Model 6128/6129 A-Series
Electronic Safe Lock Installation Instructions

General Information

Your A-Series Lock was shipped with the keypad, keypad extension, and cable disconnected. If your lock is not already assembled, temporarily connect them now as shown in these instructions. You should install fresh batteries in the keypad (S&G recommends Duracell® alkaline batteries) and check the function of the lock prior to installation by pressing 10101010# and observing the lock bolt retract, then extend 6 seconds later. After this check, disconnect the cables from the extension base and keypad by pulling on the connectors (NOT on the cables themselves).

Item	Quantity	Description
1	1	Lock body
2	1	Keypad
3	1	Keypad Base
4	1	Keypad Extension
5	1	Escutcheaon
6	1	Keypad with serial plate
7	1	Extension Cable
8	1	Keypad cable
9	1	Bolt Position Cable (BPI) / Door Switch
10	4	Keypad mounting screws (2 standard/2 metric)
11	6	Lock Mounting screws (3 standard/3 metric)
12	3	Lock serial number

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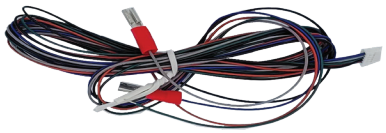

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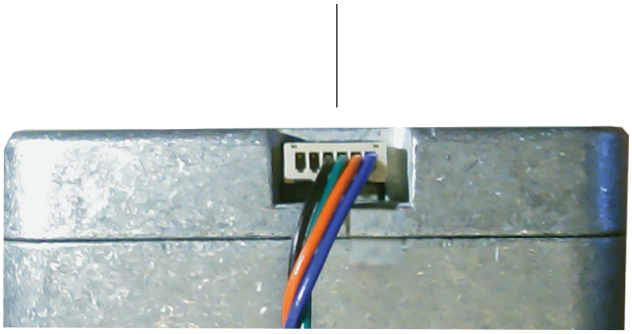
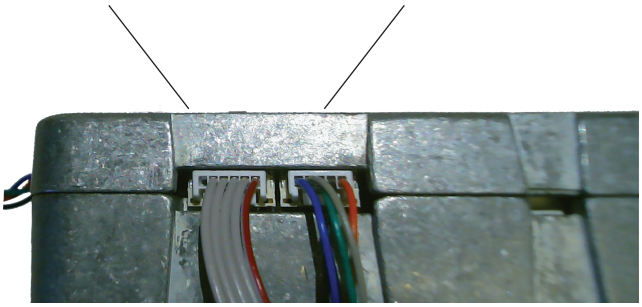
Plug in the Cables

- Plug the keypad cable into the lock body

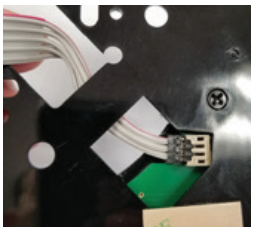


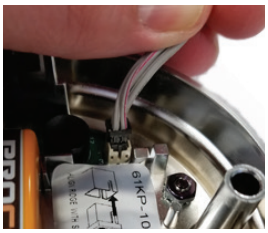
- Plug the keypad extention cable into the lock body
- Plug the BPI/Door Switch cable into the lock body



Connect the keypad and keypad extension

- Plug the 4 pin connection into the keypad.
- Plug in the 6 pin connectin into the extension.
- Insert batteries

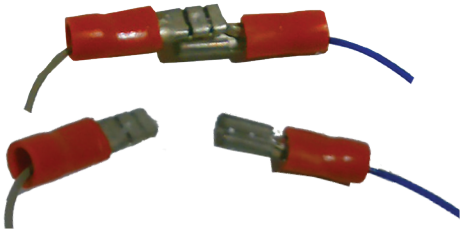




Test Lock

- Enter 02020202# and verify bolt retraction
- Enter 10101010# and verify bolt retraction

- If testing door switch link connector before entering an opening code. When bolt is retracted, unlink connector. Link connectors when ready for bolt extension.



