

# Tongue Interlock Safety Switch Type: INCH-1

## FEATURES:

IDEM INCH-1 Compact Safety Interlock switches are designed to provide position interlock detection for small moving guards.

They are designed to fit to the leading edge of sliding, hinged or lift off machine guards.

The rugged Stainless Steel actuator profile is designed to match a cam mechanism to provide a positively operated not easily defeated interlock mechanism.

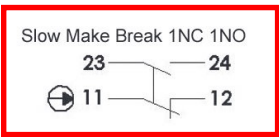
The compact body only 25mm wide with 18mm fixing centres and rotatable head make them easy to install where space is restricted.

The rotatable heads have dual actuator entry positions to give up to 8 different entry positions.

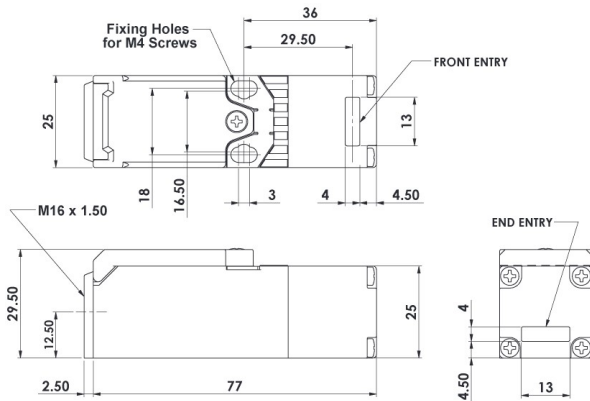
A Plastic Flexible Actuator is available for tight radius guards.

Contact blocks are replaceable 1NC 1NO.

## CONTACT BLOCK



## PRODUCT DIMENSIONS:



## CONTACT OPERATION:

1NC 1NO: 4.5 4.0 0mm

|       |      |      |
|-------|------|------|
| 11/12 | Open |      |
| 23/24 |      | Open |



### Stainless Steel Guide:

To assist with guard alignment IDEM recommend that you use the Stainless Steel Guide accessory (supplied with two stainless steel self-tapping screws).

SALES NUMBER - INCH 1 STAINLESS STEEL GUIDE 140179

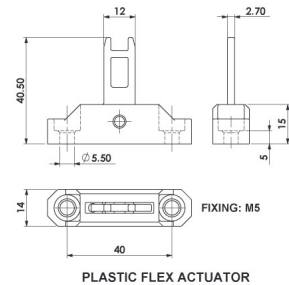
STAINLESS STEEL HEAD



## INCH-1 ACTUATOR



## ACTUATOR DIMENSIONS:



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

### Safety Classification and Reliability Data:

Mechanical Reliability B10d  
ISO13849-1  
EN62061  
Safety Data – Annual Usage  
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  
MTTFd 356 years

Utilization Category  
Thermal Current  
AC15 A300 3A  
10A

Rated Insulation/Withstand Voltages  
Travel for Positive Opening  
Actuator Entry Minimum Radius  
Maximum Approach/Withdrawal Speed  
Body Material  
Head Material  
Enclosure Protection  
Vibration  
Conduit Entry  
Fixing

600Vac/2500Vac  
6mm  
150mm Standard 100mm Flexible  
600mm/s  
UL approved glass fibre Polyester  
Stainless Steel 316  
IP67  
IEC 68-2-6 10-55Hz + 1Hz  
Excursion 0.35mm 1 octave/min  
M16  
2 x M4

## SALES NUMBER

| PRODUCT       | CONTACTS         | M16                    |
|---------------|------------------|------------------------|
| INCH-1 Switch | 1NC 1NO          | 222003                 |
| Actuator      | Plastic Flexible | Add PF to Sales Number |

6. 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.
7. Tightening torque for the lid screw and cable glands is 1Nm to maintain IP rating.
8. Check that the machine is stopped and cannot be started when the interlocked guard is open.
9. After installation apply tamper resistance paint or compound to the actuator and switch mounting bolts.

**Maintenance:**

- Every Month: Check the switch actuator and body for signs of mechanical damage and wear. Replace any switch showing damage. Check that the machine is stopped and cannot be started when the interlocked guard is open.
- Every 6 Months: Check for mechanical damage to switch body or actuator. Replace any switch showing damage. Isolate power and remove cover. Check screw terminal tightness and check for signs of moisture ingress. Never attempt to repair any switch.

**Information with regard to UL Standards:**

Type 1 Enclosures.  
 Use 16 - 12AWG stranded copper insulated conductors rated 90°C minimum. (75C. ampacity).  
 Terminal tightening torque 7lbs ins (0.8Nm).  
 Intended for same polarity use and one polymeric conduit connection.  
 Not suitable for connection to a rigid metal conduit system.  
 Electrical Rating: Pilot Duty A300 240V.ac 3A, 6,000 cycles.  
 Maximum ambient temperature 80°C.

**Contact operation at withdrawal of actuator**

|                |      |      |      |
|----------------|------|------|------|
| 1NC 1NO (SNAP) | 4.5  | 4.0  | 0 mm |
| 11/12          | Open |      |      |
| 23/24          |      | Open |      |

**Standards:** ISO 14119, IEC 60947-5-1, EN60204-1  
 ISO 13849-1, EN62061, UL60947-5-1

**Safety Classification & Reliability Data:**  
 Mechanical Reliability B10d 2.5 x 10<sup>6</sup> operations at 100mA load  
 ISO 13849-1 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   |
| Overload protection fuse (fuse externally) | 10A. (FF)   |
| Rated Insulation/Withstand Voltages        | 600VAC/2500VAC  |
| Actuator Travel/Force for Positive Opening | 6mm/12N   |
| Actuator Entry Minimum Radius              | 150mm Standard 100mm Flexible                             |
| Maximum Approach Withdrawal Speed          | 600mm/s   |
| Body Material                              | Polyester/Stainless Steel 316                             |
| Enclosure Protection                       | IP67 Plastic or IP69K Stainless Steel 316                 |
| Operating Temperature                      | -25C +80C   |
| Vibration                                  | IEC 68-2-6 10-55Hz+1Hz<br>Excursion: 0.35mm, 1 octave/min |
| Conduit Entry                              | Various (see sales part numbers)                          |
| Fixing                                     | 2 x M4  |
| Mounting Position                          | Any   |
| Pollution Degree                           | 3   |
| Short Circuit Overload Protection          | Fuse externally 10A (FF)                                  |