

## CENTRAL UNITS FOR HOLD-OPEN SYSTEMS






The central unit is the 'heart' of the hold-open system. All essential functions are centralized in one place: power supply, control unit and hand switch. In the event of an alarm or malfunction, the control unit activates and the doors close.

DICTATOR's central units meet the requirements of the EN 14637, are tested, and approved by the German Institute for Building Technology (DIBt).



**TABLE OF CONTENTS - CENTRAL UNITS FOR HOLD-OPEN SYSTEMS**

	Page
 <b>Central unit RZ-24</b> ..... 07.01.04 Versatile central unit for hold-open systems	07.01.04
 <b>Special features &amp; accessories</b> ..... 07.01.06 For central unit RZ-24	07.01.06
 <b>Central unit RZ-24-05</b> ..... 07.01.10 Compact design solution for flush-mounted switch boxes	07.01.10

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# Central unit RZ-24

For power supply and evaluation of fire detectors



Website

## CHARACTERISTICS

- Complies with the requirements of the norm EN 14637
- Tested and approved by the DIBt (German institute for building engineering)
- With integrated manual release button
- Due to its high power (900 mA), even large hold-open system can be operated with just one central unit
- Optionally available in a large casing, with sufficient space for additional components such as relay boards or an emergency power supply (see Additional components for RZ-24)
- Also suitable for EX-proof hold-open systems

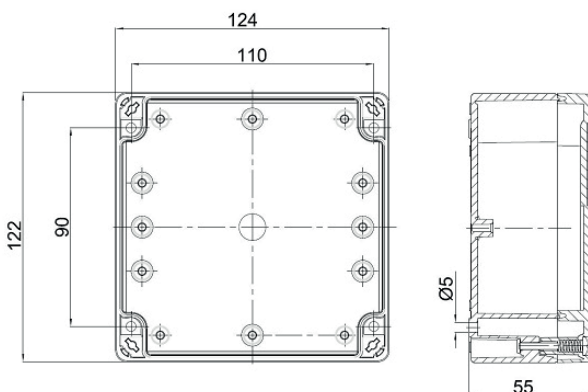
## FUNCTIONS

- All essential functions (power supply, control of fire detectors, Reset, hand release button) are combined in one device, so that only fire detectors and electromagnets have to be connected
- Resetting the hold-open system after an alarm is also done with the central unit
- In addition to the alarm in case of fire, malfunctions such as short circuits or wire breaks in the system are also detected

