

SECURITY DOOR CONTROLS

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50 SERIES ELECTRIC STRIKES INSTALLATION INSTRUCTIONS

INSTALLATION:

1. For proper installation, refer to the appropriate template drawing.
2. Prior to installation, make the necessary wire connections per the appropriate wiring diagram.
3. Proper operating voltage must be supplied to the strike if it is to function correctly.
4. Voltage at the strike must be within +/- 10% of the required voltage listed on the strike label. To install the strike into the frame opening:

- A) Position the wiring either down or up or toward the back of the hollow metal frame, making sure that it stays completely out of the way of the strike so as not to pinch it when installing the strike into the frame.
- B) Insert mounting screws through the faceplate and secure into mounting tabs.

5. After installation, check the horizontal alignment. The allowable movement when the door is pulled toward the keeper should be 1/32".
6. In case of misalignment, there is an 1/8" horizontal adjustment obtainable by shifting the strike mechanism behind the faceplate before tightening the mounting screws.

OPERATION:

The 50's electric strike is a solenoid operated device.

1. **NON-FAIL SAFE (FAIL-SECURE)** – When power is applied, the solenoid plunger pulls the locking cam into the unlocked position allowing the door to be opened. If power fails, the strike will remain locked.

NOTE: Non-fail safe strikes for use in fire rated doors can only be operated by momentary contact switches, energized only when the push button is held depressed and cannot be held in the unlocked position.

2. **FAIL-SAFE** – When power is applied, the solenoid plunger pushes the locking cam into the locked position and the door cannot be opened. If power fails, the strike will unlock.

OPTIONAL FEATURES:

1. **LBM SWITCH (Latch Bolt Monitor)** – A switch operated by the latch bolt switch tripper that signals whether or not the latch bolt is extended into the strike.
2. **LCM SWITCH (Locking Cam Monitor)** – A switch that monitors the position of the locking cam and signals that the strike is either locked or unlocked.
3. **LBMLCM SWITCH (Locking Cam and Latch Bolt Monitor)** – A combination of the LBM and LCM switches that wired together, externally, they indicate that the strike is locked (LCM) and the latch bolt is extended into the strike (LBM).
4. **LCBDM SWITCH (Deadbolt Monitor Switch)** – A switch operated by the deadbolt switch tripper, wired together with the LCM and LBM switches, that signals that the strike is locked. The latch bolt is extended into the strike and the deadbolt is also extended into the strike.
5. **SOLENOID VOLTAGE** – 24VDC is standard. Optional voltage available are: 12VDC or 12VAC.

When control power source is AC, the strike is supplied with an externally attached bridge rectifier.

When control power source is DC, the strike is supplied without the bridge rectifier.

6. **FAIL-SAFE** – The strike is locked when energized. This feature should be used for applications that require automatic unlocking in case of power failure.

CAUTION: Fail-safe is not permitted with the UL Fire Door Accessory label.

7. **FACEPLATE:** Finish is US32D standard, US3, US4, US10, US10B US26, US26D and US32 are special.
8. **PLUG CONNECTOR FOR SWITCHES:** A 2-pin plug connector comes with the solenoid.

TROUBLESHOOTING

Problem

Strike does not operate when energized

Strike operates intermittently

Solenoid overheating or burned out.

Strike is not relocking or unlocking

Improper indication.
(LCM, LBMLCM or LCBDM)

Solenoid plunger binding
(Plunger will not extend or retract)

Solution

Check for proper voltage being supplied to the strike. Check all wiring. Check the coil resistance of the solenoid and compare it to the chart located on the wiring diagram to insure the correct solenoid is being used.

Check for loose wire connection.

Check for proper voltage being supplied to the strike.

Check for proper alignment between the strike keeper and bolt. Realign strike if necessary. The keeper may not be returning to the fully locked position. Check operation with the door open, if the strike relocks, check the horizontal alignment between the strike keeper and the latch bolt. There is a 1/8" horizontal adjustment available. Shift the strike mechanism behind the faceplate before tightening the mounting screws. If vertical alignment is off, reposition the faceplate.

Check the locking cam spring to insure it is moving the locking cam into the locked position (non-fail safe) or the unlocked position (fail-safe).

Check wiring. Check latch bolt or deadbolt for proper engagement with switch tripper. Check switch actuator arm, re-bend if necessary. Check continuity of indication switches, common to normally open, common to normally closed.

Check the solenoid assembly to insure the solenoid plunger is moving freely.

Check alignment between solenoid plunger and cam.

Any suggestions or comments to this instruction or product are welcome. Please contact us through our website or email engineer@sdsecurity.com

MAINTENANCE AND LUBRICATION 50 SERIES ELECTRIC STRIKES

Under normal usage, the 50 Series electric strike should be cleaned and lubricated once a year to maintain its reliability. In applications with high usage or dirty conditions, more frequent service may be necessary. Lubrication points are identified in the illustration. When servicing a 50 Series, inspect the internal parts for excess wear breakage and lightly lubricate per the instructions below. Lubricate with lightning grease, available from SDC. Never lubricate any strike with oil. Such lubrication collects dirt and forms an abrasive and sticky compound that may affect the function of the strike.

