

KOBRA - Tongue Operated Switch Type: KP

FEATURES:



IDEM KP Interlock switches are designed to provide position interlock detection for moving guards.

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 head can be rotated to give 4 actuator entry positions. For extra durability, Flexible Actuators and Stainless Steel head versions are available.

Contact blocks are replaceable with optional explosion proof versions. They are sealed to IP67 and survive most wash down solutions due to the high specification materials.

The head can be rotated to give 4 actuator entry positions.

Designed with a hinged lid to fit replaceable contact blocks.

Flexible actuators are available and the KP is available with a Stainless Steel head.

FUNCTIONAL SPECIFICATIONS:

Positive Break Contacts to EN60947-5-1

High Functional Safety to ISO13849-1

3 pole, 4 pole or Explosion Proof Contact Blocks

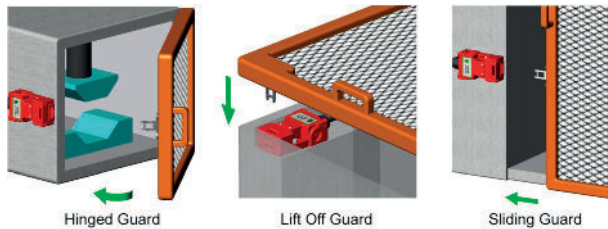
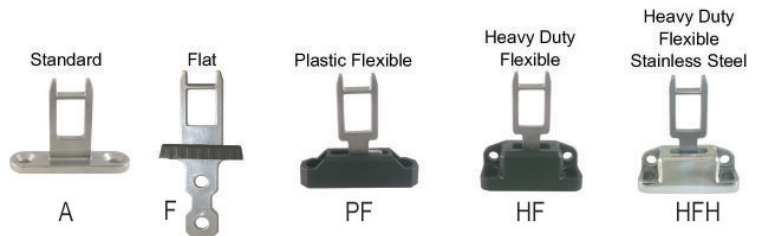
Stainless Steel Head version available

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

Industry Standard Fitting:

52mm wide 98mm long 40mm fixing

ACTUATOR OPTIONS (see p100)



PRE-WIRED EXPLOSION PROOF:

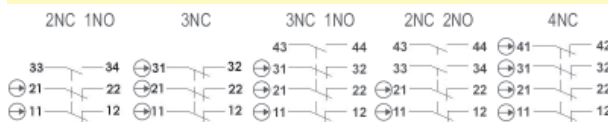


CLASSIFICATION:

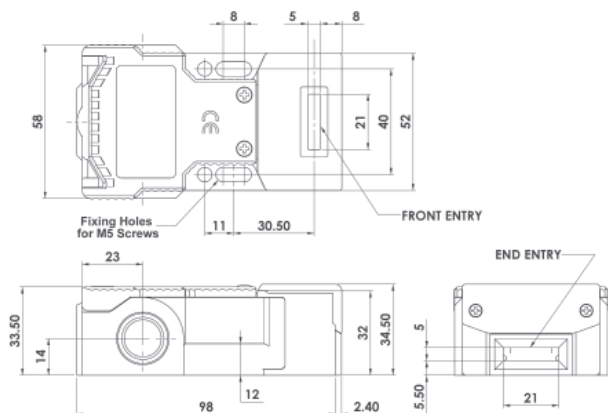
Exd IIC T6 (-20 ≤ Ta ≤ +60C) Gb

Ex tb IIIC T85C (-20 ≤ Ta ≤ +60C) Db

CONTACT BLOCK OPTIONS:



DIMENSIONS:



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

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 |
| 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 | Polyester |
| Head Material | Polyester or Stainless Steel 316 |
| Enclosure Protection | IP67 |
| 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 | 2 x M5 |

KOBRA - Tongue Operated Switch Type: KP

CONTACT OPERATION AT WITHDRAWAL OF ACTUATOR



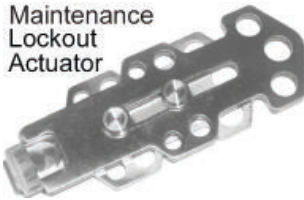
| | | | |
|---------|------|------|-----|
| 2NC 1NO | 6.8 | 6.0 | 0mm |
| 11/12 | Open | | |
| 21/22 | Open | | |
| 33/34 | | Open | |

| | | | |
|---------|------|------|-----|
| 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)