Lock instation

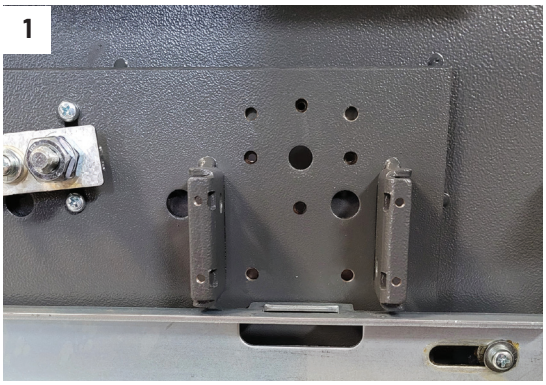
- UnPlug the 4 pin connector from the keypad.
- UnPlug the 6 pin connector from the extension.

The lock is now ready to be installed on the door.

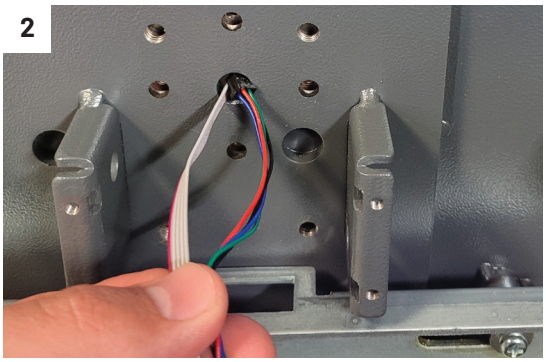
Mounting Considerations

- Sargent & Greenleaf 6100 series Motorized Electronic Combination Locks have been designed to use the same mounting screw locations and occupy the same space as most other S&G locks, both mechanical and electronic.
- A minimum distance of .150" (3,8 mm) is required between the end of the lock case containing the bolt and the closest approach of the safe's blocking bar or cam plate which is normally blocked by the extended lock bolt. Do not allowthe safe's blocking bar or cam plate to depress the electronic lock's bolt farther than it retracts during normal motor operation. This can lead to inconsistent lock operation.
- The 6100 series requires two 9-volt alkaline batteries (may or may not be included with your lock depending on the specific kit ordered). We recommend Duracell® batteries. Do not use old or partially drained batteries.

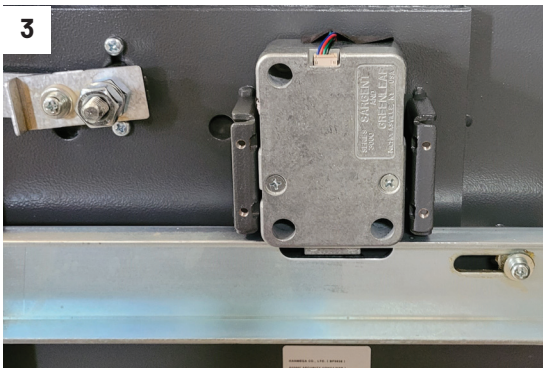
1. Remove the existing lock (if present). The mounting plate should be smooth and flat, with ¼-20 (M6) mounting screw holes. The wire channel (spindle hole) must have a diameter of at least 0.312 inch (7,9 mm). The 6100 series can be mounted right-hand, left-hand, vertical-up, or vertical-down without any modifications or adjustments.



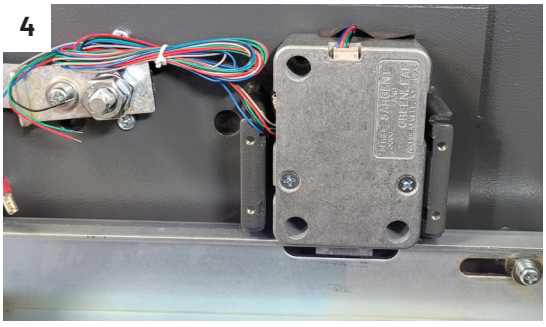
2. Use a reamer or round file to remove any sharp edges from the wire channel (spindle hole) that might damage the wire cable. Gently pull the connectors to ease the cables through the hole. Pull 6" to 8" (15 to 20 cm) of cable to the front of the safe door. Later in the installation, excess keypad extension cable will be pulled back inside the safe door. Make sure cables are not crimped or stressed at any point.



