

INSTALLATION DESCRIPTION

The 3101C Delay Egress System is a 1500 pound holding force (holding force not evaluated by UL) electromagnetic lock electronically controlled to provide a 15 or 30 second delay in unlocking.

The 3101C requires both mechanical and electrical installation procedures as described herein.

When completed, a simple adjustment procedure to set door movement will finalize the installation.

HANDLING

The electromagnetic lock and armature are ruggedly constructed and designed to provide years of trouble-free service. Care must be taken during installation and use, so that the lock face and armature face are kept free of dirt, rust, paint, or any other obstruction which may interfere with the lock and armature making good contact.

MECHANICAL INSTALLATION

Familiarize yourself with the door and frame conditions. The lock must mount rigidly to the underside of the door frame header and against the vertical strike jamb. The door mounted armature is supplied with hardware that allows it to pivot slightly and pull away from the door as part of the delayed egress function.

NOTE: This lock does not change hands to match the hand of the door. Do not remove the coil assembly from the lock housing.

NOTE: For locks ordered with the DSM option, please verify that two magnets are installed inside the armature housing.

ELECTRICAL INSTALLATION

After mechanical installation is complete the 3101C needs to be wired and adjusted. A continuous power source, 12 or 24 VDC or VAC is required. Once low voltage power is supplied the unit is fully operational. Delay egress systems also normally require fire panel tie-in. All other wiring is for selected options.

NOTE: Please see Egress Sensor Adjustment (page 8) before applying power.

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MODEL #3101C BILL OF MATERIALS



- (1) 3101C LOCK ASSEMBLY
- (1) ARMATURE
- (1) ARMATURE HOUSING
- (1) ARMATURE MOUNTING PLATE ASSEMBLY
- (1) HARDWARE KIT
- (1) DOOR SIGN - "15 SECONDS" *
- (1) TEMPLATE
- (1) INSTALLATION MANUAL

* "30 SECONDS" SIGN AVAILABLE

REQUIRED TOOLS

- (1) Electric Drill
- (1) #2 Phillips Screwdriver
- (1) Soft Faced Mallet
- (1) Hammer
- (1) Center Punch
- (1) Pencil & Tape
- Drill Bits: 1/8", 5/16", 3/8", 9/16"

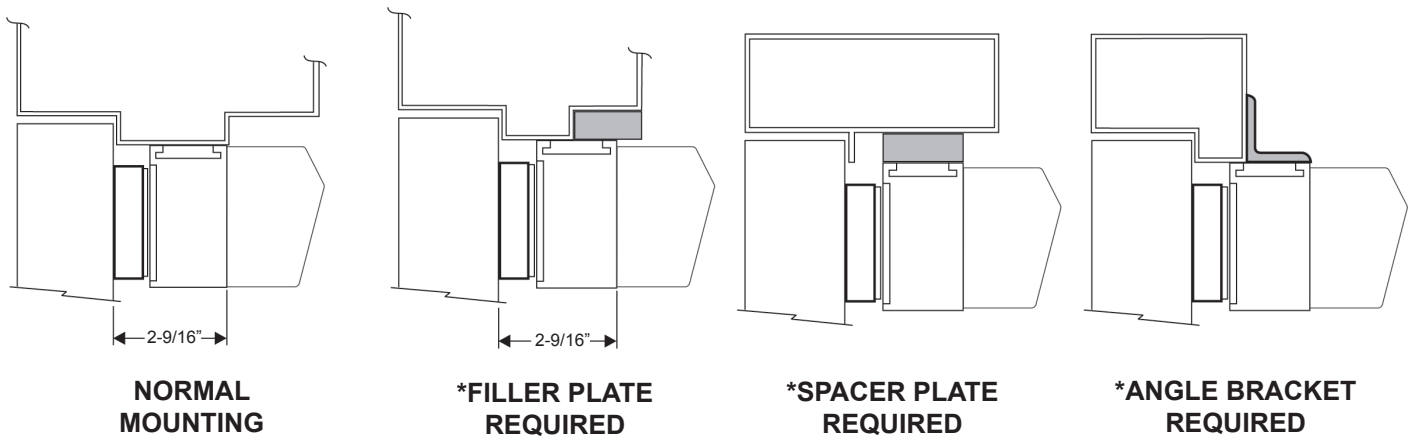
HARDWARE KIT CONTENTS (PN 301556)

<u>QTY.</u>	<u>ITEM</u>	<u>DESCRIPTION</u>
(5)	Fas-Trak Mounting Screws	#10 x 1" phillips pan head tek screw
(5)	Fas-Trak Mounting Screws	10-24 x 1/2" phillips pan head machine screw
(1)	Armature Mounting Screw	5/16-18 x 1" hex flat head machine screw, turned
(1)	Armature Spacer	3/8"D x 0.360"L
(1)	Armature Spring	Compression spring
(4)	Armature Mounting Plate Screws	#10 x 1" phillips flat head sheet metal screw
(4)	Armature Housing Mounting Screws	8-32 x 3/8" phillips machine screw
(1)	Anti-Tamper Cover Screw Driver Bit	T10 Pin Torx Driver Bit
(1)	Fas-Trak Set Screw Wrench	1/8" ball head hex wrench
(1)	Armature Bolt Wrench	3/16" hex wrench
(1)	Thread Locking Compound Liquid	
(2)	Bypass/Reset Key	
(1)	Mini Screwdriver	

NOTE: For further parts clarification refer to the Exploded Parts View on page 14 or consult factory.

