

# **Technical Manual Access Control System with Code Keypad and RFID Reader**

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## I. Technical Data

### II. Identification Modes

#### I. Technical Data

	Access control system with code keypad and RFID reader
<b>Mounting</b>	surface-mounted
<b>Material</b>	metal alloy (Zamak)
<b>Programming</b>	keypad
<b>Supply voltage / Power consumption</b>	12/24 V AC/DC / 50 - 100 mA at 12 V DC
<b>Identification modes</b>	code or RFID tag or code + RFID tag (dual signature)
<b>Keypad</b>	3 x 4 metal keys / programmable blue backlighting
<b>Code architecture</b>	1 to 8 digits (up to 100,000,000 combinations)
<b>Frequency / Reading distance</b>	125 kHz / up to 6 cm
<b>Number of users</b>	999
<b>Relay outputs</b>	2 change-over contacts (change-over contact / make contact / break contact) max. 30 V / 2 A
<b>Programming of the relay outputs</b>	1 to 300 s or bistable (ON/OFF)
<b>Alarm output 0 V</b>	door open too long / door broken open / misuse attempt / self-protection
<b>Inputs</b>	push-button R1 / push-button R2 / door monitoring contact
<b>Call button function</b>	Press the 0 and # keys in succession
<b>Status und programming LEDs</b>	green, red, blue, yellow
<b>Acoustic status and programming signal</b>	buzzer
<b>Connection</b>	cable (2 m)
<b>IP rating</b>	IP 66
<b>Operating temperature / RH</b>	- 30 °C to + 50 °C / 98 % RH
<b>Dimensions (w x h x d)</b>	76 x 115 x 24 mm
<b>Brut weight</b>	0.54 kg

#### II. Identification Modes

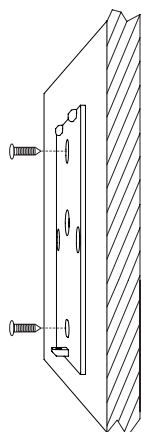
<b>PIN code</b>	Enter code (1 to 8 digits, except 0 and 00000000), finally press #.
<b>RFID tag</b>	Read in RFID tag.
<b>RFID tag + PIN code</b>	Read in the RFID tag and enter the corresponding PIN code, finally press #.
<b>Push-button</b>	Press the push-button.

### III. Mounting

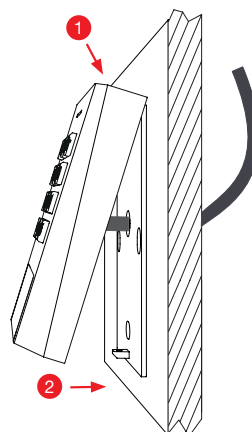
#### IV. Connection Description

### III. Mounting

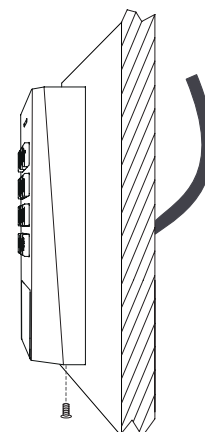
The installation, connection and commissioning of this product may only be carried out by qualified electricians. If you have any doubts about the installation or operation of this product, please contact your distributor.



Fix the mounting bracket on a flat surface.



Hook the unit into the mounting bracket from above and press on the bottom.



Secure the unit to the mounting bracket with the locking screw.

