

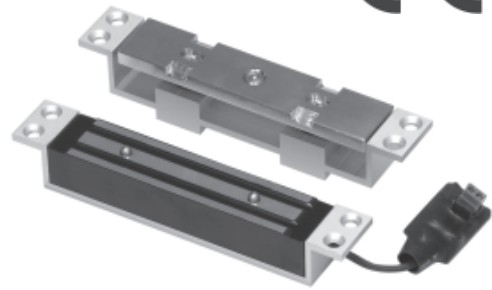
Installation Manual



SECO-LARM

SD-993B-SS

Electric Shear Lock



- Concealed security for remote access and exit control of aluminum and steel doors or gates.
- Smaller size for use with most metal door jambs.
- Zinc-plated magnet and armature, aluminum anodized housing.
- Works with sliding, single-action, and double-action (swing-through) doors and gates.
- Use with an optional digital keypad for keyless high security.
- Spring-loaded locking bolts and magnetic bond holds doors securely in place with approximately 1,500 pounds (680kg) of shear holding force.
- Fail-safe operation (unlocks if power is lost).
- Armature plate adjusts to compensate for gaps between door and frame.

Bracket kits for SD-993B-SS

Contact your SECO-LARM sales rep for information about optional bracket kits.

- SD-993S-SB — Surface-mounting kit.



- SD-993S-UB — U-bracket kit for glass.



See the last page of the manual for a copy of the bracket installation manual.

Specifications:

Holding force	1,500 lbs. (680 kg.)
Magnet housing dimensions (faceplate)	7 ¹ / ₈ " x 1 ³ / ₁₆ " x 1 ¹ / ₁₆ " (180 x 30 x 27 mm).
Armature assembly dimensions (faceplate)	7 ¹ / ₈ " x 1 ³ / ₁₆ " x 1 ⁵ / ₈ " (180 x 30 x 42 mm).
Power	420mA @ 12VDC, 210mA @ 24VDC.
Door gap	Max. 1/16" (2mm).

IMPORTANT — IT IS THE RESPONSIBILITY OF THE END USER AND THE DEALER/INSTALLER TO ENSURE THIS UNIT IS MOUNTED IN ACCORDANCE WITH ALL LOCAL FIRE AND OTHER SAFETY REGULATIONS. THIS UNIT IS NOT FIRE-RATED.

IMPORTANT — SOME METHOD, SUCH AS A RELAY, MUST BE USED TO ENSURE DOORS PROTECTED BY THIS UNIT CAN BE OPENED IN CASE OF AN EMERGENCY.

MOUNTING LOCATION (see Fig. 1)

1. Top of door — Mount here for best results, as this allows flexibility against direct attacks against the door. Mount close to the corner opposite the hinges.
2. Middle of door, opposite the hinges — This works well in most situations. If mounting is required here, mount halfway up the door for greatest strength. Add extra springs to the armature assembly (see Fig. 4).
3. Bottom of door — Not recommended, as dirt buildup could affect operation.

INSTALLATION NOTE

Install the magnet assembly into the door frame before installing the armature assembly into the door. The magnet assembly requires space to run wires, as well as space for the recessed portion of the unit. However, make sure that the position selected for the magnet assembly leaves enough room in the door to install the armature assembly.

INSTALLATION — CUT THE DOOR FRAME (see Fig. 2)