## DIMENSIONS

All dimensions in mm

Central unit RZ-24

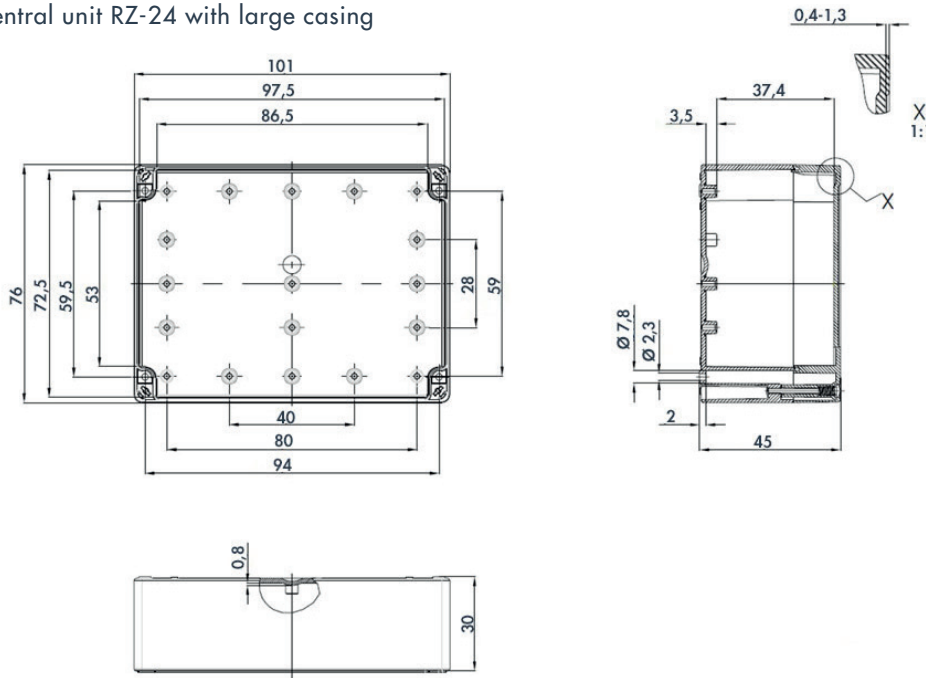


## TECHNICAL DATA

Supply voltage	85 VAC - 265 VAC, 50/60 Hz
Power consumption	about 30 W, own consumption about 30 mA
Additional switching contact	potential-free contact 8 A/<250 V~/AC1 (relay fallen off = tripping)
Secondary output voltage	24 VDC ±5 %
Secondary total load	0.9 A supply of fire detectors, electromagnets and other consumers)
Operating temperature	-25 °C to +40 °C
IP rating	IP 64 when IP 64 cable inlets are used
Casing	plastic casing in ABS, light grey, with 4 threads M16 for cable inlets
Emergency power supply	on demand, up to max. 10 minutes (at a consumption of 100 mA)
Keys on the casing	integrated release key (1) integrated RESET key (2) key quitting horn: switches the horn off after an alarm. (4)
Indications on the casing	Green LED = operation (normal operation) (3) Red LED = alarm (error or alarm) (3)



## Central unit RZ-24 with large casing



## INSTALLATION



Technical manual

## FUNCTIONS IN DETAIL

### Functions of the standard model

- Manual release of the hold-open system by means of either the integrated hand-release switch or an additional one (mounted in the immediate vicinity of the fire door)
- Tripping the hold-open system by the connected fire detectors, as well as the fire detectors (by the potential-free contact of a fire alarm central)
- Reset of the complete hold-open system: first, use the hand-release switch to reset the fire detector and then the reset switch on the central unit RZ-24 to reset the whole system
- Automatic RESET after a power cut (NOT after a manual tripping or a fire alarm)
- Integrated over-current protection: if there are too many consumers connected, the power supply automatically cuts off
- Potential-free contact for signaling the tripping, e.g. for sending the alarm-status to a central control system, an additional warning device, etc. If there is a door drive integrated in the hold-open system, the contact is used to cut the power supply of the control unit of the door operator in the event of an alarm, so that the door is closed mechanically (door closer, closing spring or counterweight)
- Status indication for normal operation and alarm on the cover of the central

### Additional functions - optional

- Rechargeable battery buffering: depending on the consumption of the connected fire detectors, electromagnets and other consumers - up to 10 minutes can be bridged in the event of failure of the 230 VAC supply (usable capacity 0.022 Ah)
- Additional relay contacts (circuit boards with one, two or four relay contacts, each a change-over contact 2 A/30 VDC)
- Additional circuit board for the automatic reset of the RZ-24 central unit after a power outage or fire alarm (however, the tripping fire detector has to be reset additionally by means of a hand-release switch)
- Further options on demand
- More information on Additional functions and accessories for central unit RZ-24

## ORDER INFORMATION

Description	Part no.
RZ-24 central unit with power supply and tripping device, 0.9 A	040553
RZ-24 central unit with power supply and tripping device, 0.9 A, IP 64, 202x152x90 mm (big casing)	040554
Power supply with integrated release device RZ-24, 0.9 A, IP 64, 202x152x90 mm (big housing), emergency power supply and time relay circuit board as signal control for sliding doors	040561-2