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

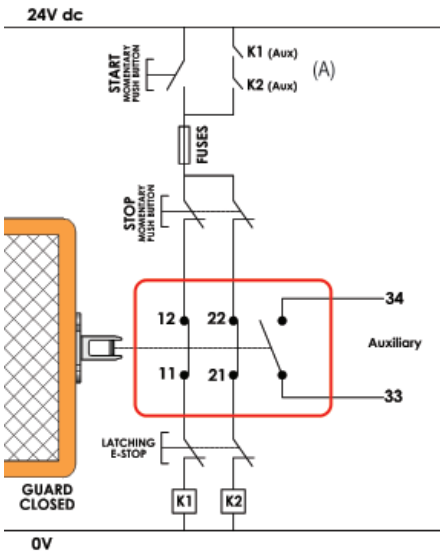


Flat Actuator supplied with 300mm (12") chain. Can be used where poor alignment exists and provides manual insertion of actuator by operator.



2 colour LED (3 wires) Steady Red and Steady Green. Fits to conduit entry and provides option for LED indication based upon switch contacts.

APPLICATION EXAMPLE



Guard Door Interlocked - Dual Channel (Non Monitored)

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

This provides Dual Channel wiring and a check of the contactor feedback circuits through the auxiliary contacts (A) of K1 and K2.

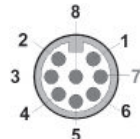
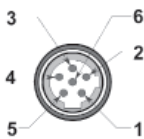
Opening the interlock switch or depressing the Emergency Stop will isolate power to the contactor coils.

Re-start can only occur providing the Guard is closed, and the Emergency Stop is reset.

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



| FEMALE QC LEADS | LENGTH | SALES NUMBER |
|-----------------|------------|--------------|
| M12 8 Way | 5m (15ft) | 140101 |
| M12 8 Way | 10m (30ft) | 140102 |
| 1/2" UNF | 2m (6ft) | 140141 |
| 1/2" UNF | 5m (15ft) | 140142 |



| Quick Connect (QC) 1/2" UNF 6 Way Male (connector length 14mm) Pin View from Switch | Switch Circuit | Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin View from Switch |
|---|----------------|---|
| 1 5 | 11/12 | 1 7 |
| 2 6 | 21/22 | 6 5 |
| 3 4 | 33/34 or 31/32 | 4 3 |
| | 41/42 or 43/44 | 8 2 |

| SALES NUMBER | CONTACTS | M20 | 1/2" NPT | QC 1/2" UNF 6 WAY | QC M12 8 WAY |
|-----------------|--|---------|------------------------------|-------------------|--------------|
| Kobra KP Switch | 2NC 1NO | 200001 | 200002 | 200003 | 200021 |
| Kobra KP Switch | 3NC | 200004 | 200005 | 200006 | 200022 |
| Kobra KP Switch | 3NC 1NO | 200007 | 200008 | | 200023 |
| Kobra KP Switch | 2NC 2NO | 200010 | 200011 | | 200024 |
| Kobra KP Switch | 4NC | 200013 | 200014 | | 200025 |
| Kobra KP Switch | 1NC 1NO Ex | 200016 | | 3m 4 Core Ex | |
| Kobra KP Switch | 2NC Ex | 200019 | | 3m 4 Core Ex | |
| Kobra KP Switch | 2NC 2NO Ex | 200026 | | 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 | | |
| | Stainless Steel Head Version | | Add SS to Sales Part Number | | |
| | Actuator Holding 40N (3 pole version only) | | Add 40N to Sales Part Number | | |

Ordering example: Kobra KP M20 2NC 3NC with Stainless Steel Head and Heavy Duty Flexible Actuator Sales Number: 200004-HF-SS
Gold Plated Contacts available for low power circuits (5V 5mA).
Add GC to Sales Number e.g. 200001-A-GC

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

| SALES NUMBER | CONTACTS | M20 |
|-----------------|----------|--------|
| Kobra KP Switch | 3NO | 200001 |

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