1. Find the center line:
 - a. Close the door and let it rest naturally.
 - b. Use a pencil to trace the position of the outside face of the door on the door frame. If mounting on the top of the door, this line should be near the top corner away from the door hinges. Leave enough room to mount the magnet assembly in the door. If mounting on the side of the door, this line should be drawn near the center of the door, but not near any physical locking mechanisms.
 - c. Measure the width of the door, then draw a line on the door frame parallel to the first line at that distance. These two lines will show where the door rests relative to the door frame when it is closed.
 - d. Measure and trace a line between these two lines. This is the door frame center line.
 - e. **IMPORTANT** — Make sure the place you choose to mount the magnet assembly is clear of obstructions and door adjustment bolts before making any cuts. Allow enough room inside the door frame at both ends of the magnet assembly to install the mounting tabs.
2. Tape the door frame template to the door frame, lining the template's door frame center line with the door center line you just drew.
3. (For hollow metal door frames)
 - a. Cut out the rectangular piece of metal as shown on the door frame template.
 - b. Drill the four holes (two on each end) as shown on the door frame template.
 - c. Using the included metal screws, mount the mounting tabs.
 - d. Run the wires.
4. (For wood door frames)
 - a. Rout or cut a $1\frac{1}{16}$ " (27mm) deep, $5\frac{13}{16}$ " x $1\frac{3}{16}$ " (147 x 30 mm) hole for the cavity of the magnet assembly as shown in the door frame template.
 - b. Rout a $\frac{3}{16}$ " (5mm) deep, $\frac{5}{8}$ " x $1\frac{3}{16}$ " (17 x 30 mm) hole at each end of the cavity.
 - c. Run the wires.

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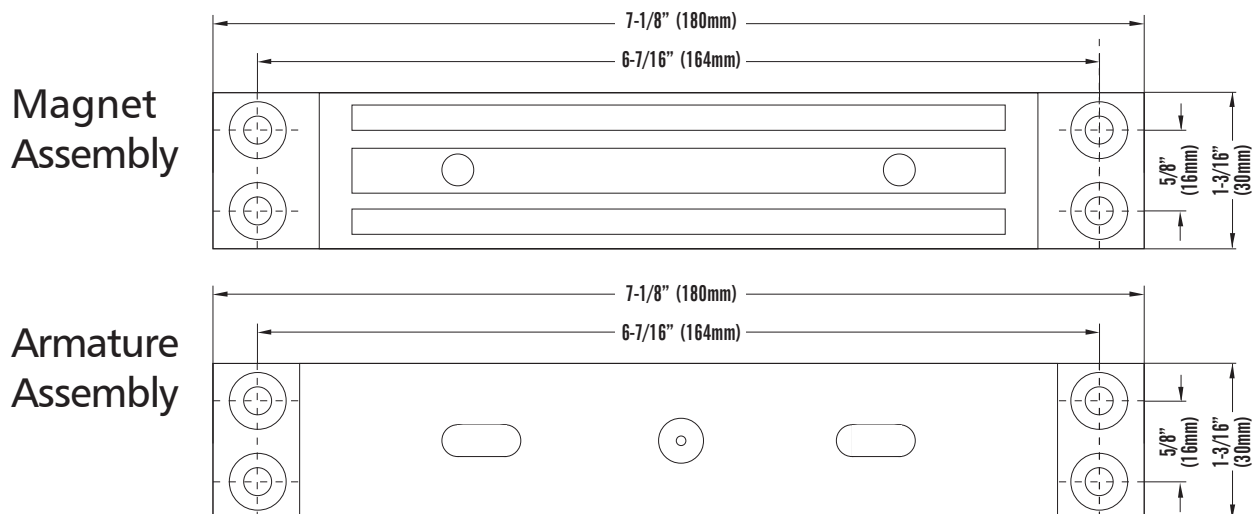


