

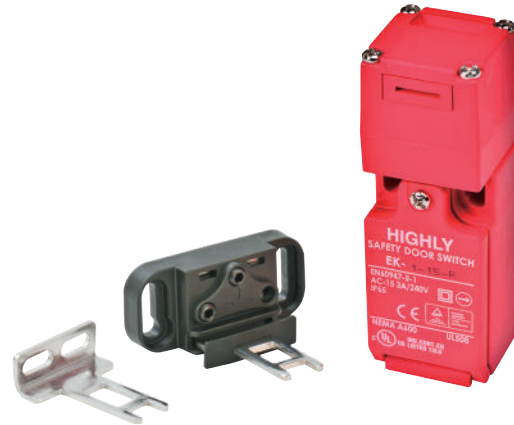
**»Description**

The EK series is a tongue (or key) operated safety interlock switch designed to fit at the leading edge of sliding, hinged or lift-off guards. With its dual entry slots and rotatable head, the versatile EK series can offer up to eight different actuator entry options. Operation of the switch is achieved through the insertion of a specially profiled stainless steel key that is permanently mounted to the guard door.

Available with one N.C. safety contact and one N.O. auxiliary contact or two N.C. contacts, the EK series is sealed to IP67 and has various conduit entries. A blanking plug is supplied for the unused key entry. Available accessories include a 90° actuator.

**»Features**

- Fits on 25mm tubing, ideal for small, light weight guards
- Contacts: Slow action 1N.C. /1N.O.; 2N.C.; snap action 1N.C./1N.O.
- Positive opening mechanism
- Double-insulation structure
- Eight possible actuator entry points, easy to install
- 90° and straight key
- IP65 enclosure rating
- Robust stainless steel keys



**»Specifications**

Electrical Characteristics		
Rating	TUV (EN60947-5-1), UKCA(BS EN60947-5-1), CCC (GB 14048.5)	
	Utilization category	AC-15
	Rated operating current (Ie)	3A
	Rated operating voltage (Ue)	240V
	UL (UL508) AC-15 A600	
	Contact Type e	1: 1NC/1NO Slow Action BBM
		2: 2NC Slow Action
		6: 1NC/1NO Sanp Action Zb
	UL (UL508) AC-15 A300	
	Contact Type	4: 2NC/1NO Slow Action BBM
5: 3NC Slow Action		
UL (UL508) AC-15 B600		
Contact Type	3: 1NC/1NO Snap Action Za	

Electrical Characteristics	
Contact resistance	Initial value 25mΩ max.
Min Current	5VDC 5mA
Insulation Voltage	600V
Thermal Current (Ith)	10A B600: 5A
Insulation Resistance	100MΩ Min (DC 500V)
Protection Against Electric Shock	Class II (double insulation).
Dielectric Strength	2,500V 50/60Hz for 1 minute.
Rated Frequency	50/60 Hz.
Pollution Degree	3

Mechanical Characteristics	
Electrical durability	150,000 Cycles Min.
Mechanical durability	1,000,000 Cycles Min.
Vibration durability	IEC 68-2-6,10-55Hz±1 HZ,Excursion: 0.35mm,1 octave/min.
Shock durability	300 m/s <sup>2</sup> min.
Max Switching Speed	250mm/s.

IEC 60947-5-1/EN 60947-5-1									
Designation & Utilization Category		Rated operational current Ie (A) at rated operational voltage Ue						VA rating	
		120V	240V	380V	480V	500V	600V	Make	Break
AC-15	A600	6	3	1.9	1.5	1.4	1.2	7200	720
AC-15	A300	6	3	-	-	-	-	7200	720
AC-15	B600	3	1.5	-	-	-	-	3600	360

Climatic Characteristics	
Degree of Protection	IP65
Operating Humidity	95% max. (for 5°C to 40°C)
Operating Temperature	-25°C ~ +80°C

**» Structure description**

**Head**

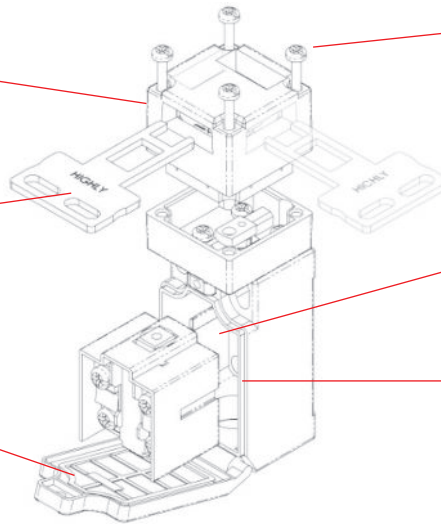
The head can be mounted in four directions. The operation Key can be inserted in five directions including the downward direction.

