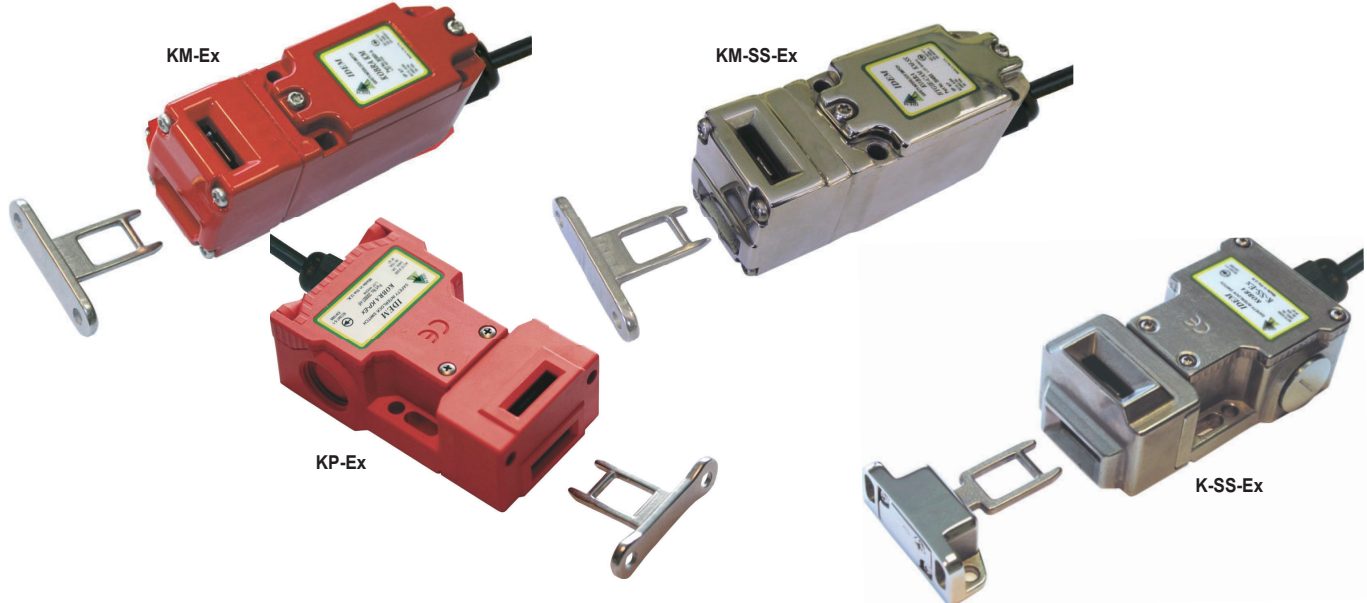


# KOBRA - Explosion Proof Tongue Interlock Switches



- Tongue Interlock Switches for use in hazardous areas.
- ATEX approved contact blocks. Gas and Dust (Zones 1,2,21,22)
- Functional Safety up to PLe ISO13849-1
- IP69K suitable for harsh environments



Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb    Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

## GENERAL:

Tongue Interlock Safety Switches for use in hazardous areas - positively operated ATEX Certified contact blocks.

For use in hazardous areas IECEx and ATEX EExd IIC T6 (Gas and Dust).

The explosion proof contact blocks conform to harmonized standards IEC/EN60079-0 and IEC/EN60079-1.

Suitable for European Zones 1, 2, 21, 22.

Designed for use in the petro-chemical, pharmaceutical, food processing and packaging industries where explosive environments may be present.

## APPLICATION:

IDEM ATEX approved Tongue operated Safety Interlock switches are designed to fit to the leading edge of sliding, hinged or lift off machine guards to provide positively operated switching contacts and provide a tamper resistant, not easily defeatable key mechanism.

They are designed to provide robust position interlock detection for moving guards within areas which have an explosion risk atmosphere.

Depending upon the risk assessment for the application, they can be used independently to provide positive interlocking to EN60947-5-1 or they can be used in combination with any dual channel safety monitoring relays to provide functional safety up to PLe ISO13849-1 or SIL3 EN62061.

## OPERATION:

The switch is rigidly mounted to the frame of the guard or machine. The actuator is fitted to the moving part (frame) of the guard and is aligned to the switch entry aperture. The actuator profile is designed to match a cam mechanism within the switch head and provides a positively operated not easily defeatable interlock switch. When the actuator is inserted into the switch the safety contacts close and allow the machine start circuit to be enabled. When the actuator is withdrawn from the switch the safety contacts are positively opened and the machine circuit is broken. The internal contact blocks are robust, fully encapsulated and pre-wired.

## FEATURES:

- High Power Switching up to 230Vac 4A
- Contacts - 1NC 1NO or 2NC or 2NC 2NO
- High tolerance to guard misalignment
- Outer enclosure protection to IP67 and IP69K
- Conformance to EN60947-5-1 Positively operated contacts
- Resistant to high temperature hosing and detergent washdown
- Two enclosure shapes available
- Housings in either Plastic, Die Cast (painted red) or Stainless Steel 316
- High temperature stability up to 60C
- Resistance to many organic and inorganic chemicals
- Rotatable heads that give up to 8 actuator entry positions
- Choice of actuators to suit mounting conditions and alignment

