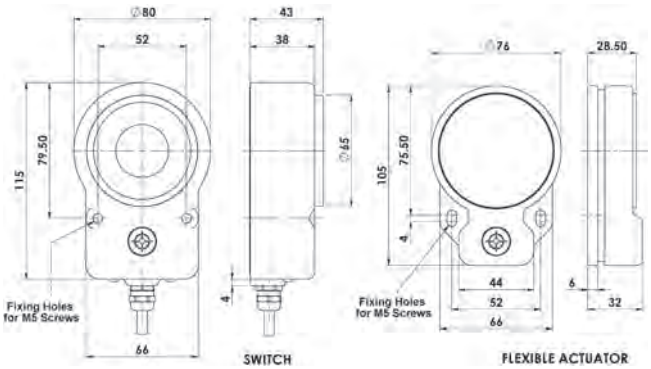
MGL-1P



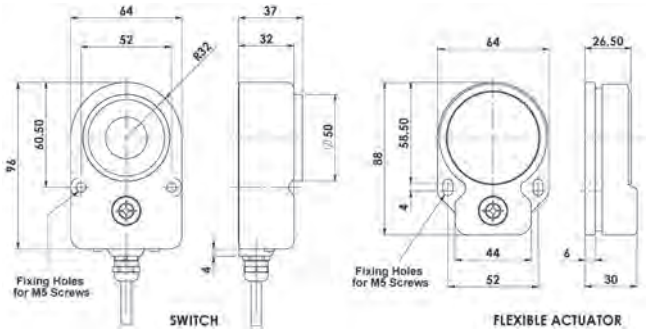
MGL-2P



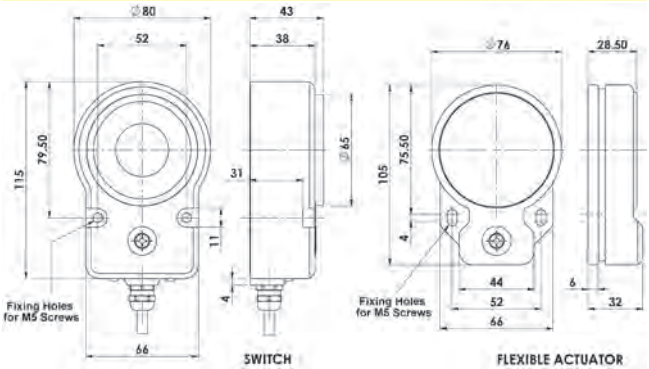
MGL-1SS



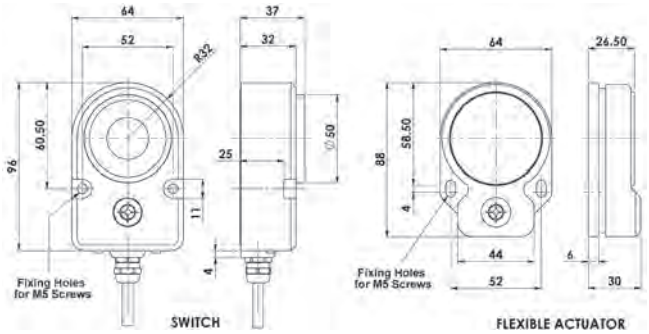
MGL-2SS



MGL-1M



MGL-2M



HOLDING FORCES:

STAINLESS STEEL VERSIONS:

1100N

MGL-1SS

600N

MGL-2SS

DIE-CAST METAL VERSIONS:

1500N

MGL-1M

1000N

MGL-2M

PLASTIC VERSIONS:

1500N

MGL-1P

1000N

MGL-2P

Non-Contact RFID Locking Switch: **MGL-Series**

STAINLESS STEEL VERSIONS:

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
462001	MGL-1SS-U	5m
462002	MGL-1SS-U	10m
462003	MGL-1SS-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
462004	MGL-1SS-M	5m
462005	MGL-1SS-M	10m
462006	MGL-1SS-M	QC-M12
462102	Replacement Actuator (Master Code)	

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
460001	MGL-2SS-U	5m
460002	MGL-2SS-U	10m
460003	MGL-2SS-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
460004	MGL-2SS-M	5m
460005	MGL-2SS-M	10m
460006	MGL-2SS-M	QC-M12
460102	Replacement Actuator (Master Code)	

DIE-CAST METAL VERSIONS:

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
464001	MGL-1M-U	5m
464002	MGL-1M-U	10m
464003	MGL-1M-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
464004	MGL-1M-M	5m
464005	MGL-1M-M	10m
464006	MGL-1M-M	QC-M12
464102	Replacement Actuator (Master Code)	