Fig. 1 -Preferred mounting locations

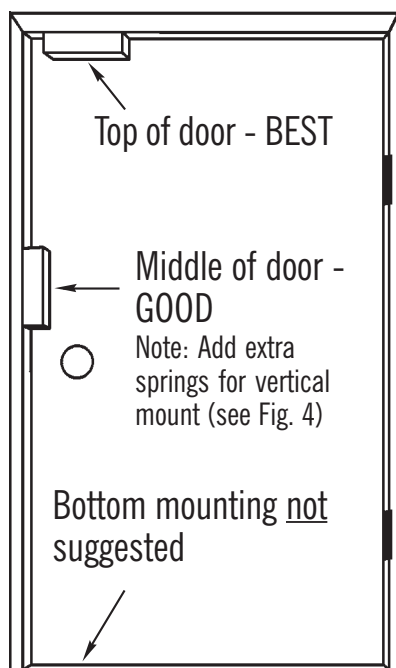
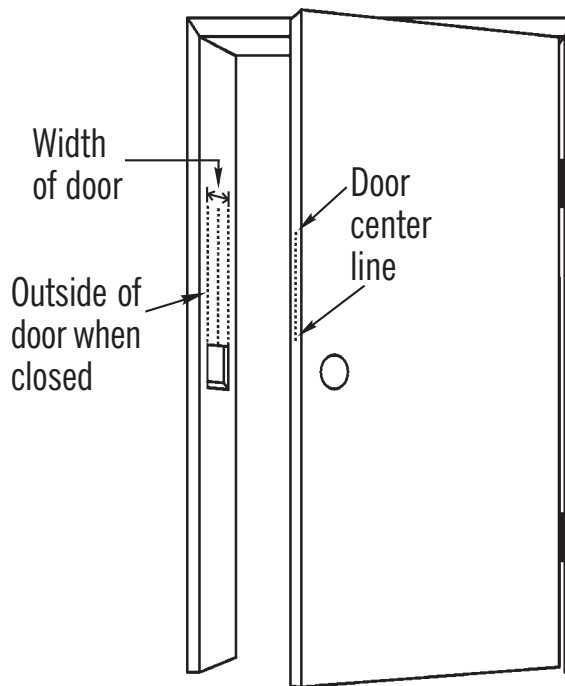


Fig. 2 -Preparing the mounting positions



Parts List:

- 1 x Magnet assembly
- 1 x Armature assembly
- 4 x Spacers
- 2 x Springs (for use when the SD-993B-SS is mounted vertically)
- 16 x Metal screws
- 1 x Hex wrench

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WIRING (see Fig. 3)

1. Set for power supply type (12VDC or 24VDC) — Use the jumpers to set voltage setting.
2. Connect to power — One terminal positive, one to negative (non-polarized)

INSTALLATION — CUT THE DOOR

NOTE: When mounting vertically near the center of the door, disassemble the armature assembly and add the two included springs. This improves the unit's push-off. (See fig. 4.)

1. Determine where to mount the armature assembly in the door. It should line up with the magnet assembly (see Fig. 4).
2. Draw a line between the front and back door faces. This is the door center line (see Fig. 2).
3. Tape the door template to the door, lining the door template's door center line with the door center line you just drew.
4. (For hollow metal doors)
 - a. Cut out the rectangular piece of metal as shown on the door template.
 - b. Drill the four holes (two on each end) as shown on the door template.
 - c. Using the included metal screws, mount the mounting tabs.
5. (For wood doors)
 - a. Rout or cut a $1\frac{5}{8}$ " (42mm) deep, $5\frac{13}{16}$ " x $1\frac{3}{16}$ " (147 x 30 mm) hole for the cavity of the armature assembly as shown in the door template.
 - b. Rout a $\frac{3}{16}$ " (5mm) deep, $\frac{5}{8}$ " x $1\frac{3}{16}$ " (17 x 30 mm) hole at each end of the cavity.