MOUNTING CONSIDERATIONS

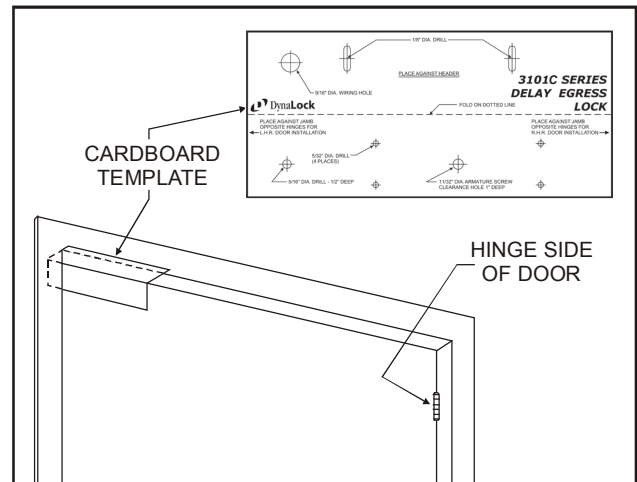
Inspect the door frame and determine if an angle bracket, spacer or filler plate will be required for installation. The lock will require a 2-9/16" wide header stop for a suitable mounting surface.



*These items are available from DynaLock.

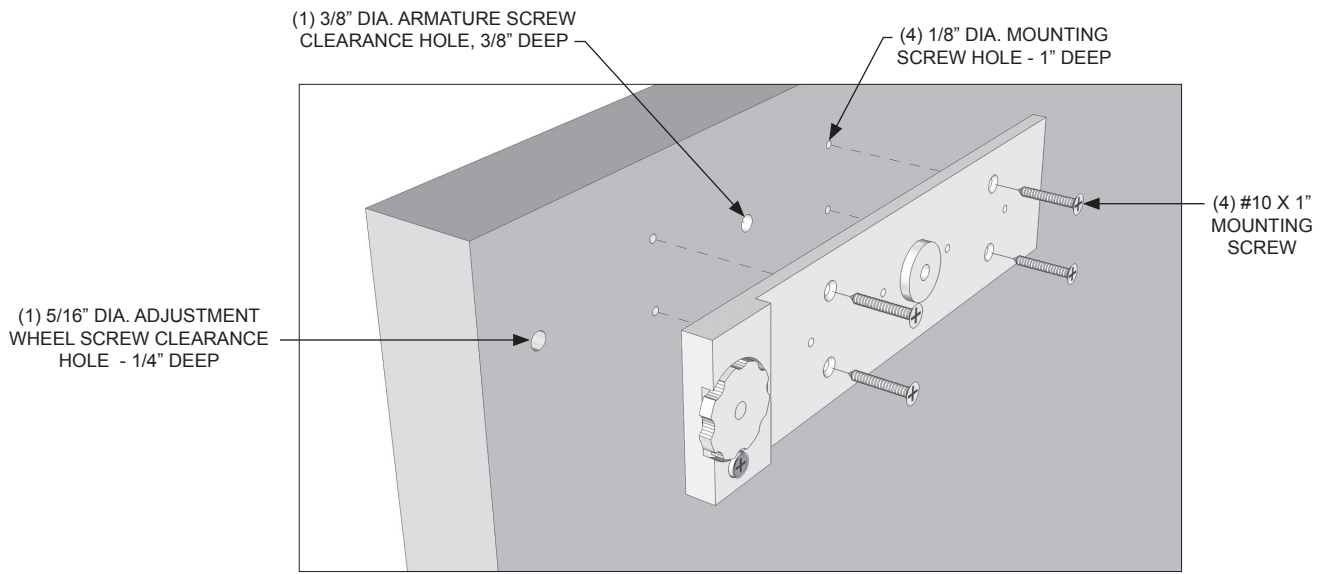
USING THE TEMPLATE

1. Fold the template on the dotted line to form a 90 degree angle. Scoring the template with a straight edge and a screwdriver will make it fold easier.
2. With the door in the closed and latched position place the template against the header and door with one edge against the vertical strike jamb and tape in place.
3. Transfer all hole locations to both the door and header with a center punch, then remove the template from the door.
4. Referring to the template drill two 1/8" dia. lock mounting holes and one 9/16" dia. wiring hole in the top of the frame, at the transferred locations.
5. Drill the remaining transferred holes in the face of the door to accept the Armature Mounting Plate Assembly:
 - a. Four 1/8" dia. mounting screw holes, 1" deep.
 - b. One 3/8" dia. armature screw clearance hole, 3/8" deep.
 - c. One 5/16" dia. adjustment wheel screw clearance hole, 1/4" deep.



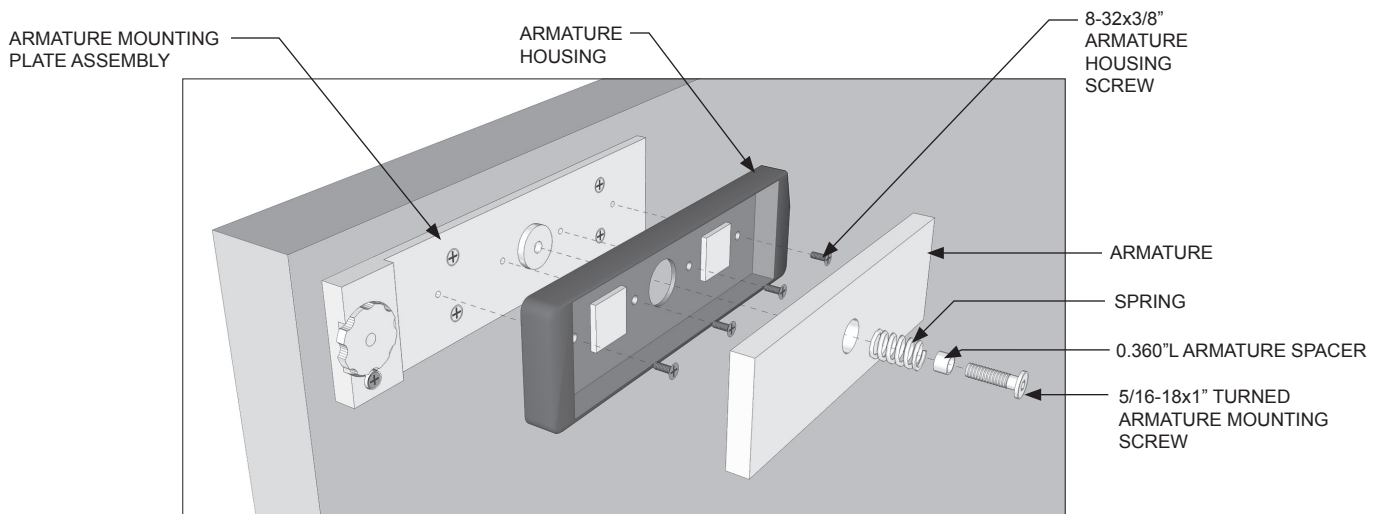
MOUNTING THE ARMATURE ASSEMBLY

Using the four #10 x 1" flat head sheet metal screws attach the armature mounting plate to the door. Firmly tighten the screws with a #2 phillips screw driver.