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
465001	MGL-2M-U	5m
465002	MGL-2M-U	10m
465003	MGL-2M-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
465004	MGL-2M-M	5m
465005	MGL-2M-M	10m
465006	MGL-2M-M	QC-M12
465102	Replacement Actuator (Master Code)	

PLASTIC VERSIONS:

SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
463001	MGL-1P-U	5m
463002	MGL-1P-U	10m
463003	MGL-1P-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
463004	MGL-1P-M	5m
463005	MGL-1P-M	10m
463006	MGL-1P-M	QC-M12
463102	Replacement Actuator (Master Code)	

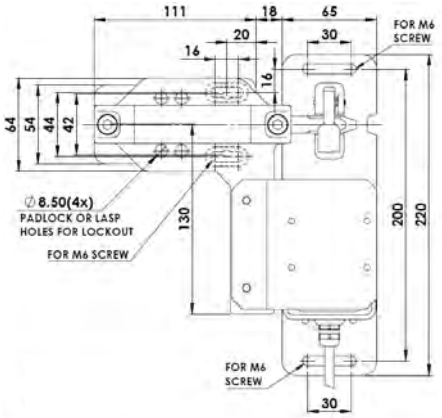
SALES NUMBER	UNIQUELY CODED (every switch - unique activation)	CABLE LENGTH
461001	MGL-2P-U	5m
461002	MGL-2P-U	10m
461003	MGL-2P-U	QC-M12
	Replacement Actuator not available	

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
461004	MGL-2P-M	5m
461005	MGL-2P-M	10m
461006	MGL-2P-M	QC-M12
461102	Replacement Actuator (Master Code)	

MGL-GBN-3 GATE BOLT:

NEW

SALES NUMBER	DESCRIPTION	ORIENTATION
210070	MGL-GBN-3 GATE BOLT	LEFT-HAND
210071	MGL-GBN-3 GATE BOLT	RIGHT-HAND



Electromagnetic RFID Locking Switch: **MGL-3P**

APPLICATIONS & FEATURES:

NEW

The MGL-3P is designed for secure and reliable machine safety. This advanced electromagnetic safety switch features an RFID coded sensor and robust guard locking mechanism, ensuring that only authorized access is granted. With a holding force of up to 1000N, the MGL-3P provides unmatched security and peace of mind in industrial settings.

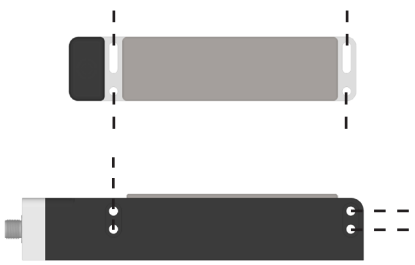
Designed for maximum versatility, the MGL-3P offers multiple mounting points, making it adaptable to a wide range of applications and easy to integrate into existing systems. Its user-friendly installation process allows for quick setup and secure attachment, saving you time and effort.

One of the standout features of the MGL-3P is its large LED lens, strategically located at the bottom of the switch. This LED provides clear and comprehensive visibility of the device status from all angles, ensuring that operators can easily monitor the system's condition at a glance. Whether you're managing a complex assembly line or a single workstation, the MGL-3P's LED indicator helps maintain safety and efficiency.

Ideal for industries requiring stringent safety protocols, the MGL-3P is perfect for protecting personnel and equipment in environments such as manufacturing, packaging, and automation. With its combination of high security, flexibility, and ease of use, the MGL-3P is the ideal choice for modern safety solutions.

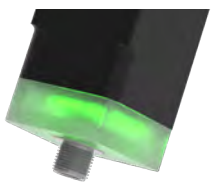
- Robust Polyester Housing with Metal Mounting Plate
- High Coded RFID in Accordance with EN ISO 14119
- 40mm Profile and Side Mounting Points for Easy Installation
- Spring Loaded Actuator for Flexibility
- Large LED for Instant Visibility on Device Status

Fixed or adjustable mounting points for direct installation onto guard frames.



Wrap-around LED lens for maximum visibility from all angles.

Quick installation via integrated M12 connector.



Flexible actuator provides resistance to high impact scenarios when closing the guard door.

