

## Guard Locking Switch Stainless Steel Type: 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.

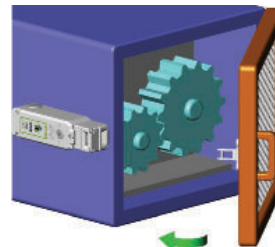
## CONTACTS/LED DIAGNOSTICS:

## STANDARD - Version 1:

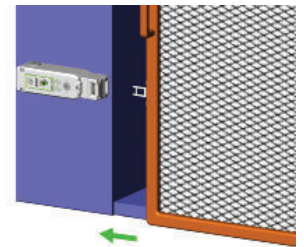
2NC Safety Contacts  
1NO Auxiliary Contact (Guard Open)  
1NO Auxiliary Contact (Lock Open)  
LED1 Solenoid Power

## EXTRA LED2 - Version 2:

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




Hinged Guard

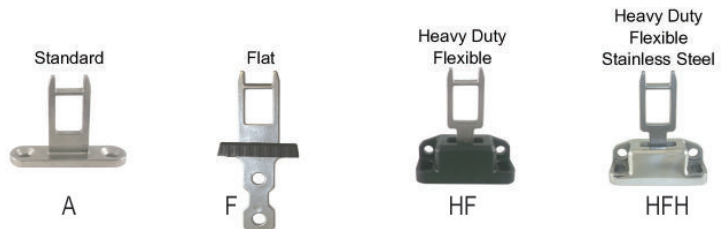


Sliding Guard

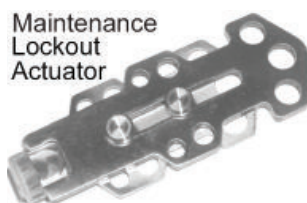
## FUNCTIONAL SPECIFICATIONS:

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 p100)



## ACCESSORIES (see p100-101)



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 UL508

## Safety Classification and Reliability Data:

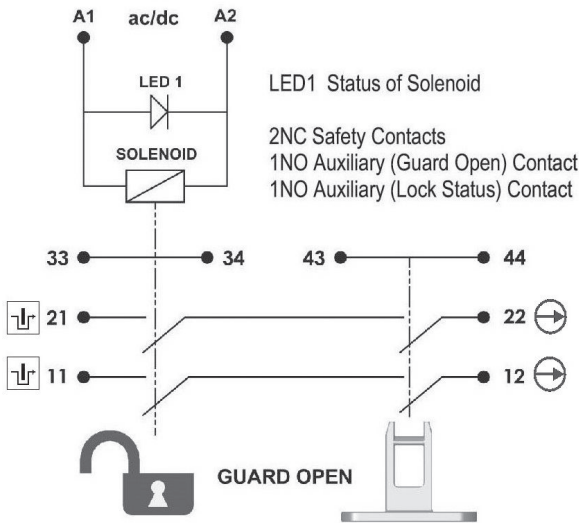
|                                     |  |
|-------------------------------------|--|
| Mechanical Reliability B10d         | 2.5 x 10 <sup>6</sup> operations at 100mA load |
| ISO13849-1                          | Up to PLe depending upon system architecture   |
| EN62061                             | 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  |
| 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   |

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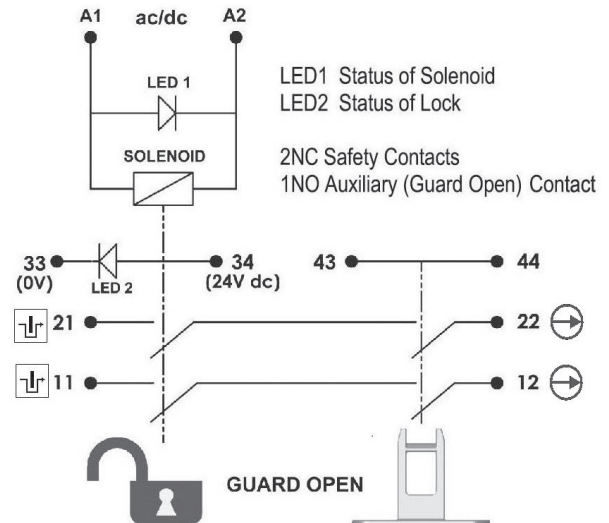
## SCHEMATIC CIRCUITS:



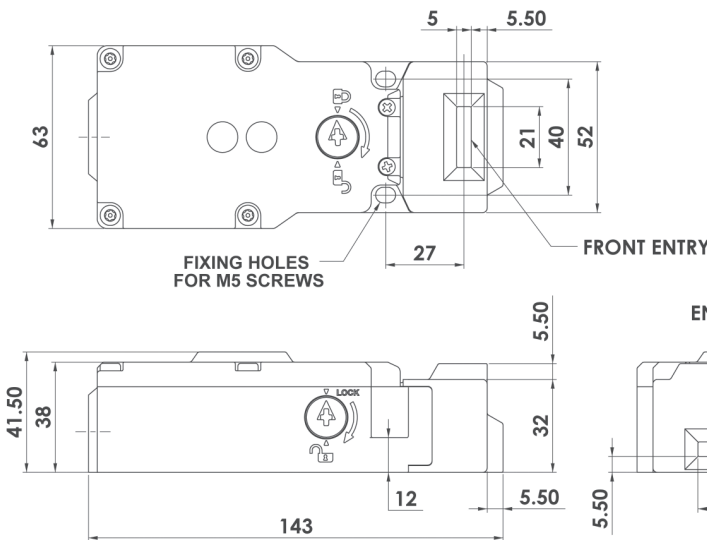
Standard - Version 1 :



Extra LED2 - Version 2 :



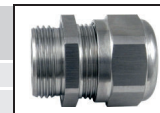
## DIMENSIONS:



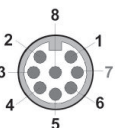
QC Quick Connect  
M12 8 Pin Flying Lead 250mm (10")  
Available on Standard Version only

| 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          |



| SALES NUMBER        | SOLENOID VOLTAGE            | STAINLESS STEEL 316 GLAND    |          | QUICK CONNECT (QC) M12 |          |
|---------------------|-----------------------------|------------------------------|----------|------------------------|----------|
|                     |                             | M20                          | 1/2" NPT | M20                    | 1/2" NPT |
| Kobra KL1-SS Switch | 24V ac/dc                   | 220001                       | 220002   | 220003                 | 220301   |
| Kobra KL1-SS Switch | 110V ac                     | 220004                       | 220005   | 220006                 | 220304   |
| Kobra KL1-SS Switch | 230V ac                     | 220007                       | 220008   | 220009                 | 220307   |
| 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 |          |                        |          |

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### 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