# Special features & accessories

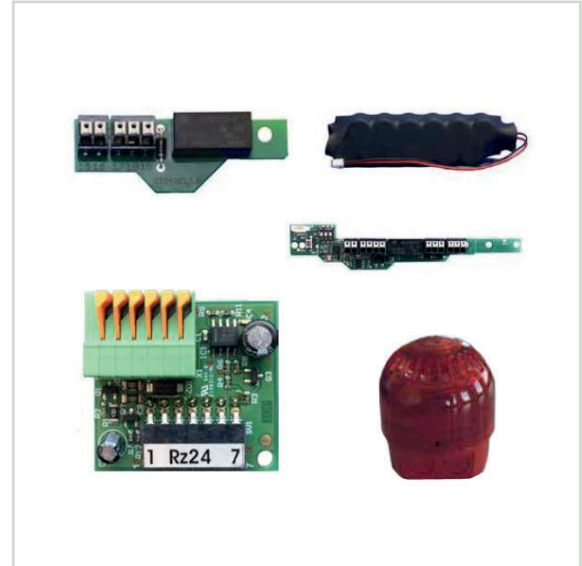
For central unit RZ-24



Website

## CHARACTERISTICS

- Besides the standard functions, the central unit RZ-24 offers many more possibilities
- These especial functions can be realized by using additional components
- Among these are the rechargeable battery buffering, a time relay, the use of the RZ-24 as a signal control, additional signal contacts, etc.
- Further options available upon request
- In some cases, the use of additional components may require the version with the larger casing
- We will gladly assist you with choosing the additional components for the RZ-24



## CENTRAL RZ-24 AS SIGNAL CONTROL



### Description

The RZ-24 central unit also allows to control a siren and a signal light during the closing of a fire door. Acoustic and optical warning signals can be especially used on power-operated doors for which the demands of the standard EN 12604 have to be observed.

### Function

- The signalers are activated the moment when the power supply of the hold-open system is cut off and the door starts to close
- There are 3 ways of switching off the signalers after the door is closed:
  - Installation of a time relay circuit board (part no. 040562), on which the time until switching off can be set (see 'Time relay circuit board')
  - Installation of an additional limit switch in the closed position
  - By hand via the RESET button on the cover of the RZ-24
- The central unit RZ-24 is also available as 'signal control' completely pre-assembled with timer relay and emergency power supply (article no. 040561-2)

## SIGNALER



### General information

- For use with the central unit RZ-24, using the signaller (article no. 700171) is recommended
- Includes both a siren and a flashing light
- Acoustic and optical warning signals are used especially for power-operated doors where the demands of the EN 12604 must be observed
- Adjustable volume
- If necessary, it can also be completely deactivated, e.g. when a signaller is mounted on each side of the door to make sure the warning light is seen from both sides - in this case it is normally enough if only one siren sounds
- Extremely low power consumption

### Technical data

Voltage	24 VDC
Power consumption	aprox. 26 mA when siren activated, 6 mA when siren deactivated
Volume	about 100 dBA, can be reduced by the integrated potentiometer
Flashing frequency	1 Hz
Colour	red
IP rating	IP 65
Dimensions Ø x h	97.5 x 104 mm

## EMERGENCY POWER SUPPLY FOR RZ-24



### General information

- The emergency power supply allows for a short time to buffer the hold-open system during a power cut. The energy stored in the condenser pack thus prevents unintentional closures in the event of short-term power failures and voltage fluctuations.
- The length of this hold-up time depends mainly on the power consumption of the connected components.
- As energy storage devices, capacitors are used instead of accumulators. They are less sensitive to temperature influences, have shorter charging times and a much longer service life.
- When using this emergency power supply, the RZ-24 central unit has to be in the large casing. In this casing is enough room for placing the battery pack.
- Its connection cable is simply plugged in the provided jack on the printed circuit board of the RZ-24. The charging is done directly from the power supply of the RZ-24, so that the 0.9 A load of the RZ-24 is completely available for external consumers.
- Charging time: approx. 30 minutes for 80% of capacity, approx. 50 minutes for 100% of capacity.

### Hold-up time

- The battery pack has an output of 0.022 Ah
- All of the following values for the length of the hold-up time are only for orientation!