Fig. 3 - Power supply settings and connections

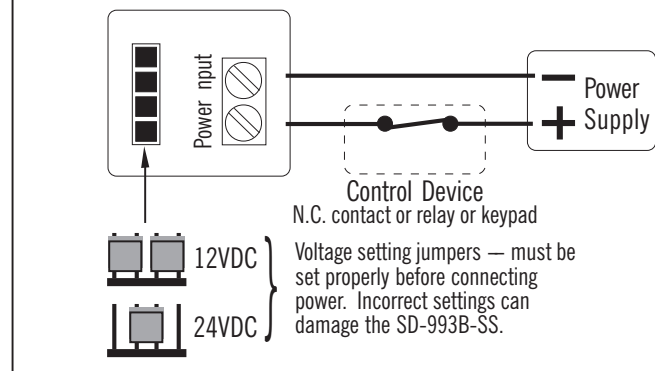
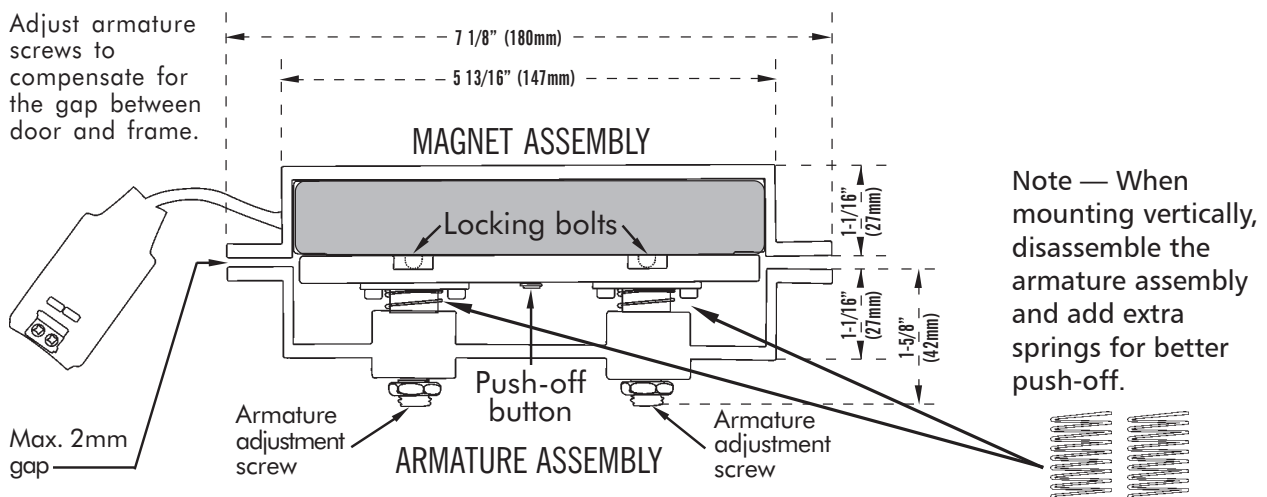


Fig. 4 Lining up magnet assembly and armature assembly



INSTALLATION — MOUNT THE MAGNET ASSEMBLY AND ARMATURE ASSEMBLY (see Fig. 5)

1. Double-check your work — Make sure the magnet assembly and armature assembly line up properly. Make any adjustments.
2. Using the screws provided, mount the magnet assembly onto the door frame, and the armature assembly onto the door.
3. Use washers or flat pieces of metal to act as shims as necessary to mount the magnet assembly and armature assembly flush with the surface.
4. Close the door, and note the gap between the armature assembly and the magnet assembly. Using the included hex wrench, adjust the nickel-plated portion of the armature assembly to make the gap as small as possible without interfering with the opening and closing of the door.
5. **Apply power and test the operation.**

