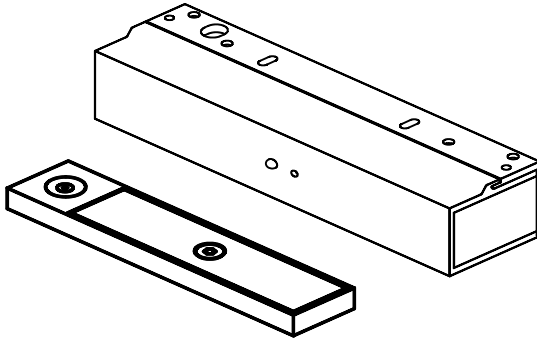


# **SDC** SECURITY DOOR CONTROLS

3580 Willow Lane, Westlake Village, CA 91361-4921 • (805) 494-0622 • Fax: (805) 494-8861  
www.sdcsecurity.com • E-mail: service@sdsecurity.com

## INSTALLATION INSTRUCTIONS MINI EXIT CHECK® DELAYED EGRESS EMLOCK® 1581S



**PUSH UNTIL ALARM  
SOUNDS. DOOR CAN BE  
OPENED IN 15 SECONDS.**

### **Application**

When unauthorized egress is initiated, the Mini Exit Check® delays egress through the door for 15 seconds. Meanwhile, the person exiting must wait while personnel or security respond. The door unlocks after 15 seconds have elapsed, permitting egress. A signal from the fire/life safety system will release the lock for uninhibited egress in an emergency.

Exit Check® applications include:

- Restricting the egress of patients for their own safety.
- Restricting the egress of commercial center patrons for minimum security application needs.

### **1581SND Operational Description (NFPA-101)**

The 1581S operation complies with the following building and fire codes: NFPA 101; NFPA 1-UFC; UBC; IBC; IFC; SBC; California Building Code. Listings: UL Listed: Special Locking Arrangements and Auxiliary Locks; California State Fire Marshal (CSFM) Listed.

The door is normally closed & secured and/or latched. The model 1581S Exit Check secures the door in the locked condition giving a Green LED indication.

Activation of the 1581S Exit Check is made by releasing the door latch and applying up to 15 lbs. of pressure to the door OR by pressing/touching the PSB560 Sure Exit request-to-exit bar, giving a pre-activation beeping tone. (A 1 second nuisance delay will prevent false activation of the alarm)

When the nuisance delay time has been exceeded, the Exit Check begins the irreversible door release cycle. At this time the LED changes to Amber and an alarm output is provided to alert personnel of an unauthorized exit.

The Exit Check will release the door after the 15 second delay cycle allowing free egress, the LED will then change to red and a steady warning tone will sound until the Exit Check is reset by authorized personnel (*Reset device is required*).

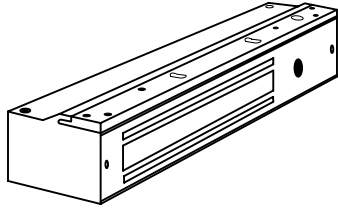
### **1581SBD Operational Description (BOCA/Chicago)**

The 1581SBD operation complies with BOCA National Building Code and the Chicago Building Code: UL Listed, Special Locking Arrangements and Auxiliary Locks.

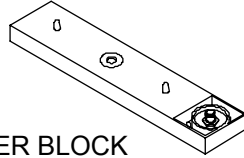
The releasing operation of the 1581SBD is the same as described above, with the exception that the door relocks automatically 30 seconds after closure (*reset switch not required*). Each time the door is open before 30 seconds has elapsed the relock timer resets and relocks the door in 30 seconds.

Any suggestions or comments to this instruction or product are welcome. Please contact us through our website or email [engineer@sdsecurity.com](mailto:engineer@sdsecurity.com)

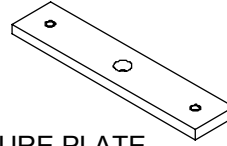
## Included in Package



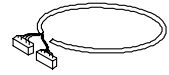
1581S EMLOCK  
HOUSING ASSY. &  
MOUNTING PLATE



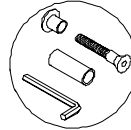
TRIGGER BLOCK  
ASSY 1580S-11



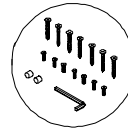
ARMATURE PLATE  
1581S-10T



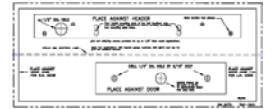
CONTROLLER  
CABLE ASSEMBLY  
CA-1581S



ARMATURE  
SCREW PACK  
1580S-101-C



EMLOCK  
SCREW PACK  
C-1500-RF



TEMPLATE  
TEMP-1581S

Note: Must have a Reset provided by a key switch, keypad, or push button. (see below)

## Suggested Optional Equipment

### Digital Entry



**928 Digital Keypad**  
Two relay outputs:  
Relay 1 -Reset;  
Relay 2 – Choice of  
momentary or  
sustained bypass.

### Power Supply



**600 Series Power Supply**  
Field Selectable 12 or 24VDC modular  
Power Supplies with Fire/Life Safety  
Emergency Release. Tri-colored LED,  
separate PTC protected battery charger,  
and Class 2 Outputs.  
602RF 1 Amp  
631RF 1.5 Amp  
632RF 2 Amp  
634RF 4 Amp  
636RF 6 Amp

### Station Controls, Annunciator Panels, and Consoles



**728**  
Single station two  
function key switch  
control for alarm  
reset and access or  
sustained bypass.



**101-1A**  
The single station  
annunciator is  
equipped with a tri-  
colored LED and  
audible alarm.



**101-PAM**  
Visual & audible  
annunciation, timed  
access, sustained  
bypass and audible  
mute.



**728-L**  
Single station two  
function key switch  
control for alarm reset  
and access with a tri-  
colored LED showing  
door condition.