TO INSPECT AND LUBRICATE THE STRIKE:

1. Remove dust cover, held on by four (4) #4-40 x 3/16" FPHMS.
2. **PUSH TYPE:** Solenoid may be left installed.
PULL TYPE: Solenoid must be removed to remove cam assembly. Loosen the lock nut holding the solenoid, then remove the solenoid and the plunger.
3. Carefully remove retaining ring, spring and cam assembly.
4. Remove the post support stamping, locking lever and spring.
5. Lubricate areas in the case where the locking lever and cam rest. (Be careful not to get any lubricant on the solenoid or switches.) Lubricate the cam pin and lever post.
6. Check the locking angle of the keeper and locking lever for wear. Replace either if worn. Apply lube between contact surfaces, and apply lubricate between contact surfaces of the case and keeper.

To remove keeper for replacement or thorough lubrication, refer to **CHANGING AND REPLACING SWITCH TRIPPERS AND KEEPERS** in the 50 strike manual, page 1.

(If the keeper is disassembled for replacement or adding of a switch, lubricate the keeper pin.)

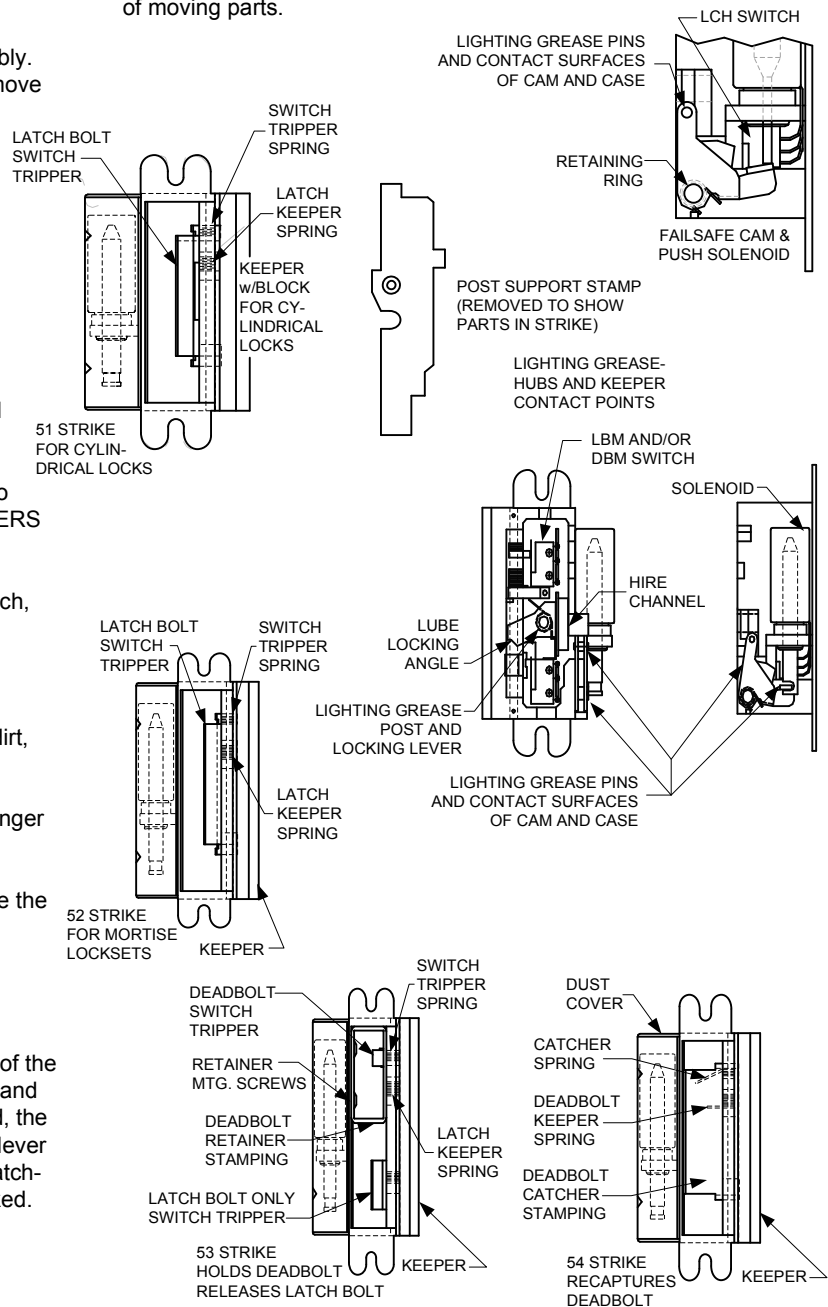
7. Reinstall the locking lever and the locking lever spring.
8. Check the solenoid, plunger and plunger guide for excess wear, dirt, grime or oil. If present, wipe clean.
- PUSH TYPE:** Remove the retaining ring for inspection of the plunger guide. Reassemble the solenoid and plunger.
9. Reinstall the locking cam. If the strike has LCM switch, make sure the tripper is positioned against the cam.

