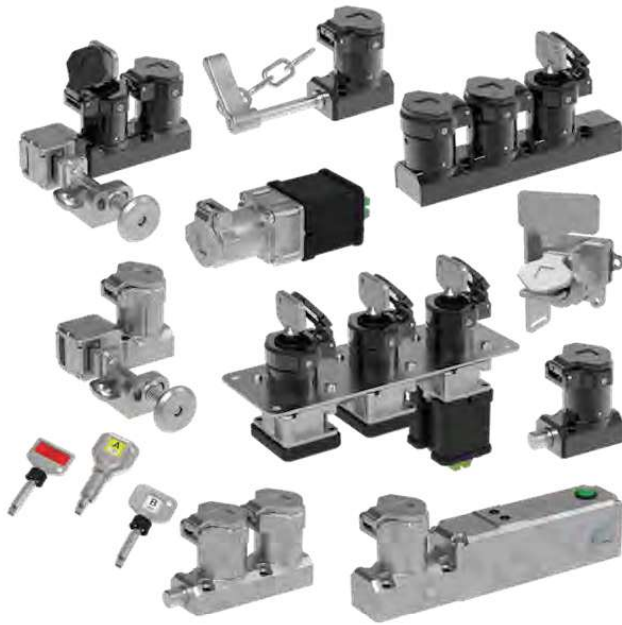


SKORPION Trapped Key Interlocking with Key Exchange

THE SKORPION RANGE - AVAILABLE IN STAINLESS STEEL 316 OR DIE CAST:



PRODUCT OVERVIEW:

The SKORPION Trapped Key System has been developed to provide extremely robust mechanical coded key safeguarding and interlocking for hazardous machinery.

The system works on the principle of releasing factory coded mechanical keys in a pre-determined sequence to ensure machine power is isolated before any access can be gained to hazardous or dangerous machinery.

After the machine control has been isolated (first key turned in the system) the key from the isolator can then be used to release other trapped keys to enable access to the guarded areas.

After release of the first key (power isolation) safeguarding can be achieved without the need for electrical wiring, this makes the system ideal for use in harsh environments.

When used in conjunction with interlock sensing they can be used to achieve up to PLe/Cat4 to ISO13849-1.

ISOLATION

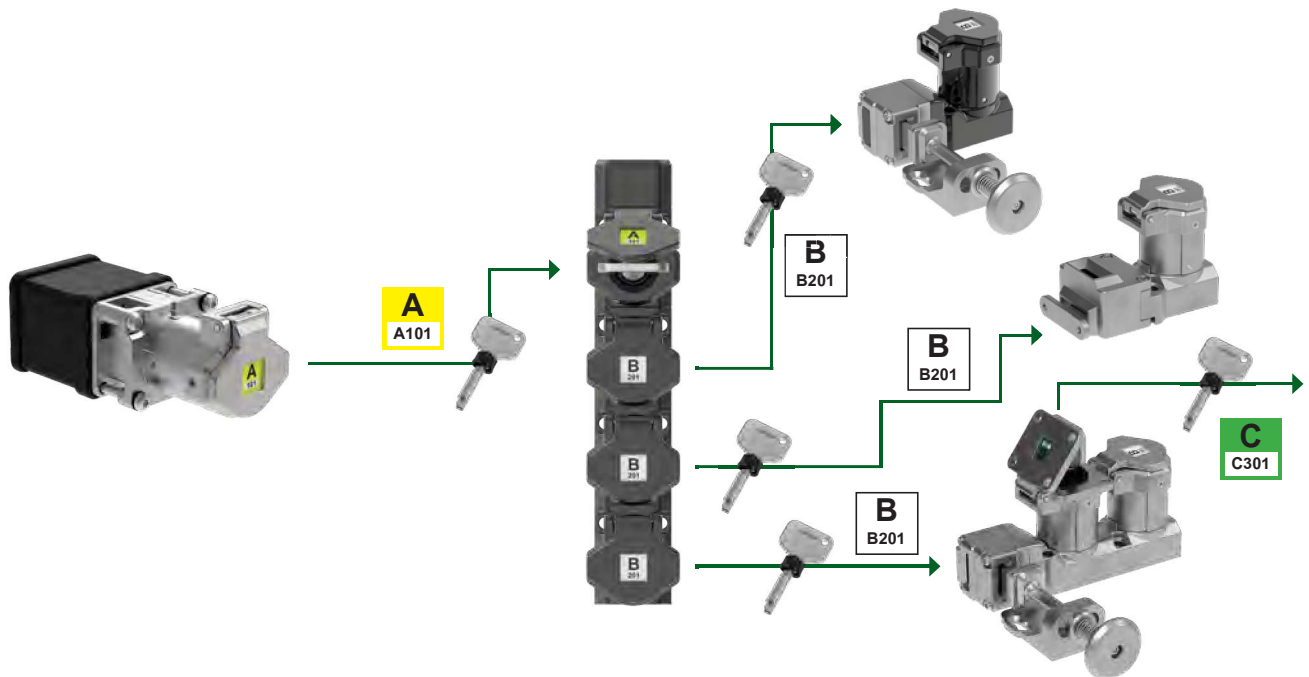
The first stage of any trapped key system is to isolate the power or open the control circuit. This should STOP any hazardous processes associated with the zone you are trying to

KEY EXCHANGE

The second stage is exchange. The isolator key can be used to open 1 access lock at a time or, if there are multiple access locks, a key exchange can be used.

GUARD INTERLOCKS FOR ACCESS CONTROL

Access locks prevent entry to the hazardous areas. Only when the correct coded key is presented, will entry be permitted.



ADVANTAGES:

- No reduction of integrity due to the distance between movable guard and control system.
- High mechanical integrity, robust fixings and holdings suitable for all types of guards.
- Eliminates the need for electrical wiring to each movable guard.
- Fully Stainless Steel 316 version is suitable when the movable guard is placed in harsh or hostile environments.
- Suitable for CIP and SIP cleaning processes and can be high pressure hosed with detergents at high temperatures.
- Can be used where the movable guard requires to be removed completely.
- All keys are coded in the factory and it is virtually impossible to override the system.
- A trapped key system provides a quick yet safe and reliable access to machinery.
- Use of a trapped key system can also prevent shortcuts and enforce a logical set of procedures that need to be satisfied.
- Until the isolator key is returned to its original position within the lock, there is no way to enable the machinery to be re-started.

SKORPION Trapped Key Interlocking with Key Exchange

CS-Range

NEW

Pages: 244-245

Control switch and key exchange combined into one convenient system.

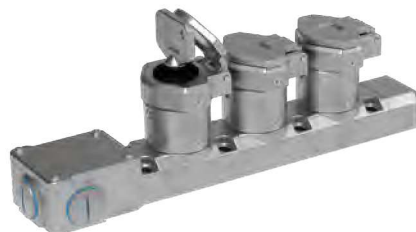


ISB-CB

NEW

Page: 247

Control switch and key exchange combined into an IP69K enclosure.



LCB

NEW

Pages: 258-259

Light Curtain blocking device for protection when working inside the safeguarded area.



WOOD PROCESSING



SHEET METAL CUTTING



WOOD PROCESSING



BREAD MANUFACTURING



CORRUGATED PAPER MANUFACTURING



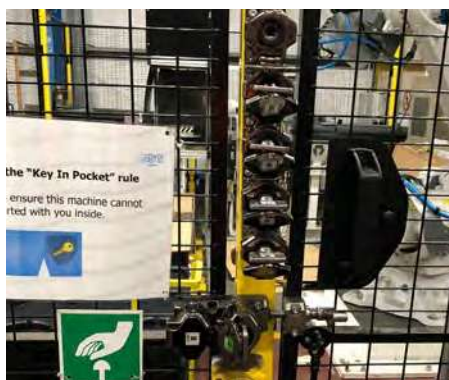
AUTOMATED MEAT SLICING MACHINE



SWITCHGEAR ISOLATION



AUTOMATED PALLETIZING



RECYCLING MACHINERY



SKORPION Trapped Key Interlocking with Key Exchange



Standard dust covers supplied with all IDEM Trapped Key Interlocks.



LT: All IDEM trapped key interlocks are available with a lockout dust cover. Add LT to the end of any IDEM part number. Example: "SS-ISB1-25-LT"



CK: All IDEM trapped key interlocks are available with a custom key label. Add CK to the end of any IDEM part number. Example: "SS-ISB1-25-CK"

BOX MOUNT ISOLATION SWITCH - ISB1:

M-ISB1



SS-ISB1



Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

DIE-CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH BOX 1 RATING		
M-ISB1-25	25A	690V	4 pole
M-ISB1-40	40A	690V	4 pole

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH BOX 1 RATING		
SS-ISB1-25	25A	690V	4 pole
SS-ISB1-40	40A	690V	4 pole

BOX MOUNT ISOLATION SWITCH - ISB2:

M-ISB2



SS-ISB2



Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

DIE-CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH BOX 2 RATING		
M-ISB2-63	63A	690V	4 pole

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH BOX 2 RATING		
SS-ISB2-63	63A	690V	4 pole

ISOLATION SWITCH PANEL MOUNT - ISP:

M-ISP



SS-ISP



Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH PANEL MOUNT RATING		
SS-ISP-25	25A	690V	4 pole
SS-ISP-40	40A	690V	4 pole
SS-ISP-63	63A	690V	4 pole

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH PANEL MOUNT RATING		
M-ISP-25	25A	690V	4 pole
M-ISP-40	40A	690V	4 pole
M-ISP-63	63A	690V	4 pole

AUXILIARY SIGNAL CONTACT BLOCK

Sales Number	AUXILIARY SIGNAL CONTACT BLOCK		
AUX-ISP	1NC+1NO	AC-15	6A 230V/4A 415V)

SKORPION Trapped Key Interlocking with Key Exchange

ISOLATION SWITCH WITH SOLENOID CONTROL (PANEL MOUNT) - ISP-SKR:



In addition to the 4 pole main Isolator Contacts, all models of the isolation switch ISP-SKR are supplied with:

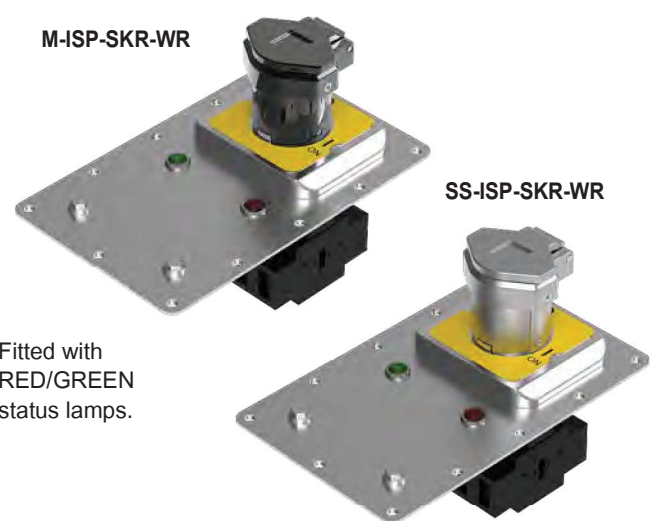
- RED lamp wired to indicate Solenoid energized.
- GREEN lamp for end user designation.
- 2NC 1NO monitoring contact block.
- Solenoid energised to release key.

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP				
Sales Number	ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE RATING			
SS-ISP-SKR-25	25A	690V	4 pole	
SS-ISP-SKR-40	40A	690V	4 pole	
SS-ISP-SKR-63	63A	690V	4 pole	

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP				
Sales Number	ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE RATING			
M-ISP-SKR-25	25A	690V	4 pole	
M-ISP-SKR-40	40A	690V	4 pole	
M-ISP-SKR-63	63A	690V	4 pole	

ISOLATION SWITCH WITH SOLENOID CONTROL (PANEL MOUNT) IP65 RATED- ISP-SKR-WR:

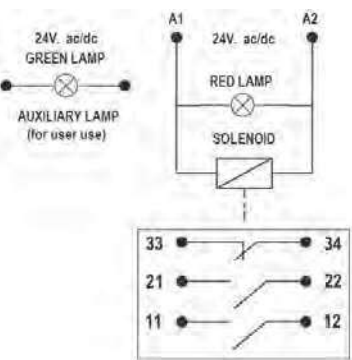


Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

ISP-SKR-WR STAINLESS STEEL 316				
Sales Number	WATER RESISTANT ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE			
	RATING			SOLENOID VOLTAGE
SS-ISP-SKR-WR-25	25A	690V	4 pole	24V ac/dc
SS-ISP-SKR-WR-40	40A	690V	4 pole	24V ac/dc
SS-ISP-SKR-WR-63	63A	690V	4 pole	24V ac/dc

ISP-SKR-WR DIE CAST METAL (Mirror Finish)				
Sales Number	WATER RESISTANT ISOLATION SWITCH PANEL MOUNT SOLENOID KEY RELEASE			
	RATING			SOLENOID VOLTAGE
M-ISP-SKR-WR-25	25A	690V	4 pole	24V ac/dc
M-ISP-SKR-WR-40	40A	690V	4 pole	24V ac/dc
M-ISP-SKR-WR-63	63A	690V	4 pole	24V ac/dc

MONITORING CONTACT INFORMATION FOR SOLENOID CONTROL ISOLATION

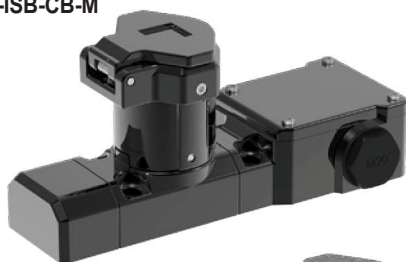


MONITORING CONNECTION TERMINALS		
Terminals	Description	RATING
A1 A2	Solenoid voltage 24V ac/dc	-
11 12	Closed when key is trapped and solenoid de-energized. Open when solenoid is energized – trapped open if key removed.	230V 3A
21 22	Closed when key is trapped and solenoid de-energized. Open when solenoid is energized – trapped open if key removed.	230V 3A
33 34	Open when key is trapped and solenoid de-energized. Closed when solenoid is energized – trapped open if key removed.	230V 3A
24V Auxiliary Lamp	3mm spade terminal - GREEN (not connected).	-

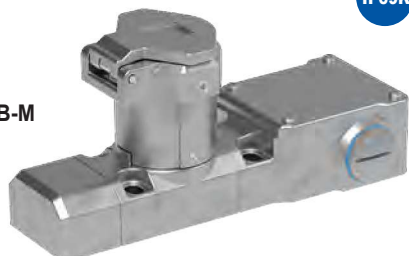
SKORPION Trapped Key Interlocking with Key Exchange

EXTERNAL MOUNT CONTROL SWITCH - ISB-CB-M

M-ISB-CB-M



SS-ISB-CB-M



IP69K

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH BOX
M-ISB-CB-22-M	2NC 2NO Contact Block 240V 3A max. M20
M-ISB-CB-31-M	3NC 1NO Contact Block 240V 3A max. M20
M-ISB-CB-40-M	4NC Contact Block 240V 3A max. M20

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	ISOLATION SWITCH BOX WITH IP69K RATING
SS-ISB-CB-22-M	2NC 2NO Contact Block 240V 3A max. M20
SS-ISB-CB-31-M	3NC 1NO Contact Block 240V 3A max. M20
SS-ISB-CB-40-M	4NC Contact Block 240V 3A max. M20

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121



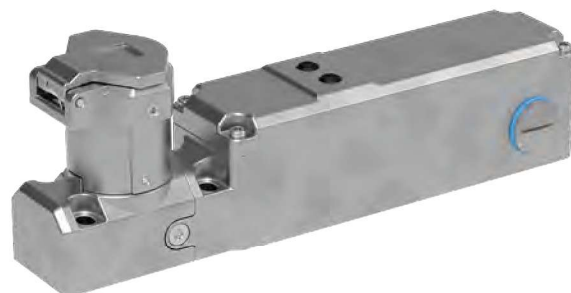
We recommend using our Stainless Steel 316 Gland with this safety switch.

CONTROL SWITCH WITH SOLENOID RELEASE UNIT - ISB4-SR:

M-ISB4-SR



SS-ISB4-SR



IP69K

The ISB4-SR is a trapped key operated control switch designed to turn off machine safety circuits.

The key is trapped when the main safety contacts are closed (machine able to run) and can only be released when the internal solenoid in the ISB4-SR is energised.

This then enables the key to be turned and released and the safety contacts opened. The key can then be used to release other devices in a trapped key system.

It can be used in conjunction with safety delay timers to allow a delay time before the solenoid is energised therefore allowing for any machine run down prior to releasing of the key.

Versions with integral request button are available.

ISB4-SR STAINLESS STEEL 316

Sales Number	Contact Block	Solenoid Voltage	Conduit Entry
SS-ISB4-SR-22	2NC 2NO (240V 3A max)	24V ac/dc	M20
SS-ISB4-SR-31	3NC 1NO (240V 3A max)	24V ac/dc	M20

ISB4-SR DIE-CAST METAL (Mirror Finish)

Sales Number	Contact Block	Solenoid Voltage	Conduit Entry
M-ISB4-SR-22	2NC 2NO (240V 3A max)	24V ac/dc	M20
M-ISB4-SR-31	3NC 1NO (240V 3A max)	24V ac/dc	M20

ISB4-SR MODELS WITH REQUEST BUTTON - NC/NO Changeover

ISB4-SR STAINLESS STEEL 316

Sales Number	Contact Block	Solenoid Voltage	Conduit Entry
SS-ISB4-SR-22-PB	2NC 2NO (240V 3A max)	24V ac/dc	M20
SS-ISB4-SR-31-PB	3NC 1NO (240V 3A max)	24V ac/dc	M20

ISB4-SR DIE-CAST METAL (Mirror Finish)

Sales Number	Contact Block	Solenoid Voltage	Conduit Entry
M-ISB4-SR-22-PB	2NC 2NO (240V 3A max)	24V ac/dc	M20
M-ISB4-SR-31-PB	3NC 1NO (240V 3A max)	24V ac/dc	M20

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121



We recommend using our Stainless Steel 316 Gland with this safety switch.

Request Button version also available (IP65)



SKORPION Trapped Key Interlocking with Key Exchange

ISOLATION SWITCH BOX WITH SOLENOID CONTROL IP65 RATED - ISB3-SKR:



Fitted with
RED/GREEN
status lamps. **ISB3-SKR-WR**

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

ISB3-SKR STAINLESS STEEL 316 (Box Enclosure Plastic)				
Sales Number	WATER RESISTANT ISOLATION SWITCH BOX SOLENOID KEY RELEASE			
	RATING		SOLENOID VOLTAGE	
SS-ISB3-SKR-25	25A	690V 4 pole	24V ac/dc	
SS-ISB3-SKR-40	40A	690V 4 pole	24V ac/dc	
SS-ISB3-SKR-63	63A	690V 4 pole	24V ac/dc	

ISB3-SKR DIE CAST METAL (Mirror Finish) (Enclosure Plastic)				
Sales Number	WATER RESISTANT ISOLATION SWITCH BOX SOLENOID KEY RELEASE			
	RATING		SOLENOID VOLTAGE	
M-ISB3-SKR-25	25A	690V 4 pole	24V ac/dc	
M-ISB3-SKR-40	40A	690V 4 pole	24V ac/dc	
M-ISB3-SKR-63	63A	690V 4 pole	24V ac/dc	

ACCESSORY: AUXILIARY SIGNAL CONTACT BLOCK: AUX-SP



Optional Auxiliary Signal Contact Block to indicate isolator status.
Fits to all ISP-SKR and ISP isolation switch panel mount.

AUXILIARY CONTACT BLOCK			
AUX-ISP	1NC+1NO	AC-15	6A 230V/4A 415V)

EXPLOSION ENVIRONMENT CONTROL SWITCH - ISB-CB-EX (IECEx/ATEX Internal Switch):

ISB-CB-EX

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



The ATEX approved internal switch (LS-EX) conforms to European harmonized standard EN60079-0 and EN60079-1 and can be used in European Zone 1, 2, 21, 22 environments. (Gas and Dust).

