



Mounting instructions for electronic locks SELO



Mounting sequence:

1. Adjusting the size of the lock spindle
2. Connecting lock spindle and input unit
3. Mounting the complete input unit on the outside of a safe door
4. Mounting the electromechanical lock module inside a safe door
5. Making the electrical connection between input unit and lock module electronics

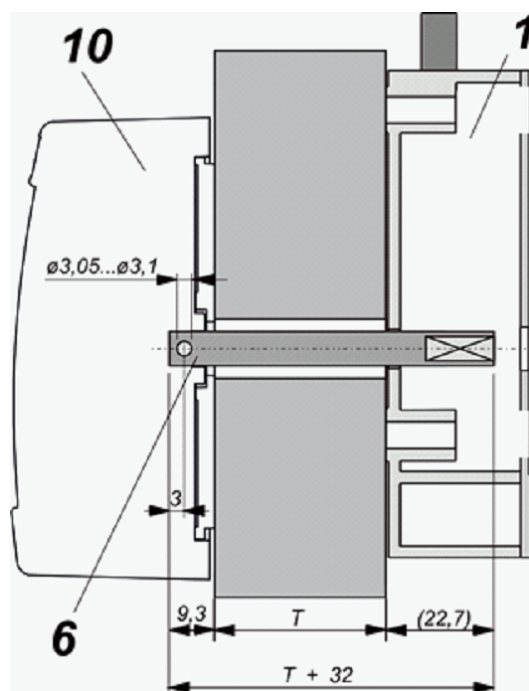
1. Adjusting the size of the lock spindle

The purpose of lock spindle (6) is to mechanically connect data input unit (10) and electromechanical lock module (1). If the exact length of the lock spindle was not indicated in the purchase order, the spindle has to be cut to the right length and a new pin hole drilled before mounting.

Our "Tool for drilling and shortening SELO electronic lock spindles" (Article no. 900 301) is designed to simplify these operations..

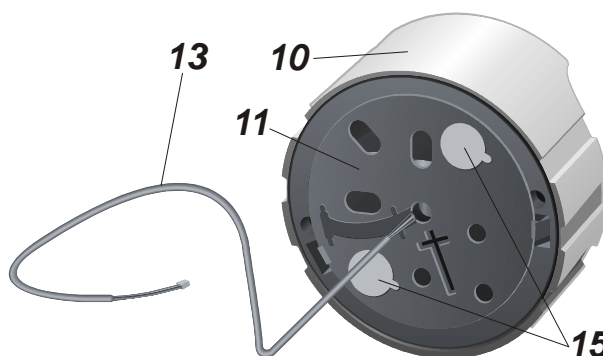
As an alternative, the cutting-to-size and drilling of the spindle can also be executed according to the instructions in the diagram provided. Begin by measuring wall thickness T of the safe door; this is the distance between the mounting surfaces of data input unit and interior lock module, and add 32 mm. Shorten the lock spindle to this total length from the rounded end. Next, drill a new hole for the pin, diameter between 3.05 and 3.10 mm, at a 3 mm distance from the end of the spindle, making sure that the hole axis is at a 90° angle to the key areas of the lock spindle.

To make the following steps of the mounting procedure easier, debur or lightly chamfer the pin hole. N.B.: Any distance in excess of the recommended 3 mm will cause problems at a later stage of the mounting procedure.

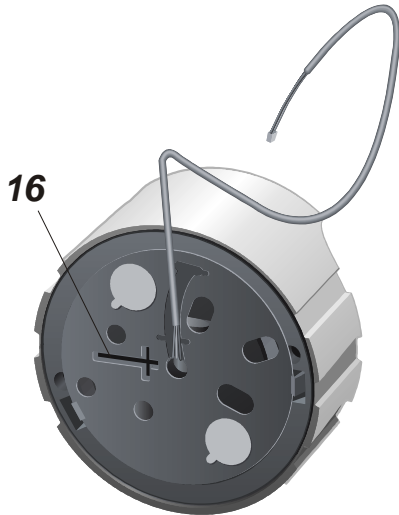


2. Connecting lock spindle and input unit

Connect lock spindle (6) and data input unit (10) using the locking pin (12) (ø3 mm) provided, and secure it with flat securing piece (14). The diagram below shows the input unit in "closed"-position; it is vertical and the keypad inscriptions can be read normally. If the input unit is held in one hand, the rear bottom plate (11) can be turned back and forth 180° between two limit stops.