Attach the Armature to the Mounting Plate Assembly using the hardware supplied. Apply the supplied thread locking compound to the threads of the Armature Mounting Screw and firmly tighten with a 3/16" hex wrench. The head of the armature mounting screw must not project beyond the face of the armature. **Failure to properly secure the Armature to the door could result in serious injury or possible security breach.**

Check the installation by pushing in on a corner of the Armature - it should move. Although the mounting screw is tight the Armature should have approximately 1/4" of free play, under slight spring tension.



MOUNTING THE LOCK

1. Before installation begins remove the rear Electronics Cover, End Cover and Sensor Cover Assembly (see page 14 for parts locations). Carefully unplug the sensor harness from the circuit board connector labeled J5 then detach the Sensor Cover Assembly from the lock. In the upper inside corners of the lock housing are located two #1/4-28 set screws. Using the 1/8" ball head hex wrench loosen (**do not remove**) the two set screws until the Fas-Trak Baseplate is free (Fig. "C"). Remove the Fas-Trak.

2. Place the Fas-Trak against the header with the slot counter bores visible and the tabs facing the door (Fig. "A"). Attach the Fas-Trak to the header at both slotted hole locations, with two #10 x 1" tek screws or 10-24x1/2" machine screws. Tighten the screws just snug enough to allow for final adjustment.

3. Temporarily mount the lock to the Fas-Trak by offsetting the lock 1-1/8" from the jamb (Fig. "C") and tipping the front of the lock down engaging the rear flange of the Fas-Trak (Fig. "B"). Rotate the lock up allowing one tab to pass through the corresponding notch in the top of the lock housing. Slide the lock into position. Close and latch the door. Check that the armature and lock faces make full contact. If any adjustment is required gently tap the housing with a soft mallet until full contact is achieved. Open the door, remove the lock from the Fas-Trak and tighten both slot screws. Drive three more screws into the header using the Fas-Trak as a physical template. Screw heads must not project above the Fas-Trak.

4. Any roughed-in wiring may be brought in at this time through the slotted wiring holes. Re-install the lock on the Fas-Trak. Firmly tighten both housing set screws with the 1/8" ball head hex wrench. Re-install the End Cover and Sensor Cover Assembly. Carefully plug the Sensor harness back into the J5 connector on the circuit board (see page 13 for connector information). **If the lock wiring and set-up are not being done at this time replace the Electronics Cover and see that these instructions are left for the electrical installer.**

FIG. "A"

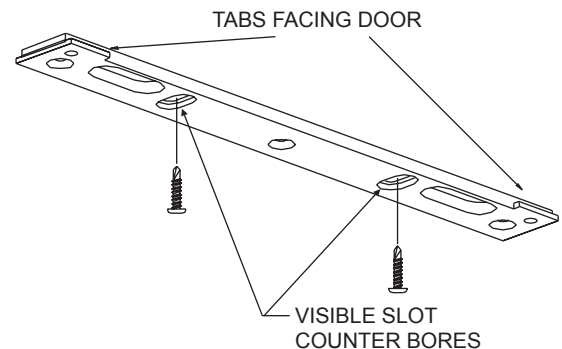


FIG. "B"

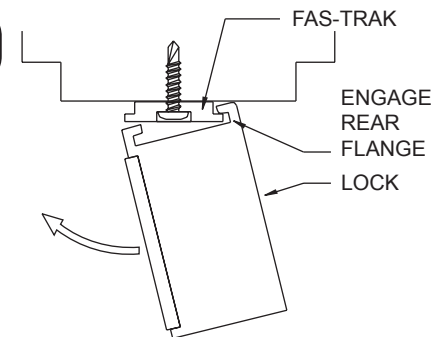
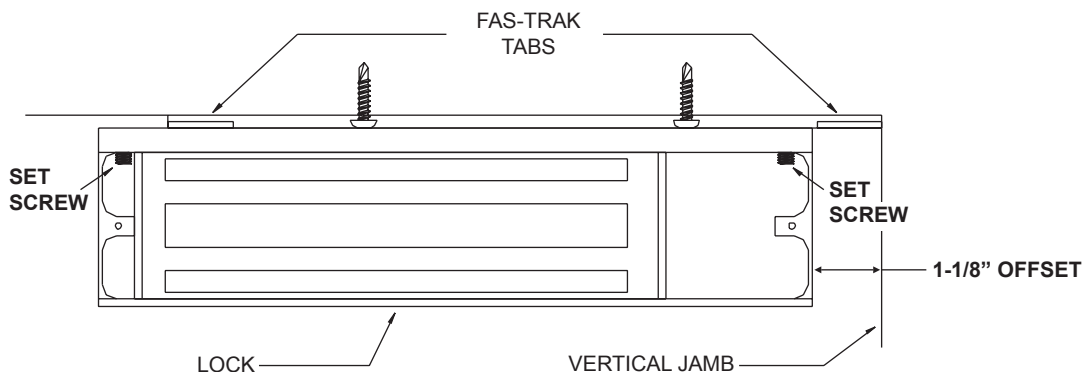
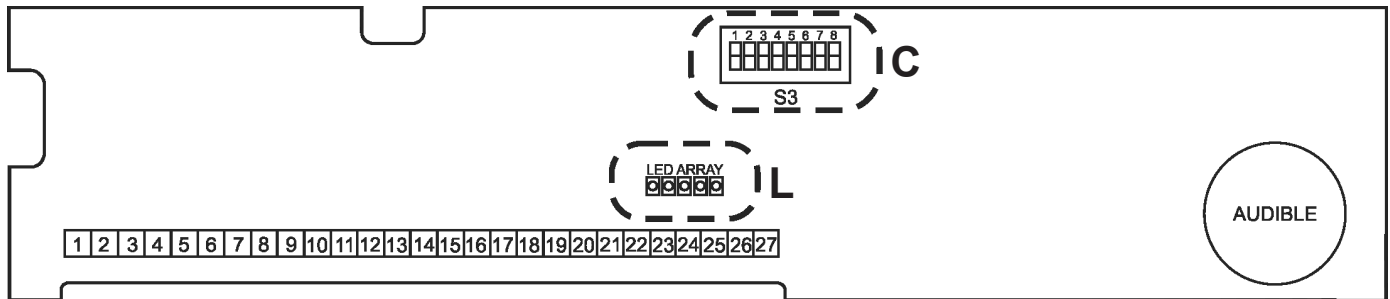