Power "ON" = Key TRAPPED. Power "OFF" = Key can be RELEASED

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP			
Sales Number	ISOLATION SWITCH BOX WITH EXPLOSION PROOF CONTACT BLOCK		
SS-ISB-CB-22-EX	2NC 2NO (pre-wired 3m cable)	250V	2.5A max.
SS-ISB-CB-11-EX	1NC 1NO (pre-wired 3m cable)	250V	4.0A max.
SS-ISB-CB-20-EX	2NC (pre-wired 3m cable)	250V	4.0A max.

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP			
Sales Number	ISOLATION SWITCH BOX WITH EXPLOSION PROOF CONTACT BLOCK		
M-ISB-CB-22-EX	2NC 2NO (pre-wired 3m cable)	250V	2.5A max.
M-ISB-CB-11-EX	1NC 1NO (pre-wired 3m cable)	250V	4.0A max.
M-ISB-CB-20-EX	2NC (pre-wired 3m cable)	250V	4.0A max.



SKORPION Trapped Key Interlocking with Key Exchange



CS CONTROL SWITCH + KEY EXCHANGE COMBINED

The CS products combine control switch isolation and key exchange into one convenient system. Every barrel location can either be monitored with or without solenoid release or mechanically operated, depending on the requirements.

A common configuration for a CS-Range system has the top key "electrically monitored" and the remaining keys as mechanical release only. Only when the top key is FREE, can the mechanical keys be released.

The CS-Range is factory assembled.
Available in panel or box mounted arrangement
Supports both simple and complex requirements
Contact sales@idemsafety.com for support

PANEL MOUNT CONTROL SWITCH - CS

M-CS



SS-CS



The key is trapped when the machine is running. Turning the key stops the machine, allowing the key to be released.

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
M-CS	4NC 2NO Control Switch 240V 3A max.

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
SS-CS	4NC 2NO Control Switch 240V 3A max.

REVERSE FUNCTION:

The key is free when the machine is running. Inserting and turning the correct key stops the machine and prevents the key from being removed.

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
M-CS-R	4NC 2NO Control Switch 240V 3A max.

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
SS-CS-R	4NC 2NO Control Switch 240V 3A max.

PANEL MOUNT CONTROL SWITCH WITH SOLENOID RELEASE - CS-SKR

M-CS-SKR



SS-CS-SKR



The key is trapped when the machine is running. To release the key, the CS switch needs to receive an unlock signal. Only then can the machine be brought to a controlled stop.

SS-CS-SKR STAINLESS STEEL 316

Sales Number	Contact Block	Solenoid Voltage
SS-CS-SKR	4NC 2NO (240V 3A max)	24V ac/dc

M-CS-SKR DIE-CAST METAL (Mirror Finish)

Sales Number	Contact Block	Solenoid Voltage
M-CS-SKR	4NC 2NO (240V 3A max)	24V ac/dc

REVERSE FUNCTION:

The key is free when the machine is running. To insert and turn a key, the CS switch needs to receive an unlock signal. Only then can the machine be brought to a controlled stop.

SS-CS-SKR-R STAINLESS STEEL 316

Sales Number	Contact Block	Solenoid Voltage
SS-CS-SKR-R	4NC 2NO (240V 3A max)	24V ac/dc

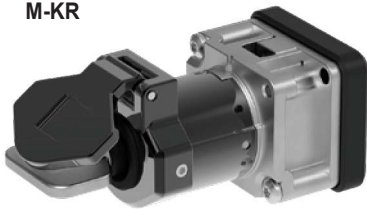
M-CS-SKR-R DIE-CAST METAL (Mirror Finish)

Sales Number	Contact Block	Solenoid Voltage
M-CS-SKR-R	4NC 2NO (240V 3A max)	24V ac/dc

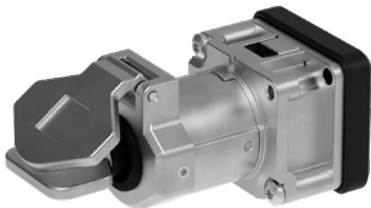
SKORPION Trapped Key Interlocking with Key Exchange

PANEL MOUNT MECHANICAL KEY SWITCH - KR

M-KR



SS-KR



DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
M-KR	Mechanical Key Release Unit

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
SS-KR	Mechanical Key Release Unit

REVERSE FUNCTION:

DIE CAST (Mirror Finish) BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
M-KR-R	Mechanical Key Release Unit (Reverse)

STAINLESS STEEL 316 BARREL HOUSING AND DUST CAP

Sales Number	PANEL MOUNT CONTROL SWITCH
SS-KR-R	Mechanical Key Release Unit (Reverse)

MOUNTING ACCESSORIES FOR - CS PRODUCTS

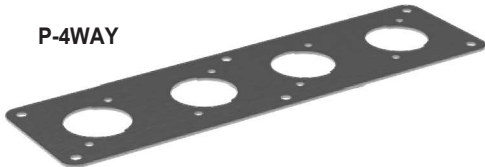
B-1WAY



B-2WAY



P-4WAY



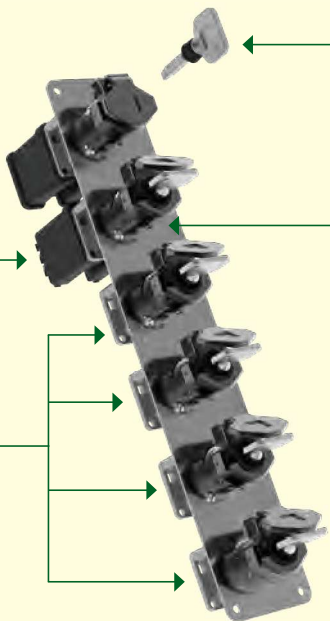
Sales Number	Description	Material
B-1WAY	1 Position Box Enclosure	Plastic
B-2WAY	2 Position Box Enclosure	Stainless Steel
B-3WAY	3 Position Box Enclosure	
B-4WAY	4 Position Box Enclosure	
B-5WAY	5 Position Box Enclosure	
P-1WAY	1 Position Panel Mount	
P-2WAY	2 Position Panel Mount	
P-3WAY	3 Position Panel Mount	
P-4WAY	4 Position Panel Mount	
P-5WAY	5 Position Panel Mount	
P-6WAY	6 Position Panel Mount	
P-7WAY	7 Position Panel Mount	
P-8WAY	8 Position Panel Mount	
P-9WAY	9 Position Panel Mount	
P-10WAY	10 Position Panel Mount	

EXAMPLE SYSTEM

M-CS-SKR-R
"REVERSE FUNCTION FOR AUTHORITY KEY"

M-CS-SKR
"SOLENOID CONTROLLED - KEY WILL ONLY
RELEASE ONCE THE AUTHORITY KEY IS PRESENT"

M-KR
"MECHANICAL KEY RELEASE UNIT - KEY/S WILL
ONLY BE RELEASED ONCE THE FIRST TWO KEYS
ARE REMOVED"



AUTHORITY KEY
"MACHINE RUNNING WHEN KEY REMOVED"
(ONLY AUTHORISED PERSONNEL CAN REQUEST
ACCESS TO THE MACHINE)

P-6WAY
"6 WAY PANEL MOUNTING KIT"
(PRE-ASSEMBLED IN THE FACTORY)

Parts List	
Sales Number	Quantity
M-CS-SKR-R	1
M-CS-SKR	1
M-KR	4
P-6WAY	1
SK-A101	1
SK-B201	5

SKORPION Trapped Key Interlocking with Key Exchange

KEY EXCHANGE STAINLESS STEEL 316 + DIE-CAST METAL ORDERING:

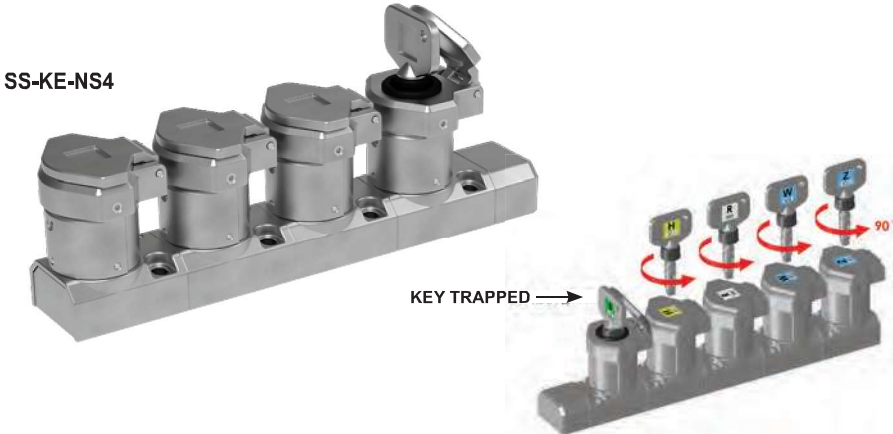


M-KE-NS7

Key exchange systems for trapped key interlocking are used when a single point of isolation requires entry to multiple access points at the same time.

Once the source of hazardous energy has been isolated, the isolation key is transferred to the key exchange system. Inserting and turning the key releases the access keys – this causes the isolation key to become trapped until all access keys are returned.

KE vertical key exchange systems are robust, compact and suitable for installation directly to guard frames.



SS-KE-NS4

Sales Number	KEY EXCHANGE - DIE-CAST	
M-KE-NS2	2 Key	First key TRAPPED All remaining keys can be released non-sequentially.
M-KE-NS3	3 Key	
M-KE-NS4	4 Key	
M-KE-NS5	5 Key	
M-KE-NS6	6 Key	First key TRAPPED All remaining keys can be released sequentially.
M-KE-NS7	7 Key	
M-KE-NS8	8 Key	
M-KE-NS9	9 Key	
M-KE-NS10	10 Key	

Sales Number	KEY EXCHANGE - STAINLESS STEEL 316	
SS-KE-NS2	2 Key	First key TRAPPED All remaining keys can be released non-sequentially.
SS-KE-NS3	3 Key	
SS-KE-NS4	4 Key	
SS-KE-NS5	5 Key	
SS-KE-NS6	6 Key	

EXAMPLE INSTALLATIONS:



SKORPION Trapped Key Interlocking with Key Exchange

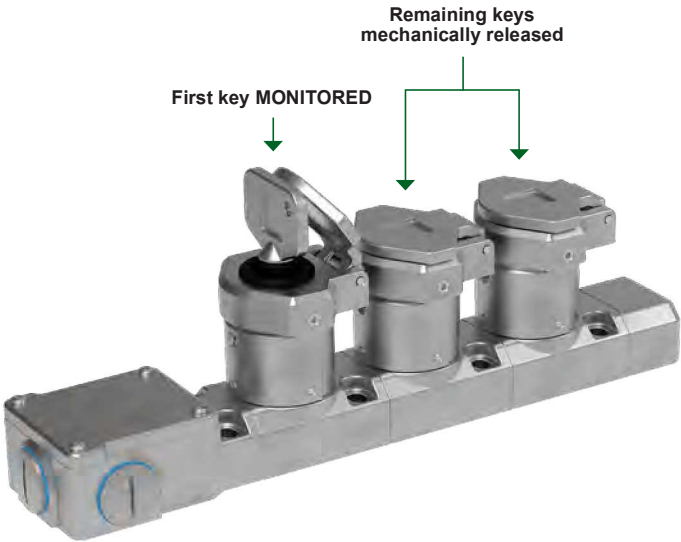
KEY EXCHANGE WITH MONITORING - ISB-CB

NEW

IP69K

The ISB-CB combines control isolation and key exchange into one compact unit. Turning the isolation key switches the contacts OFF and releases up to 6 keys, which can be used to access multiple access points.

Material (M / SS)	-	ISB-CB	x	Total Number of Keys	-	Contact Block NC / NO	-	Conduit Entry (M20 / 1/2" NPT)	-	Key Free	x	Key(s) Trapped	Option - Lockable Dust Cover
M	-	ISB-CB	x	2	-	22 or 31 or 40	-	M or N	-	0	x	2	-LT
M	-	ISB-CB	x	2	-		-		-	1	x	1	-LT
M	-	ISB-CB	x	3	-		-		-	0	x	3	-LT
M	-	ISB-CB	x	3	-		-		-	1	x	2	-LT
M	-	ISB-CB	x	4	-		-		-	0	x	4	-LT
M	-	ISB-CB	x	4	-		-		-	1	x	3	-LT
M	-	ISB-CB	x	5	-		-		-	0	x	5	-LT
M	-	ISB-CB	x	5	-		-		-	1	x	4	-LT
SS	-	ISB-CB	x	2	-		-		-	0	x	2	-LT
SS	-	ISB-CB	x	2	-		-		-	1	x	1	-LT
SS	-	ISB-CB	x	3	-		-		-	0	x	3	-LT
SS	-	ISB-CB	x	3	-		-		-	1	x	2	-LT
SS	-	ISB-CB	x	4	-		-		-	0	x	4	-LT
SS	-	ISB-CB	x	4	-		-		-	1	x	3	-LT
SS	-	ISB-CB	x	5	-		-		-	0	x	5	-LT
SS	-	ISB-CB	x	5	-		-		-	1	x	4	-LT



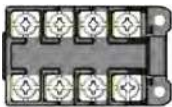
S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121



We recommend using our Stainless Steel 316 Gland with this safety switch.

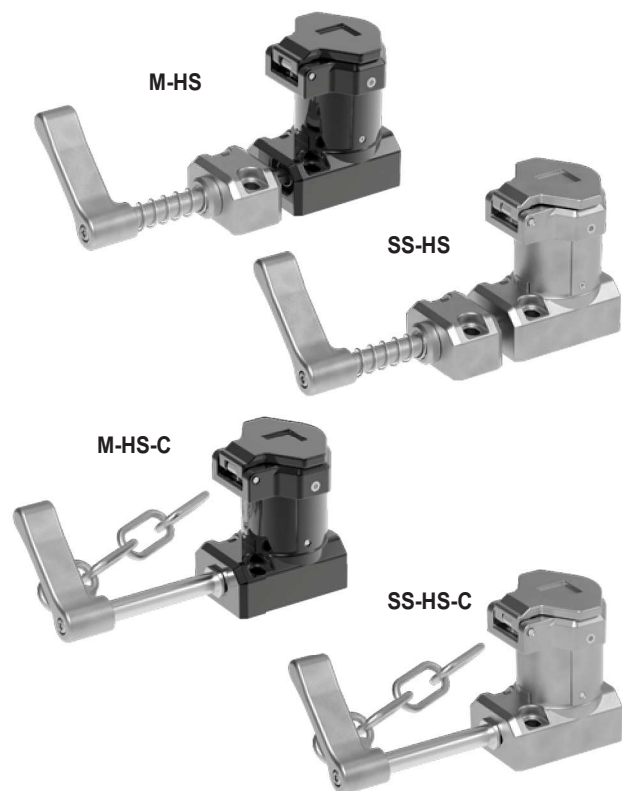
REPLACEMENT CONTACT BLOCKS:

SALES NUMBER	DESCRIPTION
140114	4 Pole Contact Block 2NC 2NO (End Fixing without Tip)
140115	4 Pole Contact Block 3NC 1NO (End Fixing without Tip)
140116	4 Pole Contact Block 4NC (End Fixing without Tip)



SKORPION Trapped Key Interlocking with Key Exchange

HANDLE INTERLOCKS (Single Key) ORDERING:

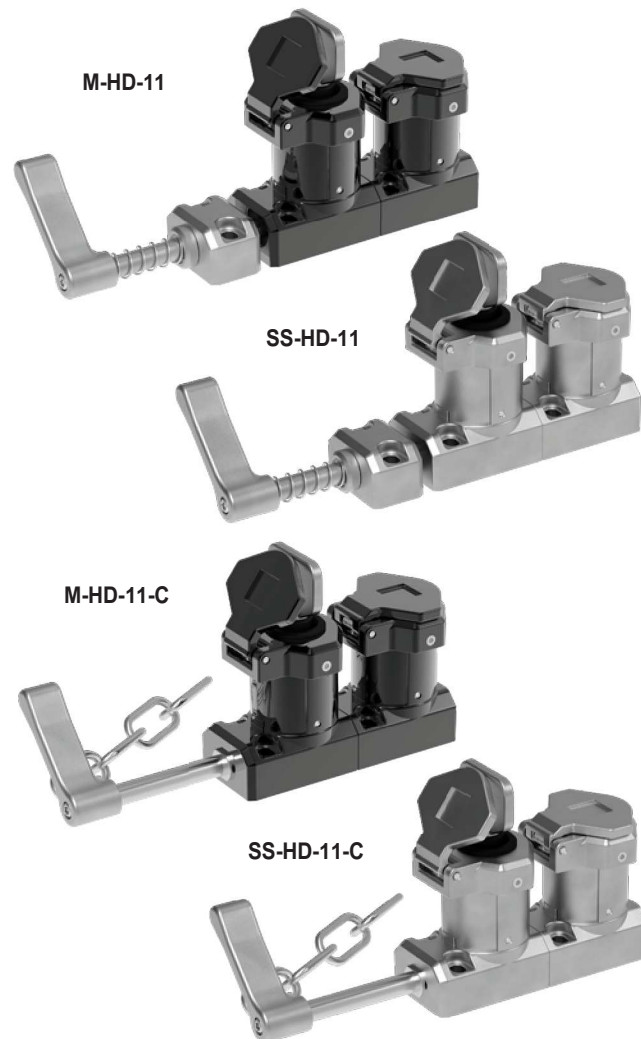


Sales Number	HANDLE INTERLOCK SINGLE KEY STAINLESS STEEL 316
SS-HS	Key trapped - actuator unlocked (spring action handle)
SS-HS-C	Key trapped - actuator unlocked (chain fixed to handle)

Sales Number	HANDLE INTERLOCK SINGLE KEY DIE CAST METAL (Mirror Finish)
M-HS	Key trapped - actuator unlocked (spring action handle)
M-HS-C	Key trapped - actuator unlocked (chain fixed to handle)



HANDLE INTERLOCKS (Dual Key) ORDERING:



Sales Number	HANDLE INTERLOCK DUAL KEY STAINLESS STEEL 316
SS-HD-11	2 sequential keys - one key trapped one key free - actuator unlocked (spring action handle)
SS-HD-C-11	2 sequential keys - one key trapped one key free - actuator unlocked (chain fixed to handle)

Sales Number	HANDLE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish)
M-HD-11	2 sequential keys - one key trapped one key free - actuator unlocked (spring action handle)
M-HD-C-11	2 sequential keys - one key trapped one key free - actuator unlocked (chain fixed to handle)



SKORPION Trapped Key Interlocking with Key Exchange

TONGUE INTERLOCKS (Single Key) ORDERING:

M-TS



SS-TS



*See below for Actuator options.

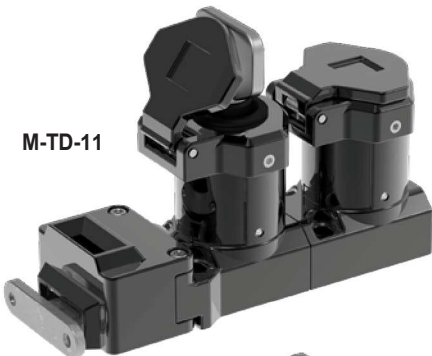
Sales Number	TONGUE INTERLOCK SINGLE KEY STAINLESS STEEL 316 Holding Force (ISO14119) F1 Max 3000N Fzh 2307N
SS-TS	Key trapped - actuator unlocked

Sales Number	TONGUE INTERLOCK SINGLE KEY DIE CAST METAL (Mirror Finish) Holding Force (ISO14119) F1 Max 3000N Fzh 2307N
M-TS	Key trapped - actuator unlocked

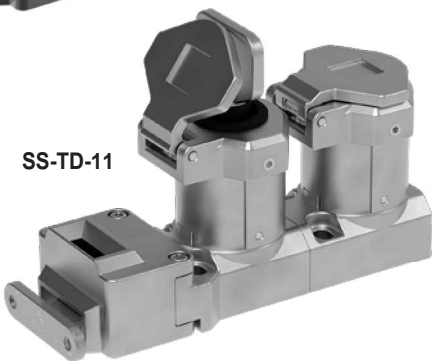


TONGUE INTERLOCKS (Dual Key) ORDERING:

M-TD-11



SS-TD-11



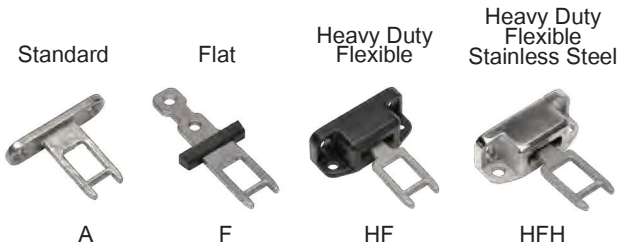
*See below for Actuator options.