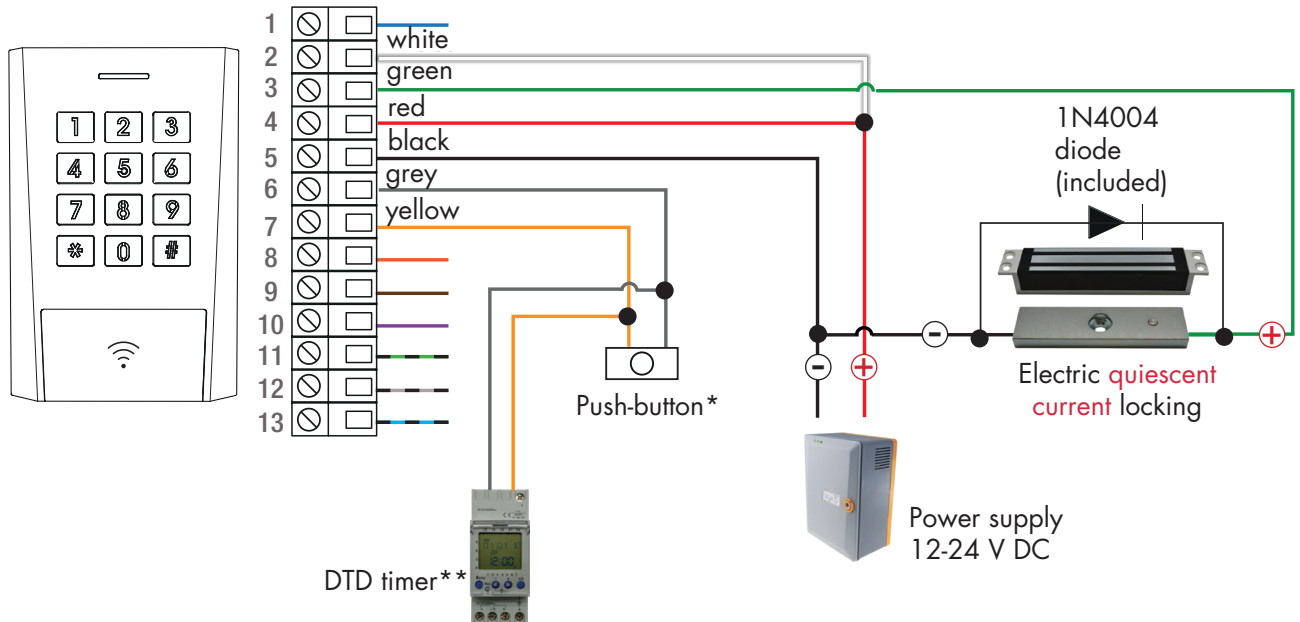
### IV. Connection Description

Terminals	Leads	Designation	Description
1	blue	R1 NO	Normally open contact relay 1
2	white	R1 COM	Common contact relay1
3	green	R1 NC	Normally closed contact relay 1
4	red	+	Power supply +12 V to 24 V AC/DC
5	black	-	Power supply +12 V to 24 V AC/DC
6	grey	GND / 0 V	GND / 0 V
7	yellow	REX 1	Push-button relay 1
8	orange	REX 2	Push-button relay 2
9	brown	DPC	Door signalling contact
10*	purple	AL -	Alarm output (0 V in case of alarm)
11	green/black	R2 NC	Normally closed contact relay 2
12	white/black	R2 COM	Common contact relay 2
13	blue/black	R2 NO	Normally open contact relay 2

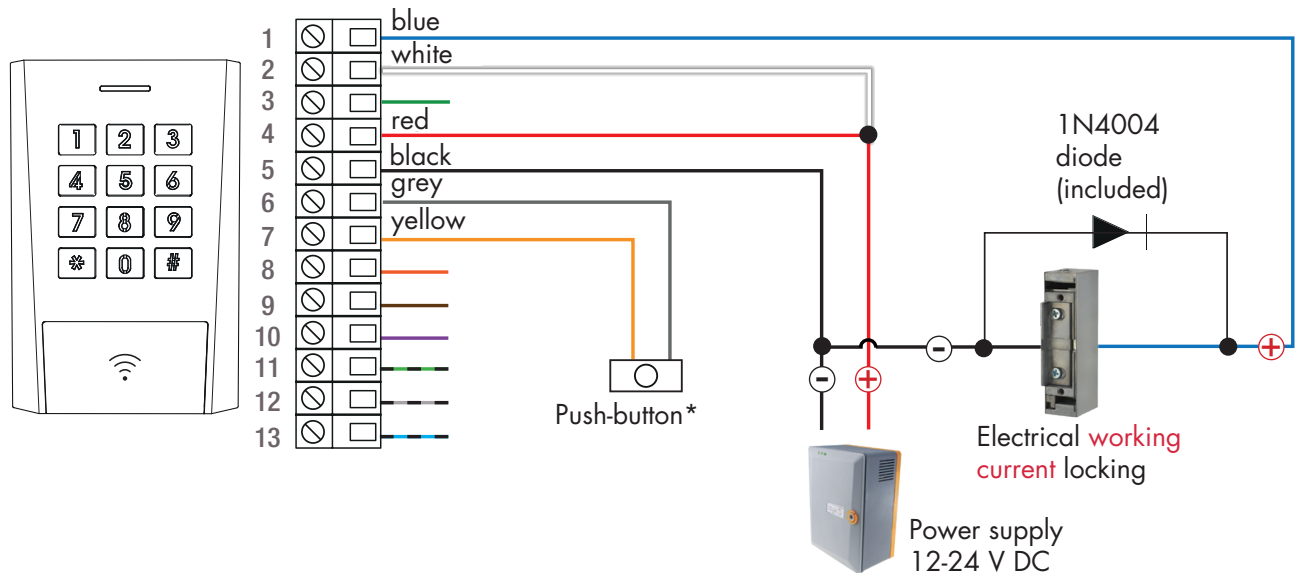
\* Can only be used with DC.