FIG. "C"



BASIC SET-UP

1. Remove the Electronics Cover to expose the circuit board assembly.



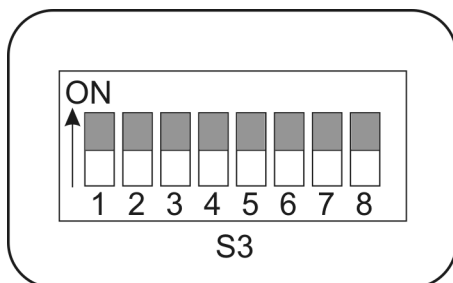
2. **L** - LED Indicator Array

Multicolor high-intensity LED array. Displays Red or Green, depending on lock mode (see page 9 for indicator modes). Displays lock status by projecting through lens in circuit board housing cover.

3. **C** - System Selector Switches

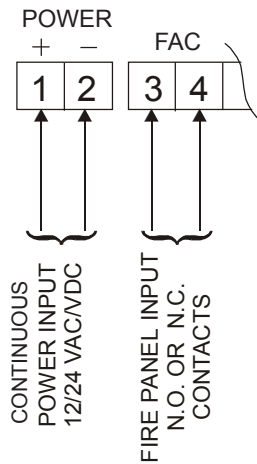
The selector switches (S3) which control major system functions are factory set to the OFF position for basic lock operation. Switch 1 will be used during sensor adjustment (page 8). Switches 2 through 7 are only used for options described on page 10.

(Factory Setting)



BASIC WIRING

Basic hook-up is shown below. For other system features hook-up see “Option Wiring” (page 11).



Terminals 1 & 2 - Auto-Sensing Power Input. May be 12 or 24 Volts, AC or DC, uninterrupted. Maximum current draw, by voltage, is as follows:

12VDC:	456 mA
12VAC:	1172 mA
24VDC:	263 mA
24VAC:	779 mA

DO NOT INTERRUPT INPUT POWER (TERMINALS 1 & 2) FOR AUTHORIZED ACCESS/EGRESS. EXTERNAL ACCESS/EGRESS CONTROLS (EX. KEYPAD, CARD READER, ETC.) SHOULD USE DEDICATED BYPASS TERMINALS 7 & 8 or 9 & 10 (SEE PAGE 11).

Terminals 3 & 4 - Fire Panel Input. May be normally-open (N.O.) or normally-closed (N.C.) dry contacts from fire panel (check fire alarm control jumper “FA” - page 6). DO NOT APPLY POWER TO TERMINALS 3 & 4 OR CIRCUIT BOARD DAMAGE WILL OCCUR.

When the fire panel trips, the 3101B will release, the audible will sound a constant tone and the bi-color LED (LED1) will change to green. When the fire panel is reset, the 3101B will reset and lock.

NOTES:

1. A power limited, UL Listed power supply for security applications is required for UL294 installations.
2. When the 3101C is used with a fire alarm control panel, wiring must be done for fail-safe operation.
3. Suitability of all wiring leads is to be determined based on end-user product requirements.

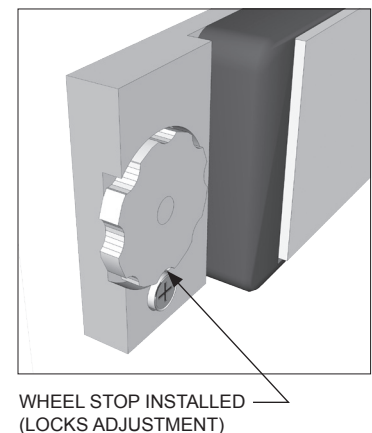
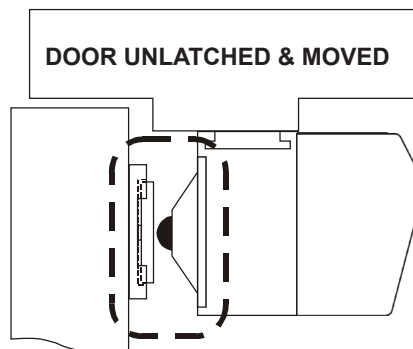
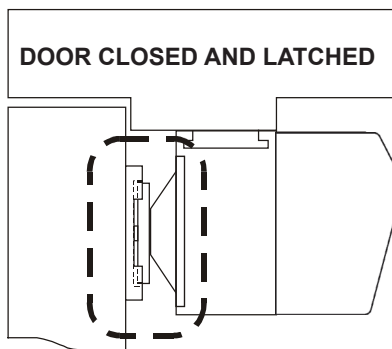
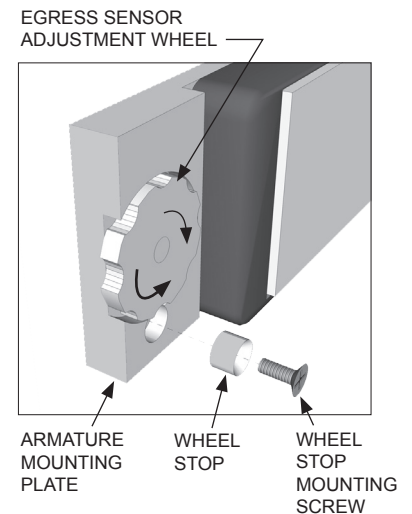
**PROPER OPERATION OF THE 3101C REQUIRES
ADJUSTMENT OF THE EGRESS SENSOR
PROCEED TO EGRESS SENSOR ADJUSTMENT**

EGRESS SENSOR ADJUSTMENT

The sensor and armature assembly are designed for use on a door with existing mechanical latching hardware. If used on a door without a latch, false alarms are possible. In these cases, we suggest using an external trigger such as our 6451 Exit Sensor Bar - connect using terminals 11&12 and disable this internal sensor (see pages 10&11).