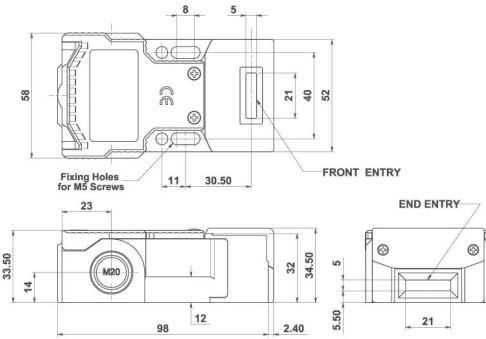
## ACTUATOR OPTIONS



# KOBRA - Explosion Proof Tongue Interlock Switches



## KOBRA KP-Ex Explosion Proof Tongue Interlock Switch

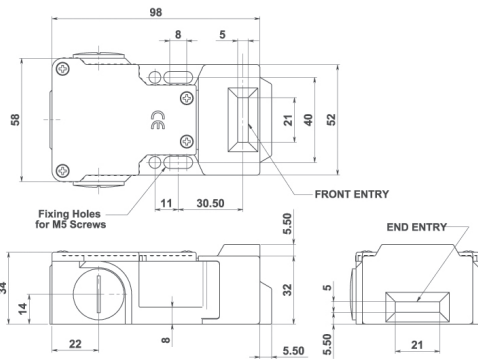


**Polyester Housing**  
Zones 1, 2, 21, 22 Gas and Dust  
IP67

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
200016	Kobra KP-Ex	3m 4 core	1NC 1NO
200019	Kobra KP-Ex	3m 4 core	2NC
200026	Kobra KP-Ex	3m 8 core	2NC 2NO
Stainless Steel Head Version			Add SS to Sales Part Number

Add Actuator code to part number:  
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

## KOBRA K-SS-Ex Explosion Proof Tongue Interlock Switch

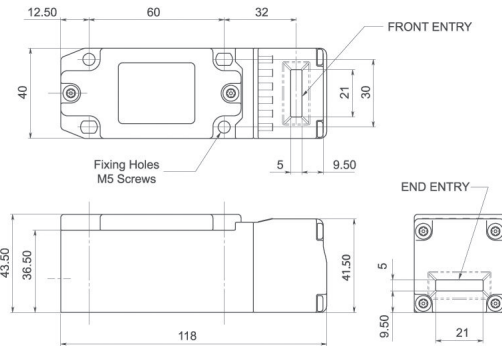


**Stainless Steel 316 Housing**  
Zones 1, 2, 21, 22  
Gas and Dust IP67

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
208016	Kobra K-SS-Ex	3m 4 core	1NC 1NO
208019	Kobra K-SS-Ex	3m 4 core	2NC
208026	Kobra K-SS-Ex	3m 8 core	2NC 2NO

Add Actuator code to part number:  
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

## KOBRA KM-Ex Explosion Proof Tongue Interlock Switch

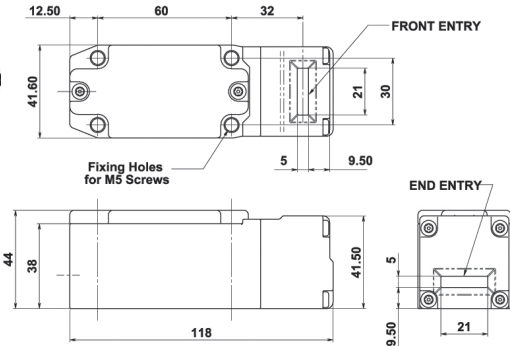


**Die Cast Housing (painted red)**  
Zones 1, 2, 21, 22  
Gas and Dust IP67

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
203016	Kobra KM-Ex	3m 4 core	1NC 1NO
203019	Kobra KM-Ex	3m 4 core	2NC
203026	Kobra KM-Ex	3m 8 core	2NC 2NO
Stainless Steel Head Version			Add SS to Sales Part Number

Add Actuator code to part number:  
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

## KOBRA KM-SS-Ex Explosion Proof Tongue Interlock Switch



**Stainless Steel 316 Housing**  
Zones 1, 2, 21, 22  
Gas and Dust IP67

SALES NUMBER	TYPE	PRE-WIRED	CONTACTS
204016	Kobra KM-SS-Ex	3m 4 core	1NC 1NO
204019	Kobra KM-SS-Ex	3m 4 core	2NC
204026	Kobra KM-SS-Ex	3m 8 core	2NC 2NO

Add Actuator code to part number:  
A-Standard, F-Flat, PF-Plastic Flexible, HF- Heavy Flexible, HFH-Heavy Flexible S/Steel

**Standards:** IEC/EN60079-0 IEC/EN60079-1  
ISO14119 EN60947-5-1 EN60204-1  
ISO13849-1 EN62061

**Safety Classification and Reliability Data:**  
Mechanical Reliability B10d  
ISO13849-1  
EN62061  
Safety Data – Annual Usage  
PFHd  
Proof Test Interval (Life)  
MTTFd  
Travel for Positive Opening  
Actuator Entry Minimum Radius

2.5 x 10<sup>6</sup> operations at 100mA load  
Up to PLE depending upon system architecture  
Up to SIL3 depending upon system architecture  
8 cycles per hour/24 hours per day/365 days  
3.44 x 10<sup>-5</sup>  
35 years  
356 years  
8mm  
175mm Standard

Travel for Positive Opening 8mm  
Actuator Entry Minimum Radius 175mm standard  
Enclosure Protection IP69K IP67  
Operating Temperature -20C +60C  
Vibration IEC 68-2-6 10-50Hz + 1Hz  
Excursion 0.35mm 1 octave/min  
Classification Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb  
Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db  
Rated Voltage 250Vac  
Rated Current 2 Pole 4.0A 4 Pole 2.5A  
Cable Length 3m