Sales Number	TONGUE INTERLOCK DUAL KEY STAINLESS STEEL 316 Holding Force (ISO14119) F1 Max 3000N Fzh 2307N
SS-TD-11	2 sequential keys - one key trapped one key free - actuator unlocked

Sales Number	TONGUE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish) Holding Force (ISO14119) F1 Max 3000N Fzh 2307N
M-TD-11	2 sequential keys - one key trapped one key free - actuator unlocked



ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:



SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

SKORPION Trapped Key Interlocking with Key Exchange

SPRING HANDLE INTERLOCKS - HT-S AND HT-D-11:

HT-S and HT-D Trapped Key Interlocks for access control ensure that a guard door remains securely closed during normal operation and can only be opened when the correct key code is presented. They are ideal for applications that require part body access, such as lids, hatches and small doors.



Unique design offering both Front or End entry actuation.

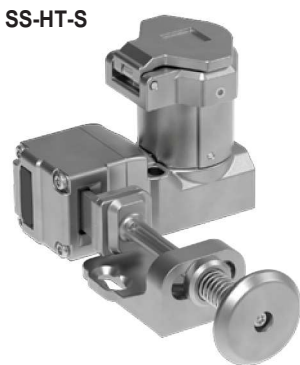
Head will rotate to give 8 actuator entry positions for full flexibility depending on application.



HANDLE INTERLOCKS (Single Key) ORDERING:



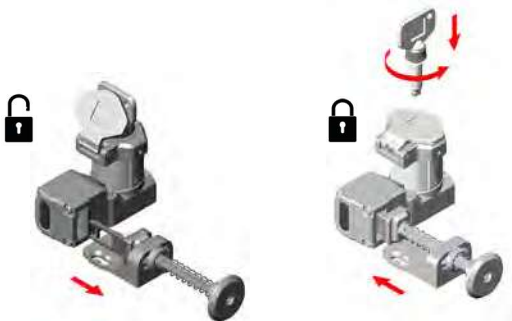
M-HT-S



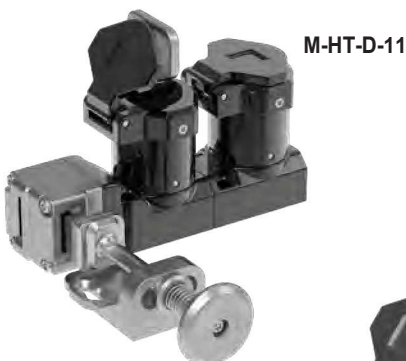
SS-HT-S

Sales Number	HANDLE INTERLOCK SINGLE KEY STAINLESS STEEL 316
SS-HT-S-L	Key trapped - actuator unlocked (Left-Hand)
SS-HT-S-R	Key trapped - actuator unlocked (Right-Hand)

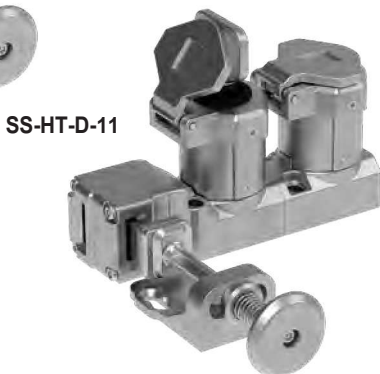
Sales Number	HANDLE INTERLOCK SINGLE KEY DIE CAST METAL (Mirror Finish)
M-HT-S-L	Key trapped - actuator unlocked (Left-Hand)
M-HT-S-R	Key trapped - actuator unlocked (Right-Hand)



HANDLE INTERLOCKS (Dual Key) ORDERING:



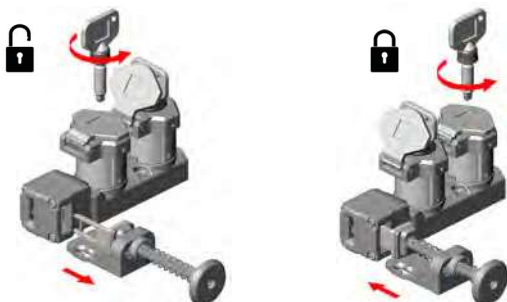
M-HT-D-11



SS-HT-D-11

Sales Number	HANDLE INTERLOCK DUAL KEY STAINLESS STEEL 316
SS-HT-D-L-11	2 sequential keys - one key trapped one key free - actuator unlocked (Left-Hand)
SS-HT-D-R-11	2 sequential keys - one key trapped one key free - actuator unlocked (Right-Hand)

Sales Number	HANDLE INTERLOCK DUAL KEY DIE CAST METAL (Mirror Finish)
M-HT-D-L-11	2 sequential keys - one key trapped one key free - actuator unlocked (Left-Hand)
M-HT-D-R-11	2 sequential keys - one key trapped one key free - actuator unlocked (Right-Hand)

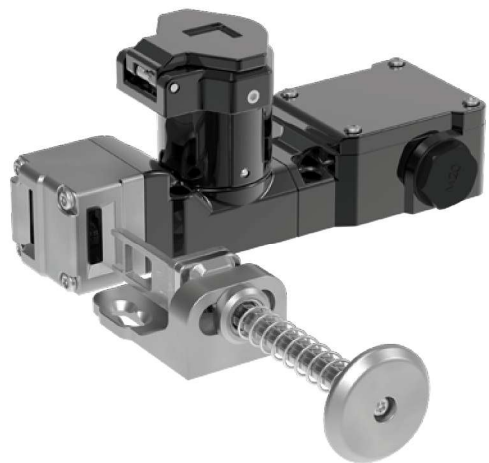


SKORPION Trapped Key Interlocking with Key Exchange

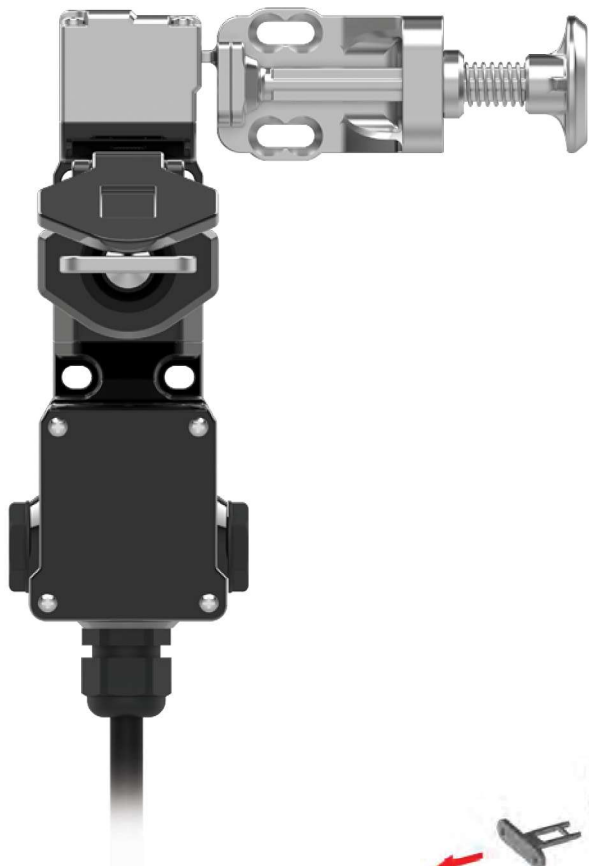
SPRING HANDLE INTERLOCKS WITH MONITORING - M-HT-S-CB:

The M-HT-CB is a trapped key gate access lock with an internal contact block for monitoring the status of the switch. Turning the key unlocks the actuator and opens safety contacts, sending a signal to the monitoring circuit.

The M-HTR-CB has a 'key trapped' during normal operation and becomes 'free' when the guard is open. The M-HT-CB has a 'key free' during normal operation and becomes 'trapped' when the guard is open.

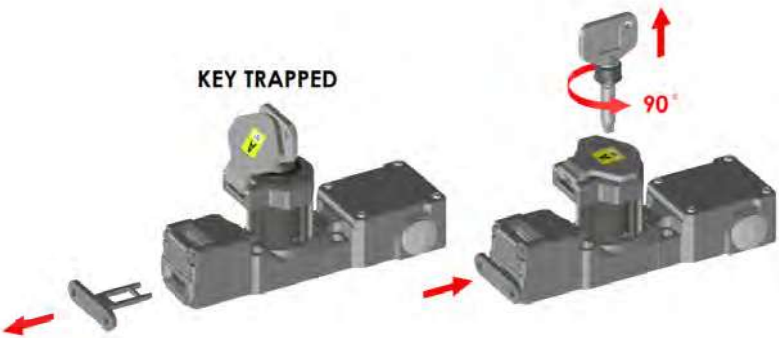


Sales Number	SPRING HANDLE DIE CAST METAL	
M-HT-CB-22-M	2NC + 2NO	3 x M20 Conduits
M-HT-CB-22-N	2NC + 2NO	3 x 1/2" NPT Conduits
M-HT-CB-31-M	3NC + 1NO	3 x M20 Conduits
M-HT-CB-31-N	3NC + 1NO	3 x 1/2" NPT Conduits



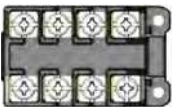
Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.



REPLACEMENT CONTACT BLOCKS:

SALES NUMBER	DESCRIPTION		
140114	4 Pole Contact Block	2NC 2NO	(End Fixing without Tip)
140115	4 Pole Contact Block	3NC 1NO	(End Fixing without Tip)
140116	4 Pole Contact Block	4NC	(End Fixing without Tip)



SKORPION Trapped Key Interlocking with Key Exchange

BOLT (Single Key) for Mechanical Isolation of Switchgear - M-BS and SS-BS

M-BS

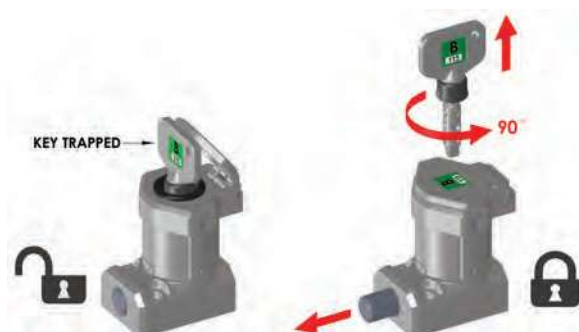


SS-BS



The BS Trapped Key Interlock operates by using a locking bolt mechanism, which is extended when the key is removed. Inserting and turning the appropriate key retracts the bolt, allowing access to the hazardous area. Alternatively, the M-BS can be used for power interlocking on switchgear, directly interfering with the cam. When the key is inserted, it becomes "trapped" in the lock, preventing the switchgear from being energized until the key is released.

Sales Number	BOLT INTERLOCK	Material
M-BS	Key trapped when bolt retracted	Die-Cast Metal
SS-BS	Key trapped when bolt retracted	Stainless Steel 316



BOLT (Dual Key) for Mechanical Isolation of Switchgear - M-BD and SS-BD

M-BD



SS-BD



Sales Number	BOLT INTERLOCK	Material
M-BD-11	1 Key trapped / 1 key free - bolt retracted	Die-Cast Metal
M-BD-20	2 Keys trapped - bolt retracted	Die-Cast Metal
SS-BD-11	1 Key trapped / 1 key free - bolt retracted	Stainless Steel 316
SS-BD-20	2 Keys trapped - bolt retracted	Stainless Steel 316

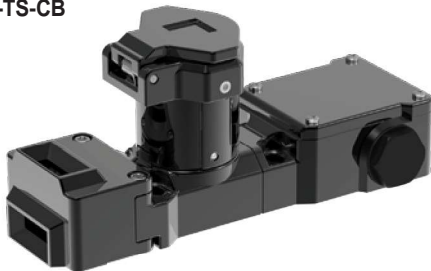


SKORPION Trapped Key Interlocking with Key Exchange

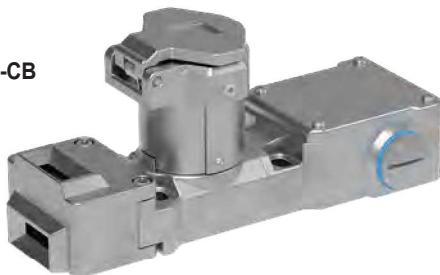
TONGUE INTERLOCK WITH ACCESS CONTROL AND MONITORING - M-TS-CB and SS-TS-CB

The TS-CB is a trapped key gate access lock with an internal contact block. Turning the key unlocks the actuator and opens the safety contacts. The TSR-CB has a 'key trapped' during normal operation and becomes 'free' when the guard is open. The TSR-CB has a 'key free' during normal operation and becomes 'trapped' when the guard is open.

M-TS-CB



SS-TS-CB



Holding Force (ISO14119) F1 Max 3000N Fzh 2307N

S/STEEL 316 GLAND	SALES NUMBER
M20	140120
1/2" NPT	140121



We recommend using our Stainless Steel 316 Gland with this safety switch.



Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK DIE CAST METAL (Mirror Finish) Key Trapped - Actuator Unlocked - NC safety Contacts Open
M-TS-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - 1/2" NPT
M-TS-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - 1/2" NPT
M-TS-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - M20
M-TS-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - M20

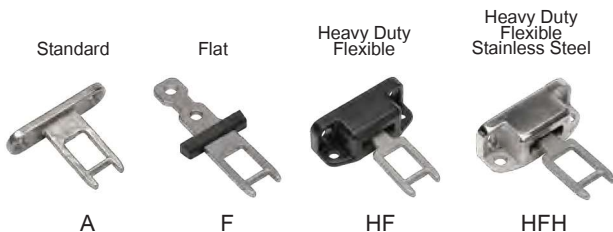
Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK STAINLESS STEEL 316 Key Trapped - Actuator Unlocked - NC safety Contacts Open
SS-TS-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - 1/2" NPT
SS-TS-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - 1/2" NPT
SS-TS-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - M20
SS-TS-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - M20



Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK DIE CAST METAL (Mirror Finish) Key Free - Actuator Unlocked - NC Safety Contacts Open
M-TSR-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - 1/2" NPT
M-TSR-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - 1/2" NPT
M-TSR-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - M20
M-TSR-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - M20

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH CONTACT BLOCK STAINLESS STEEL 316 Key Free - Actuator Unlocked - NC Safety Contacts Open
SS-TSR-CB-22-N	Single Tongue Interlock with 2NC 2NO Contact Block - 1/2" NPT
SS-TSR-CB-31-N	Single Tongue Interlock with 3NC 1NO Contact Block - 1/2" NPT
SS-TSR-CB-22-M	Single Tongue Interlock with 2NC 2NO Contact Block - M20
SS-TSR-CB-31-M	Single Tongue Interlock with 3NC 1NO Contact Block - M20

ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:



SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

REPLACEMENT CONTACT BLOCKS:

SALES NUMBER	DESCRIPTION
140114	4 Pole Contact Block 2NC 2NO (End Fixing without Tip)
140115	4 Pole Contact Block 3NC 1NO (End Fixing without Tip)
140116	4 Pole Contact Block 4NC (End Fixing without Tip)



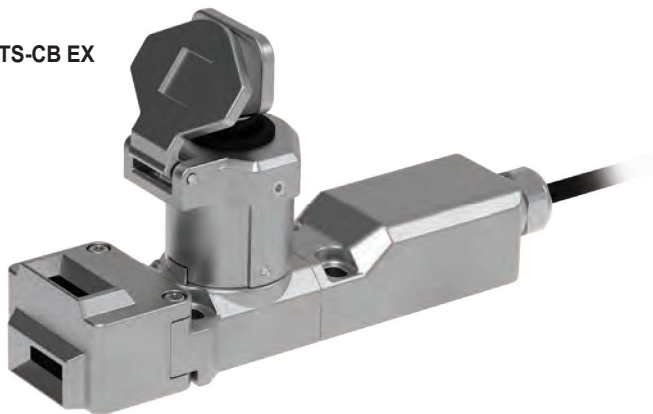
SKORPION Trapped Key Interlocking with Key Exchange

EXPLOSIVE ENVIRONMENT INTERLOCKING WITH CONTROL ISOLATION ORDERING:

M-TS-CB EX



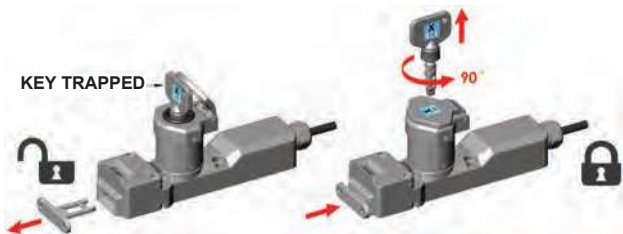
SS-TS-CB EX



Trapped Key with ATEX EExd IIC T6 certified explosion proof contact blocks (type LS-EX).
The explosion proof contact blocks conform to European harmonized standard EN60079-0 and EN60079-1 and can be used in European Zone 1, 2, 21, 22 environments. (Gas and Dust).
Designed for use in oil, petro-chemical, pharmaceutical, food processing and packaging applications where the potential for explosive atmospheres are present.

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

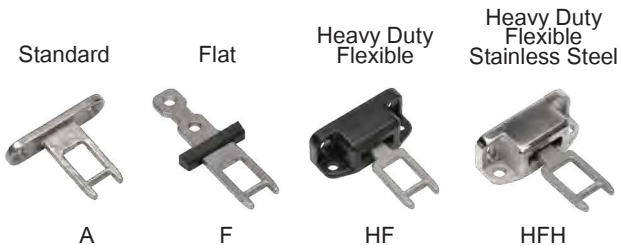
*See below for Actuator options.



Sales Number	TONGUE INTERLOCK SINGLE KEY WITH EXPLOSION PROOF CONTACT BLOCK DIE CAST (Mirror Finish) Holding Force (ISO14119) F1 Max 3000N Fzh 2307N
M-TS-CB-22-EX	Single Tongue Interlock with 2NC 2NO Pre-wired EX Block
M-TS-CB-11-EX	Single Tongue Interlock with 1NC 1NO Pre-wired EX Block

Sales Number	TONGUE INTERLOCK SINGLE KEY WITH EXPLOSION PROOF CONTACT BLOCK STAINLESS STEEL 316 Holding Force (ISO14119) F1 Max 3000N Fzh 2307N
SS-TS-CB-22-EX	Single Tongue Interlock with 2NC 2NO Pre-wired EX Block
SS-TS-CB-11-EX	Single Tongue Interlock with 1NC 1NO Pre-wired EX Block

ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:



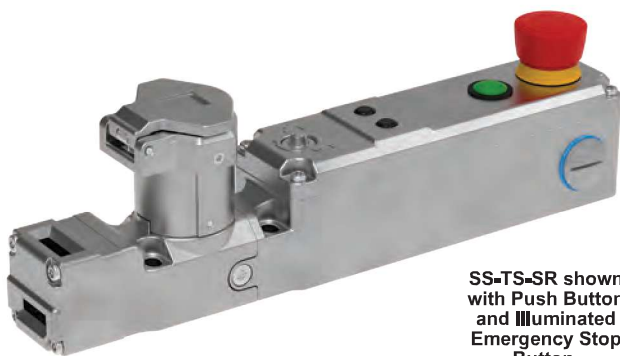
SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

SKORPION Trapped Key Interlocking with Key Exchange

TONGUE INTERLOCK with SOLENOID RELEASE (Single Key) with ACTUATOR



*See below for Actuator options.



SS-TS-SR shown with Push Button and Illuminated Emergency Stop Button.