## V. Connection Diagrams

### 5.1 Electric Quiescent Current Locking



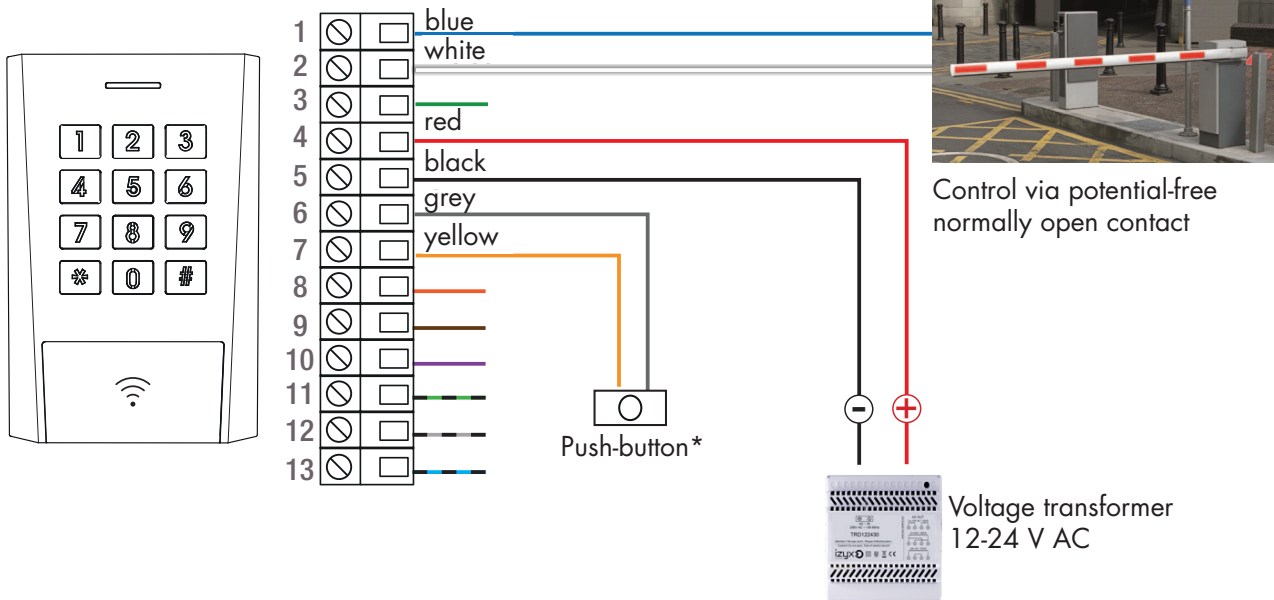
### 5.2 Electrical Working Current Locking



\* Push-button: Relay active during the delay time or as long as the push-button is pressed. In bistable mode, the push-button is not operational.

