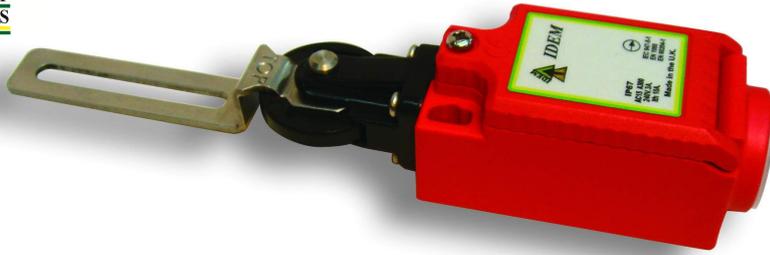




Safety Interlock Switch

IDIS-2 Operating Instructions



IMPORTANT NOTE:

Read and understand these instructions before installing, operating, or maintaining this equipment.

The product is designed to be a component of a customised safety orientated control system. It is the responsibility of each manufacturer to ensure the correct overall functionality of its systems and machines. IDEM, its subsidiaries and affiliates, are not in a position to guarantee all of the characteristics of a given system or product not designed by IDEM.

Application:

IDIS-2 Safety Hinge Switches are designed to be mounted for position sensing of hinged moving guards.

They have positive opening contacts in accordance with IEC 60947-5-1 and switch design offers tamper resistant mounting. They are available with a universal actuator arm for use with Left Hand, Right Hand or Swing Type guard doors. Contact blocks are available in slow make/break 2NC 1NO, 3NC, or 1NC 1NO Snap Action. Enclosures are protected to IP67.

Operation:

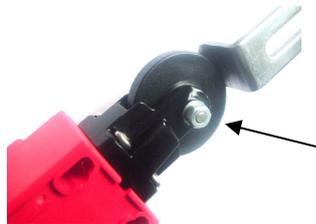
Operation of the switches is achieved by the sliding action of the actuator arm to cause deflection of the switch plunger. Positive actuation of the contacts is achieved at only 5 degrees of opening of the guard.

Installation Guide: Correct Mounting of Interlock Switches is critical to obtain optimum performance and ensure safety reliability.

Installation of all switches must be in accordance with a risk assessment for the individual application.

Installation must only be carried out by competent personnel and in accordance with these instructions.

1. Never use the switch as a mechanical stop. Ensure that the actuator is protected from mechanical shock.
2. The heads of the switch can be rotated to obtain the best switch orientation by removing the 4 head screws and rotating the head through 90 degrees. Always ensure the 4 head screws are tightened to 1Nm to ensure switch robustness.
3. The actuator arm can be set to Left, Right or Central orientation to suit mounting position on guard.



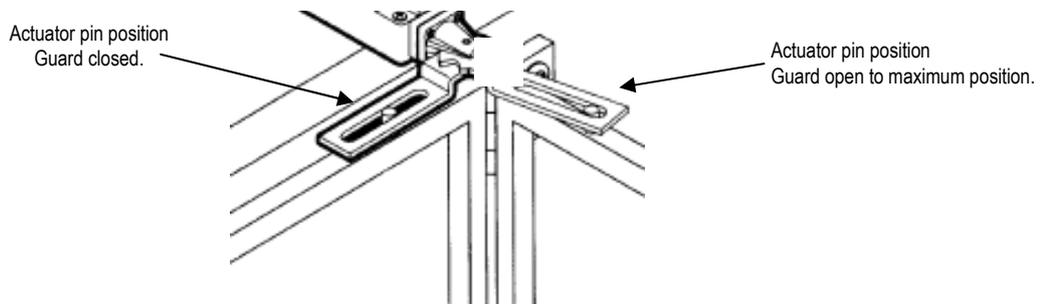
Remove the M3 nut and washer, remove the axle pin and position the cam detent to the required operating position to achieve Left, Right or Central operation. Ensure that the nut and washer are replaced and tightened securely.

NC contacts closed after setting
Central Right / Left



4. When mounting to the guard door, align and fix the switch body to the frame of the door using 2 x M4 mounting bolts tightened at 1.5Nm. Fix a Steel Actuator pin (diameter 5mm max.) to the frame of the guard ensuring that the full required opening position of the door can be achieved.

Actuator pin example:



Check closed and open positions before permanently fixing the pin.

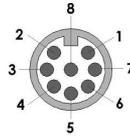
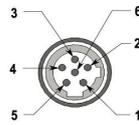
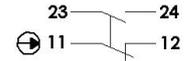
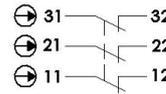
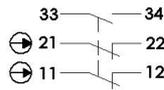
5. Always ensure that when fitting electrical conductors that they are routed correctly and do not interfere with the switch cover during fitting. Recommended conductor size is 1.5 – 2.5sq.mm, contact terminal tightening torque is 1Nm.
6. Tightening torque for the lid screw and cable glands is 1Nm to maintain IP rating.
7. Check operating angle or distance in accordance with the risk assessment for the application.