3. Using two of the ¼-20 (or M6) screws in the kit, loosely attach the lock body to the safe's mounting plate. This is just to hold it in place during cable attachments to the keypad and keypad extension. Be very careful to avoid crushing or crimping the cables. Remove the lock mounting screws so you can carefully pull the excess extension base cable inside. It is important to make sure the keypad and extension cables are within the recessed channels underneath the lock case before the case is securely attached by the three mounting screws. Once placed in the most convenient channel, each cable should be protected. It is very important that cables are not folded, crimped, or crushed beneath the lock case.



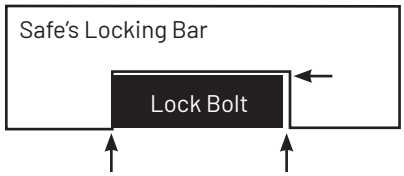
4. If using the door switch (6129 recommended) or BPI, you will need to connect cables to lock body before installing. Follow step 3 to secure the lock to the door. Once installed route the cable appropriately to connect the BPI or the door switch cable to the appropiate connection. Avoid any boltwork movement that could cause damage to the cable or interfere with the opening and closing of the door.
   - The black/red/green wire bundle is for the bolt position indicator, a dry contact switch (24VDC, 0.5A max.). The black wire is common, the green wire completes a circuit to the black wire when the lock bolt is retracted, and the red wire completes a circuit to the black wire when the lock bolt is extended. The BPI can be used to trigger any switch-activated device.
   - The blue and grey wire is the secure loop. This closed circuit may be used in applications requiring switches or other devices to signal the lock that boltwork is thrown, the door is closed, or some other action has taken place.



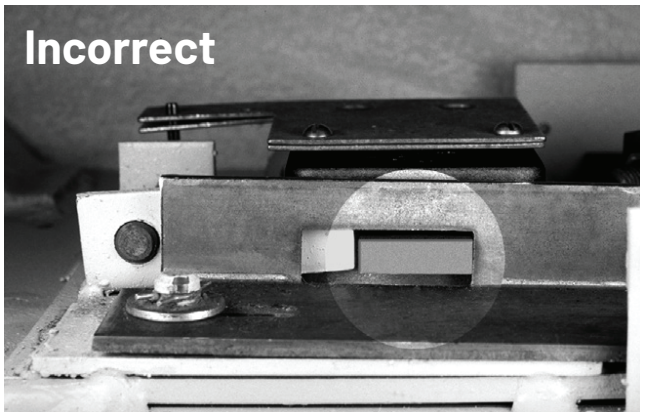
Lock installation Considerations

A. Make sure the lock bolt doesn't bind against the safe's boltwork.

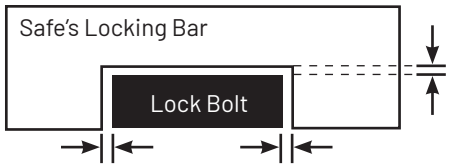
The top photo shows binding of the edge of the cutout in the safe's blocking bar, even though the boltwork is fully thrown to the locked position.



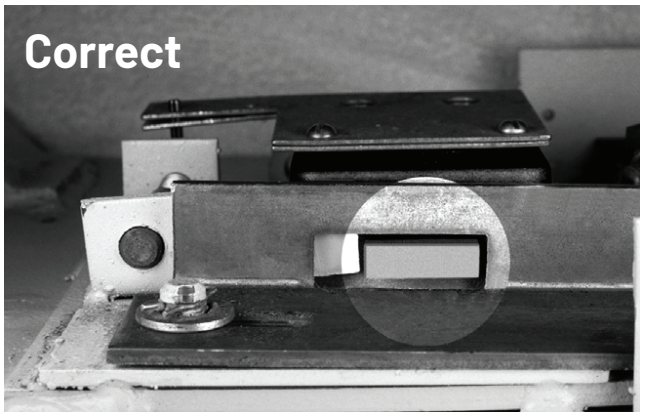
Close fit, can experience binding



In the bottom photo, the binding has been relieved by removing a small amount of material from the side of the blocking bar cutout. It is important that there is clearance on all sides of the lock's bolt when the boltwork is in the fully locked position. Binding will impair the lock's performance. Any necessary modifications should be made to the boltwork, not the lock.