**Operation Key**

The dedicated key prevents operational mistakes and forcibly separates the contacts.

**Cover**

The cover, with a hinge on its lower part, can be opened by removing the screw of the cover, which ensures ease of maintenance and wiring.



**Oil Seal**

The plunger has an O ring. The switch casing ensures IP67 (except the keyhole, which ensures IP00). Use the EK Series in places where the keyhole is free from oil and metal chips.

**Contact Block**

Has a positive opening mechanism which forcibly separates the NC contacts even if they are welded. The built-in switch incorporates a pair each of NC contacts and NO contacts or two pairs of NC contacts.

**Conduit**

Wide switch variations.  
Pg13.5 PG11  
1/2-14NPT  
M16 M20

**» Product Selection**

EK-□-□-□

1 2 3

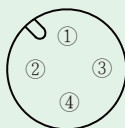
**1.THREAD DIMENSION OF LEAD EXIT**

- 1: PG13.5(S)
- 2: 1/2NPT(C)
- 4: PG11(O)
- 5: M16(C)
- 6: M20(O)
- 7: Connector(C)

\*(s):standard (o):option (c): customization

M12 Connector pin arrangement

- ①: 11
- ②: 21/23
- ③: 12
- ④: 22/24



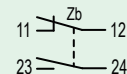
OPERATION DIAGRAMS

**3.KEY TYPES**

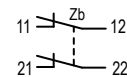
- F: Flat (o)
- R: Right angle (s)
- A: Adjustable (c)

**2.CONTACT TYPES**

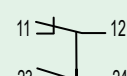
15: 1NC/1NO SLOW ACTION (BBM)(S)



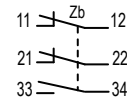
25: 2NC SLOW ACTION(O)



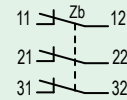
35: 1NC/1NO SNAP ACTION(C)



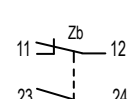
45: 2NC/1NO SLOW ACTION



55: 3NC SLOW ACTION



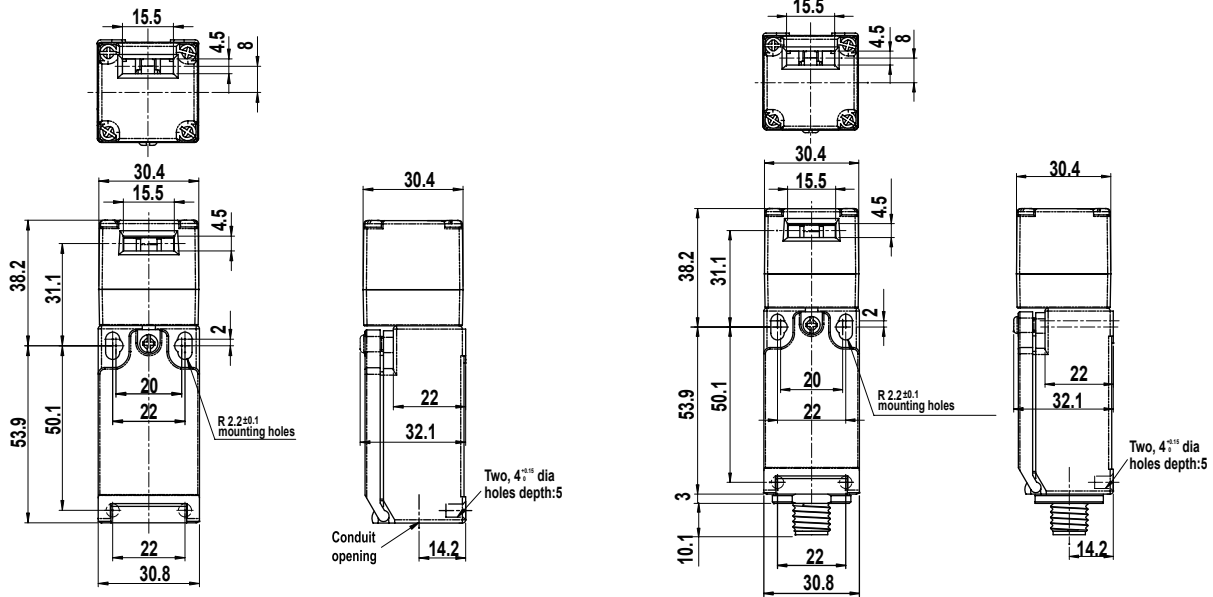
65: 1NC/1NO SNAP ACTION(Zb)(C)



