

## 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 1600N (160Kg) (F1Max)**

The KL1-SS Series Guard Locking switches have a rugged Stainless Steel 316 body and have been developed with a holding force of 1600N 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.

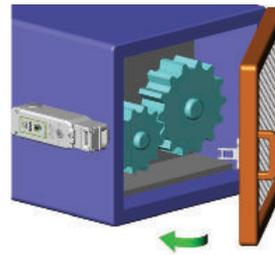
## CONTACTS/LED DIAGNOSTICS:

## STANDARD - Version 1:

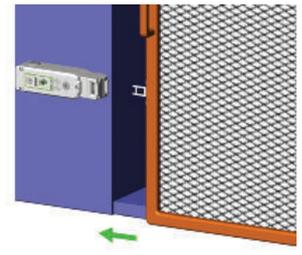
2NC Safety Contacts  
1NO Auxiliary Contact (Guard Open)  
1NO Auxiliary Contact (Lock Open)  
LED1 Solenoid Power

## 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

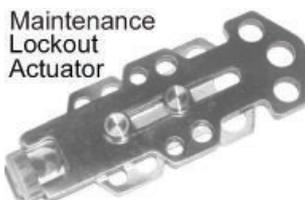
## FUNCTIONAL SPECIFICATIONS:

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 p76)



## ACCESSORIES (see p70-75)



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:**

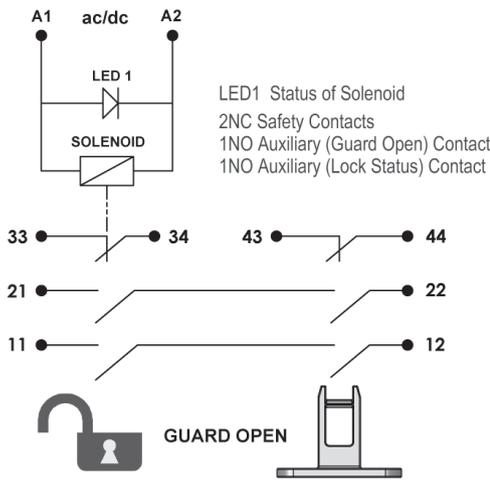
Mechanical Reliability B10d	2.5 x 10 <sup>6</sup> operations at 100mA load
SO13849-1	Up to PLe depending upon system architecture
EN62061	Up to SIL3 depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour/24 hours per day/365 days
PFHd	3.44 x 10 <sup>-8</sup>
Proof Test Interval (Life)	35 years
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 1600N Fzh 1230N
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 Type: RYANLOCK KL1-SS

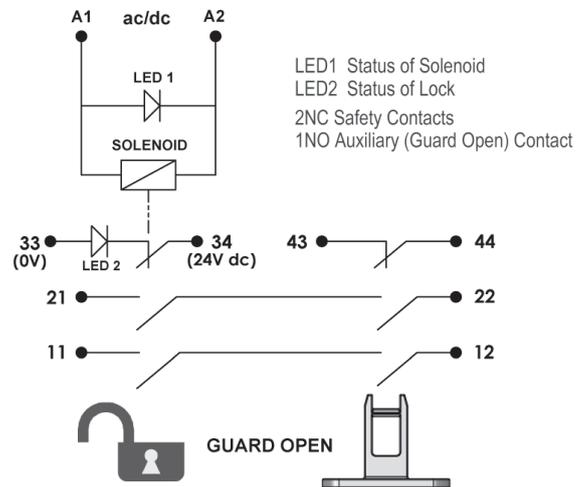
## SCHEMATIC CIRCUITS:



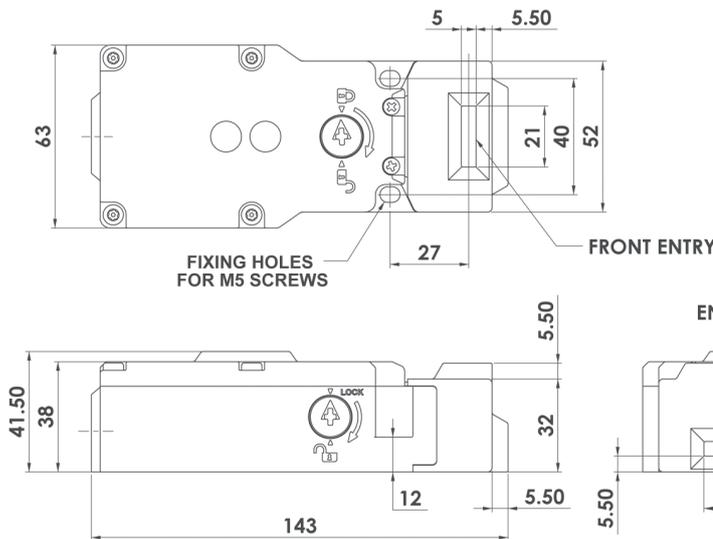
### STANDARD - Version 1



### EXTRA LED2 - Version 2



## DIMENSIONS:



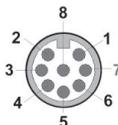
QC Quick Connect  
M12 8 Pin Flying Lead 250mm (10")  
Available on Standard Version only

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	STANDARD VERSION 1 (Solenoid LED only)		EXTRA LED VERSION 2 (Lock Status)		
		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				

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

### 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