**101-4AM**  
Provides visual &  
audible annunciation  
with audible mute for  
one, two, three or  
four openings.



**TCC Desk Top :**  
**Stations 4, 8, & 12**  
SDC Annunciator Consoles  
provide remote annunciation  
of multiple openings. Stations  
are specified in sets of four.  
Control switches are capable  
of both sustained bypass and  
timed unlocking.



**702-6R**  
Single station one  
function key switch  
control for alarm  
reset.



**101-1AK**  
Visual & audible  
annunciation and a  
two function key  
switch for alarm  
reset and access or  
sustained bypass.



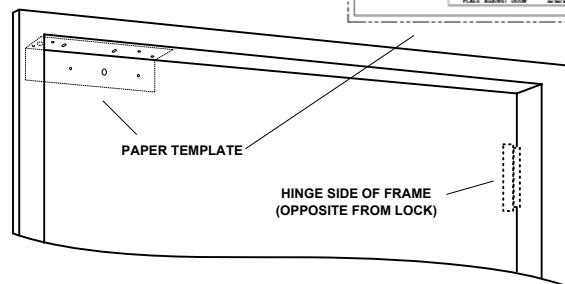
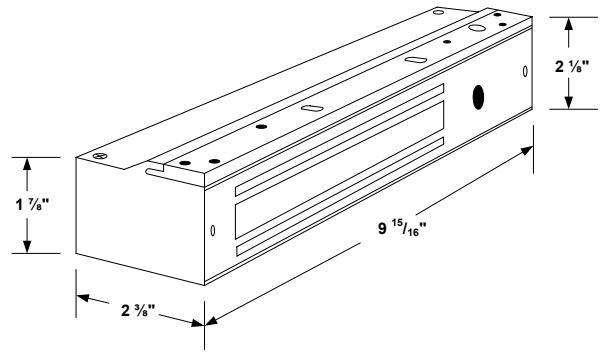
**PSB560**  
Request-to-exit touch  
sense non-latching bar  
that will activate the  
Exit Check® when  
slight pressure is  
applied to the bar. For  
doors without latching.

## Door and Frame Preparation Instructions

**STEP 1.** Locate the paper template and fold along the dotted line. Place the folded edge of the template against the door stop and door at the header while against the vertical stop, opposite the hinge side of the door. Tape in place at this position.

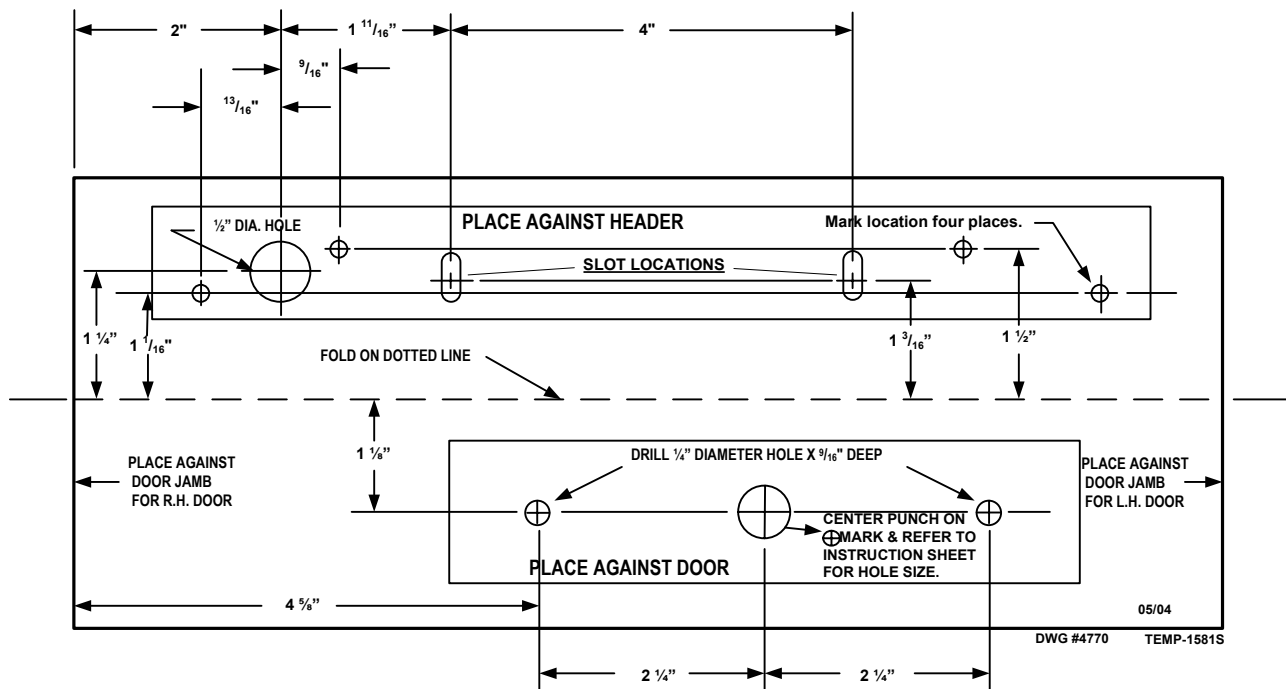
**STEP 2.** As indicated on the paper template, punch the designated hole locations on the frame and armature mounting holes on the door. **(NOTE: PRIOR TO DRILLING, INSPECT TO SEE IF ANY OF THE HOLES CANNOT BE DRILLED DUE TO THE FRAME OR DOOR CONFIGURATION. A FILLER PLATE OR ANGLE BRACKET MAY BE REQUIRED. SEE PAGE 4.)**