Fig. 5 Mounting the magnet assembly and armature assembly

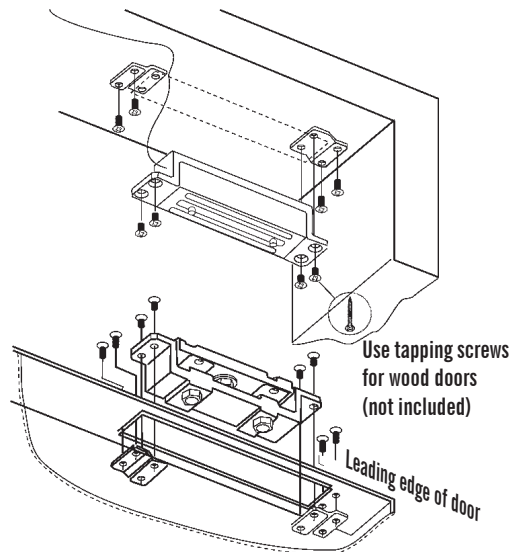
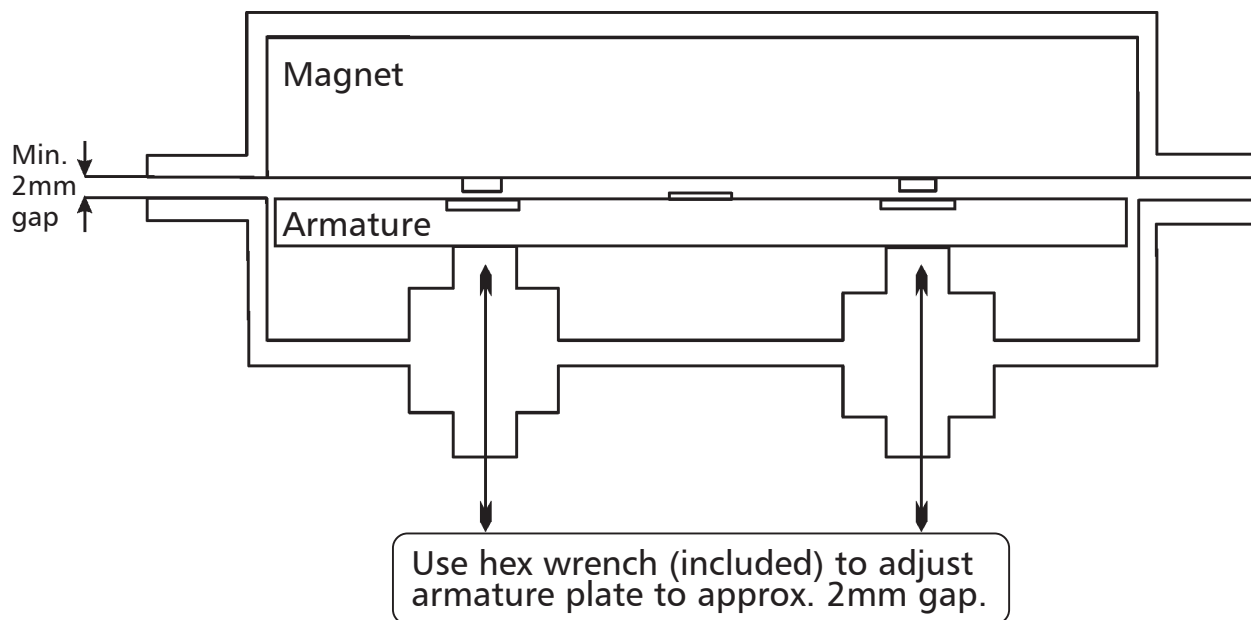


Fig. 6 Adjustment of SD-993B-SS Electric Shear Lock



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TROUBLE SHOOTING

1. If the shear lock does not activate when the door is closed, it may be because the magnet assembly is too far away from the armature assembly. You can either:
 - a. Adjust the distance between the magnet and armature assembly by adding more shims under the back portion of the armature assembly.
 - b. Re-adjust the position of the armature assembly or the magnet assembly.
 2. Poor attraction between the magnet assembly and the armature assembly — Check the power supply, and make sure it is according to specifications. If the power supply is adequate, replace the unit.
 3. If the magnet assembly pulls the armature assembly, but the door can still be opened, check to make sure the locking bolts are in the armature assembly's keeper hole when the unit is activated.
 4. If the door can be kicked in or pushed in with your shoulder, check to make sure the magnet assembly and armature assembly surfaces are clean and free from dirt. Even a little dirt could reduce the attraction between the two surfaces.
 5. For any other problems, replace the unit, and test again. The problem unit can also be substituted for a working unit in another door frame to see if it works there.
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REGULAR MAINTENANCE

- Clean the contact surfaces of the electromagnet or armature plate with a soft cloth and non-abrasive, non-corrosive cleaner.
- Apply a light coat of a silicon lubricant to prevent rust. Wipe away the excess.
- Check that the armature plate is securely attached to the door, yet can pivot slightly around the armature screw.
- Check that the electromagnet is securely attached to the door frame.

WARRANTY: This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for a period of one (1) year from the date of sale to the original consumer customer. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM.

This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair, or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship.

The sole obligation of SECO-LARM, and the purchaser's exclusive remedy, shall be limited to replacement or repair only, at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damages of any kind to the purchaser or anyone else.

NOTICE: The information and specifications printed in this manual are current at the time of publication. However, the SECO-LARM policy is one of continual development and improvement. For this reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints or typographical errors.