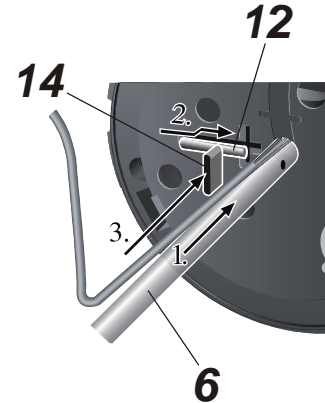


The input unit has two pinning positions; one is for mounting electromechanical lock module (1) vertically, the other for mounting electromechanical lock module (1) horizontally.

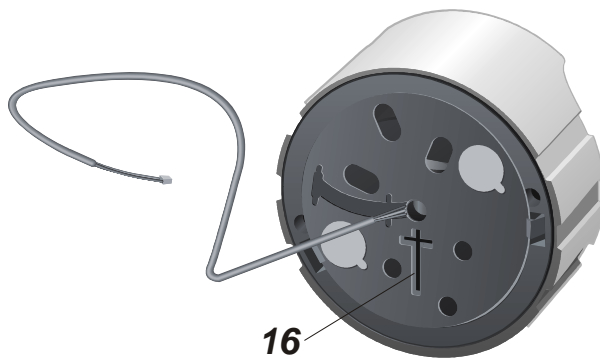


A) If the lock module is to be mounted vertically, as shown in the first diagram, the pin hole is horizontal and the first horizontal pinning position has to be used. After checking that the input unit is locked in place, turn the movable bottom plate until the cross-shaped through-hole (16) is horizontal on the left when looking on to the bottom plate. The pin-entering slot is now accessible and ready to be used for mounting.

Enter lock spindle (6) into the central locating hole (step 1). To secure the connection, enter pin (12) into the slot provided (step 2) and push it as far as possible into the pin hole of the spindle. Next, push the flat securing piece (14) as far as it will go into the cross-wise directed pinning position

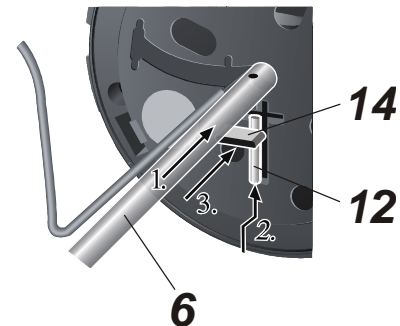


(step 3). The connection is complete, when the bottom plate can be turned again without exerting force.

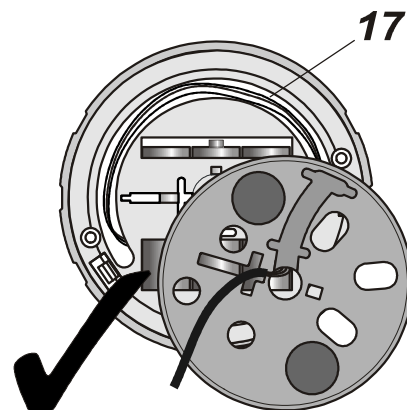
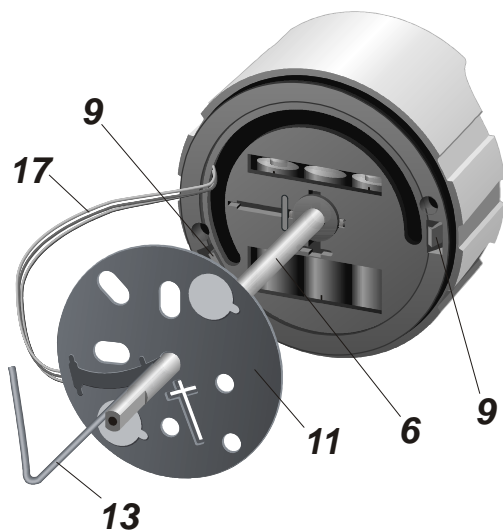