Safety Interlock Switch

Contact Blocks/Connections: Slow Make Break 2NC 1NO

Slow Make Break 3NC

Snap Action 1NC 1NO



Quick Connect (QC) ½" 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 or 23 / 24	6	5
3	4	33 / 34 or 31 / 32	4	3

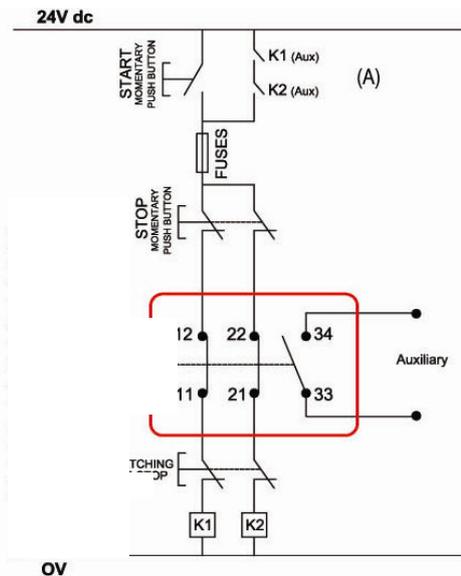
Maintenance:

Every Week: Check switch actuator and body for signs of mechanical damage and wear. Replace any switch showing damage.

Every 6 Months: Check operating angle or distance in accordance with the risk assessment for the application.

Isolate power and remove cover. Check screw terminal tightness and check for signs of moisture ingress. Never attempt to repair any switch.

Application Example: Door Interlock - Dual Channel non-monitored.



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

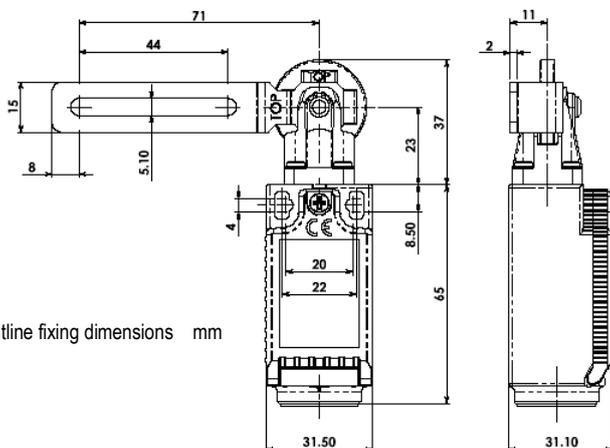
When the start button is pressed and then released, the auxiliary contacts (A) of contactors K1 and K2 maintain the feed to the contactor coils.

Opening of the Interlock switch or depressing the E Stop will isolate power to the contactor coils. Re-start can only occur providing the Guard is closed and the E Stop is reset.

System is shown with the guards closed and the machine able to start.

Information with regard to UL 508:

Type 1 Enclosures.
Control Number 35NV
Use 16 - 12AWG copper conductors rated 90°C minimum.
Intended for same polarity use and one polymeric conduit connection.
Electrical Rating:
Max. Switching Current / Volt / Amp:
120V. 6A. (720VA break) PF 0.38
240V. 3A. (720VA break) PF 0.38
Operating Temperature 40°C



Outline fixing dimensions mm

Standards: EN1088, 50047, IEC 60947-5-1, EN60204-1, ISO 13849-1, EN62061, UL508

Safety Classification & Reliability Data:

Mechanical Reliability B10d
EN 954-1
ISO 13849-1
EN62061
Safety Data – Annual Usage
PFHd
Proof Test Interval (Life)
MTTFd
Utilization Category
Thermal Current (Ith)
Rated Insulation/Withstand Voltages
Actuator Rotation for Positive Opening
Materials
Enclosure Protection
Operating Temperature
Vibration
Conduit Entry
Fixing

2.5 x 10⁶ operations at 100mA load
Up to Category 4 with Safety Relay
Up to PLe depending upon system architecture
Up to SIL3 depending upon system architecture
8 cycles per hour/24 hours per day/365 days
3.4 x 10⁻⁸
35 years
356 years
AC15 A300 3A
10A
600VAC/2500VAC
7 degrees 0.5Nm
UL approved glass filled polyester
IP67
-25C +80C
IEC 68-2-6 10-55Hz+1Hz
Excursion: 0.35mm, 1 octave/min
Various (see sales part numbers)
2 x M4