

# Section 2

## Safety Switches

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### Phenolic Legend Plate

Available engraved and mounted on heavy duty safety switches [1]. Legend engraved in 1/4 in. high white letters on black background. Customer must provide legend. UL Listed.

To order, add suffix NP to standard Cat. No. Example: H363NP

### Push Button—Pilot Light—Selector Switch

Push buttons, pilot lights or selector switches are available factory-installed in the cover of NEMA 1, 3R, 4, 4X, or 5 stainless steel or NEMA 12 heavy duty safety switches and double throw switches [2]. Wiring to contact blocks is not available. Customer must furnish catalog number of push button, pilot light or selector switch device desired. UL Listed.

Contact Schneider Electric for catalog number and availability prior to quoting a job.

For enclosure sizing, 30 and 60 amperes switches will be in 100 ampere enclosures.

### Electrical Interlock Kits

Electrical interlocks for heavy duty 30–1200 A safety switches are available factory-installed or in kit form for field installation. Each kit contains instructions for proper field mounting. A pivot arm operates from switch mechanism, breaking the control circuit before the main switch blades break. Switches with electrical interlocks installed are UL Listed. For factory-installed electrical interlocks add EI (for one contact) or EI2 (for two contacts) suffix to catalog number.

**Table 2.1: Electrical Interlock Kit [3] [4]**

Switch Amperes Rating	Series Number [5]	Electrical Interlock Kit Cat. No. [6]
30	F5–F6	EIK031
		EIK032
60 (600 V)	F5–F6	EIK1
		EIK2
60 (240 V)	F5–F6	EIK031
		EIK032
100–200	F5–F6	EIK1
		EIK2
30–100 Receptacle Switches	F5–F7	EIK1
		EIK2
30–200 4 and 6 Pole Switches	F5–F6	EIK1
		EIK2
400–1200	E4–E5	EIK40601
		EIK40602

**Table 2.2: Electrical Interlock Contact Ratings [7]**

Interlock Type	AC - 50 or 60 Hz				DC		
	Volts	Make	Break	Cont.	Volts	Make & Break	Cont.
<b>Cat. no. ending with a 1 utilize a 9007A01 limit switch.</b>							
1 NO/1 NC Contact	120	40 A	15 A	15 A	115	0.50 A	15 A
	240	20 A	10 A	15 A	230	0.25 A	15 A
	480	10 A	6 A	15 A	—	—	—
	600	8 A	5 A	15 A	600	0.05 A	15 A
<b>Cat. no. ending with a 2 utilize a 9007C03 limit switch.</b>							
2 NO/2 NC Contacts	120	30 A	3.0 A	10 A	115	1.0 A	10 A
	240	15 A	1.5 A	10 A	230	0.30 A	10 A
	480	7.5 A	0.75 A	10 A	—	—	—
	600	6.0 A	0.60 A	10 A	600	0.10 A	10 A

[1] Except NEMA 7 and 9 switches.

[2] Not UL listed for 600 A double throw safety switch.

[3] For series not shown in table refer to the switch wiring diagram.

[4] Electrical interlocks for Type 4X fiberglass reinforced polyester and Krydon™ see Digest Section 3.

[5] See Digest Section 3 for safety switch series.

[6] Electrical interlock kit catalog numbers ending in 1 indicates one normally open and one normally closed contact. These kits use a 9007A01 industrial snap switch. Electrical interlock kit catalog numbers ending in 2 indicates two normally open and two normally closed contacts. These kits use a 9007C03 industrial snap switch.

[7] Single pole single throw interlock kits are rated 1/2 hp @ 110 and 220 Vac.



## Key Interlock Systems and Sample Applications

**Factory-installed only** on heavy duty and double throw safety switches.

Interlocks are used to prevent the operator from making an unauthorized operation. Not available on hazardous location devices (NEMA 7/9) or fiberglass reinforced polyester (NEMA 4X).

The key interlock system is a simple and easy method of applying individual key interlock units and assemblies to the above equipment so as to require operation in a predetermined sequence. UL Listed.

**Quoting:** Contact Schneider Electric for catalog number, availability and pricing prior to quoting a job.

**Ordering:** Order cannot be released for production until the following information has been provided:

- End User—Company name, address
- Function of each lock (e.g., switch to be locked open with key removed, key held when switch is closed)
- Existing Equipment—if switch is to be interlocked with equipment already on site, provide brand of existing lock and key number
- Other New Equipment—if switch is to be interlocked with new equipment not yet installed at the site, then provide contact person and phone number so that locks may be coordinated
- Additional information may be required upon order entry

### Use these suffixes on switch catalog numbers:

- KI = 1 lock per switch
- KI2 = 1 lock with 2 cylinders per switch
- KIKI = 2 separate locks per switch

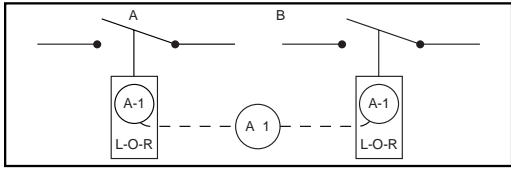


Figure 1

**Key Interlock Sample Applications**

**Sample Application—1** (see Figure 1)

To prevent two devices from being closed simultaneously.