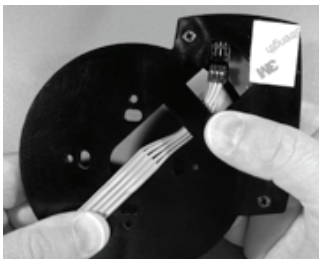
Clearance applied



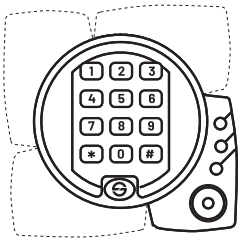
B. If your safe incorporates a relock device, you will need to attach the plate that normally holds it in check to the lock body. This is usually done at the lock's cover screw locations. Remove the cover screws. DO NOT REMOVE THE LOCK COVER, as this will void the product warranty. Typically, the cover screws will be replaced with slightly longer 8-32 machine screws. Your replacement screws must engage the threaded holes in the lock body by at least four threads. Relock device designs vary from safe to safe. You must make sure the replacement cover screws hold the lock cover firmly against the lock body, and that the relock device plate holds the device securely in check. Otherwise, there is risk of a lockout. After the plate is installed, once again check to make sure wires and cables are secured so that they will not come into contact with moving boltwork or anything else that can damage them.

Keypad and Keypad Extension Installation with Escutcheon

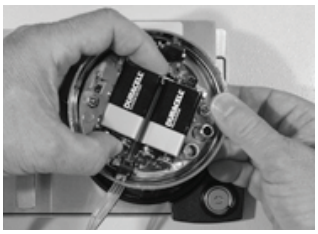
1. Clean the front surface of the safe door so the number plate will adhere. Remove the clear protective film from the front of the plate, and affix the included serial number label as shown. Next, remove the protective paper backing on the underside of the plate, then run both cables through the center hole of the plate. Place the plate on the front of the safe, carefully lining up the mounting screw holes in the safe door. The plate will stick in place when pressed against the door.



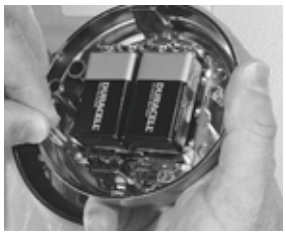
2. From the front of the safe, connect the five-conductor cable (the larger one) to the keypad extension base. The connector and receptacle are "keyed," so the connector will only seat when oriented correctly. Route the cable as shown here. Make sure the connector is fully seated in the keypad extension receptacle. Note the self-adhesive pad to the right of the cable receptacle. Once the connector is plugged in, remove the protective backing from this pad. Pull all excess cable through the center opening to the frontt of the extension base. Then line up the base's mounting screw holes with those in the door, and press the extension against the door. The extension can be mounted in four different orientations. Pick the one that best suits your particular application.



3. Place the keypad base over the keypad extension, pull all excess cable through the center hole (as shown), line up the keypad base mounting screw holes with those in the door, and use the included 8-32 (or M4) machine screws to securely fasten the mounting base to the door. It will also hold the keypad extension and number plate (if used) firmly in place. The raised, circular post near the edge of the base will be very near the bottom of the keypad. Use this feature as a reference to help you orient the base correctly before you fasten it into place.



4. At the front of the safe, install a new 9- volt battery in each of the keypad's two battery holders. Duracell® brand batteries are recommended. Support the top of each holder with a thumb or finger as each battery is inserted. This will help prevent bending or breaking the holder posts.The keypad cable connector is shaped so that it will fit into the keypad receptacle only when aligned correctly. Insert the connector into the receptacle in the underside of the keypad. If it does not seat easily, do not force it. This means you need to turn it 180 degrees before attempting to insert it again.



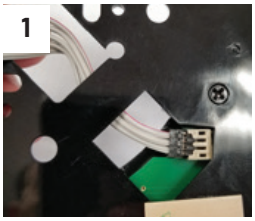
5. Place the keypad over the base. Make sure the keypad cable is clear of the pad's two spring clips as you push the keypad firmly onto the base. It should snap into place. If you need to remove the keypad, pull the bottom (area nearest the S&G logo) away from the mounting base first. Never allow the keypad to hang by the attached cable. The installation is complete, but do not close the safe door until successfully completing the following lock test.