INSTALLING AND ADJUSTING THE SOLENOID:

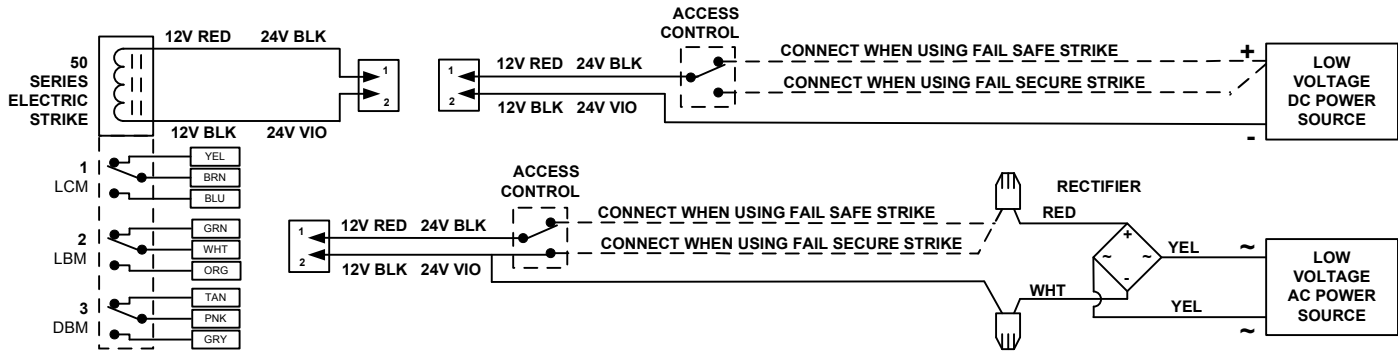
10. A) **50 Series FAIL-SECURE:** Pass the plunger through the solenoid manufacturer hole. Hook the plunger over the tab of the cam assembly. Thread the solenoid into position, energize and set to proper position. When solenoid is properly positioned, the plunger will seat and the cam position will allow the locking lever to move when the keeper is pushed manually or by a lock latch-bolt. When the solenoid is not energized, the keeper is locked.

- B) **50 Series FAIL-SAFE SOLENOID:** Thread the solenoid into position, placing the tip of the push plunger against the tab of the cam assembly. Energize and set to proper position. When the solenoid is properly positioned, the plunger must seat when the cam roller is fully in the locked position against the locking lever and the case. When the solenoid is energized, it should be impossible to push the keeper open. When not energized, the spring should push the cam to the unlocked position.

11. Check that the set screw is tight holding the keeper pin, the retaining ring is correctly installed on the cam pivot pin, the screws holding the post support stamping and any switches are tight and the solenoid is securely in place.
12. Reinstall the dust cover, routing the wires so that they remain clear of moving parts.



50 SERIES ELECTRIC STRIKE WIRE DIAGRAM



NOTES:

- 1) LOCK CAM BOLT MONITOR SWITCH (LCM) SHOWN IN THE TRIPPED CONDITION.
- 2) LATCH BOLT MONITOR SWITCH (LBM) SHOWN WITH THE LATCH CLOSED.
- 3) DEAD BOLT MONITOR SWITCH (DBM) SHOWN WITH THE DEAD BOLT THROWN.

ELECTRICAL RATING		
VOLTAGE	12	24
RESISTANCE	41	165
AMPS	.29	.15
WATTS	3.5	3.5

To determine the correct wire size to use on "one circuit" the following information is required

1. The quantity, voltage and current draw of lock(s) to be used.
2. The distance in feet from the power supply to the furthest lock.

Add together the current draw (amps) of all locks to be in the same circuit. Cross reference the total amps with the distance between the power source and furthest lock to determine wire gauge required.

"One circuit" implies that from the power supply, two wires are being run to one or more locks in parallel fashion. The last lock on that pair of wires from the power supply is not to exceed the maximum distance figure as shown on this chart for that gauge of wire, quantity and type of lock. If the gauge size or maximum distance is inadequate for your application, divide the quantity of locks in that circuit to create two or more separate circuits and use the chart to figure each new circuit independently even though the same power supply is being used. This will increase the total number of wires being run, but will also allow for a smaller gauge of wire and increase the maximum distance from the power supply to the furthest lock in that circuit. The chart shows the maximum distance allowable for a 5% voltage drop from the power supply to the furthest lock in one circuit. All wiring must be installed in accordance to all state and local codes.

VOLTS	AMPS	DISTANCE IN FEET FROM POWER SOURCE TO FURTHEST LOCKING DEVICE										
		25	50	75	100	150	200	250	300	400	500	1000
12V AC/DC	0.25	MINIMUM WIRE GAUGE										
	0.50	18	18	18	18	18	16	16	14	14	12	
	0.75	18	18	18	16	16	14	12				
	1.00	18	18	16	14	12	12					
24V AC/DC	0.25	MINIMUM WIRE GAUGE										
	0.50	18	18	18	18	18	18	18	18	16	16	16
	0.75	18	18	18	18	18	16	16	14	14	12	
	1.00	18	18	18	18	16	14	14	12	12		

50 SERIES ELECTRIC STRIKE FRAME PREPARATION FOR ALUMINUM OR HOLLOW METAL FRAMES