**STEP 3.** Drill and tap the two 1581S mounting holes as indicated on the paper template. **(NOTE: READ NOTE ON TEMPLATE WITH REGARD TO SELECTING THE PROPER HOLE SIZE FOR ARMATURE MOUNTING BOLT.)**



## Door and Frame reference dimensions

**IMPORTANT! – IT IS HIGHLY RECOMMENDED THAT YOU FIRST INSTALL THE MOUNTING PLATE AT TWO SLOT LOCATIONS ONLY. THIS WILL ALLOW YOU TO MAKE PROPER ADJUSTMENTS OF THE LOCK'S POSITION PRIOR TO MARKING, DRILLING AND TAPPING THE FOUR PERMANENT MOUNTING PLATE HOLES.**



### NOTES:

- #10 self drill/tap screws provided for up to 1/8" thick metal applications
- For applications with heavier gauge material, drill (#21) and tap for #10-32 machine screws.

## ARMATURE MOUNTING INSTRUCTIONS

**STEP 1.** Mount armature to door. (See figures 2A, 2B & 2C.)

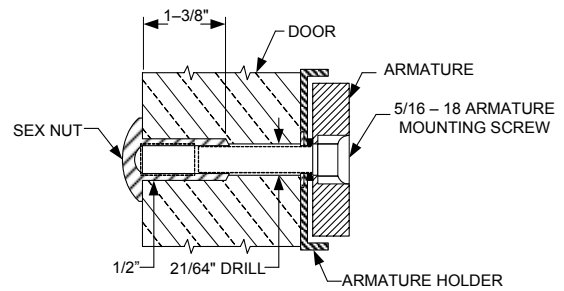
**STEP 2.** Install the mounting plate (filler plate and/or angle bracket if needed – see figures 1A, 1B & 1C) to header with only the two screws at the slotted hole locations at this time. Snug the screws down lightly (do not torque) so the mounting plate & lock can be repositioned later.

**STEP 3.** Temporarily install the lock to the mounting plate with the 1/4-20 socket head screws encased in the lock.

**STEP 4.** With the lock mounted, close the door so the armature just comes into contact with the face of the lock. If the door is not completely closed as the lock & armature touch, open the door and reposition the lock away from the door as described in step 2. **(THIS IS TO PREVENT THE DOOR FROM USING THE LOCK AS THE DOOR STOP.)**

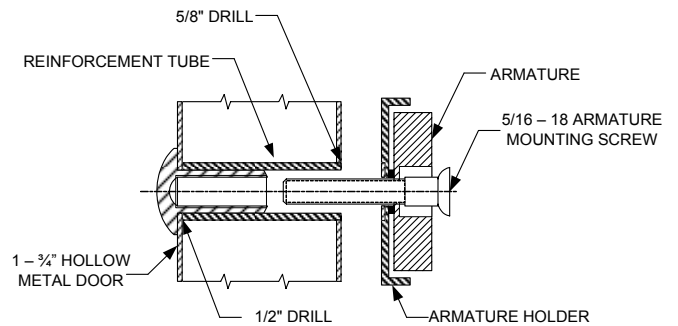
**STEP 5.** Remove the lock from the mounting plate, mark & punch all remaining screw and wiring holes. Drill & tap holes as indicated on the paper template and install all screws.

**STEP 6.** Reinstall the lock to the mounting plate. At this point, if there is no need to remove the lock for painting or any other reason, install the anti-tamper plugs over the socket head mounting screws, using a soft hammer to avoid damage to the lock case.



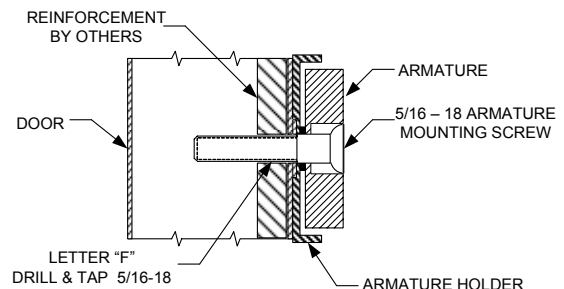
**Figure 2A – SOLID DOOR**

Drill exactly 3/8" through the door. From sexnut side of door, drill 1/2" diameter hole 1-3/8" deep. Mount armature to door with hardware provided per Figure 2A.



**Figure 2B – HOLLOW METAL DOOR**

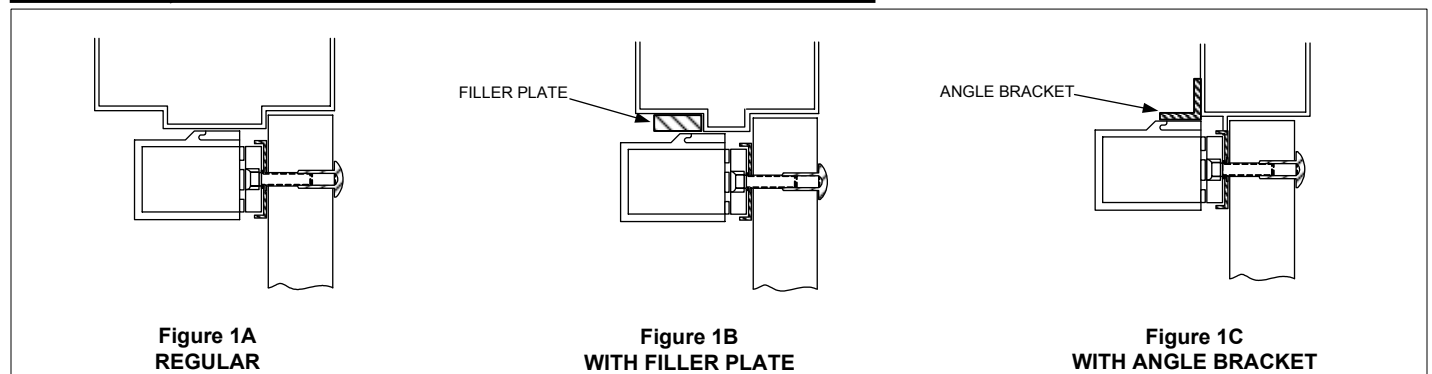
From sexnut side of door, drill exactly 1/2" hole through one metal thickness only. From armature side of door, drill 5/8" hole to insert reinforcement tube. Press in sexnut & reinforcement tube all the way and mount armature to door using hardware provided per Figure 2B.