B) To mount the lock module horizontally, use the second pin position, thus causing the locking pin to be entered vertically from below. To gain access to the required pin entering slot, turn the bottom plate until the cross-shaped through-hole (16) is vertical, below, when looking on to the bottom plate. The spindle connection is pinned and secured in this position as described for the first mounting variant, above. For greater ease of performing the second mounting variant, we recommend to open the cover of the battery compartment of the

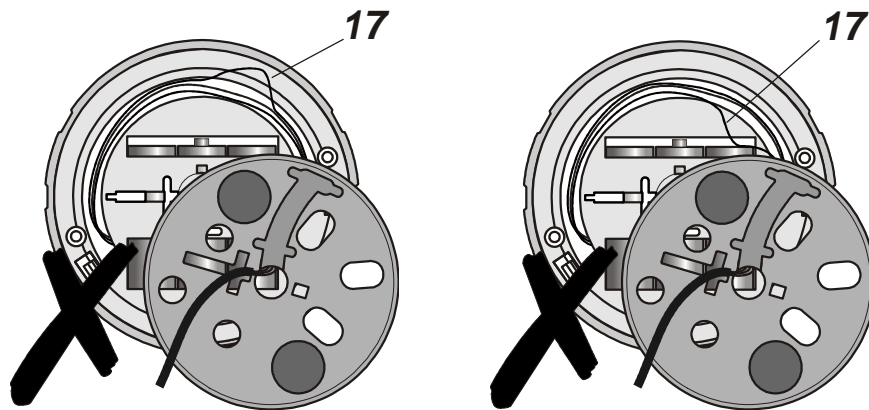
input unit, to temporarily remove the batteries, and to make entering of the connecting pin easier by supporting it with a finger from the now empty battery compartment.



In those rare cases where the assembly makes it necessary to gain access to the interior of input unit (10), remove bottom plate (11) by undoing the two catches (9) which hold it in place. However, the strands (17) of the keypad cable are fixed to the bottom plate and the bottom plate can only be removed by the amount of freedom provided by the loop into which the cable strands have been shaped. Please take every care not to stretch, bend or otherwise damage the unprotected cable strands. Several operations, such as replacement of the keypad cable or dismantling of the spindle connection, can only be performed with the bottom plate open. Complete these operations by fitting the cable strands inside the input unit again, returning bottom plate (11) to its starting position, and snapping

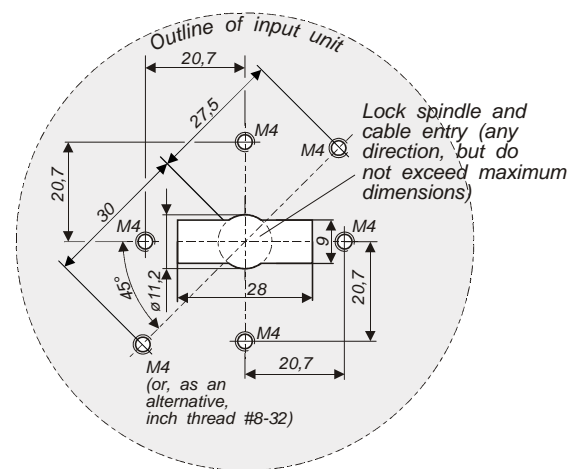


the bottom plate back in place. This completes preparing the input unit for mounting. When fitting the bottom plate, make absolutely sure not to pinch or otherwise damage the strands of the keyboard cable. Even minor damage to the strands during assembly may eventually cause the cable to break.