**» Operating Characteristics**

Actuator Type EK-□-□-□

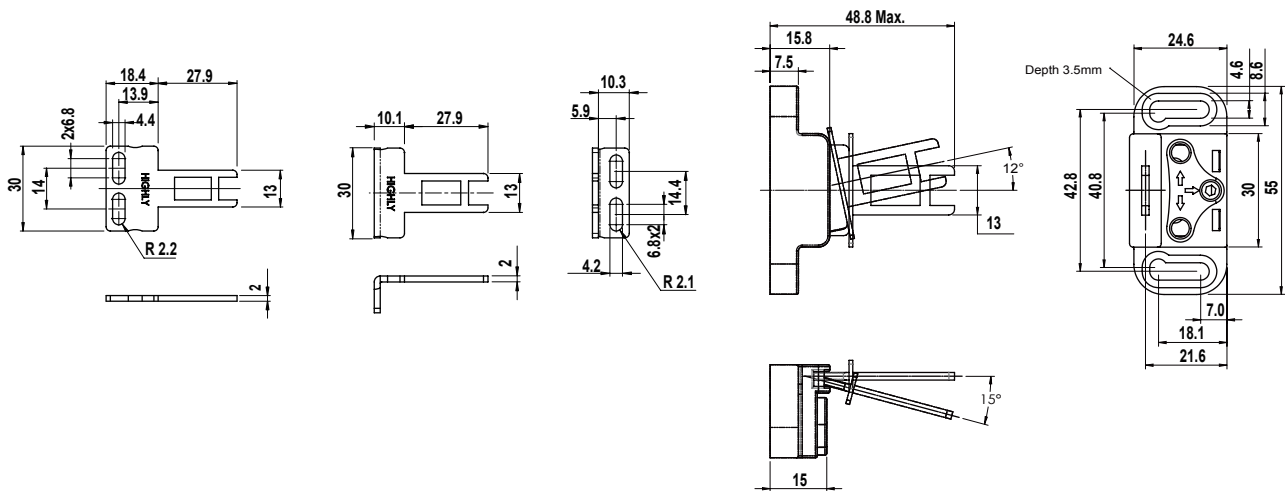
EK-7-□-□



Operation Key F:Flat

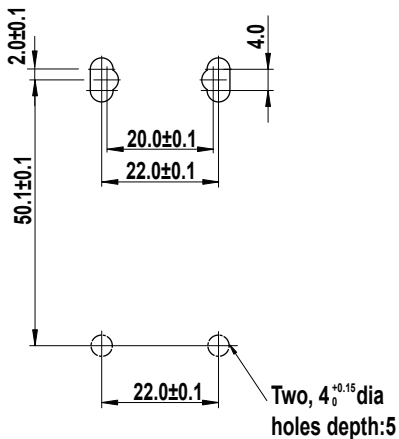
R:Right angle

A:Adjustable



**» Switch Mouting**

Using M4 mounting screws with plane washers or spring washers to secure a tight mounting. Tightening the screws with the torque of 0.5N to 0.7 Nm.