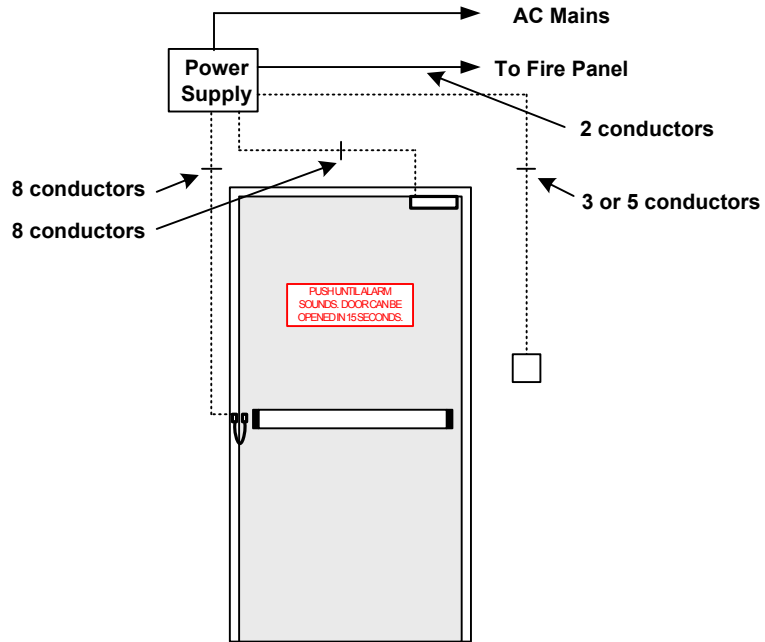
**Figure 2C – REINFORCED ALUMINUM OR HOLLOW METAL DOOR**

Use letter "F" drill and tap for 5/16-18 machine screw. Mount armature to door with hardware provided per Figure 2C.

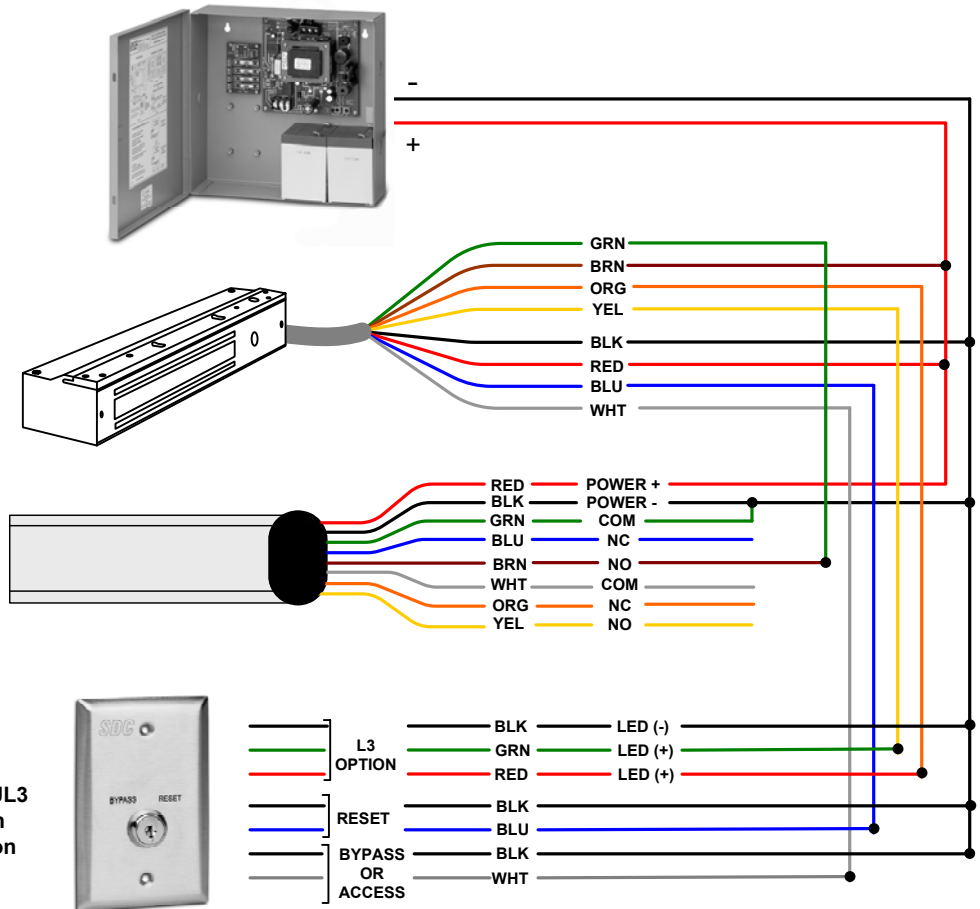
## REGULAR, FILLER PLATE & ANGLE BRACKET DETAILS