PUSH BUTTON & ILLUMINATED STOP (Fitted to Lid)	
Momentary Request Push Button	1 x Changeover Contact Common Closed/Open - Add PB to Sales Number
2NC Illuminated Red E-Stop (twist to reset, mushroom head, plug in spade terminals)	- Add ES to Sales Number
Momentary Request Push Button and Illuminated Red E-Stop	- Add PB-ES to Sales Number

SPECIFICATIONS	
Supply/Solenoid Voltage	24V ac/dc
Holding Force	F1 max. 3000N FzH 2307N
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Conduit Exit	M20
Fixing	4 x M6

STAINLESS STEEL 316 MODEL	CONTACT BLOCK	CONDUIT ENTRY	With MANUAL RELEASE	Without MANUAL RELEASE
			SALES NUMBER	SALES NUMBER
SS-TS-SR	2NC 2NO	M20	815001	815301
SS-TS-SR	3NC 1NO	M20	815002	815302

DIE-CAST METAL MODEL	CONTACT BLOCK	CONDUIT ENTRY	With MANUAL RELEASE	Without MANUAL RELEASE
			SALES NUMBER	SALES NUMBER
M-TS-SR	2NC 2NO	M20	820001	820301
M-TS-SR	3NC 1NO	M20	820002	820302

Operating Principle

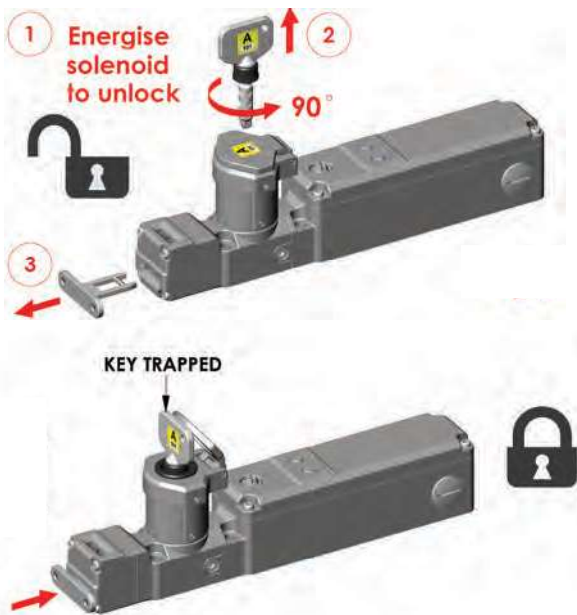
The TS-SR is a trapped key operated tongue interlock switch designed to hold closed machine guards.

When the actuator tongue is inserted into the switch (guard closed) the key can be rotated and trapped and the main safety contacts are closed (machine able to run).

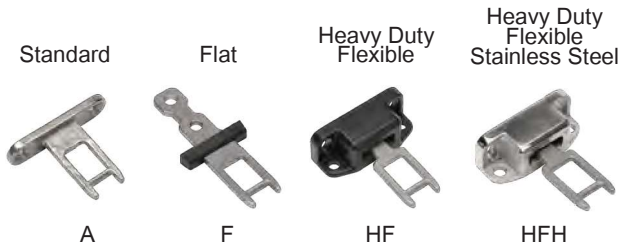
The actuator tongue can only be released when the internal solenoid in the TS-SR is energised. This then enables the key to be turned and released, the safety contacts opened and the actuator tongue removed.

The key can then be used to release other devices in a trapped key system.

It can be used in conjunction with safety delay timers to allow a delay time before the solenoid is energised therefore allowing for machine run down time prior to releasing of the key and actuator tongue.



ACTUATORS FOR TONGUE INTERLOCK SWITCHES SELECTION CHART:



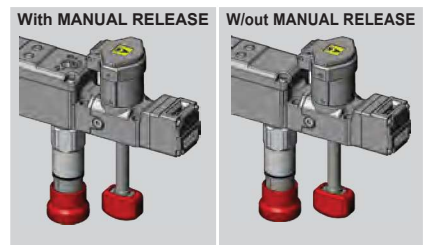
SALES NUMBER	ACTUATOR TYPE
140107	A = Standard Actuator Stainless Steel 316
140108	F = Flat Actuator Stainless Steel 316 with Plastic Cover
140110	HF = Heavy Duty Flexible Actuator Stainless Steel 316 and Die Cast
140111	HFH = Heavy Duty Flexible Actuator fully Stainless Steel 316

SKORPION Trapped Key Interlocking with Key Exchange

TONGUE INTERLOCK with SOLENOID RELEASE (Single Key) with REAR RELEASE ESCAPE



PUSH BUTTON & ILLUMINATED STOP (Fitted to Lid)	
Momentary Request Push Button	1 x Changeover Contact Common Closed/Open - Add PB to Sales Number
2NC Illuminated Red E-Stop (twist to reset, mushroom head, plug in spade terminals)	- Add ES to Sales Number
Momentary Request Push Button and Illuminated Red E-Stop	- Add PB-ES to Sales Number



SPECIFICATIONS	
Supply/Solenoid Voltage	24V ac/dc
Holding Force	F1 max. 3000N FzH 2307N
Enclosure Protection	IP67
Operating Temperature	-25C to +40C
Conduit Exit	M20
Fixing	4 x M6

STAINLESS STEEL 316 MODEL	CONTACT BLOCK	CONDUIT ENTRY	SALES NUMBER	SALES NUMBER
SS-TS-SR-RR	2NC 2NO	M20	815051	815351
SS-TS-SR-RR	3NC 1NO	M20	815052	815352

DIE CAST METAL MODEL	CONTACT BLOCK	CONDUIT ENTRY	SALES NUMBER	SALES NUMBER
M-TS-SR-RR	2NC 2NO	M20	820051	820351
M-TS-SR-RR	3NC 1NO	M20	820052	820352

Operating Principle

The TS-SR-RR is the same as the TS-SR apart from it provides a manual means of escape from inside the guarded area. The red button and red knob can be used to release the lock and key simultaneously.

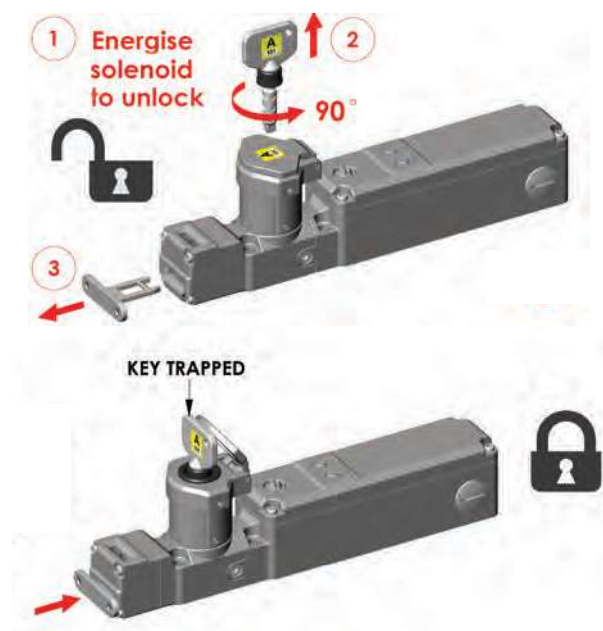
The red button and red knob are fitted to protrude through the guard frame to enable access to the switch from inside the hazardous area.

When the actuator tongue is inserted into the switch (guard closed) the key can be rotated and trapped and the main safety contacts are closed (machine able to run).

The actuator tongue can only be released when the internal solenoid in the TS-SR-RR is energised. This then enables the key to be turned and released, the safety contacts opened and the actuator tongue removed.

The key can then be used to release other devices in a trapped key system.

It can be used in conjunction with safety delay timers to allow a delay time before the solenoid is energised therefore allowing for machine run down time prior to releasing of the key and actuator tongue.



SKORPION Trapped Key Interlocking with Key Exchange

GATE BOLT SLIDING ACTUATORS for use with TS-SR Range

Operating Principle

GB-SR Gate Bolt Sliding Actuators can be used with all models of TS-SR switches.

They interlock the guard but ensure unintentional re-start is prevented because a deliberate action of sliding and then re-latching of the Gate Bolt handle is required.

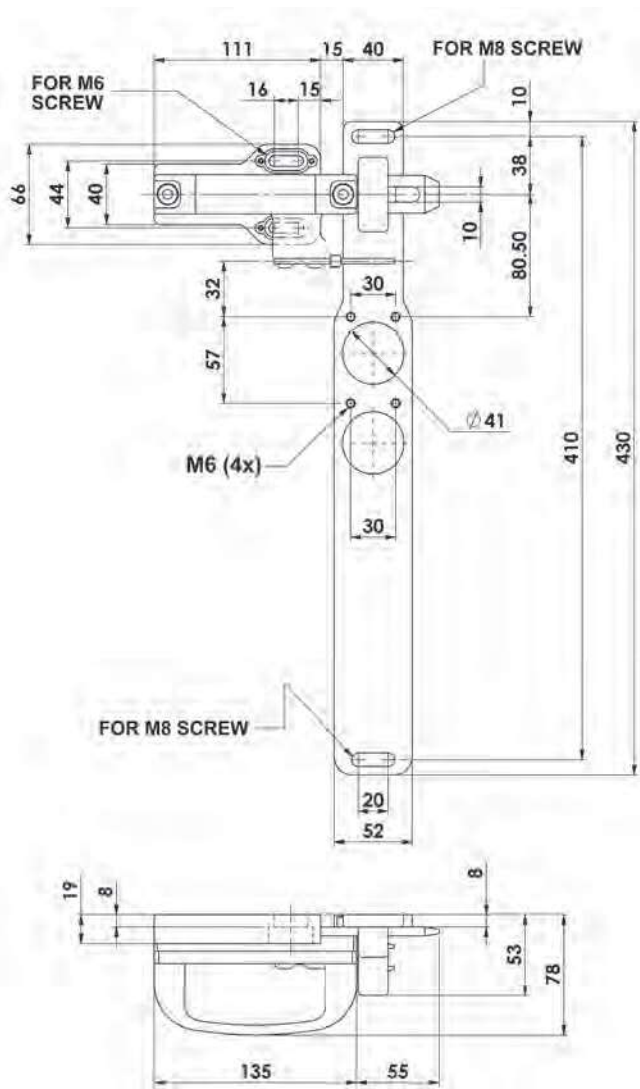
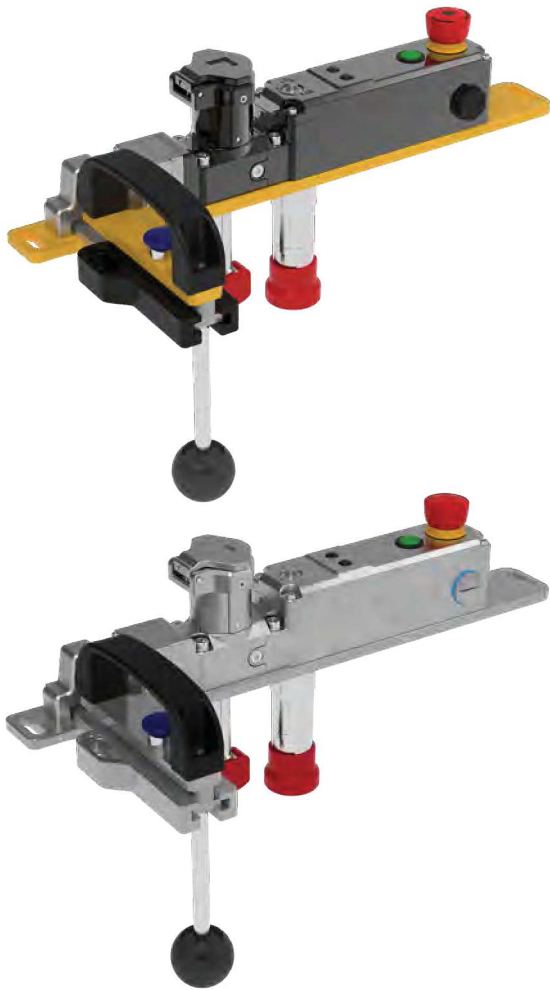
They provide a simple means of fixing to the moving and fixed parts of the guard and come fitted with Handle and Flat Actuator.

Whether opening the guard normally from the front (by using the handle) or by initiating the optional rear release escape from inside the hazardous area the handle needs to be re-latched before the machine can be re-started.

They provide shearing forces up to 5,000N on large hinged doors and are easy to install on hinged or sliding guards.

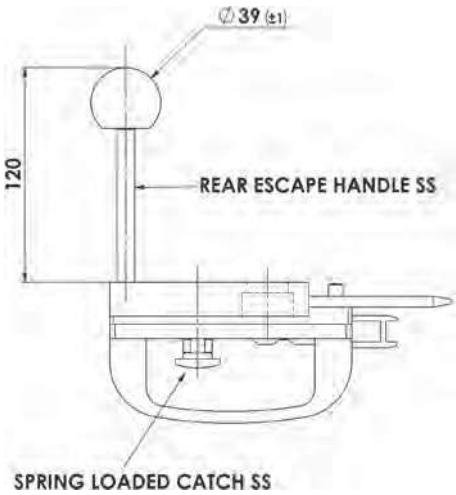
No need for extra brackets or door handles and they are not susceptible to misalignment damage.

Operators are required to manually close the guard and padlock holes are provided for maintenance operations.



SALES NUMBER	GATE BOLT WITH SLIDING ACTUATOR SUITABLE FOR: M-TS-SR and M-TS-SR-RR
820201	Gate Bolt GB-SR-M Handle slides from Left Hand Side
820202	Gate Bolt GB-SR-M Handle slides from Right Hand Side
211005	Rear Handle - Stainless Steel
211006	Spring Loaded Catch - Stainless Steel

SALES NUMBER	GATE BOLT WITH SLIDING ACTUATOR SUITABLE FOR: SS-TS-SR and SS-TS-SR-RR
815201	Gate Bolt GB-SR-SS Handle slides from Left Hand Side
815202	Gate Bolt GB-SR-SS Handle slides from Right Hand Side
211005	Rear Handle - Stainless Steel
211006	Spring Loaded Catch - Stainless Steel



SKORPION Trapped Key Interlocking with Key Exchange

LIGHT CURTAIN BLOCKING DEVICE - LCB

NEW



Key Trapped -
Light Curtain
Unobstructed.



Key Removed -
Light Curtain
Obstruction
Locked in
Position.

APPLICATIONS & FEATURES

The Skorpio Trapped Key Light Curtain Blocking Device, is designed to be installed or retrofitted to provide a prohibitive blocking function, alongside compatible light curtain devices. While the light curtain installation is able to offer maximum accessibility to a machine or production line by removing or complementing the requirement for mechanical guarding, when installed correctly, the LCB device allows the user to safely lock-off and prohibit the re-engagement of the light curtain barrier. It also allows for this lock off to be integrated into a wider Skorpio trapped key system if desired. In addition, the Idem LCB provides dual lock-off functionality, allowing for an 8mm padlock hasp to be applied in either the light curtain operational, or light curtain blocked positions.

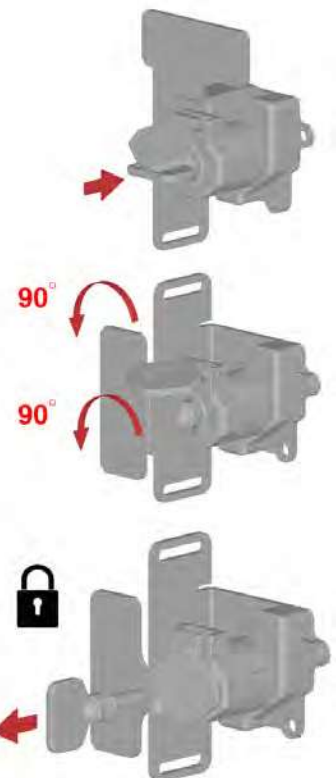
- Integrated mounting plate for easy and simple installation.
- Personnel key for protection against inadvertent startups.
- Padlocks and hasps can be applied for additional personnel entering.
- Robust stainless steel construction suitable for all environments.
- Different orientations and mounting brackets available.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Construction	Stainless Steel
Operating Temperature	-20C. to +80C
Mechanical Life (B10d)	1,000,000 cycles

HOW DOES IT OPERATE?

Key inserted and in the open position "light curtain is active".



Key is rotated 90 degrees which drives the blocking plate.

Key is removed and the blocking plate is in the locked position "light curtain is not active".

FUNCTION

The LCB (Light Curtain Blocking) Device, is designed to provide prohibitive stop function in conjunction with compatible light curtain devices. In order to block the light curtain and lock off the machine, rotate the key from the horizontal position, 90 degrees and remove. The blocking plate should at this point fully obstruct the required light curtain beam / receiver. With the key removed, it is not possible to rotate the blocking plate away from the light curtain beam or sensor, and the machine is unable to restart. The device then offers an additional padlock hasp lockout point, to the side of the body. The operator is able if they wish to add additional padlock or hasps in this position when locked off, in order to further prevent unauthorised disengagement of the interlock.

To unblock the light curtain and allow for normal machine operation, insert the key, and rotate 90 degrees from the vertical position. This will retract the blocking plate to either the top or bottom of the interlock, allowing for the light curtain to function as normal. It is then possible to lock-out the device in this position, using the padlock hasp at the top of the device (right-handed variant) or at the bottom of the device (left-handed variant). This inhibits the unauthorised operation of the device, where this may not be desirable for any unauthorised personnel to operate and lock off the light curtain stopping the machine until disengaged.

SKORPION Trapped Key Interlocking with Key Exchange

LIGHT CURTAIN BLOCKING DEVICE - LCB

Palletizing application example.



Integrates directly to the light curtain and provides a prohibitive blocking function for working safely inside the hazardous area.



Once the key is removed, the operator takes inside the safeguarded area. This “key in pocket” solution reduces the likelihood of an inadvertent startup occurring.

SS-LCB-L-35-30 (Light Curtain Blocked – Locked off)

Padlock or hasp applied to side lockout, for prevention of LCB Disengagement.

SS-LCB-L-35-30 (Light Curtain Operational – Locked off)

Padlock or hasp applied to bottom position, for prevention of LCB Engagement.

ORDERING:

SALES NUMBER	DESCRIPTION
SS-LCB-L-35-30	SS Light Curtain Blocking Device (Left Handed) (35mm Blocking Depth) (30mm Bracket)
SS-LCB-R-35-30	SS Light Curtain Blocking Device (Right Handed) (35mm Blocking Depth) (30mm Bracket)
SS-LCB-L-75-30	SS Light Curtain Blocking Device (Left Handed) (75mm Blocking Depth) (30mm Bracket)
SS-LCB-R-75-30	SS Light Curtain Blocking Device (Right Handed) (75mm Blocking Depth) (30mm Bracket)

Please note: For non-standard blocking plate or bracket size requirements, please contact technical@idemsafety.com for further information.

SKORPION Trapped Key Interlocking with Key Exchange

MULTI KEY EXCHANGE SYSTEM (up to 5 keys trapped and up to 15 keys released)

All available in
Stainless Steel
316 or
Mirror Polished
Die Cast Metal



Operating Principle

Viewing the picture above the fifteen keys in the bottom three rows keys of the MX Multi Key Exchange panel are trapped and cannot be removed until the five keys in the top row are put into position.

The "initial keys" which are usually in the power isolation parts of the system are removed from the isolation boxes or panels and put in the first row in the MX Multi Key Exchange panel to allow access to the guarded areas when required.

Once the "initial keys" have been placed in the first row of the MX Multi Key Exchange panel and turned then all the other keys in the panel can now be retracted (non-sequentially) and moved to the other parts of the system.

Due to the flexibility of the MX Multi Key Exchange System up to 15 keys can be released.

The MX Multi Key Exchange System is available in Stainless Steel or Die Cast metal either as a PANEL MOUNT or as a BOX MOUNT version and is available in three different sizes to accommodate various sizes of systems.

The end user has the option to configure and retrofit extra barrels to systems i.e. if the end user initially specifies a system with 4 keys trapped and 10 keys released this can be upgraded with the addition of extra barrels until the full 5 keys trapped and 15 keys released maximum is reached.