Electromagnetic RFID Locking Switch: **MGL-3P**

INDICATION:

SWITCH STATUS	GUARD	GREEN LED	YELLOW LED
Locked	Closed	Steady	Off
Solenoid Power OFF (Unlocked)	Closed	Flashing	Off
Guard Open	Open	Off	Steady
Door Forced Open	Open	Off	Flashing

CONNECTIVITY:

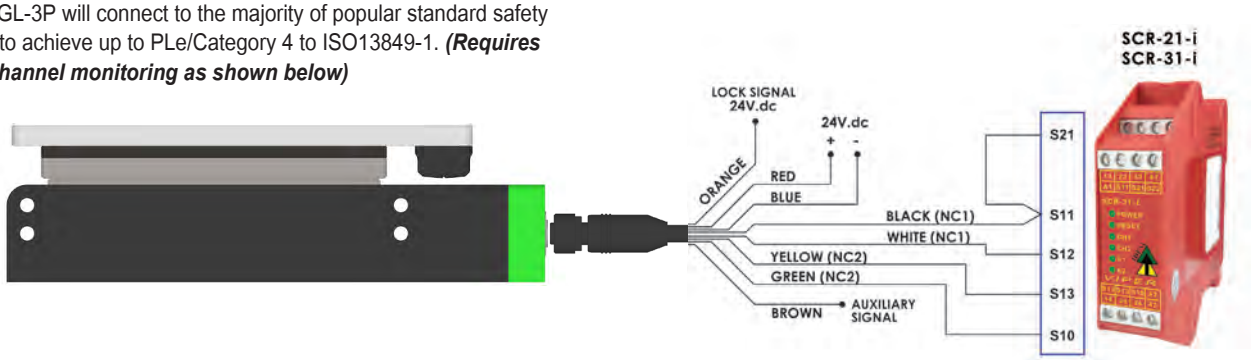
Pin view from Switch on flying lead 250mm (10")

Quick Connect (QC) M12 8 Way Male	Switch Circuit
3	0Vdc
2	24Vdc
8	Lock Applied (24Vdc)
7	Safety Output 1
1	Safety Output 1
4	Safety Output 2
6	Safety Output 2
5	Auxiliary Signal

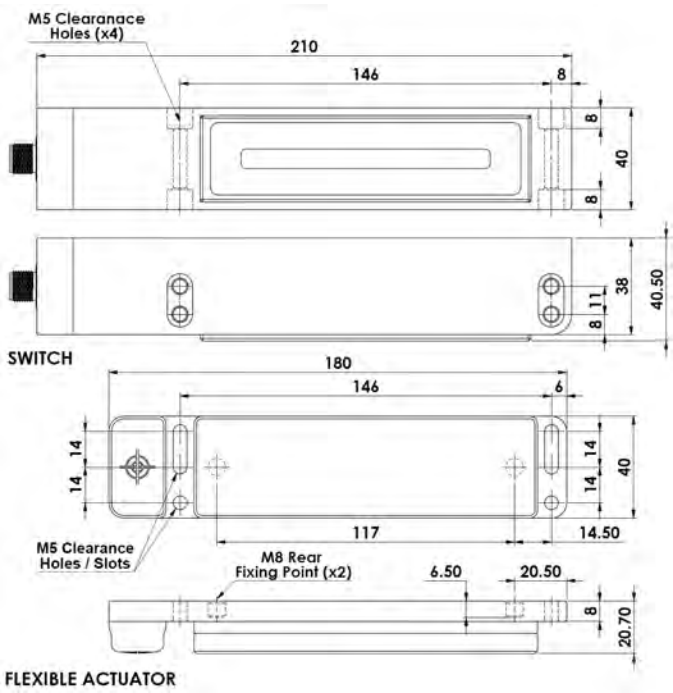
FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102

CONNECTION EXAMPLE:

The MGL-3P will connect to the majority of popular standard safety relays to achieve up to PLe/Category 4 to ISO13849-1. ***(Requires dual channel monitoring as shown below)***



DIMENSIONS:



TECHNICAL SPECIFICATIONS:

Technical Specification	
Supply Voltage	24Vdc +/- 10%
Supply Current	75mA
Solenoid Current	500mA
Output Rating	24V 0.2A
Output Type	Voltage-Free
Aux. Rating	24V 0.2A
Aux. Type	PNP
Body material	Polyester
Temperature Range	-25C to +40C
Enclosure Protection	IP67
Connectivity	M12 Bulkhead Connector
Mounting Bolts	2 x M5
Mounting Position	Any (see L-Bracket for more options)

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

ORDERING:

Part Number	Description	Coding
467006	MGL-3P-M QC-M12 8-Way	Master Coding
467003	MGL-3P-U QC-M12 8-Way	Unique Coding
Accessories		
467102	MGL-3P Replacement Actuator	
467200	Mounting L-Bracket