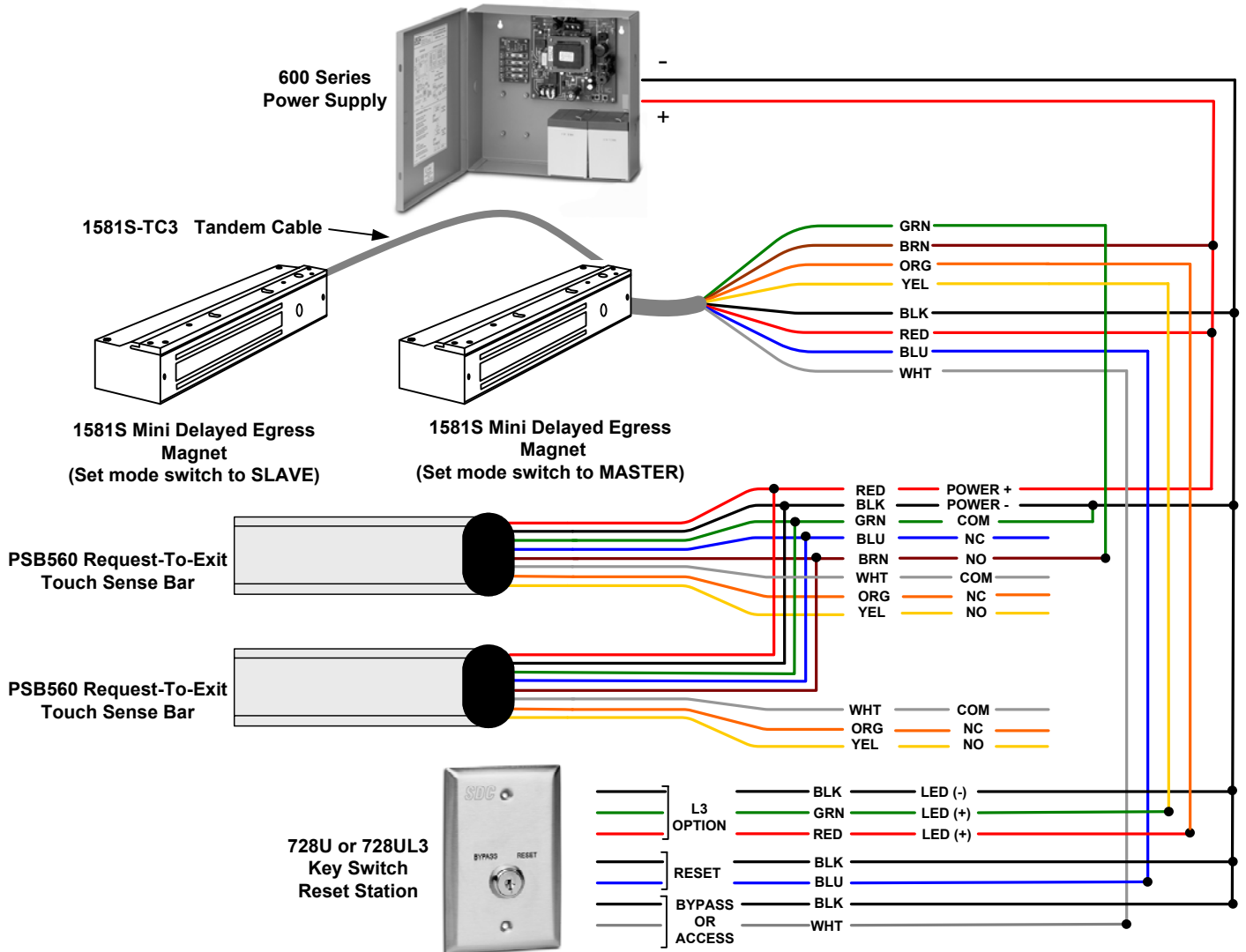
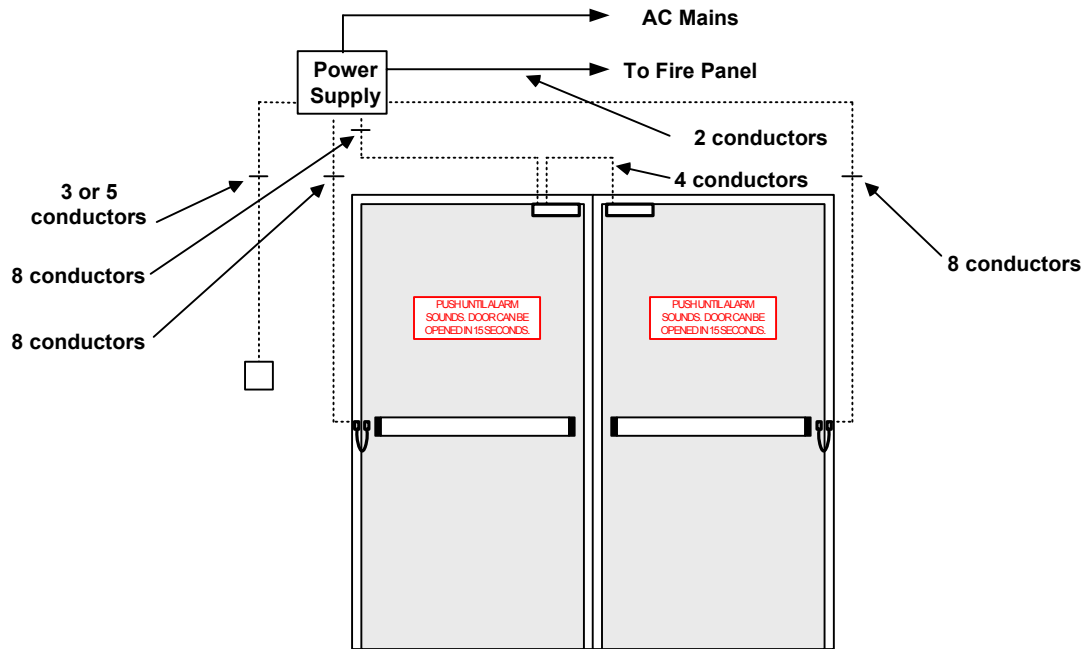
# System Wiring – Single Door