SEE PAGE 10 FOR LOCATION OF ELECTRONIC PARTS MENTIONED IN THIS SECTION

1. With the door closed and latched apply input power to terminals 1 & 2. Slide selector switch (DS1) #1 to the ON position to activate the Set-Up mode. Rotate the on-board keyswitch counter-clockwise. The 3101C should now be unlocked (Multicolor LED Array OFF).
2. Open the door. Temporarily remove the Adjustment Wheel Stop from the Armature Mounting Plate and close the door. Set aside for re-installation later.
3. With the door closed observe the multicolor LED array. It should be lit red. If it is not lit, rotate the adjustment wheel counter-clockwise as necessary to ensure that it will contact and fully depress the ball plunger on the lock. Rattle the door to ensure the LED array remains lit.
4. With the door closed and LED array lit red, unlatch and slowly open the door. The LED array will shut off as soon as the door opens far enough for the ball plunger to fully project.



5. With adjustment completed, re-install the adjustment wheel stop to lock-in the adjustment. Close the door, slide selector switch (DS1) #1 back to the OFF position and return the on-board keyswitch to the center position to re-lock the 3101C.
6. Unlatch and push on the door until delay egress triggers (1-3 seconds). The audible will sound and LED array will flash red. After 15 seconds the lock will release. Turn the on-board keyswitch clockwise to reset the lock. If delayed egress triggers too soon, or fails to trigger, re-adjust the sensor adjustment wheel for desired sensitivity.

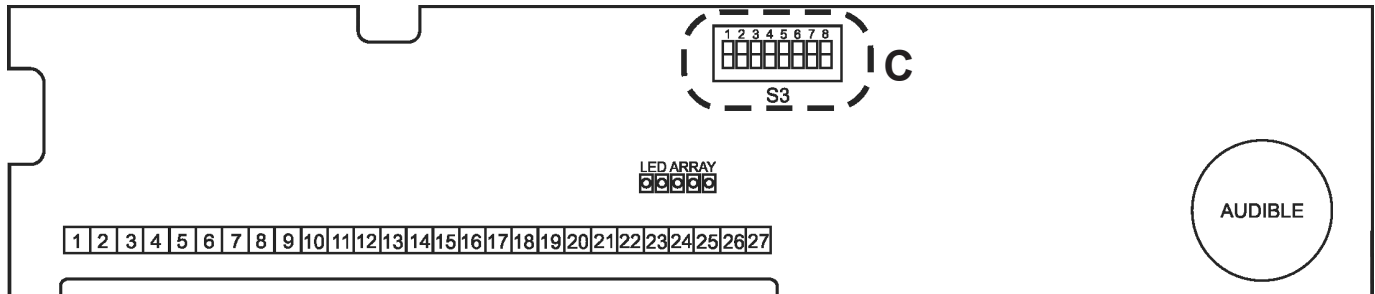
BUILT-IN KEYSWITCH OPERATION

POSITION	DESCRIPTION
CENTER	NORMAL / LOCKED
CLOCKWISE (SPRING LOADED)	RESET AFTER DELAY EGRESS ALARM
COUNTER-CLOCKWISE	BYPASS / UNLOCKED WITHOUT ALARM

INDICATOR & AUDIBLE DESCRIPTIONS

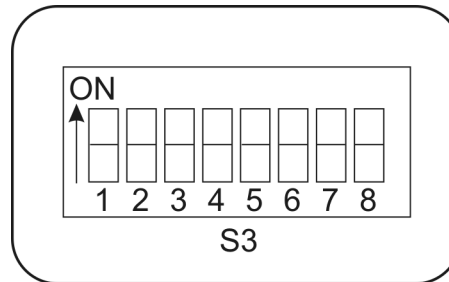
CONDITION	AUDIBLE SIGNAL	LOCK	COVER LED
DELAY EGRESS ALARM	One second pulse rate during delay cycle.	ON	BLINK RED
DELAY EGRESS ALARM	Steady tone after delay until reset.	OFF	GREEN
FIRE ALARM RELEASE	Steady tone until fire alarm contacts are reset.	OFF	GREEN
OPTIONAL REMOTE AUTHORIZED BYPASS (TERMINALS 7&8 / 9&10)	None, unless bypass audible is enabled (dip switch 2). If door is held open past relock time, goes into delay egress alarm & requires reset.	OFF	BLINK GREEN
POOR MAGNETIC BOND	Rapid pulse rate until problem is corrected (only functional with Dynastat Force Sensor option).	N/A	FAST BLINK RED