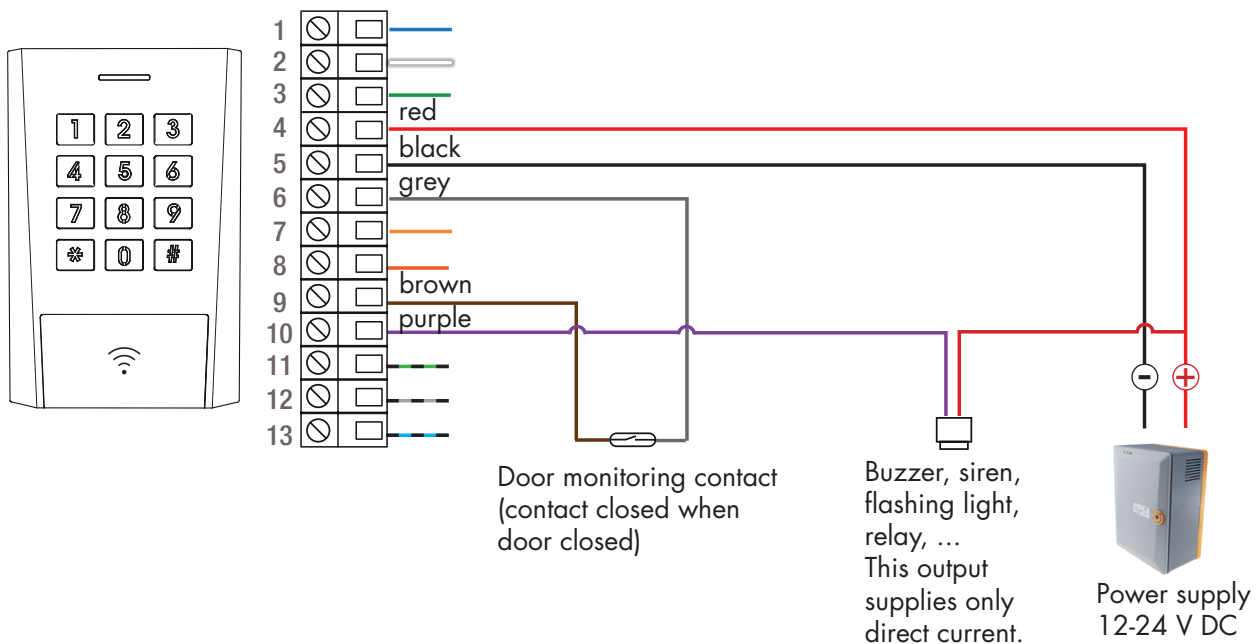
\*\* Timer: Relay active for the duration of the time programming.

### 5.3 Control via Potential-Free Normally Open Contact



\* Push-button: Relay active during the delay time or as long as the push-button is pressed. In bistable mode, the push-button is not operational.

### 5.4 Connection of a Door Monitoring Contact to Control the "Door Open Too Long and/or Door Broken Open" Alarm



## VI. Switching On VII. Input in the Programming Mode VIII. Changing the Master Code

### VI. Switching On

- After switching on, the blue LED and the buzzer function for 3 s, then the unit switches to standby mode and the blue LED flashes.
- Entering the factory master code **888888** followed by **#** activates relay R1 for 5 s (green LED lights up). **Attention: After saving a first user, the master code no longer activates the relay.**

### VII. Input in the Programming Mode

Keys	LED / Signal tone
1 * (You have 20 s to enter the master code)	●
2 Enter the master code followed by #	●
3 The unit is in programming mode, proceed with the desired function	
4 * to exit the programming mode*	●

\* Without action, the unit automatically exits programming mode after 60 s.

### VIII. Changing the Master Code



#### ATTENTION

The factory master code must be changed during initial installation.

Keys	LED / Signal tone
1 0 (Activates the function)	●
2 Enter the new master code (4 to 8 digits, except 0 and 000000), finally press #.	●
3 Enter the new master code again, finally press #.	OK = ● + 2 signals Error = ● + 5 signals
4 Select another function or press * to exit programming mode.	● or ●