Two devices are shown in Figure 1. In operation they are not closed at the same time. With the interlocks arranged as shown only one key is required in the interlocking system. Both devices are shown open, therefore, the key is free. To close any one device the key is inserted and turned in that particular lock, the key is held in this lock until the device is again locked open. This simple interlocking sequence lends itself to a multitude of applications. The procedure is the same for two devices, neither of which is to be opened at the same time.

**Sample Application—2** (see Figure 2)

To prevent opening of switch A when circuit breaker B is closed.

Switch A and circuit breaker B are in closed position. Key A-1 is held in circuit breaker B interlock.

- Open circuit breaker.
- Turn key A-1 in L-O-R interlock on circuit breaker B to lock open. Key A-1 is now free.
- Insert key A-1 in L-C-R interlock on switch A and turn to unlock.
- Open switch A. Key A-1 is now held. Reverse sequence to restore service.

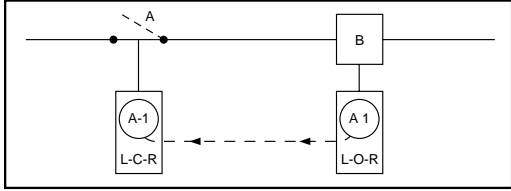


Figure 2

**Sample Application—3** (see Figure 3)

To prevent operation of switch A when circuit breaker B is closed. Permits re-closing of circuit breaker for servicing when switch is locked open.

Switch A and circuit breaker B are in closed position. Key A-1 is held in circuit breaker interlock.

- Open circuit breaker.
- Turn key A-1 in L-O-R interlock on circuit breaker B to lock open. Key A-1 is now free.
- Insert key A-1 in L-O-C-R interlock on switch A and turn to unlock.
- Open switch A.
- Turn key A-1 in L-O-C-R interlock on switch A to lock open. Key A-1 is now free.
- Return key A-1 to circuit breaker interlock and unlock for operation during servicing period.

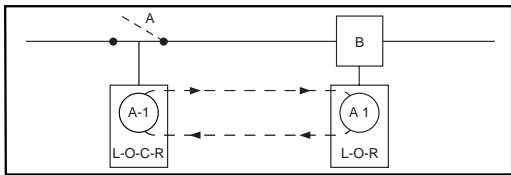


Figure 3

Reverse sequence to restore service.

**Sample Application—4 (Main-Tie-Main)** (See Figure 4)

To prevent paralleling of lines A and B; two loads, fed from either source.

Circuit breaker A is closed to supply load M. Circuit breaker B is closed to supply load N. Tie-circuit breaker C is open. Keys A-1 are held in interlocks on both circuit breakers A and B. Tie-circuit breaker C cannot be closed unless either A or B is locked open.

To transfer load N to circuit breaker A, proceed as follows:

- Open circuit breaker B.
- Turn key A-1 in L-O-R interlock on circuit breaker B to lock open. Key A-1 is now free.
- Insert Key A-1 in L-O-R interlock on tie-circuit breaker C and turn to unlock. Key A-1 is now held.
- Close tie-circuit breaker C.
- Reverse sequence to restore service.
- Load M can be supplied through circuit breaker B in a similar manner.

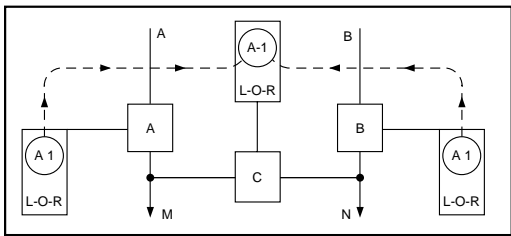
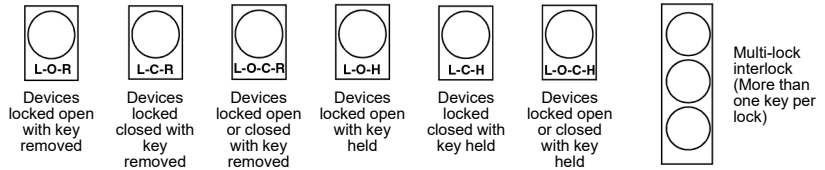


Figure 4

**Locking Position—Designations**



**Diagram Symbols**