Load at U-Nominal 24 VDC	Hold-up time
70 mA + 30 mA own consumption = 100 mA (0.1 A)	10,91 minutes
140 mA + 30 mA own consumption = 170 mA (0.17 A)	6,42 minutes
280 mA + 30 mA own consumption = 310 mA (0.31 A)	3,52 minutes

### Notes:

- The own consumption of the RZ-24 is 30 mA
- The fire alarm loop of the RZ-24 sets off at a tension of about 16 VDC
- The hold-up times depend on the charging state of the emergency power supply and the ambient temperature

### Simplified calculation formula:

- Hold-up time in seconds = 65/load

### Example:

Hold-open system with RZ-24 and 4 smoke detectors RM 4000 & 1 electromagnet EM GD 70:

- RZ-24: own consumption 0.03 A
- 4 x RM 4000:  $4 \times 95 \mu\text{A} = 380 \mu\text{A} = 0.38 \text{ mA} = 0.00038 \text{ A}$
- Electromagnet EM GD 70 = 71 mA = 0.071 A

Total consumption: 0.101 A

Hold-up time =  $65/0.101 \text{ A} = 648 \text{ secs}$  (about 10 mins)

## TIME RELAY CIRCUIT BOARD



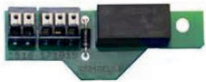
### General information

- The time relay circuit board is incorporated into the RZ-24 central unit
- Therefore, the RZ-24 with the large casing must be used together with the time relay circuit board
- Thanks to the time relay circuit board, different time-controlled functions can be implemented, such as:
  - Switching off the signaling after a certain time (e.g. when using the RZ-24 as signal control)
  - Signaling that the door will close shortly (e.g. mandatory in Austria for doors in underground car parks) - release delay
  - The desired function and time range are set using 3 DIP-switches and a programming button
- The successful input is indicated by a green LED

### Technical data

Relay	24 VDC, 25 mA
1 changeover contact	2 A, 30 VDC
1 output	24 VDC, max. 2 A, with potential
Selectable functions	on-delay, power-off delay, interval with signal on, interval with signal off, symmetrical flasher (starting pulse on), symmetrical flasher (starting pulse off), pulse shaper
Adjustable periods	hours : minutes: max. 96 h : 59 min minutes : seconds: max. 59 min : 59 s 100 milliseconds : 10 milliseconds: max. 10000 ms : 1000 ms
Dimensions	112 x 27 mm

## RELAY CIRCUIT BOARD WITH 1 ADDITIONAL CONTACT



### General information

- By default the RZ-24 central unit has a potential-free contact for passing on the tripping. Should this not be sufficient, an additional circuit board with a relay contact can be refitted
- Models with 2 or 4 contacts also available on demand
- Generally we recommend to choose the RZ-24 with the large casing when installing this additional circuit board

### Technical data

1 relay	24 VDC
1 potential-free changeover contact	2 A
Dimensions	55 x 19 mm



## ADDITIONAL CIRCUIT BOARD FOR THE AUTOMATIC RESET OF THE RZ-24



### General information

After every manual release or fire alarm the complete hold-open system has to be reset. Two steps are necessary:

- Resetting the fire detectors by pressing the hand release switch
- Resetting the complete hold-open system by pressing the RESET key

Only when these two steps have been performed, the electromagnets are supplied with current again and the doors can be locked in the open position. If the doors are used by many different people who are not familiar with the details of the hold-open system, the additional circuit board for the automatic reset of the RZ-24 should be used.

Furthermore, the RZ-24 control panel is not always directly accessible. However, since the RESET button is located on the casing of the RZ-24, the additional board not only eases the reset, but also saves time. The circuit board is simply plugged on the main circuit board of the RZ-24, for which the small casing is enough.

### Functioning

- After a power failure, releasing the system by a hand switch or removing and inserting again a fire detector: automatic, RESET of the whole hold-open system.
- After a fire alarm triggered by a fire detector: First is required a manual reset of the detectors by the hand release switch. Then the RESET of the central unit is performed automatically. As the RZ-24 central unit is not always within reach, the RESET key, however, is on its casing, the additional circuit board not only makes the reset easier but also saves time.
- The reset command is automatically carried out every 8 seconds.