3. Mounting the complete input unit on the outside of a safe door

The input unit is positioned from the outside on to the level front surface of the safe door. To do this, screw the two metric M4 screws included in the supply as far as possible into any two opposite threaded holes of the total of six M4 holes. The screw heads only serve to fix the input unit in its position on the safe door. As an alternative, the input unit can also be secured with two pan head screws (head diameter 8 mm or 0.31") with an inch thread #8-32. The maximum permissible through-hole through the door for the lock spindle and the cable gland is indicated in the mounting diagram. It can be in any direction, but please note that the indicated contour must not be exceeded. To protect cable (13), check that the inside and outside edges of the through-hole have no sharp edges and no burrs.



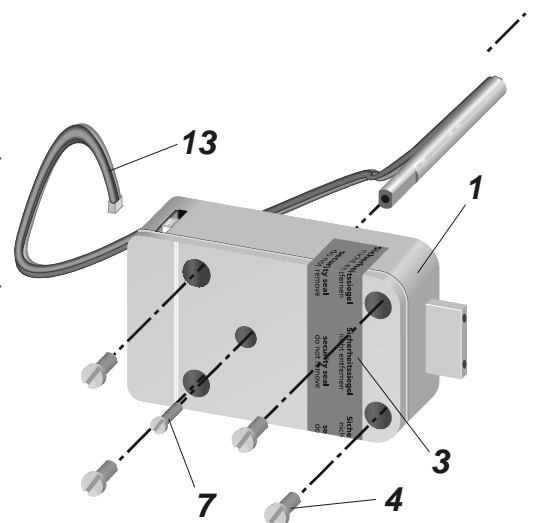
Input unit (10) can now be placed into the through-hole together with spindle (6) and cable (13). It is held in place by plugging it onto the two screw heads provided this purpose.

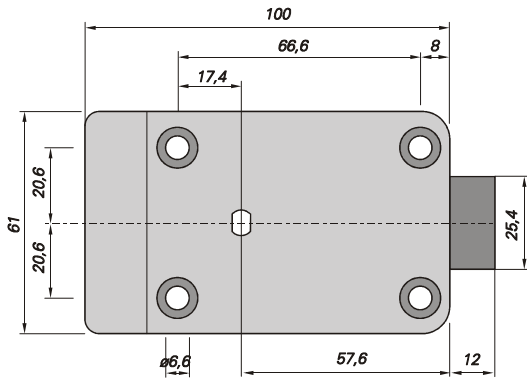
The keypad cable runs in parallel to the shaft. Check that the cable is not twisted several times beside the spindle.

The two adhesive points (15) may be used as a mounting aid. To use them, remove the protective cling film. After plugging the input unit into place, the two adhesive points (15) will hold the input unit long enough for the subsequent mounting of the lock module on the inside of the safe door to be completed.

4. Mounting of the electromechanical lock module inside a safe door

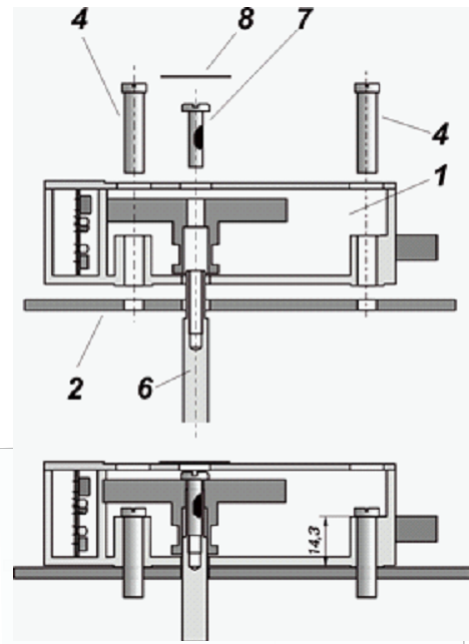
Although the lock module (1) can be mounted in any direction, it is important to pay attention to the orientation of the axes of lock module and input panel: the maximum lateral angular deviation of the drive shaft must not exceed 2°. The lock module must be installed in a metal safe and be protected against direct or indirect access from the outside by providing suitable armoring. On locks from lock class 2(B), there have to be at least layers of steel at a distance from each other with a minimum thickness of 3 mm each between the lock module and the outer surface of the safe door. We further recommend to secure the bolt work cover on the back of the door with a small lock to prevent direct access to the lock whenever the door is open. When mounting is in progress, avoid getting humidity, dust or dirt into the lock module. Do not oil, grease or paint the electromechanical lock module. Please note that for the lock module to work perfectly, the humidity of the ambient air (non-condensing) should not exceed 95%. This means that any concrete floor adjoining the room where the bolt work is location must have dried.