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Installation Notes:

Date: _____ Name: _____

Phone # _____ Company: _____

Voltage Used:
 12VDC 24VDC

Special Circumstances: _____

Additional Notes: _____

Please sketch connection diagram below:

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For optional surface-mount bracket and U-bracket kits:

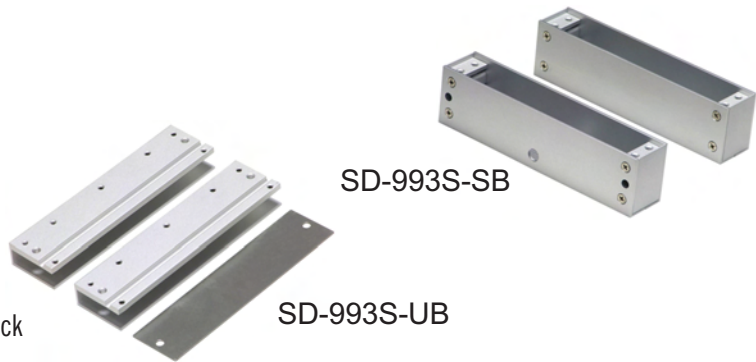
SD-993S-SB

Surface-mount bracket kit

SD-993S-UB

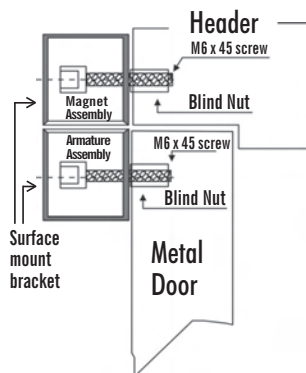
U-bracket (glass door) kit

▶ Bracket kits for SD 993B SS Electric Shear Lock



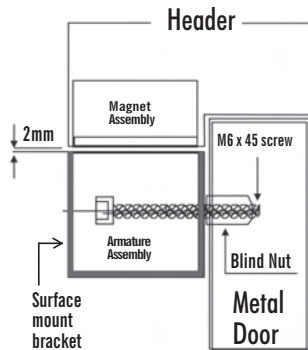
FOR SURFACE MOUNTING (SD-993S-SB)

Surface-mount
(magnet and armature).
Use 2 x surface-mount brackets



The magnet assembly is in the bracket above the door, and the armature assembly is in the bracket on the door.

Flush mount (magnet).
Surface mount (door).
Use 1 x surface mount bracket



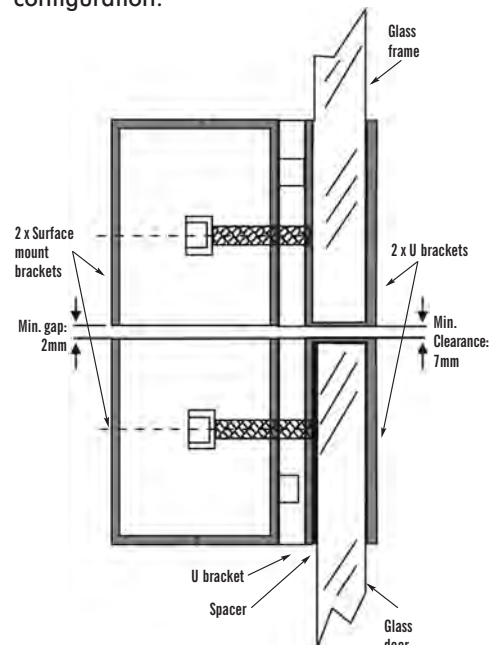
The magnet assembly is flush to the door frame or header, and the armature assembly is in the bracket on the door.

SD 993S SB includes:
2 x Surface mount brackets
4 x Aluminum trim plates
3 x Blind nuts
3 x Hex screws
1 x Blind nut assembly

SD 993S UB includes:
2 x U brackets
8 x Aluminum spacers
4 x Hex screws
1 x Hex wrench

FOR GLASS DOOR MOUNTING (SD-993S-UB)

May require 1 or more SD 993S SB and SD 993S UB bracket kits, depending on the glass door configuration.



NOTES: One glass door with a glass frame illustrated above.

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