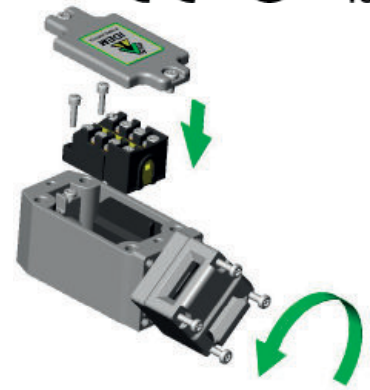


# KOBRA - Stainless Steel Switch Type: HYGIECAM KM-SS

## FEATURES:

IP69K



HYGIECAM Series Interlock Switches have a rugged Stainless Steel 316 body and have been designed to cope with the rigorous applications of the Food Processing, Pharmaceutical, Packaging and Petro-Chemical Industries. The surface finish is mirror polished to Ra10 to resist the accumulation of food debris and is suitable for high pressure hosing at high temperature.

They offer a compact slimline housing which will fit to areas where there are space restrictions and are sealed to IP69K enclosure protection. They can be high pressure hosed with most detergents at high temperature.

They are designed to fit to the leading edge of sliding, hinged or lift off machine guards. They provide a forced disconnect of the safety contacts at the withdrawal of the actuator and have an anti-tamper not easily defeatable mechanism.

The rotatable heads have dual actuator entry positions to give up to 8 different entry positions. High holding force versions are available for applications where vibration can be a nuisance.

The head can be rotated to give 8 actuator entry positions.

Designed with a removable lid to fit replaceable contact blocks.

For extra durability flexible actuators are available.

## FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1

High Functional Safety to ISO13849-1

3 pole, 4 pole or Explosion Proof Contact Blocks

Stainless Steel 316 Body and External Fixings

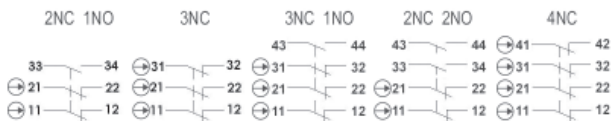
Connects to most Safety Relays to give up to PLe Cat.4

IP69K - suitable for SIP and CIP Processes

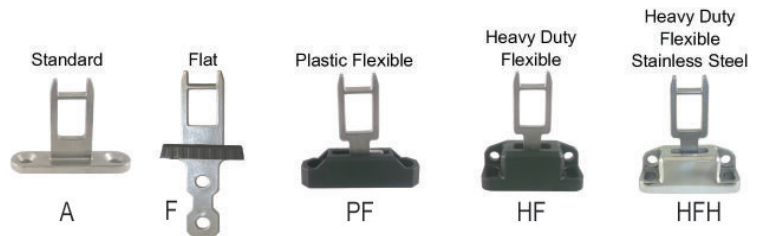
Will fit on 30mm fixing centres - DIN standard body mounting



## CONTACT BLOCK OPTIONS:



## ACTUATOR OPTIONS (see p100)



## PRE-WIRED EXPLOSION PROOF:



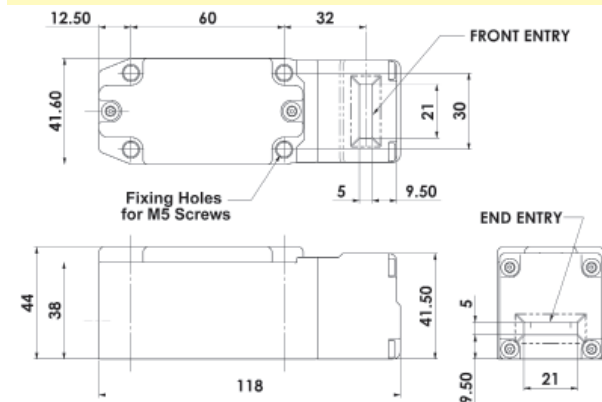
CLASSIFICATION:

Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

Standards: ISO14119 EN60947-5-1 EN60204-1  
ISO13849-1 EN62061 UL508

## DIMENSIONS:



## 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
Utilization Category	AC15 A300 3A
Thermal Current (Ith)	10A
Rated Insulation/Withstand Voltages	500Vac/2500Vac
Travel for Positive Opening	8mm
Actuator Entry Minimum Radius	175mm Standard 100mm Flexible
Maximum Approach/Withdrawal Speed	600mm/s
Body Material	Stainless Steel 316
Head Material	Stainless Steel 316
Enclosure Protection	IP67 IP69K
Operating Temperature	-25C +80C
Vibration	IEC 68-2-6 10-55Hz + 1Hz
	Excursion 0.35mm 1 octave/min
Conduit Entry	Various (See Sales Number)
Fixing	4 x M5

# KOBRA - Stainless Steel Switch Type: HYGIECAM KM-SS

## CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR



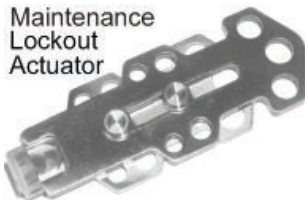
2NC 1NO	6.8 6.0	0mm
11/12	Open	
21/22	Open	
33/34		Open