Panel Mount, Stainless Steel 20 Key
showing 5 keys trapped with 15 keys released



SS-MX-P-20-5x15

Box Mount, Stainless Steel 12 Key
showing 3 keys trapped 9 keys released



SS-MX-B-12-3x9

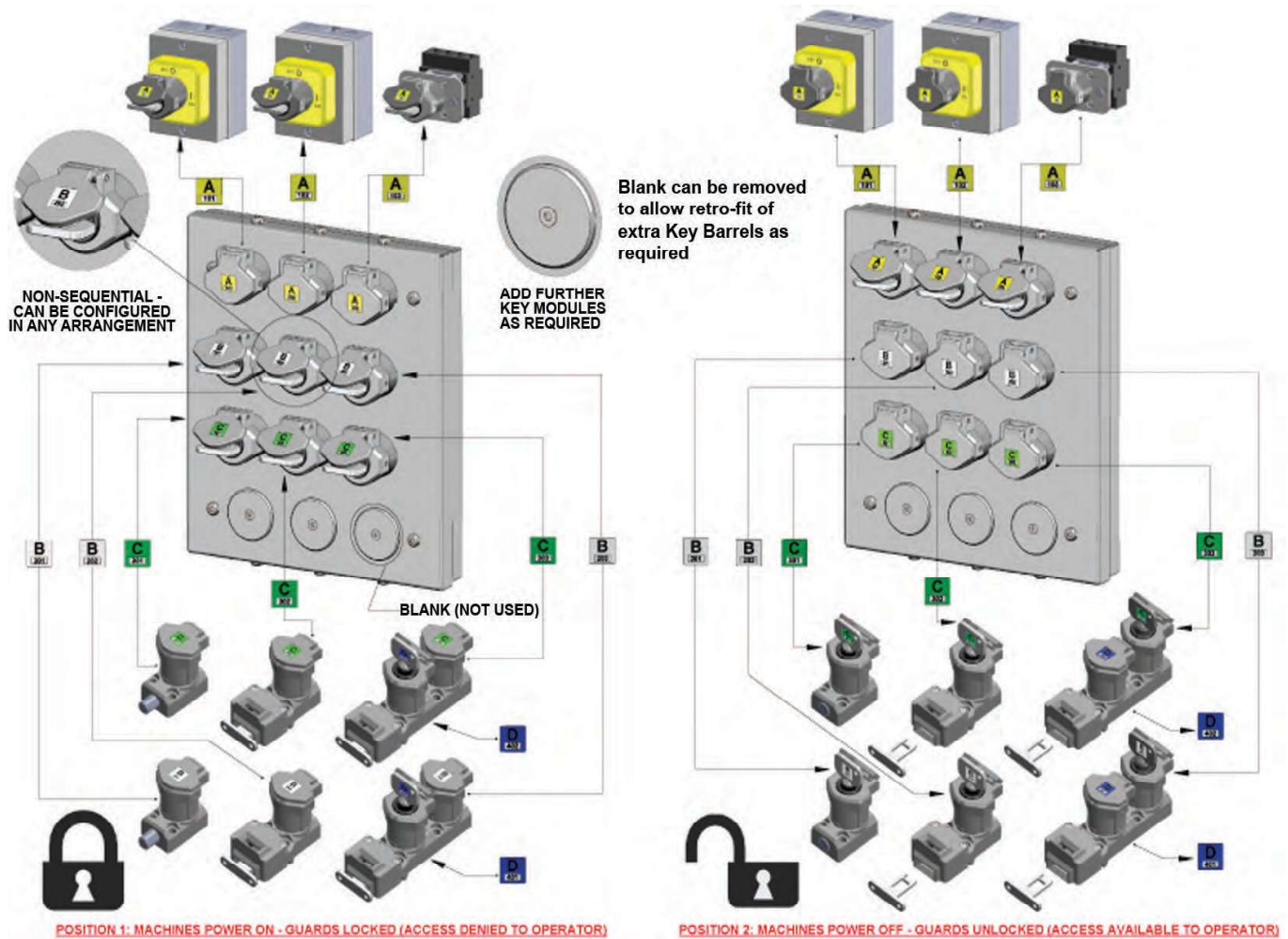
Box Mount, Stainless Steel 8 Key
showing 2 keys trapped 6 keys released



SS-MX-B-8-2x6

SKORPION Trapped Key Interlocking with Key Exchange

MULTI KEY EXCHANGE SYSTEM 12 Key System Example with Blanks



MULTI KEY EXCHANGE SYSTEM ORDER EXAMPLE

MX Multiple Key Exchange System Ordering Example

For an initial Stainless Steel Box Mounted system of 2 keys trapped and 7 keys released the sales number would be:

SS-MX-B-12-2 X 7*.

This would have 1 blank on the first row and 2 blanks on row four (see image below). The blanks can be utilised later as your system grows.

*SS or M (Stainless Steel or Die Cast). MX-P or MX-B (Panel or Box). Total Keys 20, 12 or 8. 4x10 = No. of keys trapped x released.

Example: SS-MX-B-12-2x7

Multiple Key Exchange – Part number

□ - MX - □ - □ - □ x □

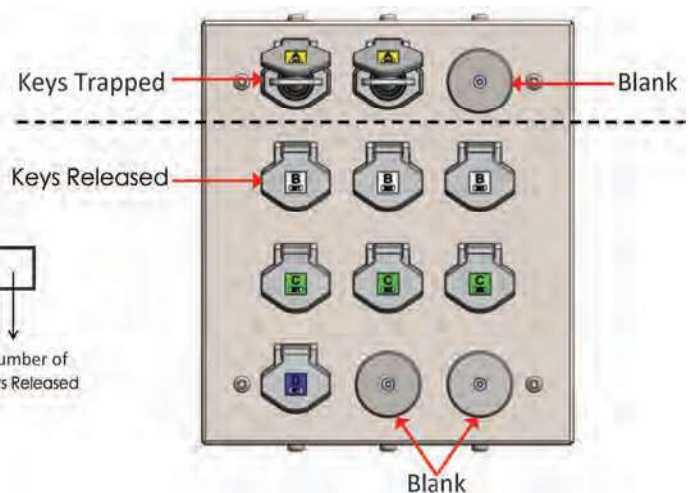
Stainless Steel: SS
Die Cast: M

(Panel Mount) P
(Box Mount) B

TYPE
20
12
8

Number of
Keys
Trapped

Number of
Keys Released



SKORPION Trapped Key Interlocking with Key Exchange

MINI VALVE LOCK

Available in two versions with choice of five thread sizes.



2" BSPP

1" BSPP

1/2" BSPP

3/8" BSPP

1/4" BSPP

Operating Principle

IDEM's mini valve locks can be used standalone or for use as part of a SKORPION Trapped Key solution.

They can be locked in an open or closed state (passing or non-passing). The key can then be removed and can be moved to safe storage (to avoid tampering) or can be integrated with trapped key guard interlocks to protect operators from machine, gas or air hazards that may be present.

Working Temperature and Pressure Limits

- 40 Bar (600 psi)
- - 40C to +170C

Warning: Freezing of the fluid in the installation may severely damage the valve.



FOP: KEY FREE, VALVE OPEN

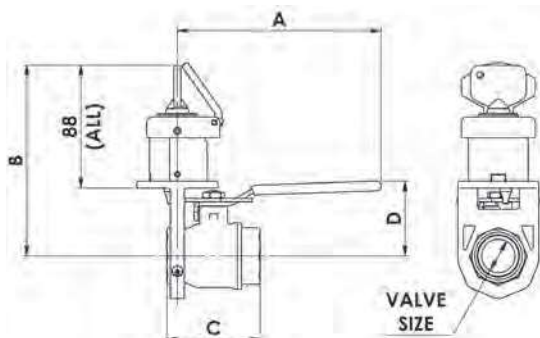


FCL: KEY FREE, VALVE CLOSED

Available in sizes:
1/4", 3/8", 1/2", 1" and 2" BSPP
thread fittings.

SALES NUMBER	FLOW	STAINLESS STEEL MINI VALVE LOCK DESCRIPTION
SS-MV-FCL-1/4	Non-Passing	Stainless Steel Mini Valve Lock 1/4" BSPP FCL
SS-MV-FCL-3/8	Non-Passing	Stainless Steel Mini Valve Lock 3/8" BSPP FCL
SS-MV-FCL-1/2	Non-Passing	Stainless Steel Mini Valve Lock 1/2" BSPP FCL
SS-MV-FCL-1	Non-Passing	Stainless Steel Mini Valve Lock 1" BSPP FCL
SS-MV-FCL-2	Non-Passing	Stainless Steel Mini Valve Lock 2" BSPP FCL
SS-MV-FOP-1/4	Passing	Stainless Steel Mini Valve Lock 1/4" BSPP FOP
SS-MV-FOP-3/8	Passing	Stainless Steel Mini Valve Lock 3/8" BSPP FOP
SS-MV-FOP-1/2	Passing	Stainless Steel Mini Valve Lock 1/2" BSPP FOP
SS-MV-FOP-1	Passing	Stainless Steel Mini Valve Lock 1" BSPP FOP
SS-MV-FOP-2	Passing	Stainless Steel Mini Valve Lock 2" BSPP FOP

SALES NUMBER	FLOW	DIE CAST METAL MINI VALVE LOCK DESCRIPTION
M-MV-FCL-1/4	Non-Passing	Die Cast Metal Mini Valve Lock 1/4" BSPP FCL
M-MV-FCL-3/8	Non-Passing	Die Cast Metal Mini Valve Lock 3/8" BSPP FCL
M-MV-FCL-1/2	Non-Passing	Die Cast Metal Mini Valve Lock 1/2" BSPP FCL
M-MV-FCL-1	Non-Passing	Die Cast Metal Mini Valve Lock 1" BSPP FCL
M-MV-FCL-2	Non-Passing	Die Cast Metal Mini Valve Lock 2" BSPP FCL
M-MV-FOP-1/4	Passing	Die Cast Metal Mini Valve Lock 1/4" BSPP FOP
M-MV-FOP-3/8	Passing	Die Cast Metal Mini Valve Lock 3/8" BSPP FOP
M-MV-FOP-1/2	Passing	Die Cast Metal Mini Valve Lock 1/2" BSPP FOP
M-MV-FOP-1	Passing	Die Cast Metal Mini Valve Lock 1" BSPP FOP
M-MV-FOP-2	Passing	Die Cast Metal Mini Valve Lock 2" BSPP FOP



PART NUMBER	A (mm)	B (mm)	C (mm)	VALVE SIZE (BSP)
MV-FCL-1/4	96	125	39	0.25 INCH
MV-FOP-1/4	96	125	39	0.25 INCH
MV-FCL-3/8	96	125	39	0.375 INCH
MV-FOP-3/8	96	125	39	0.375 INCH
MV-FCL-1/2	118	129	50	0.5 INCH
MV-FOP-1/2	118	129	50	0.5 INCH
MV-FCL-1	146	137	67	1 INCH
MV-FOP-1	146	137	67	1 INCH
MV-FCL-2	202	161	106	2 INCH
MV-FOP-2	202	161	106	2 INCH

SKORPION Trapped Key Interlocking with Key Exchange

KEY CODE SELECTION & ORDERING:

IDEM offer a unique range of KEY CODE variants that number in the tens of thousands.

To assist in the process of ordering we offer a range of 80 STANDARD KEY CODES which are shown in the table below (other KEY CODES are available to the customer upon request). **We also offer unique key coding which is tracked internally - to use this feature, contact sales@idemsafety.com.**

Note: Different KEY FOB colours are available dependent upon the code chosen. This is a customer option to provide the end-user with an easily seen visual aid e.g. the First Key (Primary Key) could be chosen in a different colour to the colour chosen for the Released Keys - therefore easily distinguishing the Primary Key from the other keys in the system.



KEY FOB COLOUR	YELLOW Key Fob	WHITE Key Fob
	A	B
Key Code	A101	B201
	A102	B202
	A103	B203
	A104	B204
	A105	B205
	A106	B206
	A107	B207
	A108	B208
	A109	B209
	A110	B210
	A111	B211
	A112	B212
	A113	B213
	A114	B214
	A115	B215
	A116	B216
	A117	B217
	A118	B218
	A119	B219
	A120	B220
KEY FOB COLOUR	GREEN Key Fob	BLUE Key Fob
	C	D
Key Code	C301	D401
	C302	D402
	C303	D403
	C304	D404
	C305	D405
	C306	D406
	C307	D407
	C308	D408
	C309	D409
	C310	D410
	C311	D411
	C312	D412
	C313	D413
	C314	D414
	C315	D415
	C316	D416
	C317	D417
	C318	D418
	C319	D419
	C320	D420

SKORPION Pre-Configured Trapped Key Systems

LOOKING FOR A QUICK SOLUTION TO CONFIGURE A TRAPPED KEY SYSTEM?



The SKORPION Trapped Key System is designed to offer highly durable mechanical coded key safeguarding and interlocking for hazardous machinery. Operating on the principle of sequentially releasing factory-coded mechanical keys, the SKORPION system ensures that machine power is fully isolated before access to a dangerous machine or specific hazard is allowed.

Once the machine control is isolated by turning the first key in the system to the OFF position, the key from the isolator can be used to release other trapped keys, granting safe access to the guarded areas.

This system provides effective safeguarding without the need for extensive electrical wiring, making it ideal for use in harsh environments. When the control switch is used in conjunction with a safety relay or safety controller, the system can achieve safety levels up to PLe/Cat 3.

- No reduction of integrity due to the distance between movable guard and control system.
- High mechanical integrity with robust mountings suitable for all types of guards.
- Eliminates the need for electrical wiring to each movable guard.
- All keys are coded at the factory.
- It is virtually impossible to override the system.
- Provides for quick yet safe and reliable access to machinery.
- Can prevent shortcuts and enforce a logical set of procedures.
- Until the control switch key is returned to its original position within the lock, there is no way to enable the machinery to be re-started.

PRE-CONFIGURED SYSTEMS



HOW TO SELECT A PRE-CONFIGURED TRAPPED KEY SYSTEM

You will need to determine four things in order to select the correct trapped key system for your application:

- 1) Do you need a solenoid or a non-solenoid trapped key control switch?
- 2) How many doors or gates do you need to protect.
- 3) Do you need full-body or partial-body access?
- 4) Select a key code

1

Determine whether you need a solenoid or a non-solenoid trapped key control switch by asking, "Does the machine require time to come to a complete stop?"

YES

You need a solenoid released trapped key control switch.

800000-CS-SKR-A101
800000-CS-SKR-A102
800000-CS-SKR-A103
800000-CS-SKR-A104
800000-CS-SKR-A105

NO

You need a non-solenoid trapped key control switch.

800000-CS-A101
800000-CS-A102
800000-CS-A103
800000-CS-A104
800000-CS-A105

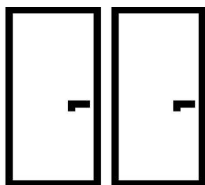
SKORPION Pre-Configured Trapped Key Systems

2 Determine how many doors or gates you will need to protect in your system. Systems are available to protect up to three doors/gates.

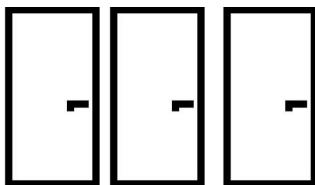
One Door / Gate



Two Doors / Gates



Three Doors / Gates



3 Can you step fully into the guard and close the door or gate?

You need a full-body access system.

YES

NO

You need a partial body access system.



NOW IT'S TIME TO SELECT YOUR SYSTEM:

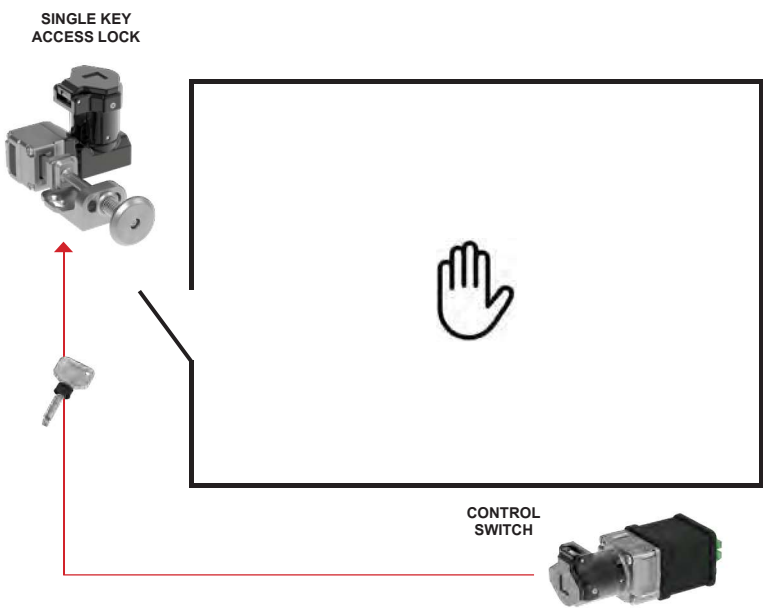
Important - please read!

- ⚠ The last four characters are the key code for the first key (control switch).
- ⚠ If multiple machines will be installed within the same vicinity, then a different code set should be used.

	One Door / Gate		Two Doors / Gates		Three Doors / Gates
First Key's Code	Partial Body	Full Body	Partial Body	Full Body	Full Body
A101	800001-A101	-	-	-	-
A102	800001-A102	-	-	-	-
A103	800001-A103	800003-A103	800002-A103	800004-A103	800005-A103
A104	800001-A104	800003-A104	800002-A104	800004-A104	800005-A104
A105	800001-A105	800003-A105	800002-A105	800004-A105	800005-A105

SKORPION Pre-Configured Trapped Key Systems

SYSTEM 1: 1 DOOR PART BODY ACCESS



Sequence of Operation:

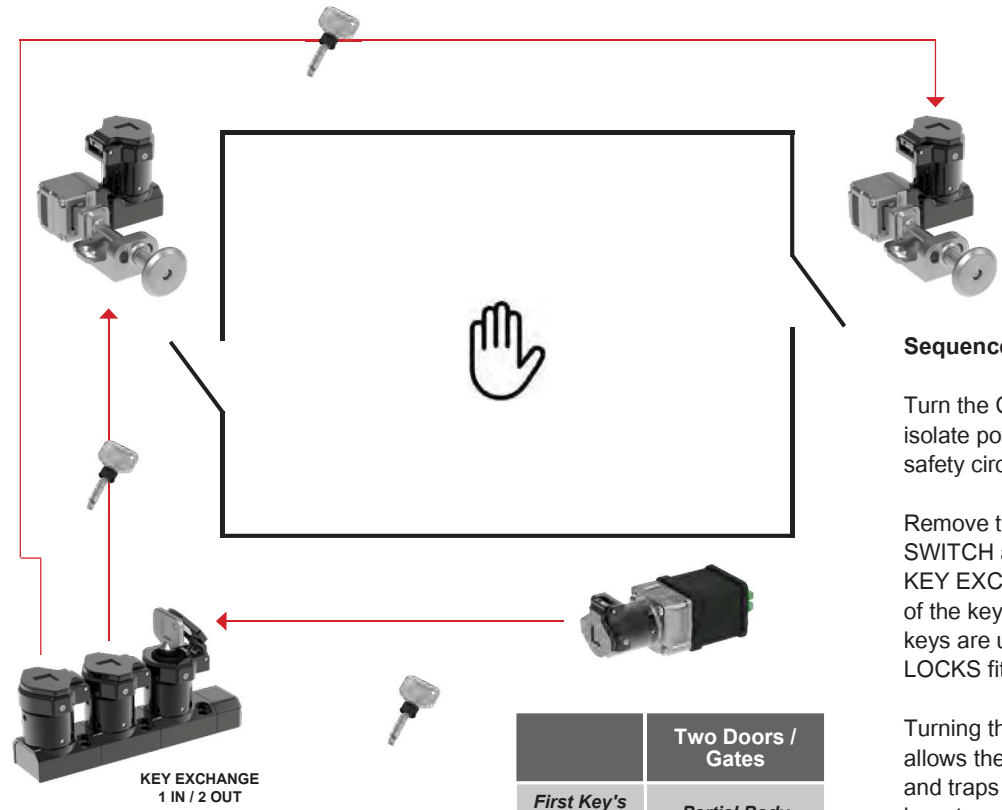
Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

Remove the key from the CONTROL SWITCH and insert into the ACCESS LOCK at the guard door.