## ORDER INFORMATION

Description	Part no.
Power supply with integrated release device RZ-24, 0.9 A, IP 64, 202x152x90 mm (big housing), emergency power supply and time relay circuit board as signal control for sliding doors	040561-2
Powerpac, emergency power supply for installation in RZ-24 central with big housing 040554	040555-2
Additional board for automatic reset of the RZ-24 central unit after power failure and fire alarm	040556
Relay board for RZ-24 central unit with 1 relay contact, potential-free changeover contact 2 A, 30 VDC	040559
Time relay board for installation in the RZ-24 central unit with large housing, relay 24 VDC/25 mA, 1 change-over contact 2A/30 VDC, 1 potential output 24 VDC/max. 2 A (large housing!)	040562
Signaller: red LED flashlight with separately switchable warning siren, IP 65	700171

# Central unit RZ-24-05

The "design solution" for hold-open systems



Website

## CHARACTERISTICS

- Fits in a standard flush mounted box with 60 mm diameter
- With integrated manual release button
- Despite its small dimensions, it includes all essential functions of a central unit for hold-open systems
- High output of 500 mA
- Complies with the requirements of the norm EN 14637
- Tested and approved by the DIBt (German Institute for Building Engineering)

## OVERVIEW FUNCTIONS

- All essential functions (power supply, control of the release devices such as smoke detectors, Reset, hand release button) are combined in one device, so that only fire detectors and electromagnets have to be connected
- Resetting the hold-open system after an alarm is also done with the central unit
- In addition to the alarm in case of fire, malfunctions such as short circuits or wire breaks in the system are also detected

## FUNCTIONS IN DETAIL

### Functions of the standard model

- Manual release of the hold-open system by the hand release switch integrated in the RZ-24-05.
- Tripping the hold-open system by connected fire detectors.
- Tripping the hold-open system by a fire alarm central (requires a potential-free contact).
- RESET of the complete hold-open system via the keypad of the RZ-24-05: First reset the fire detectors by the hand release switch and then the RZ-24-05 central by its integrated RESET switch.
- Automatic RESET after a power cut or actuating the hand switch (if required, adjustable in the central unit by means of a DIP switch)
- Excess-current protection: If too many consumers are connected, the power supply automatically cuts off.
- Status indications for normal operation, alarm and various fault conditions on the keypad.

## INSTALLATION NOTICE

Normally, the RZ-24-05 is installed in a standard flush-mounted box (not included). A model provided by the customer can be used as a frame for the circuit board with hand switch.

**IMPORTANT:** switch cut-out 55 x 55 mm, without rounded corners!



Technical manual



## TECHNICAL DATA

Supply voltage	85 - 264 VAC
Power consumption	about 14 W, own consumption about 40 mA
Secondary output voltage	24 VDC ± 10 %
Secondary total load	permanently 0,5 A (supply of fire detectors, electromagnets and other consumers)
Operating temperature	from 0 °C to +40 °C
IP rating	IP 30
Emergency power supply	upon request
Keys on casing	<ul style="list-style-type: none"> <li>■ Integrated manual release button (1)</li> <li>■ Integrated RESET button (2)</li> </ul>
Indications on casing	<p>3 different LEDs on the casing:</p> <ul style="list-style-type: none"> <li>■ LED "Triggering": lights up red in case of alarm</li> <li>■ LED "Ready": lights up green when the detector loop is ready for operation</li> <li>■ LED "Fault": different faults are indicated by permanent lighting or flashing with different frequencies!</li> </ul>



## ACCESSORIES



If there is no cover frame provided by the customer when installing the RZ-24-05, the cover frame can also be supplied by DICTATOR.

In addition to the normal cover frame, there is also a frame with transparent cover available. According to the type approval of the DIBt it is allowed to protect a hand switch against misuse with a suitable transparent cover. Another advantage is that accidental operation of the manual release button is prevented in places with a lot of foot traffic. Which model and mounting position suit your door the most? We'll gladly assist you.

## ORDER INFORMATION

Description	Part no.
RZ-24-05 central unit with power supply and tripping device, 0.5 A, to be built into standard boxes	040563

## ACCESSORIES

Description	Part no.
Cover frame, alpine white, for RZ-24-05, for installation in flush box	040566
Cover frame, polar white, with transparent cover for RZ-24-05, for installation in flush box	040567
Tool for removing wires in the RZ-24-05 central	040565