Lock Test

The following check should be performed three times with the door remaining OPEN.
At the keypad, enter 10 10 10 10 #. The lock will BEEP three times and its bolt will retract. Turn the safe handle to verify that the lock is unlocked. Turn the safe handle to the locked position. The green STATUS 1 LED on the keypad extension will light briefly. The safe door should remain open for the three operational checks.* You can close the safe door and turn the handle to the locked position after the third operational check. The lock bolt will extend, and the lock will BEEP three times. In addition, the green STATUS 1 LED on the keypad extension will light briefly. Test the safe's handle to make sure it is secure.

*S&G has include a few zip ties to bundle up any lose cable. When utilizing the ties, try not to damage the cables and provide enough slack to allow for keypad removal.

Keypad and Keypad Extension Installation

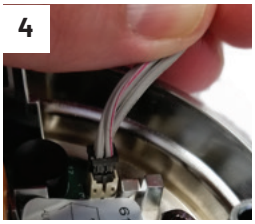


1. From the front of the safe, connect the five-conductor cable (the larger one) to the keypad extension base. The connector and receptacle are "keyed," so the connector will only seat when oriented correctly. Route the cable as shown here. Make sure the connector is fully seated in the keypad extension receptacle. Note the self-adhesive pad to the right of the cable receptacle. Once the connector is plugged in, remove the protective backing from this pad. Pull all excess cable through the center opening to the front of the extension base. Then line up the base's mounting screw holes with those in the door, and press the extension against the door.

2. Place the keypad base over the keypad extension, pull all excess cable through the center hole (as shown), line up the keypad base mounting screw holes with those in the door, and use the included 8-32 (or M4) machine screws to securely fasten the mounting base to the door. It will also hold the keypad extension and number plate (if used) firmly in place. The raised, circular post near the edge of the base will be very near the bottom of the keypad. Use this feature as a reference to help you orient the base correctly before you fasten it into place. The extension can be mounted in four different orientations. Pick the one that best suits your particular application.

3. At the front of the safe, install a new 9-volt battery in each of the keypad's two battery holders. Duracell® brand batteries are recommended. Support the top of each holder with a thumb or finger as each battery is inserted. This will help prevent bending or breaking the holder posts.

4. The keypad cable connector is shaped so that it will fit into the keypad receptacle only when aligned correctly. Insert the connector into the receptacle in the underside of the keypad. If it does not seat easily, do not force it. This means you need to turn it 180 degrees before attempting to insert it again.



5. Place the keypad over the base. Make sure the keypad cable is clear of the pad's two spring clips as you push the keypad firmly onto the base. It should snap into place. If you need to remove the keypad, pull the bottom (area nearest the S&G logo) away from the mounting base first. Never allow the keypad to hang by the attached cable.

6. Attach the lock Serial number to the Keypad Extension plate.

The installation is complete, but do not close the safe door until successfully completing the following lock test.

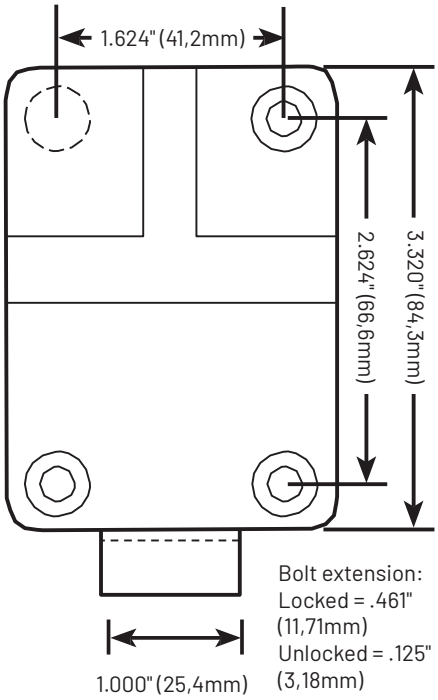
Lock Test

The following check should be performed three times with the door remaining OPEN.
At the keypad, enter 10 10 10 10 #. The lock will BEEP three times and its bolt will retract. Turn the safe handle to verify that the lock is unlocked. Turn the safe handle to the locked position. The green STATUS 1 LED on the keypad extension will light briefly. The safe door should remain open for the three operational checks.* You can close the safe door and turn the handle to the locked position after the third operational check. The lock bolt will extend, and the lock will BEEP three times. In addition, the green STATUS 1 LED on the keypad extension will light briefly. Test the safe's handle to make sure it is securely locked.