Turning the key in the ACCESS LOCK allows the guard door to be opened and traps the key so that it cannot be returned to the CONTROL SWITCH until the guard is re-closed and locked.

	One Door / Gate
<i>First Key's Code</i>	<i>Partial Body</i>
A101	800001-A101
A102	800001-A102
A103	800001-A103
A104	800001-A104
A105	800001-A105

SYSTEM 2: 2 DOOR PART BODY ACCESS



Sequence of Operation:

Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

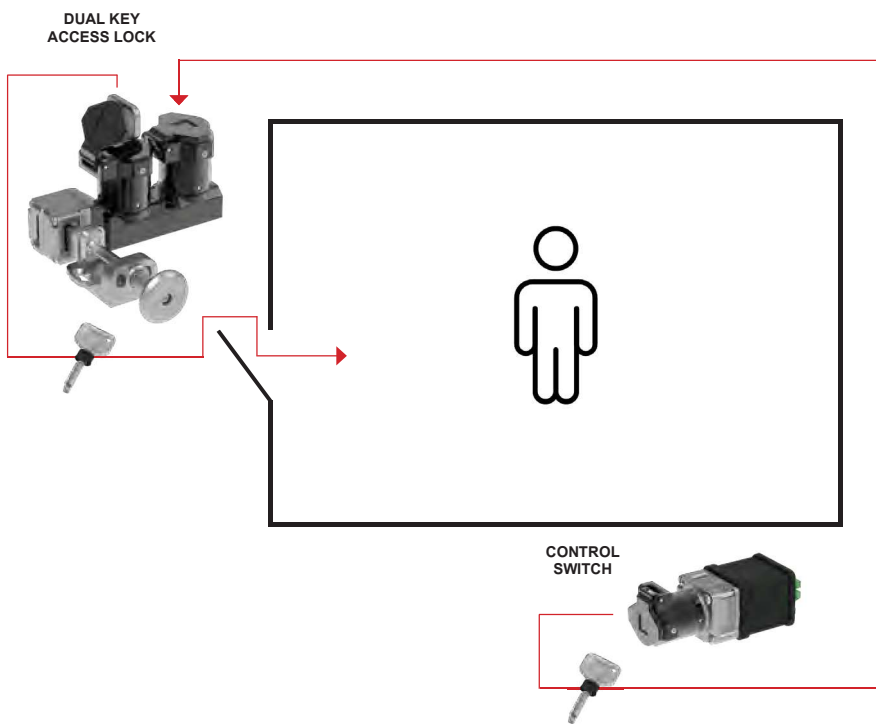
Remove the key from the CONTROL SWITCH and insert into position 1 in the KEY EXCHANGE to enable the release of the keys from positions 2 & 3. These keys are used to open the ACCESS LOCKS fitted at each guard door.

Turning the key in the ACCESS LOCKS allows the guard doors to be opened and traps the keys so that it cannot be returned to the KEY EXCHANGE until the both guards are re-closed and locked.

	Two Doors / Gates
<i>First Key's Code</i>	<i>Partial Body</i>
A101	-
A102	-
A103	800002-A103
A104	800002-A104
A105	800002-A105

SKORPION Pre-Configured Trapped Key Systems

SYSTEM 3: 1 DOOR FULL BODY ACCESS



Sequence of Operation:

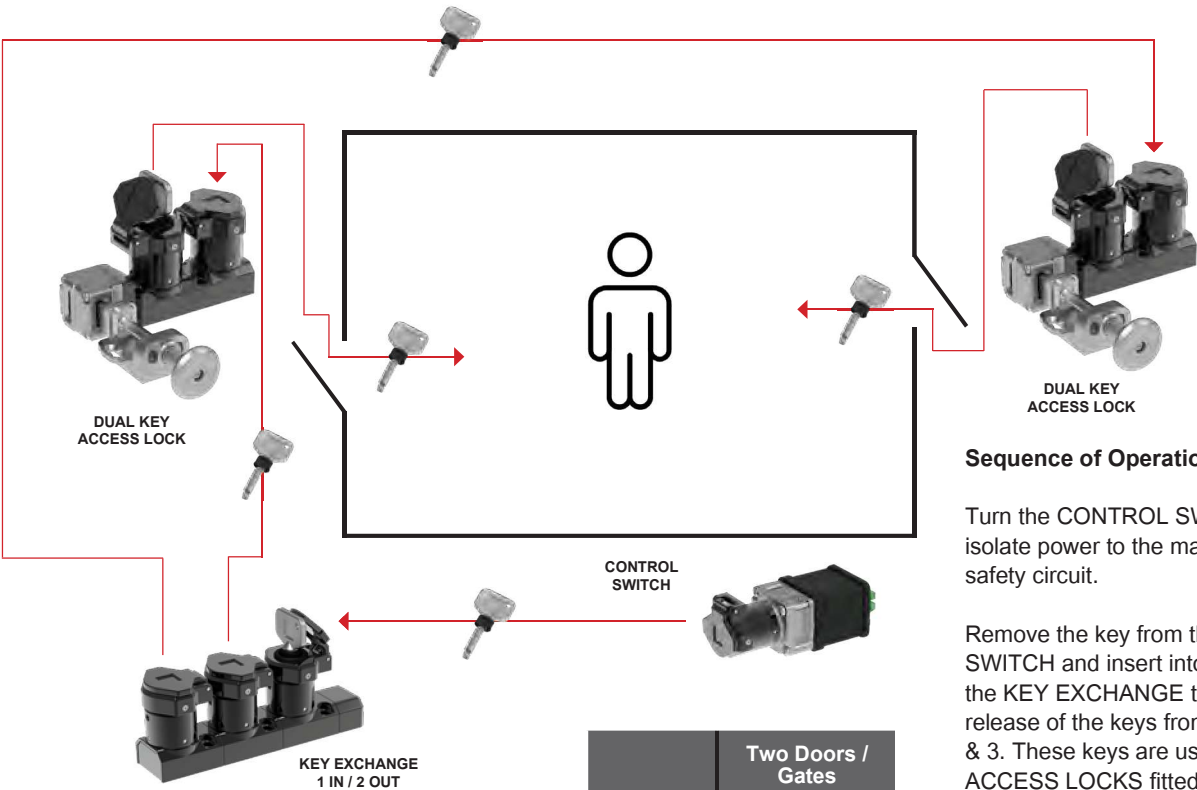
Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

Insert the key into position 1 of the DUAL ACCESS LOCK at the guard door.

Turning the key in the ACCESS LOCK allows a secondary key from position 2 to be released. This key can then be taken by the operator inside the guarded area, preventing the guard from being locked and the system re-started.

	One Door / Gate
First Key's Code	Full Body
A101	-
A102	-
A103	800003-A103
A104	800003-A104
A105	800003-A105

SYSTEM 4: 2 DOOR FULL BODY ACCESS



Sequence of Operation:

Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

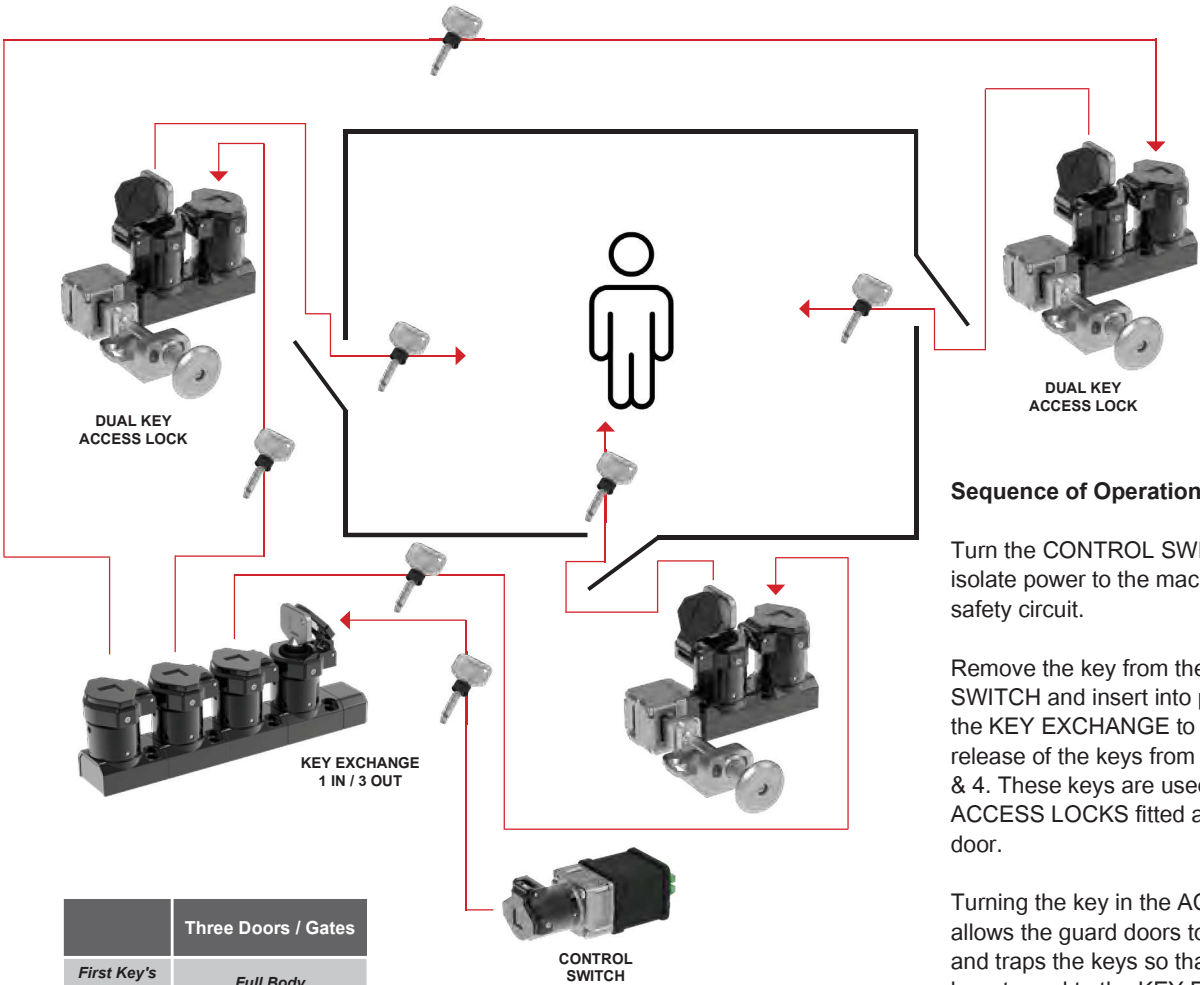
Remove the key from the CONTROL SWITCH and insert into position 1 in the KEY EXCHANGE to enable the release of the keys from positions 2 & 3. These keys are used to open the ACCESS LOCKS fitted at each guard door.

Turning the keys in the ACCESS LOCKS allows te secondary keys from position 2 of each ACCESS LOCK to be released such that operators can take them inside the guarded area. This prevents the guards from being locked and the system re-started.

	Two Doors / Gates
First Key's Code	Full Body
A101	-
A102	-
A103	800004-A103
A104	800004-A104
A105	800004-A105

SKORPION Pre-Configured Trapped Key Systems

SYSTEM 5: 3 DOOR FULL BODY ACCESS



Sequence of Operation:

Turn the CONTROL SWITCH key and isolate power to the machine's control safety circuit.

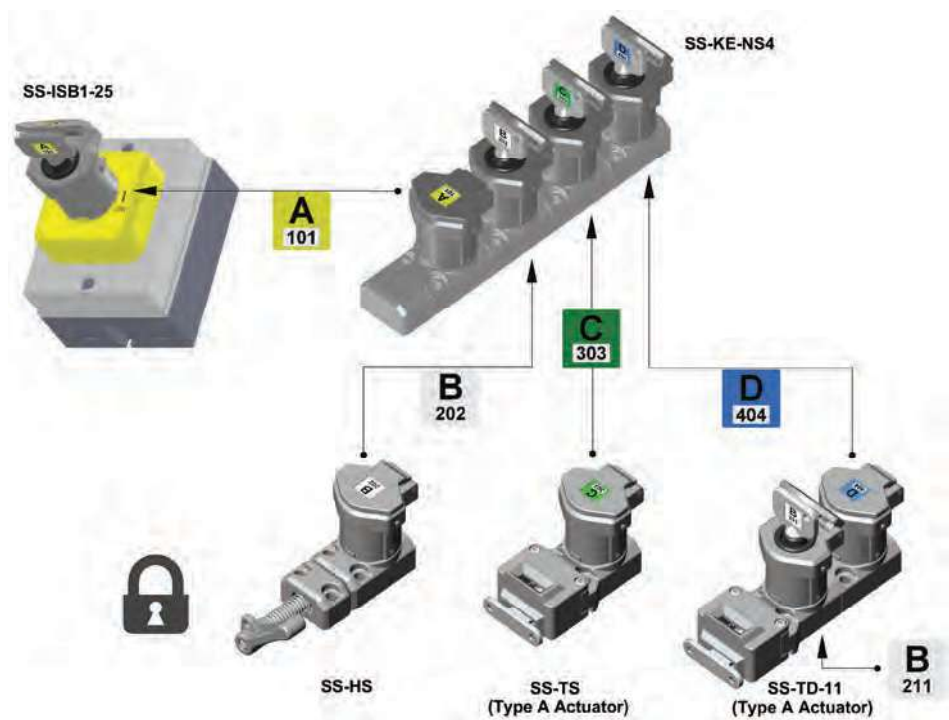
Remove the key from the CONTROL SWITCH and insert into position 1 in the KEY EXCHANGE to enable the release of the keys from positions 2, 3 & 4. These keys are used to open the ACCESS LOCKS fitted at each guard door.

Turning the key in the ACCESS LOCKS allows the guard doors to be opened and traps the keys so that it cannot be returned to the KEY EXCHANGE until the both guards are re-closed and locked.

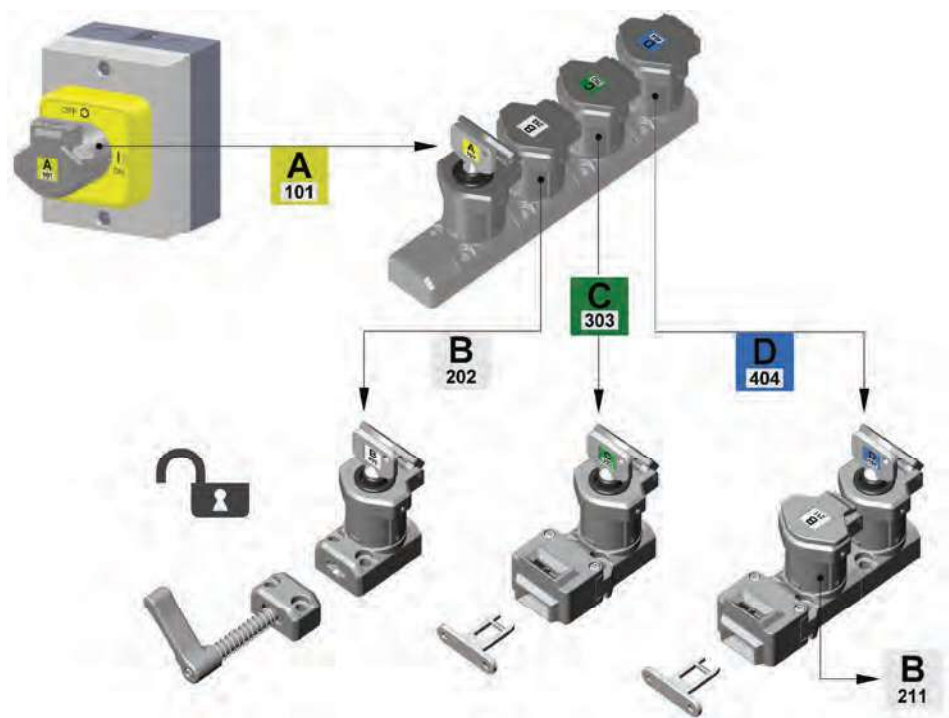
	Three Doors / Gates
First Key's Code	Full Body
A101	-
A102	-
A103	800005-A103
A104	800005-A104
A105	800005-A105

SKORPION Trapped Key Interlocking with Key Exchange

EXAMPLE 2: COMPLEX SYSTEM



POSITION 1: MACHINE POWER ON - GUARDS LOCKED (ACCESS IS DENIED TO OPERATOR)



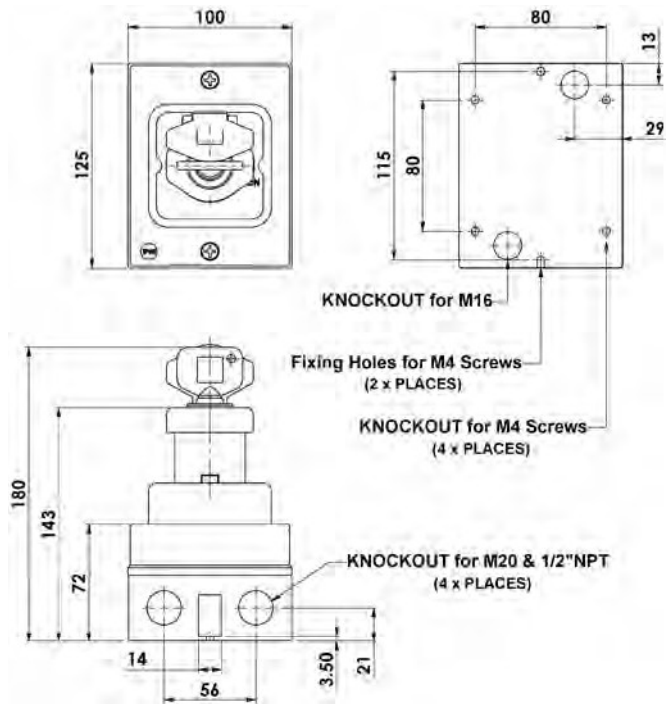
POSITION 2: MACHINE POWER OFF - GUARDS UNLOCKED (ACCESS AVAILABLE TO OPERATOR)

SKORPION TRAPPED KEY ORDER FORM/TEMPLATE - TK1 (for Example 2)					
ORDER	ITEM 1	ITEM 2	ITEM 3	ITEM 4	ITEM 5
Part Number	SS-ISB1-25	SS-KE-NS4	SS-HS	SS-TS	SS-TD-11
	CODE	CODE	CODE	CODE	CODE
Key Fob Code	A101	A101 B202 C303 D404	B202	C303	D404 B211
Key Status	Out	Trapped / Out / Out / Out	Trapped	Trapped	Trapped / Out
ACTUATOR TYPES					
	140107 (A Standard)	140108 (F Flat)	140110 (HF Flexible)	140111 (HFH S/Steel Flexible)	
Quantity	2	0	0	0	

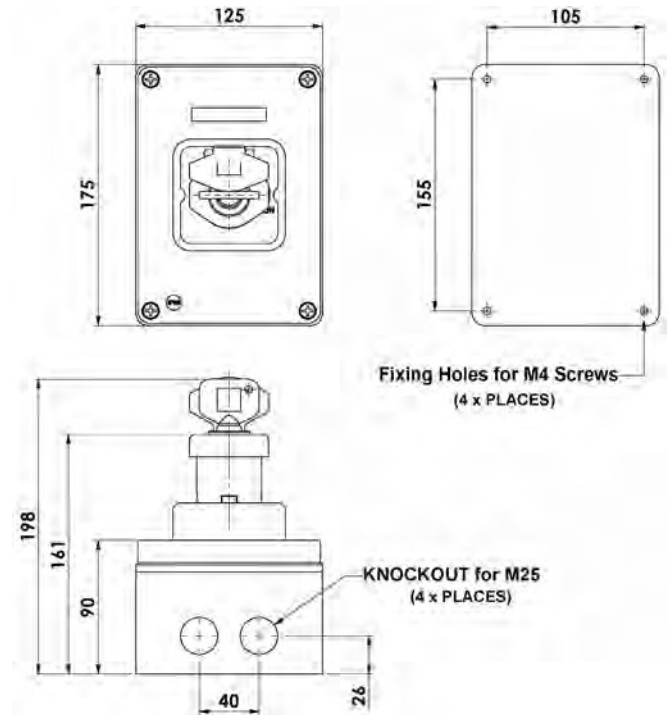
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