3NC 1NO	6.8 6.0	0mm
11/12	Open	
21/22	Open	
31/32	Open	
43/44		Open

4NC	6.0	0mm
11/12	Open	
21/22	Open	
31/32	Open	
41/42	Open	

2NC 2NO	6.8 6.0	0mm
11/12	Open	
21/22	Open	
33/34		Open
43/44		Open

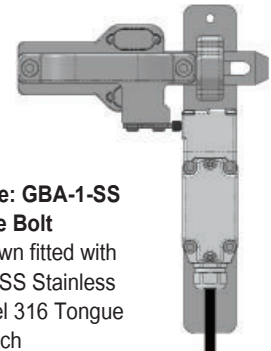
## ACCESSORIES (see p100-101 and Gate Bolts Section 6)



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

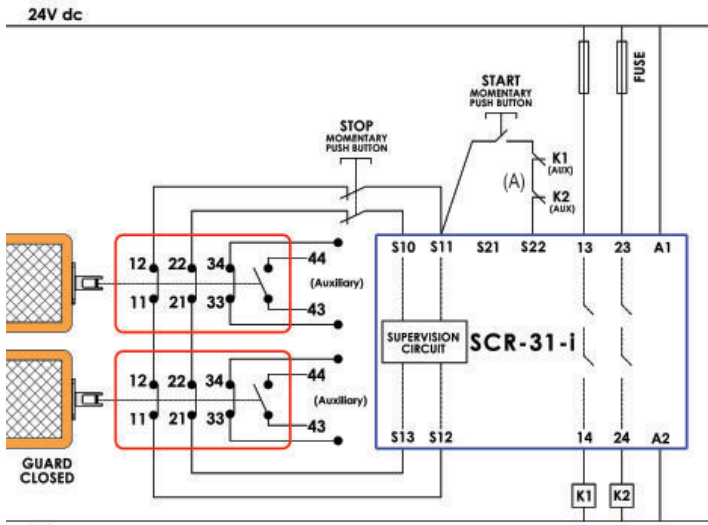


Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.



Type: GBA-1-SS Gate Bolt  
Shown fitted with KM-SS Stainless Steel 316 Tongue Switch

## APPLICATION EXAMPLE



### Multiple Guard Door Interlocks - Dual Channel (Monitored)

The switch contacts 11-12 and 21-22 from each switch are wired in series 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 and the contactors K1 and K2 and provides its own self-monitoring via force guided internal relays.

The system is shown with the Machine Stopped, Guards Closed and the contactors able to be energised.

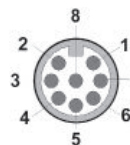
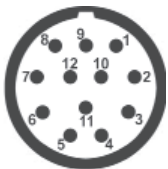


STAINLESS STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121



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

FEMALE QC LEADS	LENGTH	SALES NUMBER
M12 8 Way	5m (15ft)	140101
M12 8 Way	10m (30ft)	140102
M23 12 Way	5m (15ft)	140143
M23 12 Way	10m (30ft)	140144



Quick Connect (QC) M23 12 Way Male (connector length 26mm) Pin View from Switch	Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch
1 3	11/12	1 7
4 6	21/22	6 5
7 8	33/34 or 31/32	4 3
9 10	41/42 or 43/44	
12	Earth	8

SALES NUMBER	CONTACTS	M20	1/2" NPT	QC M23 12 WAY	QC M12 8 WAY
Kobra KM-SS Switch	2NC 1NO	204001	204002	204003	204021
Kobra KM-SS Switch	3NC	204004	204005	204006	204022
Kobra KM-SS Switch	3NC 1NO	204007	204008	204009	
Kobra KM-SS Switch	2NC 2NO	204010	204011	204012	
Kobra KM-SS Switch	4NC	204013	204014	204015	
Kobra KM-SS Switch	1NC 1NO Ex	204016		3m 4 Core Ex	
Kobra KM-SS Switch	2NC Ex	204019		3m 4 Core Ex	
Kobra KM-SS Switch	2NC 2NO Ex	204026		3m 8 Core Ex	
Actuator	Standard	Add A	to Sales Part Number		
Actuator	Flat	Add F	to Sales Part Number		
Actuator	Plastic Flexible	Add PF	to Sales Part Number		
Actuator	Heavy Duty Flexible	Add HF	to Sales Part Number		
Actuator	Heavy Duty S/Steel	Add HFH	to Sales Part Number		
Actuator Holding 40N (3 pole version only)		Add 40N	to Sales Part Number		

Ordering example: Kobra KM-SS 1/2" NPT 2NC 2NO with Heavy Flexible Actuator: Sales Number: 204011-HF

Gold Plated Contacts available for low power circuits (5V 5mA). Add GC to Sales Number e.g. 204001-A-GC

Also available with 3NO Contacts for use as indication purposes only. Please contact us for further information.

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