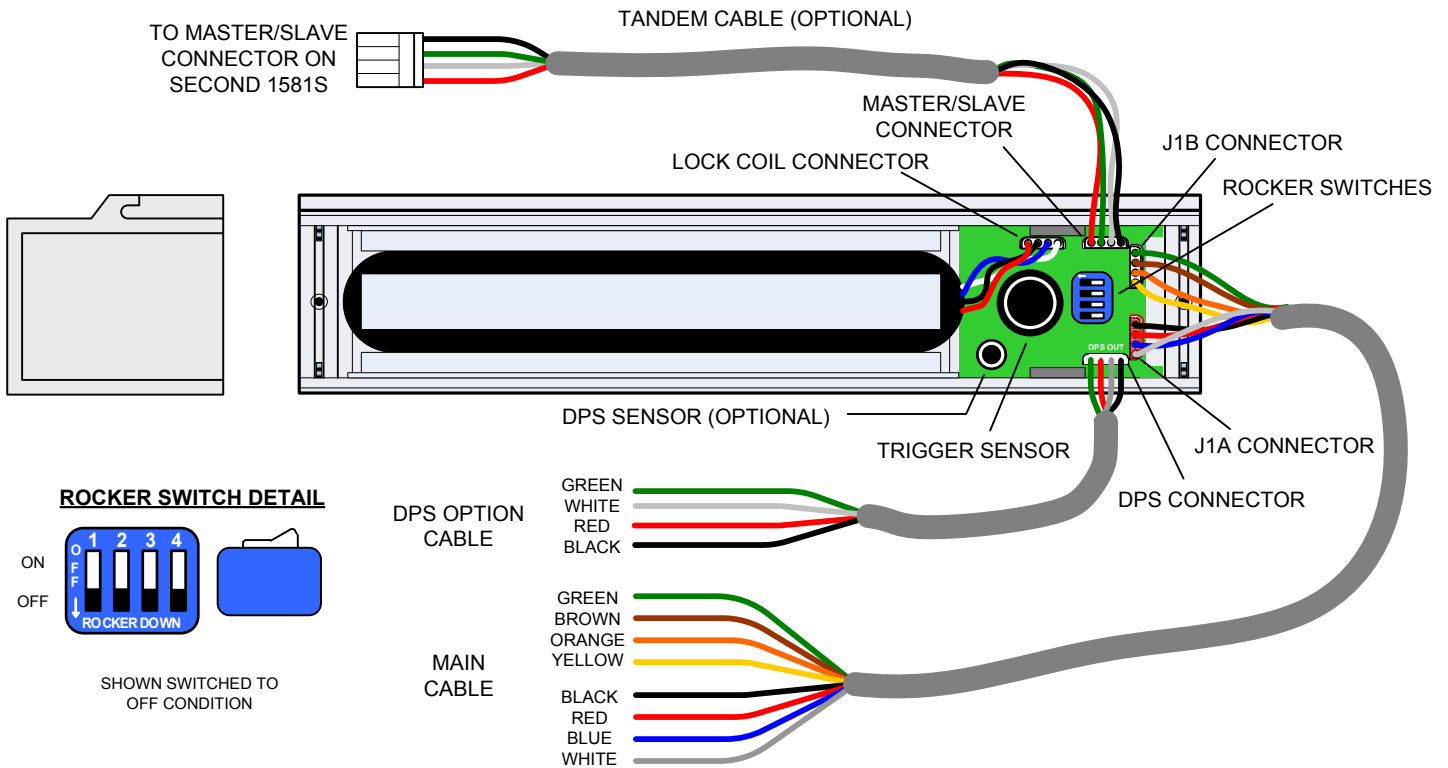
- 600 Series Power Supply
- 1581S Mini Delayed Egress Locking Magnet
- PSB560 Request-To-Exit Touch Sense Bar
- 728U or 728UL3 Key Switch Reset Station