OPTIONAL SET-UP



1. C- System Selector Switches

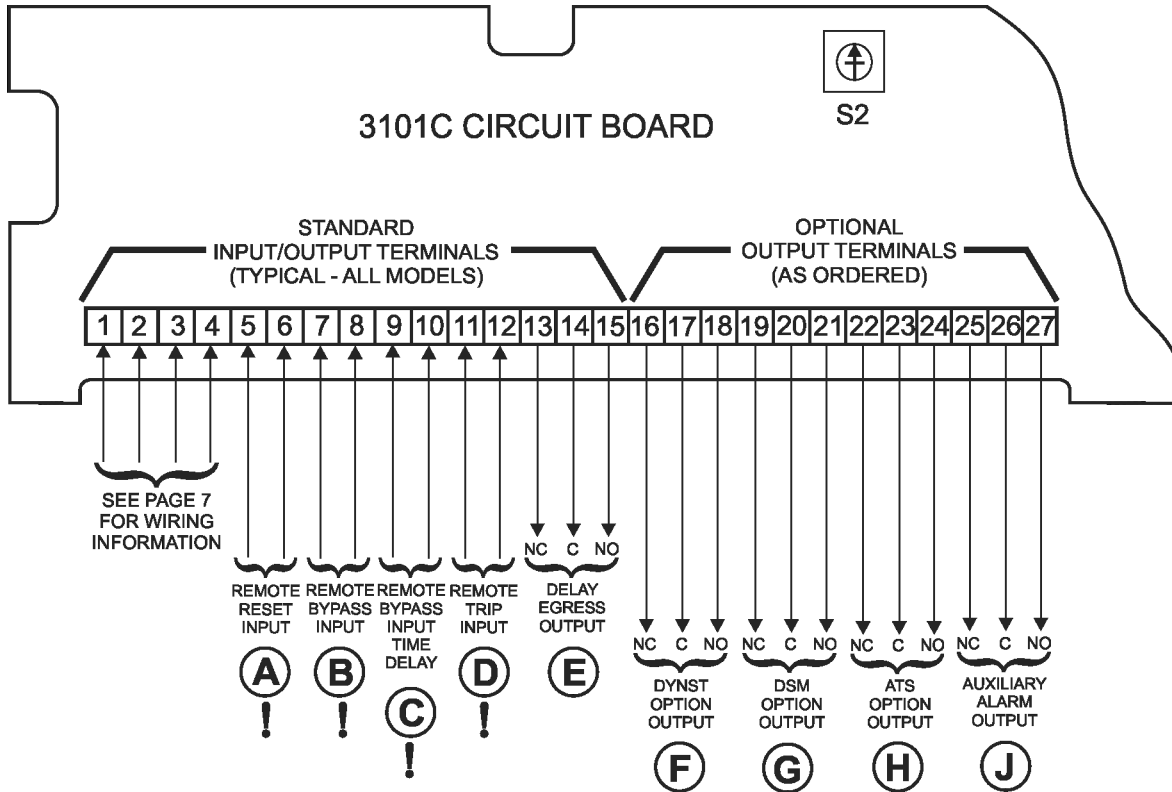
Set the System Selector Switches (S3) to address your specific system requirements. The normal factory setting is all switches off.



SWITCH	FUNCTION	MODE SETTINGS	
		OFF	ON
1	SYSTEM SET-UP	NORMAL	SET-UP MODE
2	BYPASS AUDIBLE *	DISABLED	ENABLED
3	NUISANCE DELAY	1 SEC.	3 SEC.
4	EGRESS DELAY	15 SEC.	30 SEC.
5	MASTER AUDIBLE	ENABLED	DISABLED
6	FIRE ALARM INPUT SETTING	NORMALLY OPEN	NORMALLY CLOSED
7	EGRESS SENSOR	ENABLED	DISABLED
8	UNUSED SPARE		

*Only applies to terminals 9&10 (see next page)

OPTION WIRING



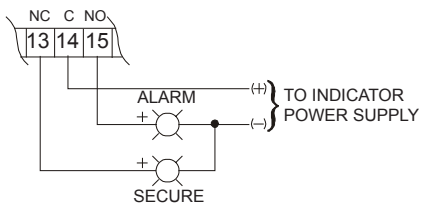
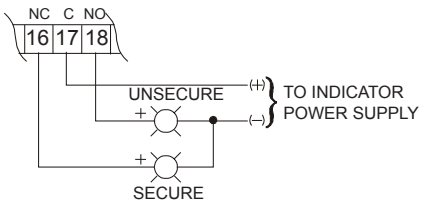
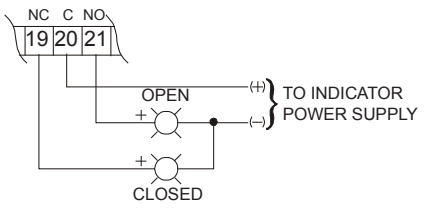
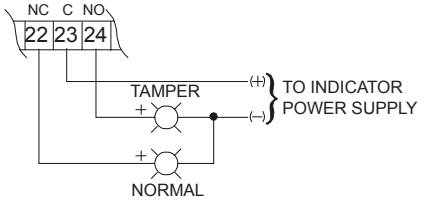
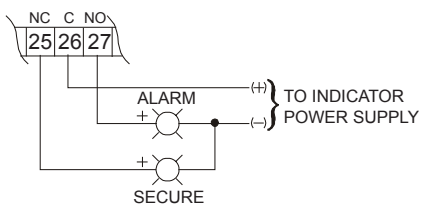
! WARNING: Do not apply power to inputs marked " ! " or damage will occur.