After entering the keypad cable (13), make sure it is not dented when mounting the lock module next. Lock module (1) is mounted in four mounting positions (2), which must all be in one plane, by entering four screws M6, strength category 8.8, length 20 mm into the four holes in the lock module. The opening of the cover for this operation is neither necessary nor intended. The safety adhesive tape (3) has been provided to indicate this. Please screw down the lock module using the screws provided or screws with a maximum head height of 4 mm and a maximum head diameter of 10 mm. Other screw head designs could interfere with the proper functioning of the lock. Decide on the effective depth for screwing-in the screws according to the rules of sound engineering, but make sure it is not less than 3 mm. The tightening

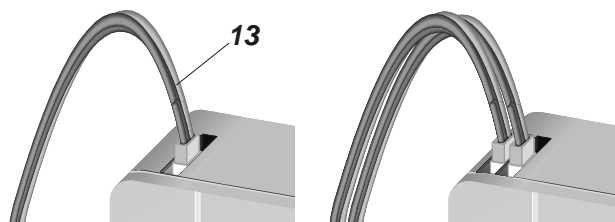
torque applied to tighten the bolts must not exceed 10 Nm to mount the mechanical lock module. Apply a liquid screws tightening agent to stop the screws becoming loose. The blocking feature movement is 11 mm. Enter the lock spindle (6) pre-mounted in the input unit into the passage through the lock module from the front, such that the key surfaces at the end engage in the shaped hole within the lock module. Use the M4-screw (7) with the blue dot on the thread to secure the connection of lock spindle and lock module. Screw this screw from the cover side of the unopened lock module so far into the end of the lock spindle that the axial clearance of the shaft approaches zero. Perform a trial turn of the input unit by hand to establish whether a clearance approaching zero makes the unit difficult to turn. Now unscrew the screw by approximately half a turn; you will find that the unit can now be turned more easily. The screw has been provided with some thread-securing adhesive (blue dot) to keep it in this position. Do not tighten the screw too tightly, as this would stop the input unit turning. However, the axial clearance must not be too large, either, as that might impair the proper functioning of the unit. As a final step, cover the screw through-hole on the cover of the lock module with the oval-shaped adhesive safety label (8).



5. Making the electrical connection between input unit and lock module electronics

Enter the keypad cable (13) - tension-free and making sure it is not subjected to any strain – into the lead-in hole for the lock spindle. The lock module has been provided with a semi-rounded slot to allow the in-bound keypad cable to be laid directly underneath the lock module without denting it as an alternative mounting method.

Enter the cable up to the plug area of the lock module and connect the cable. If the cable is too long, shape it into a loop using cable binders or adhesive tape. Make absolutely sure the cable does not touch any of the moving elements of the door mechanism. If the lock being installed is one of our all-redundant designs, it will have two separate plug-type connections, right next to each other, instead of one. Assigning the cable plugs to the bushings of the two printed circuit boards is of no relevance when the lock is mounted for the first time. Just make sure the connection is tension-free. Mounting complete, check the lock for proper functioning several times with the safe door open.



6. Key bolt resistance to VdS 2396

When used normally, the maximum permissible tensile and compression forces exerted on the key bolt are 5N. The force may be safely applied for at least 10,000 cycles. The illustration shows under which maximum forces applied to the key bolt (in the direction of opening as well as at 90° angles from lateral directions) the lock will still retain some of its locking capability (resistance against forceful attack).