# System Wiring – Pair of Doors



# WIRING DETAILS & FUNCTIONS (ALL OPTIONS SHOWN)



## WIRING & CABLE CONNECTIONS

CONNECTOR	WIRE	CONTROL / FUNCTION	INPUT / OUTPUT	DESCRIPTION
J1B CONNECTOR	GREEN BROWN ORANGE YELLOW	REMOTE TRIGGER RELAY – COMMON RELAY – N/C WHEN IN ALARM RELAY – N/O WHEN SECURE	INPUT OUTPUT OUTPUT OUTPUT	MOM GROUND TO (-) POWER USING DRY CONTACT SPDT DRY CONTACT OUTPUT TO REMOTE CONTROL ANNUNCIATOR, LED OR ALARM SYSTEM MONITOR – RATING: 1 Amp @ 30 VOLTS RESISTIVE
J1A CONNECTOR	BLACK RED BLUE WHITE	POWER (-) POWER (+) RESET REQUEST TO EXIT (REX) & CONT. BYPASS	INPUT INPUT INPUT INPUT	REGULATED 12/24 VDC (-) POWER REGULATED 12/24 VDC (+) POWER MOM GROUND TO (-) POWER - DRY CONTACT (REX) MOM GROUND TO (-) POWER - DRY CONTACT (CONT. BYPASS) AA GROUND TO (-) POWER – DRY CONTACT
M/SL CONNECTOR	RED GREEN WHITE BLACK	CABLE FOR TANDEM LOCK CONNECTION (OPTIONAL)	INTERCONNECT	INTERCONNECT CABLE INTERFACING TWO 1581S UNITS (MASTER & SLAVE) FOR PAIRS OF DOORS. (CABLE MUST BE ORDERED SEPARATELY).
DPS OPTION CONNECTOR	GREEN WHITE RED BLACK	SPARE SWITCH – COMMON SWITCH – N/C SWITCH – N/O	- OUTPUT OUTPUT OUTPUT	RATING: .250 mA @ 30 VOLTS RESISTIVE
BAS OPTION	[ INTERNALLY WIRED SENSOR. WILL TRIGGER ALARM IF HOLDING FORCE IS BELOW NORMAL.			

## ROCKER SWITCH SETTINGS

SWITCH #	FUNCTION	OFF	ON	DESCRIPTION
1	REX TIME	1 SECOND	10 SECONDS	INTERNAL RELOCK TIME DELAY WHEN USING REMOTE REX CONTROLS
2	POWER-UP OPTION	DISABLED	ENABLED	MANUAL RESET ON POWER-UP REQUIRED WHEN DISABLED & AUTO RESET ON POWER-UP WHEN ENABLED
3	REMOTE TRIGGER	DISABLED	ENABLED	ENABLES REMOTE TRIGGER FOR EXTERNAL ACTIVATION OF DELAYED EGRESS ALARM
4	MASTER / SLAVE	MASTER	SLAVE	DESIGNATES LOCK AS MASTER OR SLAVE FOR TANDEM APPLICATION – CABLE REQUIRED

## Lock Operation and Adjustment Instructions

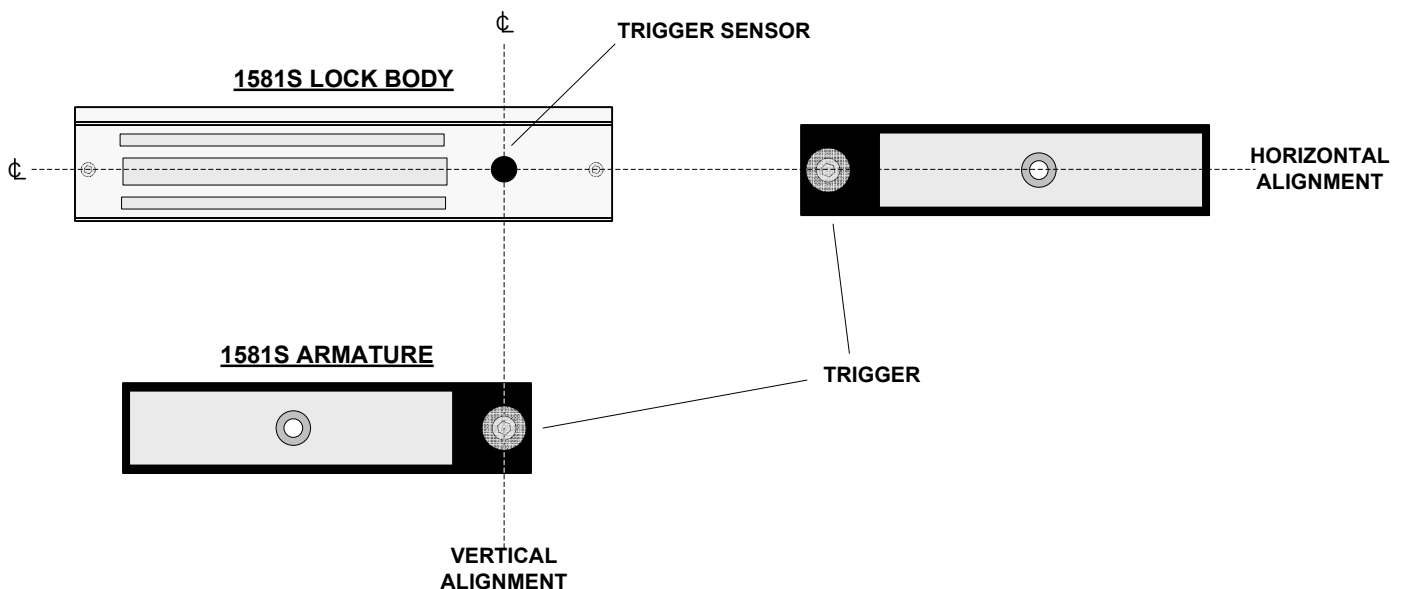
**STEP 1.** After the lock has been mounted to the door and frame per the provided template, make all wiring connections to the lock. At a minimum, this will be the power and reset inputs (black, red & blue conductors). It is important that the reset input (blue conductor) be connected to a normally open momentary dry contact switch (i.e. 928 Digital Keypad or 728 Key Switch) for initial setup adjustments as well as to reset the lock to a secure status after it has been activated.

