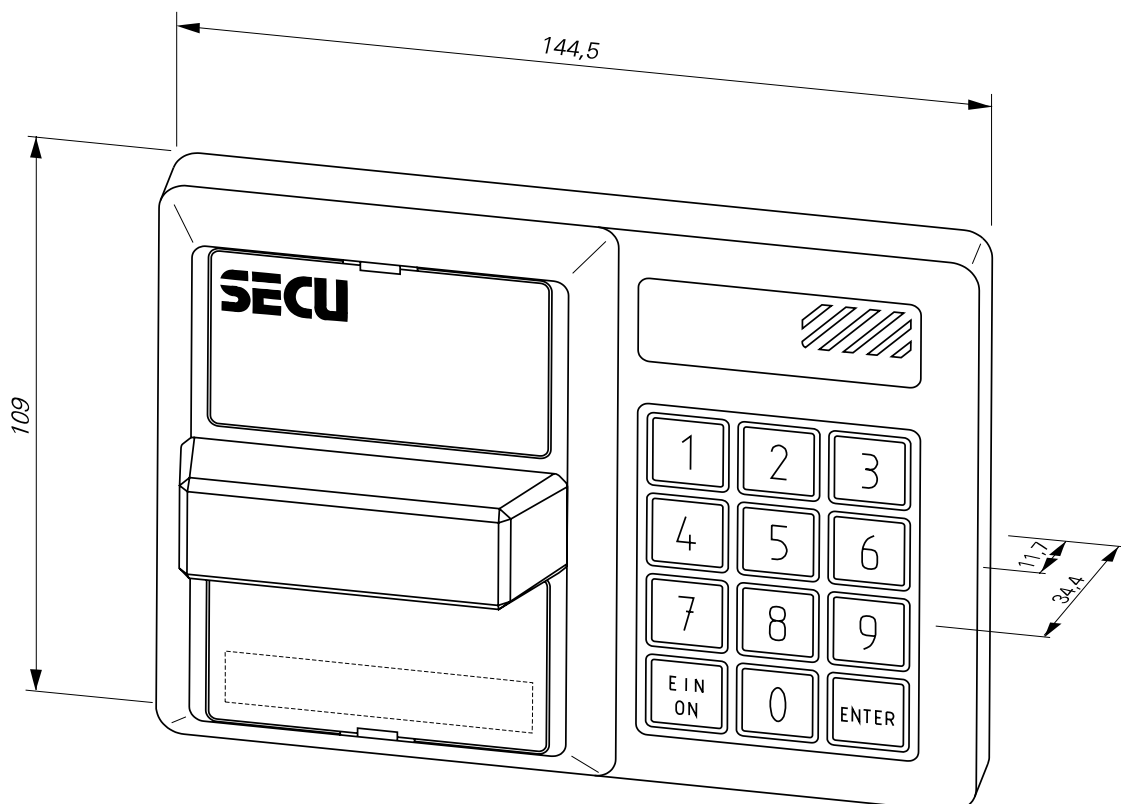


Electronic lock E4000R in all-redundant design

The electronic lock E4000R is rated to the highest security performance levels of VdS Class 2(B) and F+P Class B, and BSI-approved.

Until recently, we built our high-security lock E4000 with a self-examination feature and a double set of data and thereby achieved a generally recognized high degree of functional reliability. Now, we have taken our security concept a step further. Effective immediately, all elements defining and controlling the various lock features come in redundant design. Combined with the automatic self-examination feature, this means an increase in functional reliability so far unmatched. In the unlikely event of a locking system failure, the lock remains operatable thanks to the intact second system. The redundant design comprises:

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|---|-------------------------------|
| <i>2 main boards</i> | <i>2 connecting cables</i> |
| <i>2 blocking point actuators</i> | <i>2 plug-type connectors</i> |
| <i>2 power controls</i> | <i>4 sets of data</i> |
| <i>a further self-examination is performed each time the lock is operated</i> | |



The automatic data exchange between the redundant locking systems with each operation ensure that a system malfunction never goes unrecognized. The fault detection routine takes place each time the system is switched on and reports any malfunctions to the user. Irrespective of this, the redundant design allows the lock to be opened with the second lock control system even in the event of a malfunction. Users greatly benefit from the added operational dependability.

The electronic lock is of uncompromising modular design. This means we supply the user with an easy-to-use basic model which we then upgrade with a choice of optional features to exactly suit his requirements.

The external mounted control panel consists of a high quality, easy cleaning sealed keypad for entering the 6- to 8-digit secret code. The keypad is designed for more than 1 million key entries. Through the mechanical pressure-points of the keys, the operator receives tactile check-back signals. The control panel contains the battery compartments and is equipped with an easily operated handle for the manual unblocking of the lock. The sounding of different acoustic signals assists the user in performing the various operations. Upon request, the control panel can be supplied with the user's company logo and with a metallic surface finish.

Access is gained through entering of a number code allowing 111 million genuine locking combinations. After entering the number code, the electro-mechanical locking assembly releases the mechanical opening of the locking system. The lock can now be activated, absolutely fail-safe, by the manual turning of the opening mechanism.

The physical separation of the operating panel, which is located on the outside of the protected area, the electro-mechanical locking module inside the safe or strongroom, and the system electronics add up to the highest degree of security, while the system remains easy to operate. All components that are essential for the security of the system are located inside the protected area. An extremely high degree of resistance to manipulation is attained through the application of advanced technologies in the manufacture of the locking mechanism combined with the possibilities provided by state of the art electronic controls.

Electronic locking systems operate mains-independent. The electric batteries used to feed the systems guarantee their safe operation for one to two years at a time at normal use. They are located in the operating panel and can be replaced from outside. When the batteries become depleted or in the event of a battery failure, removal of the batteries does not cause the stored codes to be lost. In addition to this security feature, all security-relevant data are copied and stored in duplicate by each of the two electronic control systems.

All operating processes are followed by acoustic signals confirming their completion. The system is continuously checked for internal faults and the self-testing function calls in the service department whenever the need arises. The electronic system has output channels for alarm signals, as well as input channels for connection to wide-scale remote operation systems. The system is easy to connect to a VdS-alarm unit. If necessary, the last 69 operations, which are always stored internally, can be retrieved via the computer by our maintenance personnel.

The system's components are easy to install, because the electro-mechanical locking assembly has standard dimensions for fastening by means of screws. All parts of the locking systems have been designed for an extremely long service life.