*S&G has include a few zip ties to bundle up any lose cable. When utilizing the ties, try not to damage the cables and provide enough slack to allow for keypad removal.

Lock setup

Interface with Boltwork:
The 6128 lock is not intended for direct boltwork attachment. Before installing the lock, operate the safe opening mechanism and verify that the installed position will effectively secure the boltworks when the lock is locked. After installation, check that there is clearance between the combination lock bolt and the boltworks; as pressure on the bolt could affect the lock's ability to function properly.



Attaching Screws:
Use only the screws provided with the lock. They must engage the mounting plate by at least four full threads. Do not use lock washers or thread sealing compounds.

Recommended Attaching Screw Torque:
30 to 40 inch-pounds (33.9 to 45.2 dNm) for the lock body. No more than 15 inch-pounds (1.695 Nm) for the keypad base attaching screws.

Minimum Lock Cable (Spindle) Hole Diameter:
0.312 inch (7.9 mm)

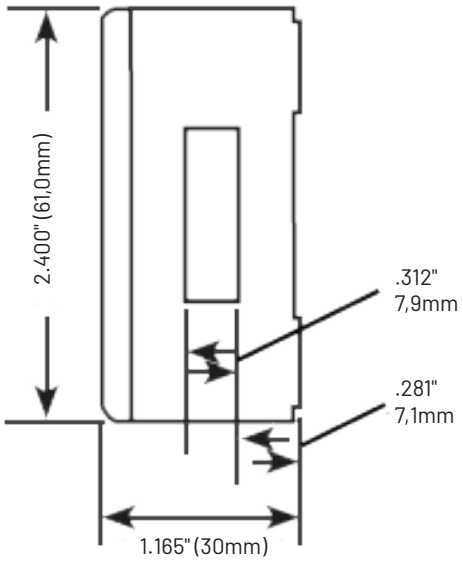
Maximum Lock Cable (Spindle) Hole Diameter:
0.406 inch (10.3 mm)

Lock is designed to Move:
6128 LOCK – 50 Grams (.49 N)
6129 LOCK – 2.25 lbs (10 N) / maximum intermittent load must not exceed 5.5 lbs (25 N)

Lock Bolt Maximum Free Movement:
0.352 inch (8.95 mm) / 0.109 inch outside the edge of the lock case

Maximum Bolt End Pressure:
lock is designed to withstand at least 225 lbs. (1000 Newtons)

Maximum Bolt Side Pressure:
Safe and container boltwork or locking cam designs must never apply more than 225 lbs. (1000 Newtons) of side pressure on the lock bolt.



Mounting Environment:
The lock body is designed to be mounted inside a secure container. The container must be constructed to offer protection against physical attack directed at the lock. The amount of protection is dependent on the desired level of security for the system as a whole. Lock protection may include barrier materials, relock devices, thermal barriers, thermal relock components, or any combination of these. Relock device attaching screws must NOT be longer than the depth of the tapped hole provided in the lock case. Security relevant parts of a high security lock should not be accessible to unauthorized persons when the door of the secure storage unit to which it is fitted is open. A minimum distance of 0.150 inch (3.8 mm) is recommended between the end of the lock case and the closest approach of the safe's blocking bar or cam plate (which is normally blocked by the extended lock bolt). Maintaining this clearance will allow the lock to deliver optimum performance.

Code Restrictions:
Personal data that can be related to a code holder, such as a birth date, street number, or phone number, should not be used in creating a lock code. Avoid codes that can be easily guessed (such as 12345678 or 11111111). The lock's factory default codes should be changed when the lock is put into operation by the end user.

Note:
Every installation of this product must comply with these requirements and those in the product installation instructions to qualify for the manufacturer's warranty and to comply with EN1300 requirements. The length of any external cabling used for this product must not exceed 3 meters in length. Use of cabling exceeding 3 meters may void product certifications.

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