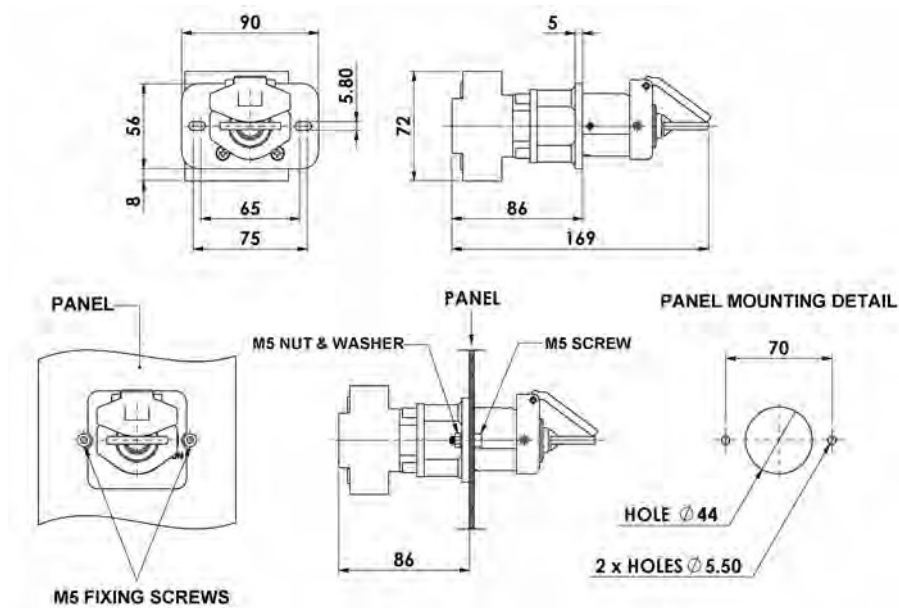
Isolation Switch Boxes Models ISB1-25 and ISB1-40



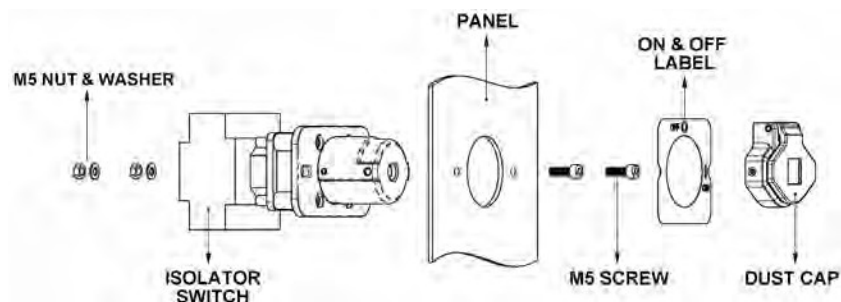
Isolation Switch Box Model ISB2-63



Isolation Switch Panel Models ISP-25, ISP-40 and ISP-63



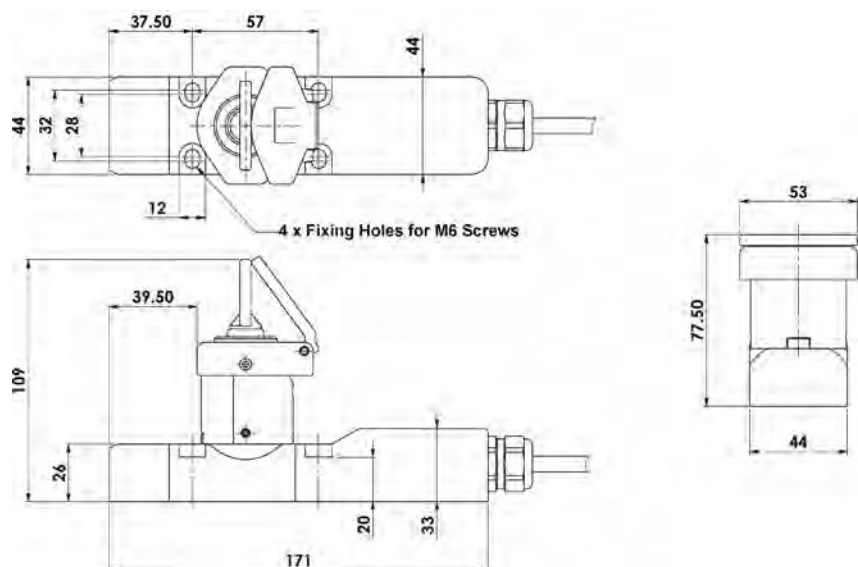
Isolation Switch Panel Mount ISP-25, ISP-40 and ISP-63 Fitting Diagram



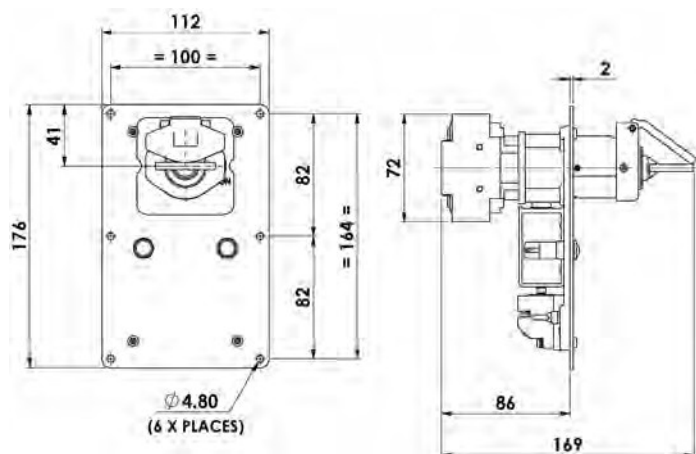
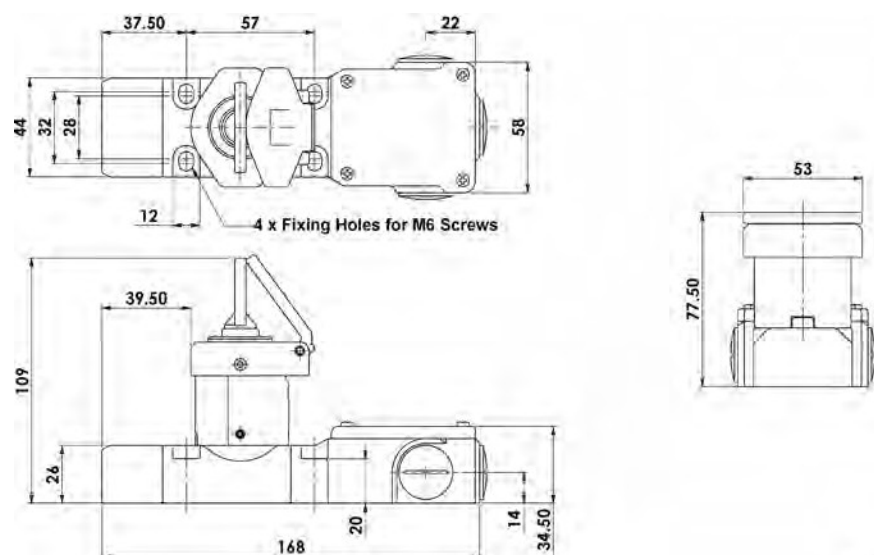
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

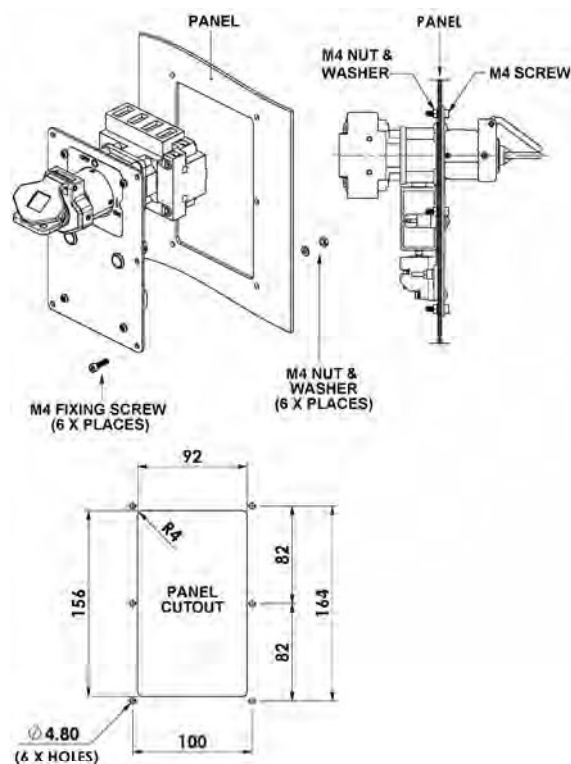
Control Switch Model ISB-CB-EX



Control Switch Model ISB-CB-M



Isolation Switch Panel Model ISP-SKR

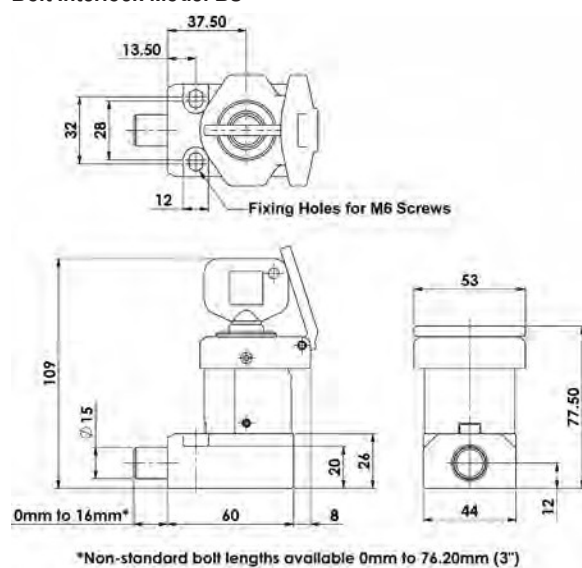


Isolation Switch Panel Mount ISP-SKR - Fitting Diagram

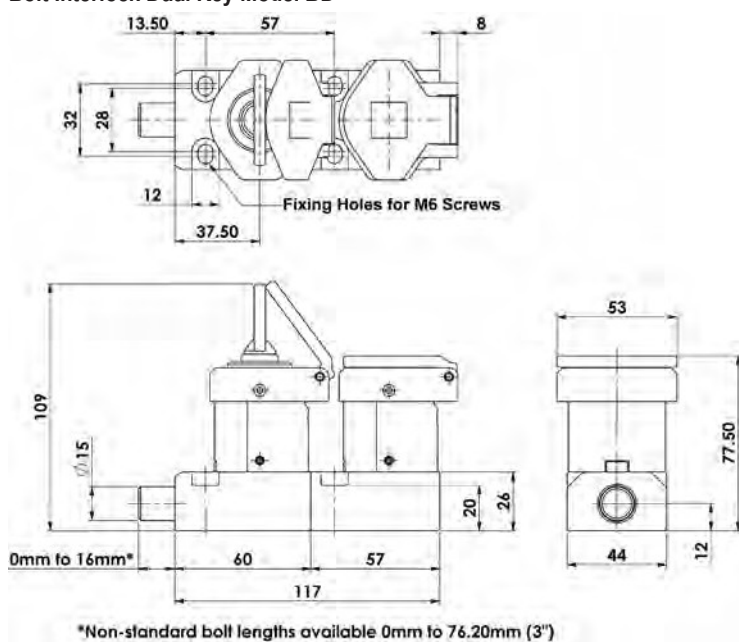
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

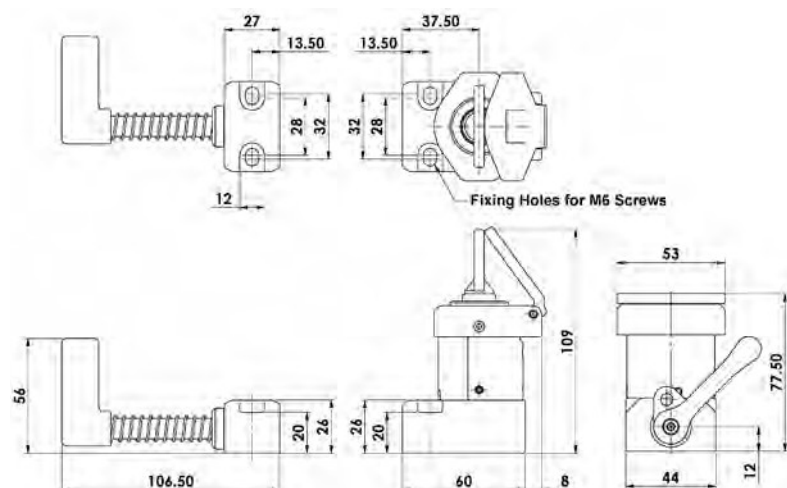
Bolt Interlock Model BS



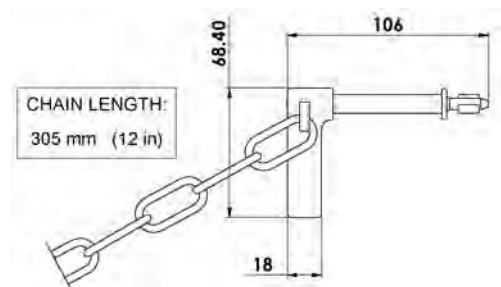
Bolt Interlock Dual Key Model BD



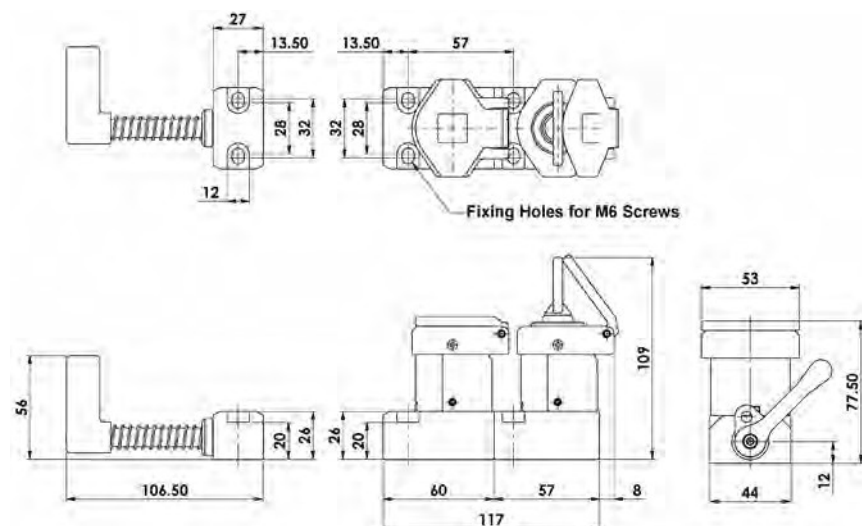
Handle Interlock Model HS



Handle with Chain



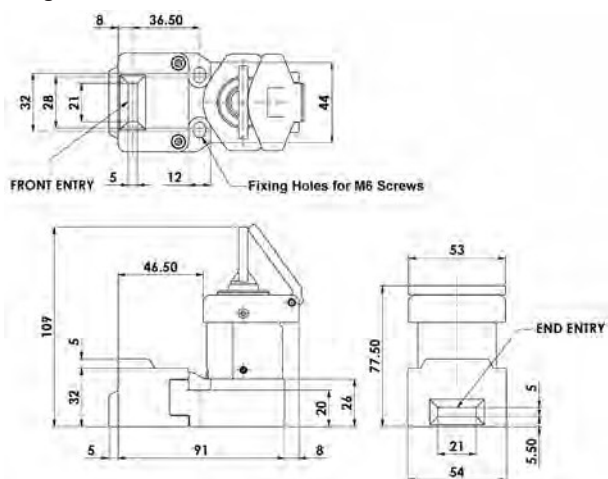
Handle Interlock Dual Key Model HS-11



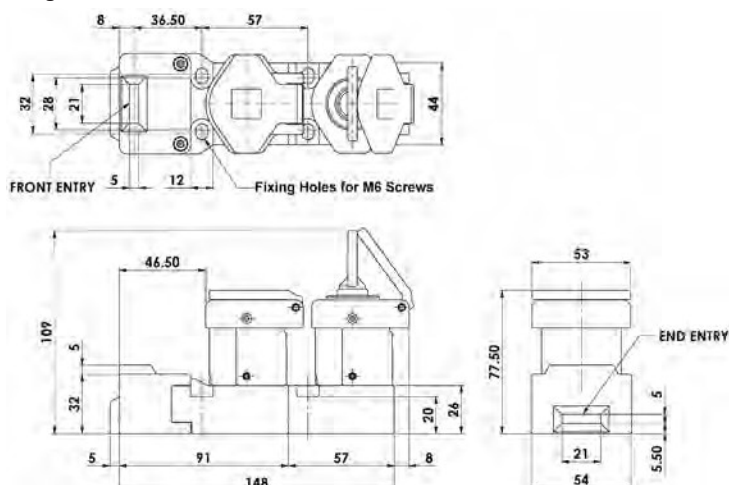
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