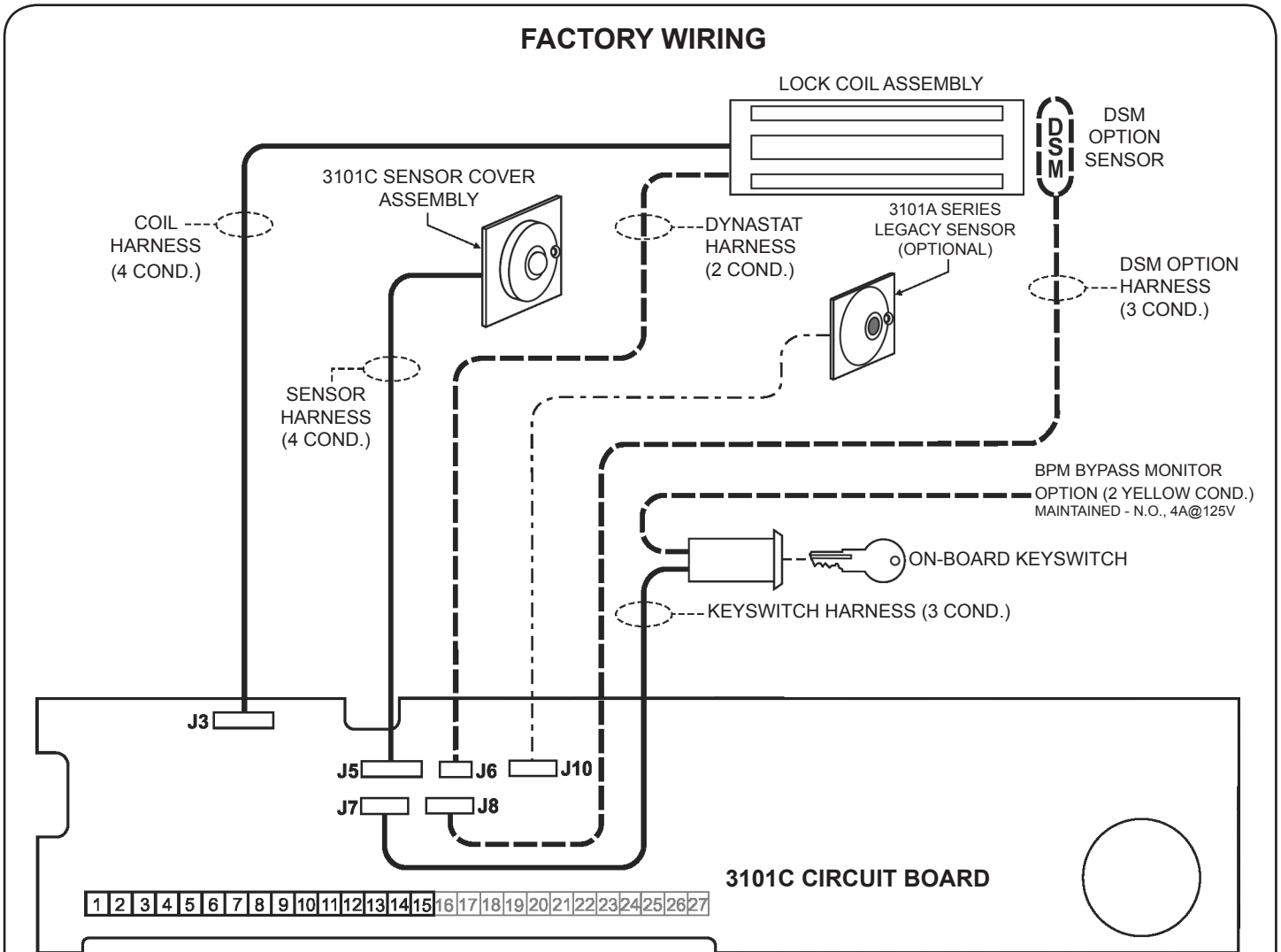
For UL294 compliance, all equipment must not be connected with cables greater than 98.5 ft. (30 m) long

INPUT DESCRIPTIONS

<p>(A)! REMOTE RESET INPUT</p> <p>Momentarily closing a normally-open dry contact across terminals 5 & 6 will reset and re-lock the 3101C following delayed egress and re-closure of door.</p>	<p>(C)! REMOTE BYPASS INPUT TIME DELAY</p> <p>Momentarily closing a normally-open dry contact across terminals 9 & 10 will immediately release the lock without alarm. The door will remain unlocked for a period of time controlled by on-board adjustable timer S2. To increase the delay rotate timer S2 clockwise. Range is 1 to 75 seconds (~5 sec. per click). For NFPA101 applications, the remote bypass device time delay must be set for 0 seconds.</p>
<p>(B)! REMOTE BYPASS INPUT</p> <p>Momentarily closing a normally-open dry contact across terminals 7 & 8 will immediately release the lock without alarm. The door will remain unlocked until the contact is opened. Connect authorized access/egress control(s) here (typical).</p>	<p>(D)! REMOTE TRIP INPUT</p> <p>Momentarily closing a normally-open dry contact across terminals 11 & 12 will initiate delayed egress. This input may be used as a redundant or substitute means of triggering delayed egress if built-in sensor initiation is not desired (see page 10, note 3).</p>

OPTION WIRING

MONITORING OUTPUT DESCRIPTIONS	TYPICAL WIRING
<p>(E) DELAY EGRESS OUTPUT Delay egress alarm monitoring.</p> <p>SPDT dry relay contacts rated 1A @ 24VDC/24VAC</p> <p>Contacts change state upon initiation of delayed egress, after the nuisance delay has elapsed. They remain in that state until door is closed and reset.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p>(F) DYNST OPTION OUTPUT Dynastat bond sensor monitoring.</p> <p>SPDT dry relay contacts rated 1A @ 24VDC/24VAC</p> <p>Contacts change state to signal lock status as either secure or unsecure. Armature misalignment can also create an unsecure condition.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p>(G) DSM OPTION OUTPUT Door position sensor monitoring.</p> <p>SPDT dry relay contacts rated 0.5A @ 24VDC</p> <p>Contacts change state to signal physical door position as either closed or open. DSM is an independent circuit that does not require lock power to operate.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p>(H) ATS OPTION OUTPUT Anti-Tamper Switch monitoring.</p> <p>SPDT dry relay contacts rated 0.25A @ 24VDC</p> <p>Contacts change state to signal removal of the lock electronics cover.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>
<p>(J) AAO AUXILIARY ALARM OUTPUT Secondary delay egress alarm monitoring output.</p> <p>SPDT dry relay contacts rated 1A @ 24VDC/24VAC</p> <p>Contacts change state upon initiation of delayed egress, after the nuisance delay has elapsed. They remain in that state until door is closed and reset.</p>	 <p>NOTE: INDICATORS ARE NOT INCLUDED</p>



NOTES:

- Harnesses J6 and J8 are only present if the 3101C is equipped with the DYN - Dynastat Force Sensor and/or DSM - Door Status Switch Options.
- Observe polarity when re-connecting the J5, J7, J8 harness connectors. Orient these connectors with respect to harness wire colors as follows:

J5 WHT GRN RED BLK

**J10 WHT BLK BLU

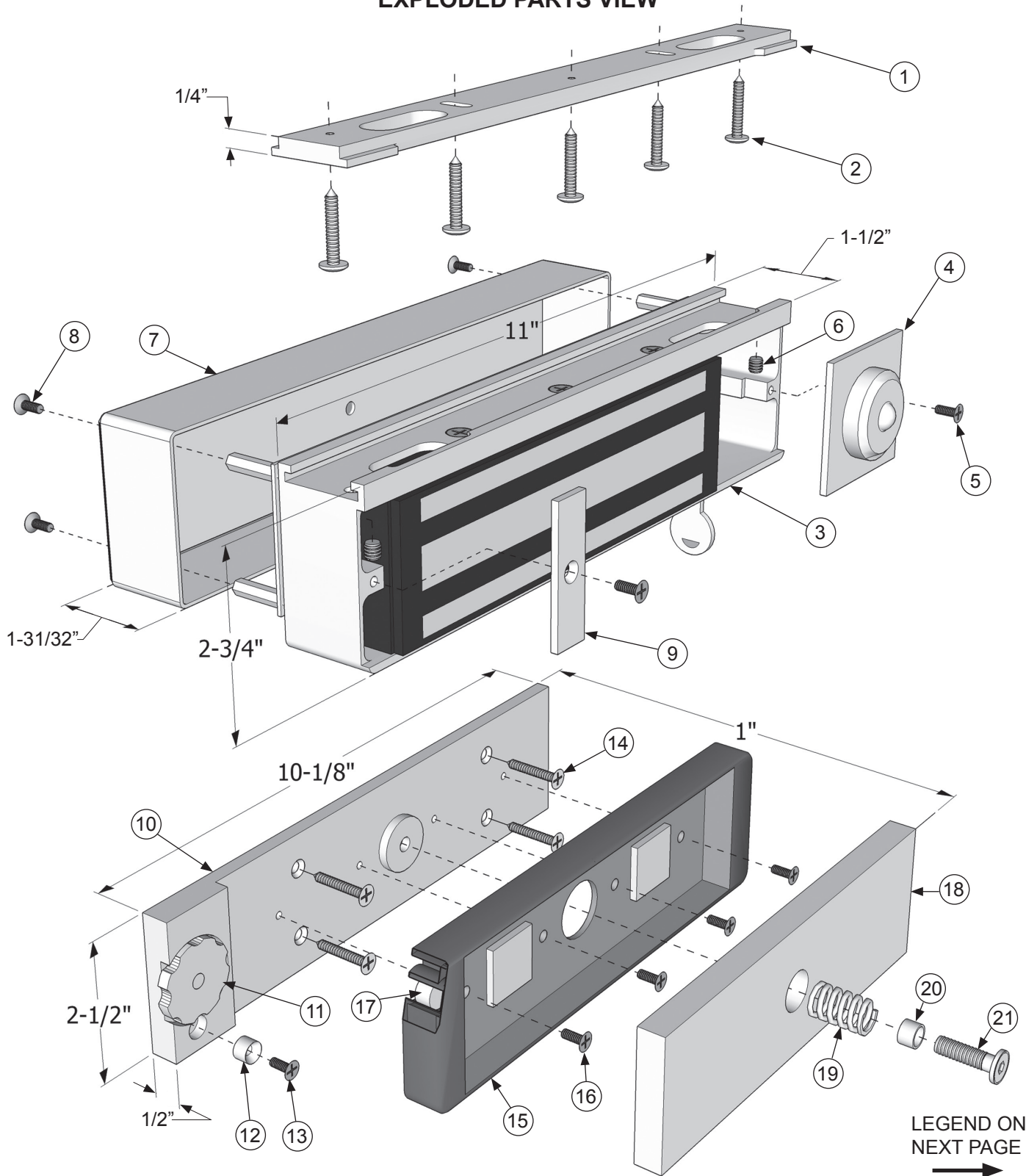
J7 WHT BLK BLU

J8 GRN WHT RED

- Harness connectors J3 and J6 are not polarity sensitive.

****Note:** J10 is normally not-used. It is specifically intended to allow interfacing the 3101C Circuit Board to a 3101A Series legacy sensor cover assembly, when necessary.

EXPLODED PARTS VIEW



EXPLODED PARTS VIEW LEGEND

ITEM	DESCRIPTION	PART #
1	Fas-Trak Baseplate	300011
2	#10x1" Self-Tapping Screw	*
2	10-24x1/2" Machine Screw	*
3	Lock Housing	
4	Access Cover & Sensor Assembly	301037
5	8-32x3/8" Machine Screw	300608
6	1/4-28x1/4" Set Screw	300604
7	Electronics Cover	300549
8	6-32x1/2" Pin Torx Security Screw	700174
9	End Cover	300010

ITEM	DESCRIPTION	PART #
10	Armature Mounting Plate Assy.	301038
11	Sensor Adjustment Wheel & Stud	301383
12	Wheel Stop	301003
13	8-32x1/2" Wheel Stop Screw	301005
14	#10x1" FHS Mtg. Plate Screw	*
15	Armature Housing w/ pads	301334
16	8-32x3/8" Armature Mtg. Screw	*
17	Disc Magnet (DSM only)	301289
18	Armature	300373
19	Compression Spring	*
20	0.360"L Armature Spacer	*
21	5/16-18x1" Armature Bolt (turned)	*

* Part of Hardware Kit (301556)

Refer to Page 14 for parts locations.

**PLEASE DELIVER THIS MANUAL
AND THE KEYS TO THE END USER UPON
COMPLETION OF THE 3101C INSTALLATION**

**FOR PRODUCT SUPPORT AND PARTS
ORDERING INFORMATION CONTACT:**

DynaLock Corp.
705 Emmett Street
Bristol, CT 06010
Bus: (877) 396-2562 Toll-Free USA
(860) 582-4761
Fax: (860) 585-0338

DYNALOCK ON THE INTERNET:

E-mail: info@dynalock.com
Website: www.dynalock.com



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ALVY - ACCESS CONTROL SYSTEM UNIT**



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CATEGORY FWAX**



Products tested to the following Access Control Performance Levels:
Line Security - I (None)
Destructive Attack - I (None)
Endurance - IV (100,000 cycles)
Standby Power - I (None)