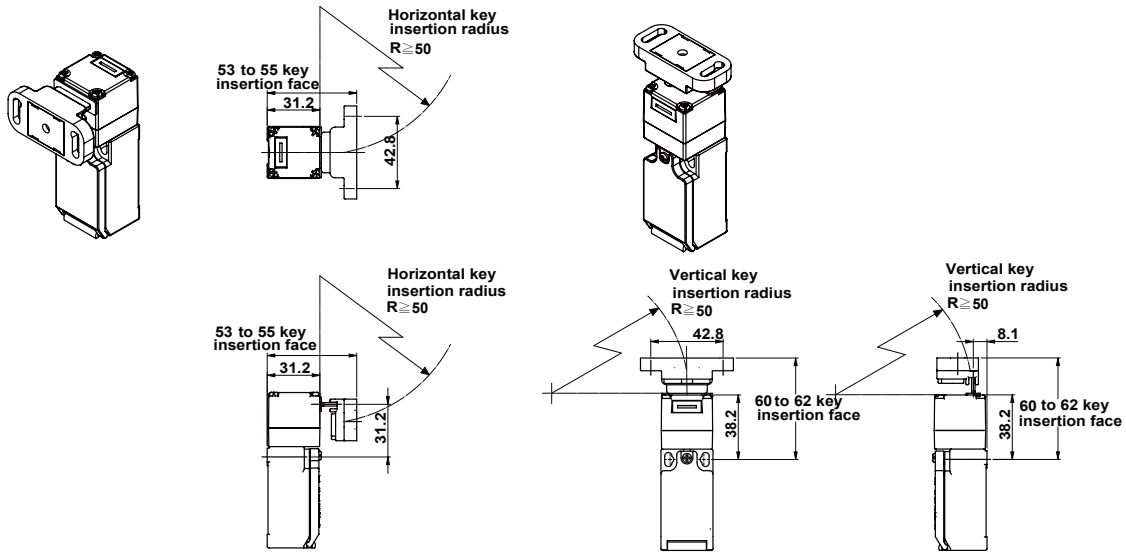


**HIGHLY**

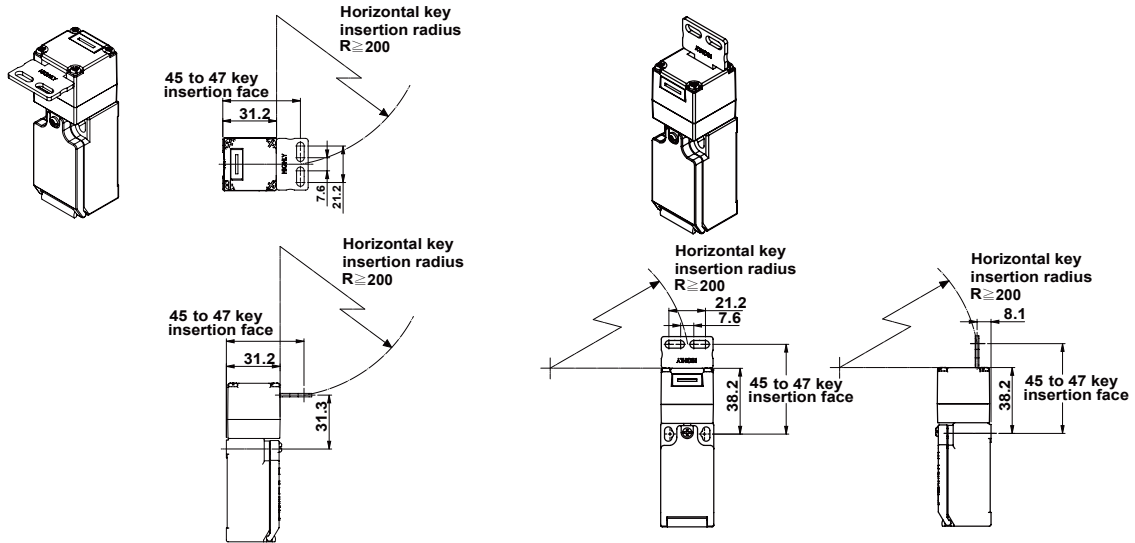
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Design, specifications are subject to change without notice.

**» Actuator Types**



**» Actuator Types Flat**



**» Actuator Types Right Angle**