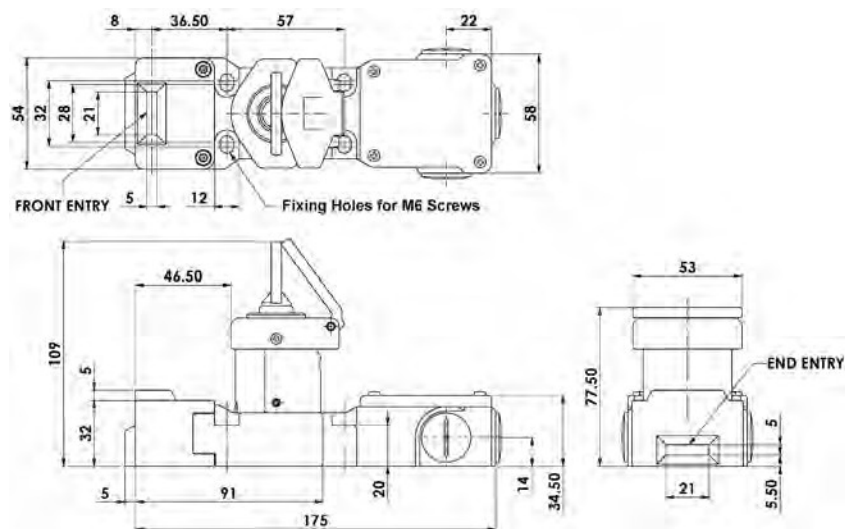
Tongue Interlock Model TS



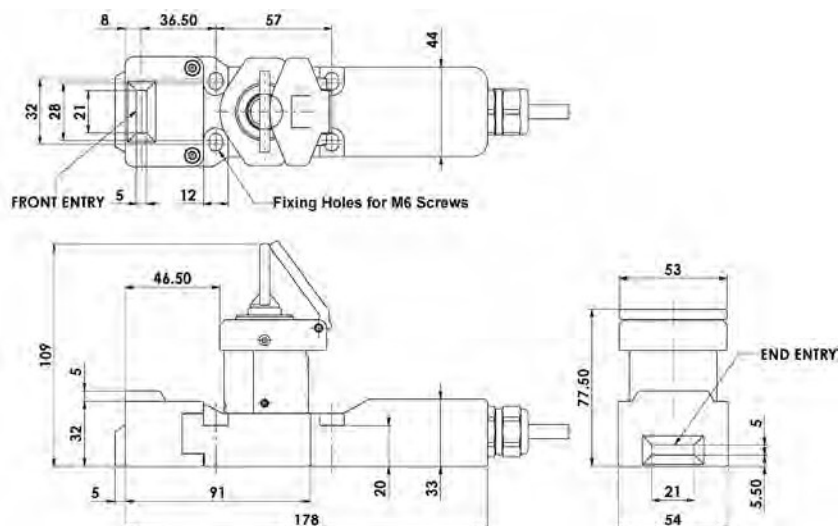
Tongue Interlock Model TD-11



Tongue Interlock with Contact Block Model TS-CB



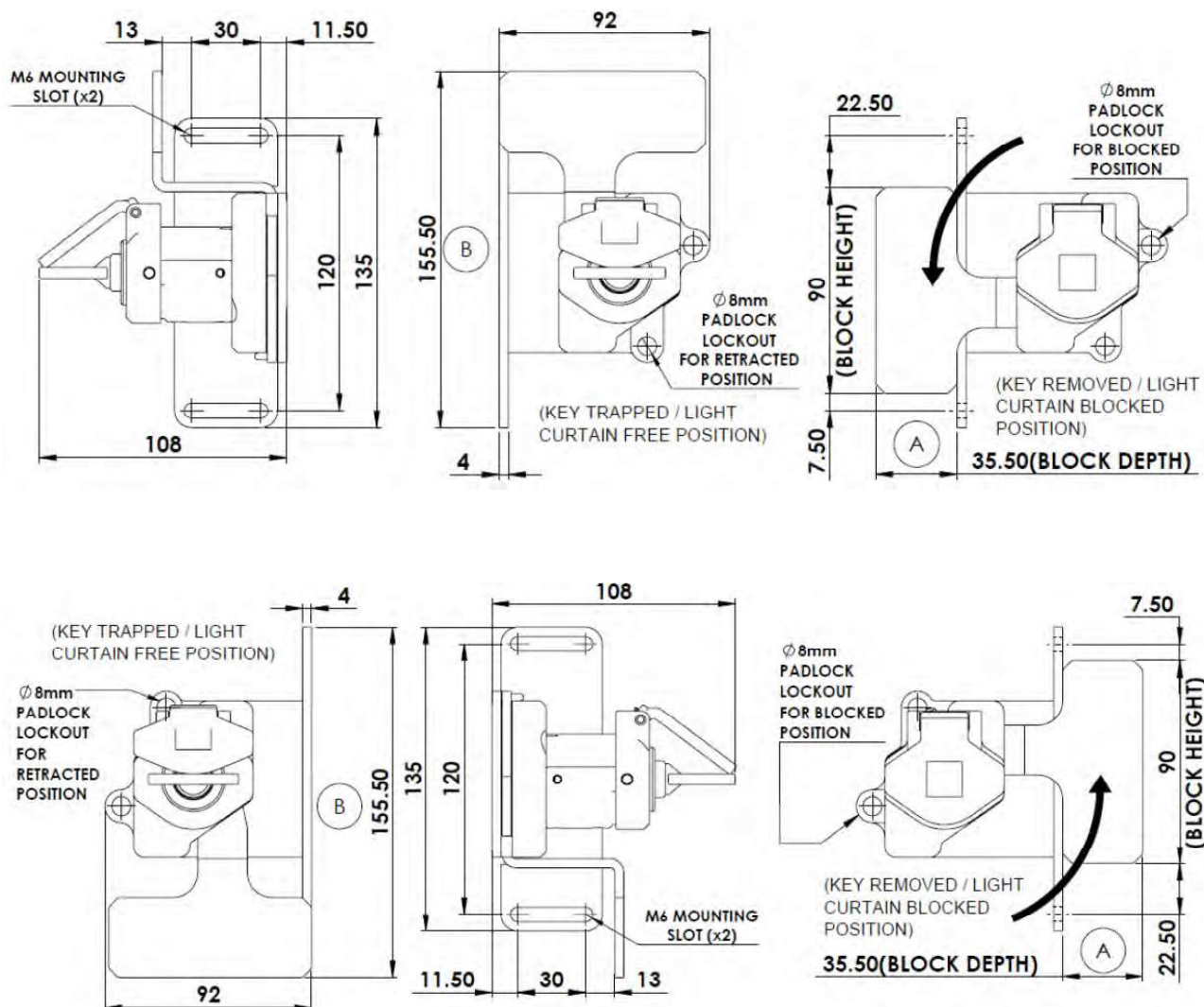
Explosion Proof Tongue Interlock
with EX Proof Contact Block Model TS-CB-EX



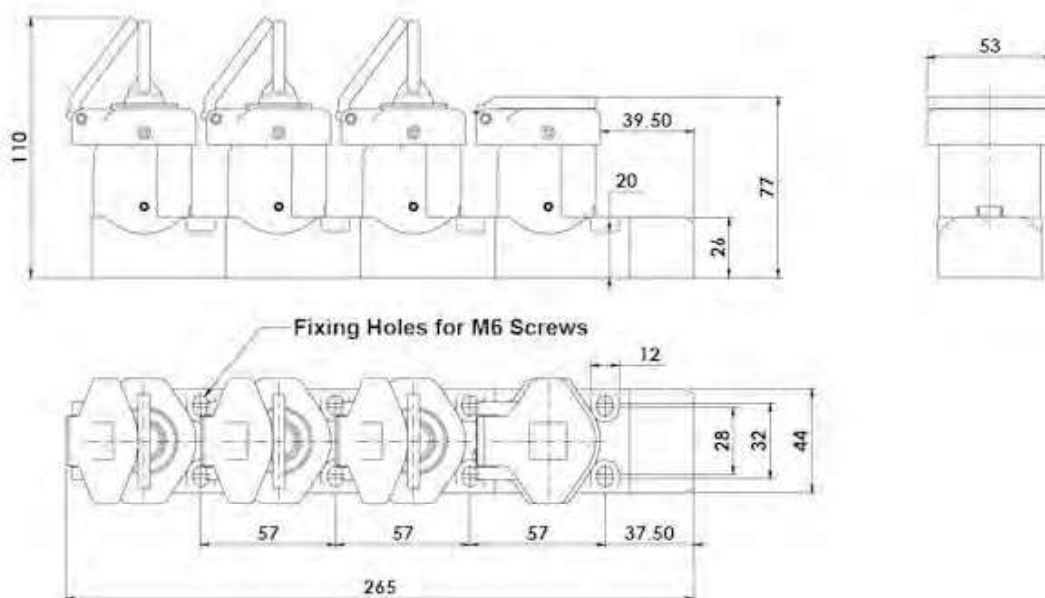
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

LCB Light Curtain Blocking Device



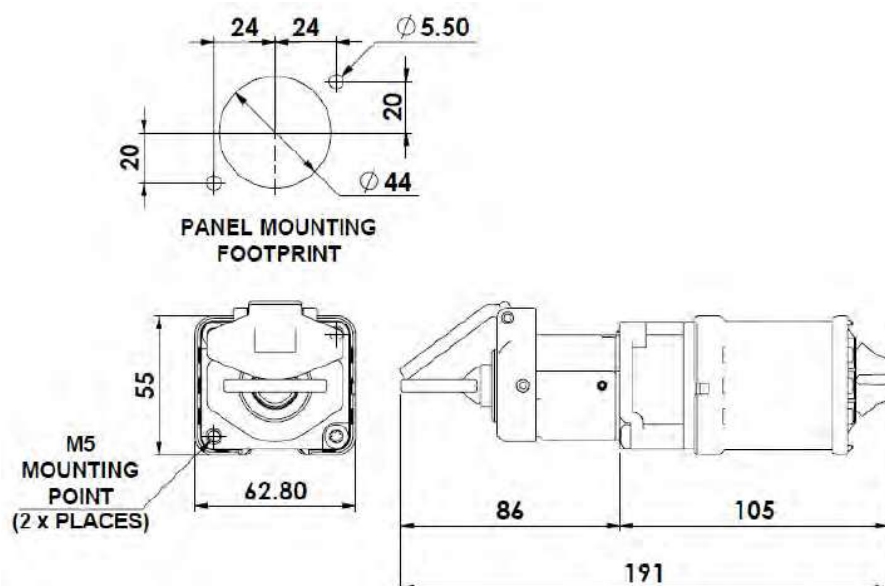
KE Vertical Key Exchange



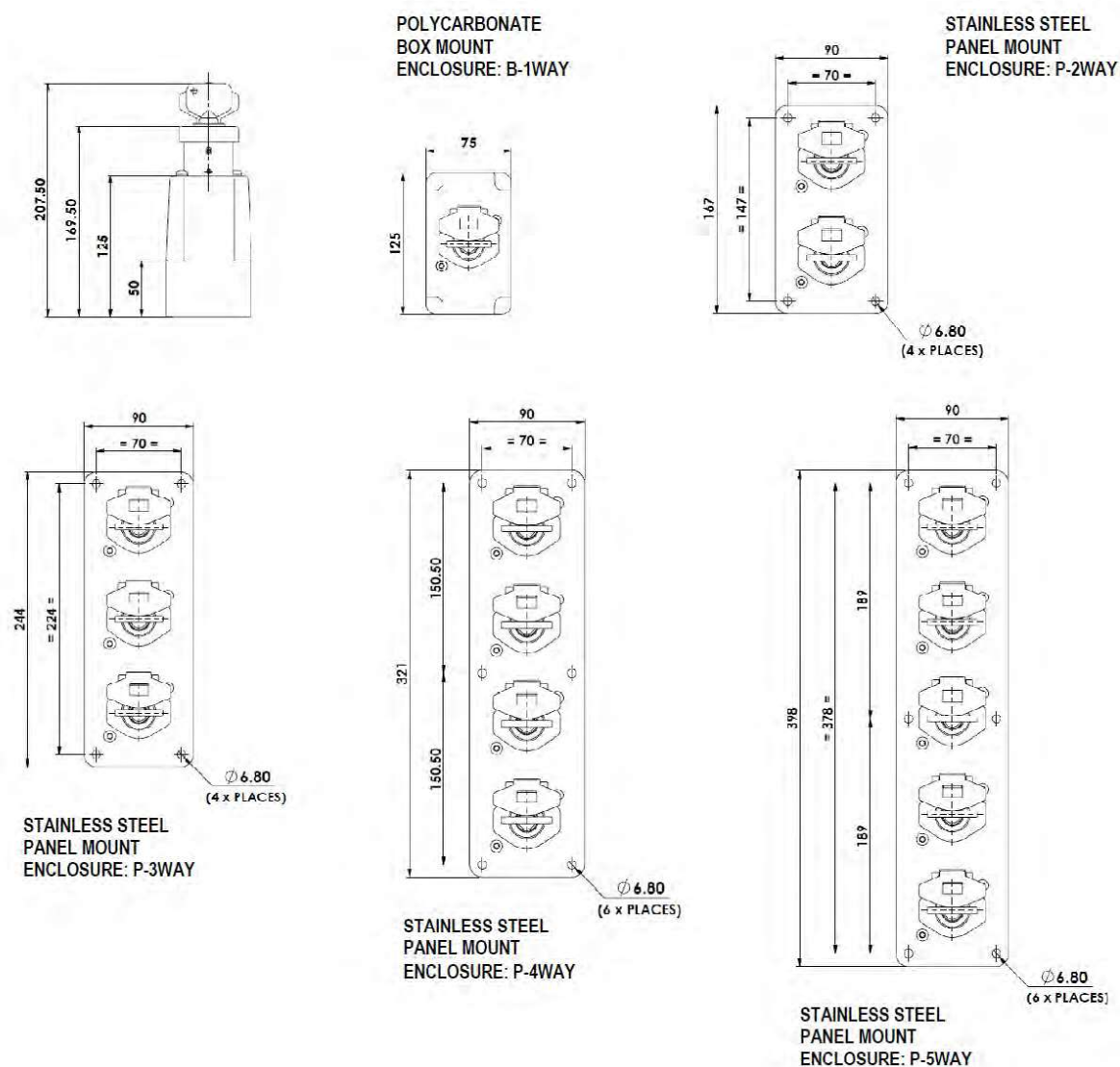
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

CS Control Switch



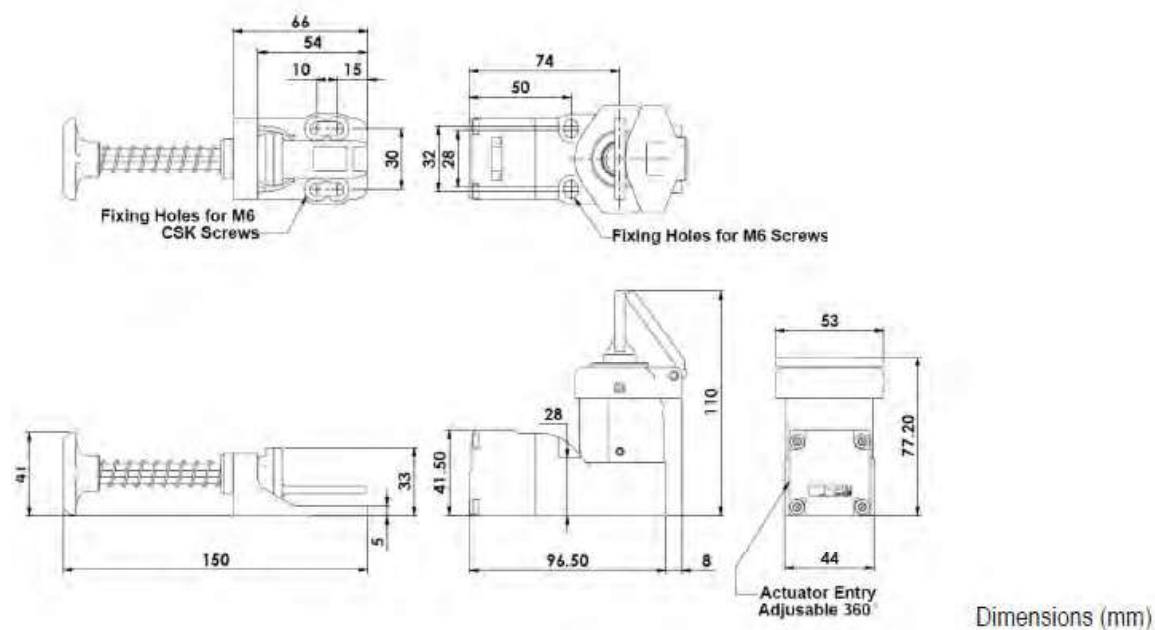
Mounting Enclosures for CS-Range



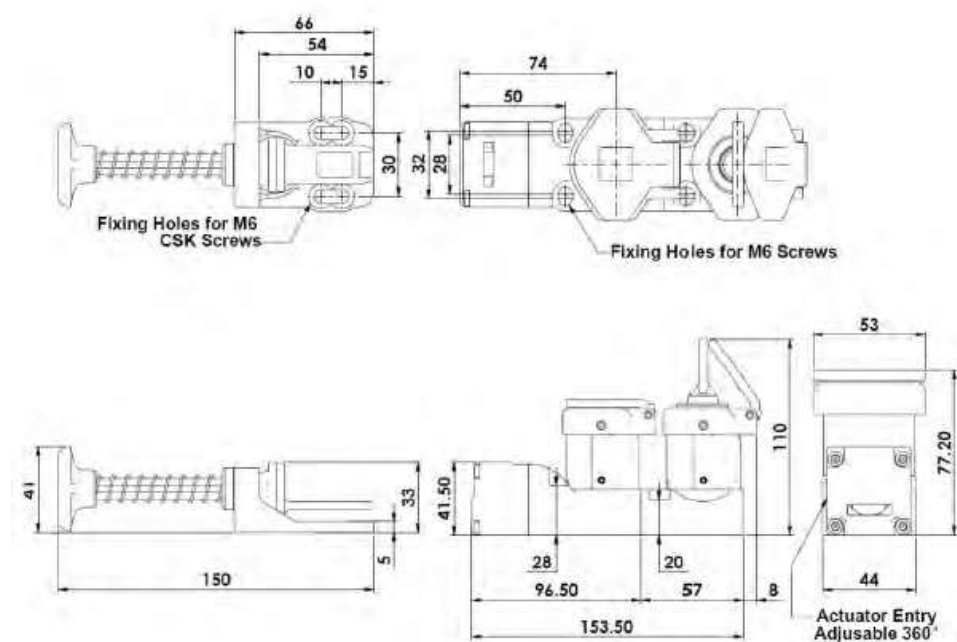
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

HT-S



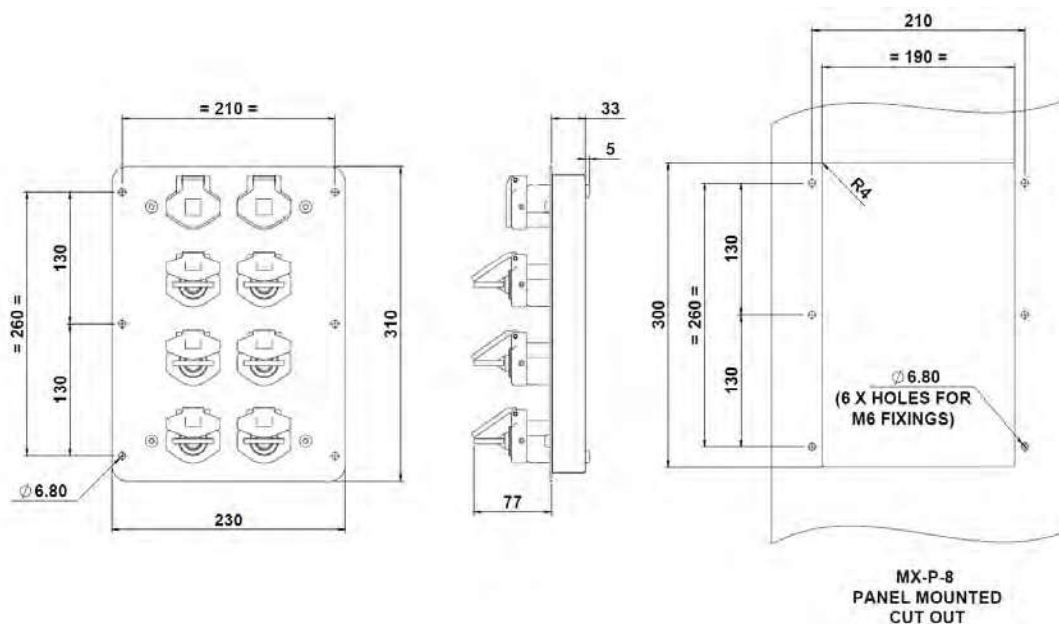
HT-D



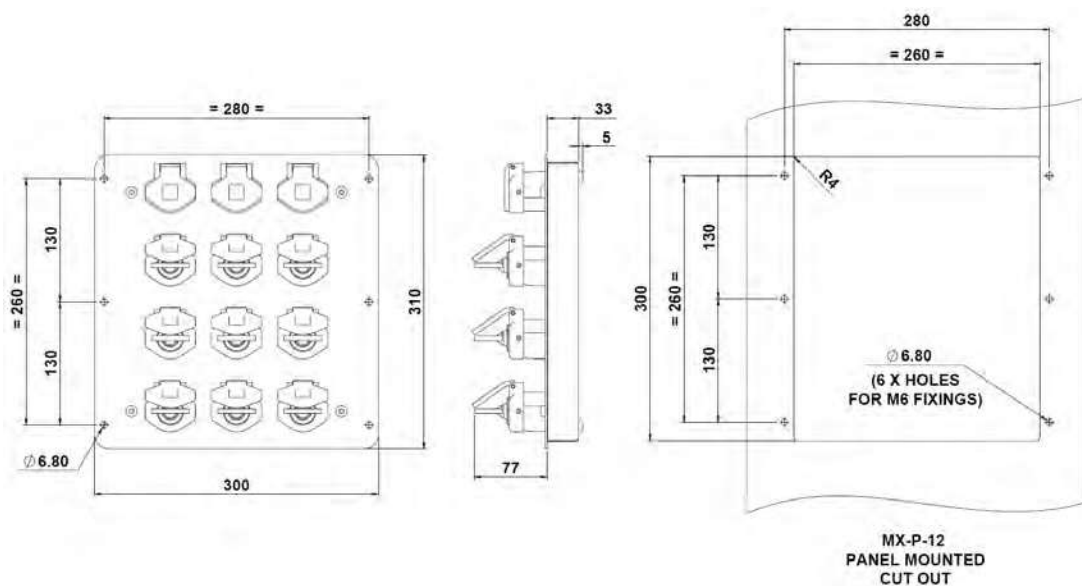
SKORPION Trapped Key Interlocking with Key Exchange

PRODUCT DIMENSIONS:

M-P-8



M-P-12



M-P-20