**STEP 2.** With all wiring connections completed, re-install the lock cover onto the lock. Ensure that the trigger sensor is aligned with the hole in the cover. The sensor is preset at the factory to slightly project through the cover. **WARNING: DO NOT ATTEMPT TO ADJUST THE TRIGGER SENSOR LENGTH. AS THIS WILL RESULT IN DAMAGE TO THE SENSOR AND VOID THE WARRANTY.**

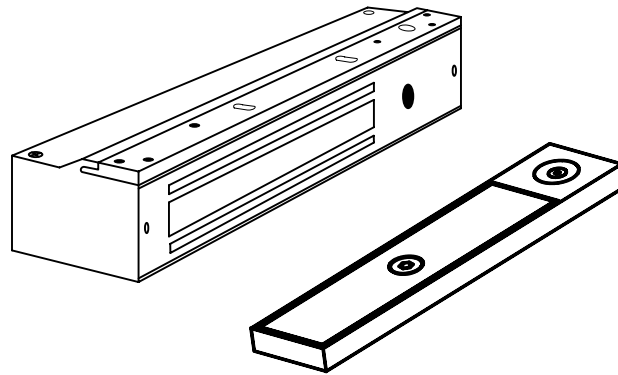
**STEP 3.** Slowly swing the door closed and visually observe the position of the armature trigger as it approaches the trigger sensor on the lock. If the provided mounting template was used during the lock and armature installation, the trigger & sensor should align with one another both horizontally and vertically. . **IMPORTANT: CORRECT OPERATION OF THIS LOCK DEPENDS ON THE TRIGGER SENSOR BEING ABLE TO DETECT THE TRIGGER WHEN THE DOOR IS CLOSED. A PROXIMITY ADJUSTMENT CAN BE MADE TO THE TRIGGER FOR FINE TUNING. THIS IS EXPLAINED IN STEP 4.**

**STEP 4. NOTE: BEFORE STARTING THIS NEXT STEP, YOU WILL NEED TO BE ABLE TO ACTIVATE THE ALARM RESET INPUT.** After alignment has been verified, close the door and apply power to the lock. Push on the door. The LED should be flashing *green*, indicating that the lock is in the Manual Power Up mode. Reset the lock at this time. The lock should now secure the door and the LED should be steady *green*. You may change the mode to Auto Power Up by setting the #2 dipswitch to the ON position. Now when you first apply power, you will see a solid green light and the door will be secure without having to reset the lock.

**STEP 5.** Activation of the 1581S can be made by door movement or an external trigger. When using the door movement method, activation is achieved through the way the armature hardware is designed. When someone unlatches the door and applies up to 15 lbs. pressure, the lock will hold onto the armature while simultaneously letting the trigger/door move away from the lock/trigger sensor. Sensitivity in the detection of the trigger movement can be adjusted for optimum sensitivity & performance. This adjustment can be made by using the 5mm hex wrench provided with the lock. The center of the trigger or “target” is spring loaded and can be screwed in and out of the armature thus either decreasing or increasing the space between itself and the sensor. The “spring” feature of the target is to prevent damage from direct contact with the trigger sensor. Depending on the accuracy of the alignment, the trigger does not have to physically touch the sensor to operate correctly.







## Standard Features

- Small & Compact Size
- 650 lbs. Holding Force
- 15 Second Exit Delay when activated.
- 1 Second Nuisance Delay
- Subdued Alarm with 2 Distinct Tones:
  - Alarm Activation Intermittent
  - Door Release – Continuous
- Choice of Activation Trigger:
  - Door Movement
  - Exit Device w/ REX Switch
  - Touch Sense Bar w/REX Switch
- Vandal resistant Proximity Sensor Trigger
- Auto Sensing 12/24VDC input power
- Low Power Consumption
- 5 foot Power Cable
- Connection for Tandem Option (Pairs of Doors)

## Optional Features

- DPS** Door Position Switch
- BAS** Bond Alert Sensor (Internal)
- Tandem / Slave Cable**
  - 3' Cable – **1581S-TC3**
  - 10' Cable – **1581S-TC10**

## Selectable Automatic & Manual Power-Up Feature

- Auto Power-Up – Occurs when power is restored and/or the fire panel is restored.
- Manual Power-Up – *This is a UBC & California Building Code Compliant Feature* – Only after power restoration and fire panel reset may the lock be reset manually at the opening. A power-up key switch or keypad is required adjacent to the door.

## Inputs & Outputs

- REX Input
- Remote Reset Input
- Remote Trigger Input
- Tandem/Slave Lock Input
- DPS Switch Output (Optional)
- Lock Status Relay Output
  - Door Secure
  - Door Unlocked
  - BAS (Optional / Internal)
  - Anti-Tamper Alarm

## Specifications

- Interior Applications Only
- Power/Current Requirements:
  - 320 mA @ 24VDC
  - 500 mA @ 12VDC
- Size: 10"L x 2-1/8"H x 2-3/8"D
- Internal BAS (*NOTE: BAS OPTION WORKS IN CONJUNCTION WITH THE LOCK STATUS RELAY. IT DOES NOT HAVE A SEPARATE RELAY OUTPUT.*)
- Lock Status Relay Rating: 1 amp @ 30V resistive
- DPS Rating: 250 mA @ 30V resistive

## Building & Fire Life Safety Code Compliant

- 1581SND
  - IBC** International Building Code
  - IFC** International Fire Code
  - NFPA 101** Life Safety Code
  - NFPA 1, UFC**, Uniform Fire Code
  - UBC** Uniform Building Code
  - CBC** California Building Code
  - SBC** Standard Building Code
- 1581SBD
  - BOCA** National Building Code and Chicago Building Code compliance



GWXT Auxiliary Locks  
FWAX Special Locking Arrangements

California State  
Fire Marshal Listed  
CSFM #3774-0324:103

# Systems Applications Reference