## IX. Programming and Deleting Users

### 9.1 Programming a Code or RFID Tag

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>11</b> (Activates the function)	●
2 Enter the user position (1 to 999), finally press <b>#</b> .	●
3 Select the relay(s) assigned to the user. <b>1</b> = R1 or <b>2</b> = R2 <sup>(2)</sup> or <b>1;2</b> = R1 and R2 <sup>(2)</sup> simultaneously, finally press <b>#</b> .	●
<b>4A</b> <b>Programming a code</b> Enter the code (1 - 8 digits, except for 0 and 00000000), finally press <b>#</b> .	OK = ● + 2 signals Error = ● + 5 signals
<b>4B</b> <b>Programming a RFID Tag</b> Read in RFID tag or enter UID <sup>(1)</sup> of RFID tag, finally press <b>#</b> .	OK = ● + 2 signals Error = ● + 5 signals
- Programming another user: Repeat from step 1.	
5 Select another function or press <b>*</b> to exit the mode.	● or ●

### 9.2 Programming of Consecutive RFID Tags

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>12</b> (Activates the function)	●
2 Enter the user position of the 1st user (1 to 999), finally press <b>#</b> .	●
3 Select the relay(s) assigned to the user. <b>1</b> = R1 or <b>2</b> = R2 <sup>(2)</sup> or <b>1;2</b> = R1 and R2 <sup>(2)</sup> simultaneously, finally press <b>#</b> .	●
4 Read in the RFID tags one after the other, finally press <b>#</b> .	OK = ● + 2 signals Error = ● + 5 signals
5 Select another function or press <b>*</b> to exit the mode.	● or ●



## 9.3 Programming a Code + RFID Tag

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>15</b> (Activates the function)	●
2 Enter the user position (1 to 999), finally press <b>#</b> .	●
3 Select the relay(s) assigned to the user. <b>1</b> = R1 or <b>2</b> = R2 <sup>(2)</sup> or <b>1;2</b> = R1 and R2 <sup>(2)</sup> simultaneously, finally press <b>#</b> .	●
4 Enter the code (1 - 8 digits, except for 0 and 00000000), finally press <b>#</b> .	● Error = ● + 5 signals
5 Read in RFID tag or enter UID <sup>(1)</sup> of RFID tag, finally press <b>#</b> .	OK = ● + 2 signals Error = ● + 5 signals
- Programming another user: Repeat from step 1.	
6 Select another function or press <b>*</b> to exit the mode.	● or ●

## 9.4 Deleting Users

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>2</b> (Activates the function)	●
<b>2A</b> <b>Deleting a user</b> Enter the user position (1 to 999) or read in RFID tag or enter UID <sup>(1)</sup> of RFID tag, finally press <b>#</b> .	OK = ● + 1 signal Error = 3 signals
<b>2B</b> <b>Deleting all users</b> Enter <b>00000000</b> , finally press <b>#</b> .	OK = ● + 1 signal Error = 3 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●



**ATTENTION**

A user cannot be programmed in more than one place.

A user cannot be replaced without prior deletion.

(1) Mandatory 10 decimal digits (conversion of the 8-digit hexadecimal UID LSB). Example: hexadecimal UID 499602D2 = decimal UID 1234567890.

(2) R2 cannot be assigned to a user if R2 is programmed as a „call or hold-up button“.

## X. Advanced Programming Functions

### 10.1 Time Delay Relay 1

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>31</b> (Activates the function)	●
2A <b>Time relay (factory setting to 5 s)</b> Enter duration from 1 to 300 s, finally press <b>#</b> .	OK = ● + 2 signals Error = ● + 5 signals
2B <b>Bistable relay (On/Off)</b> <b>0</b> and <b>#</b> (in this mode, the BP REX1 input cannot be used)	OK = ● + 2 signals Error = ● + 5 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●

### 10.2 Time Delay Relay 2

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>32</b> (Activates the function)	●
2A <b>Time relay (factory setting to 5 s)</b> Enter duration from 1 to 300 s, finally press <b>#</b> .	OK = ● + 2 signals Error = ● + 5 signals
2B <b>Bistable relay (On/Off)</b> <b>0</b> and <b>#</b> (in this mode, the BP REX2 input cannot be used)	OK = ● + 2 signals Error = ● + 5 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●

### 10.3 Call or Hold-up Button

To start programming mode, see point VII.  
When this function is programmed, pressing the **0** and **#** keys in succession activates the R2 for a programmable duration of 1 to 300 sec. This function can only be programmed if R2 is not assigned to a user.

Keys	LED / Signal tone
1 <b>4</b> (Activates the function)	●
<b>2A</b> <b>Call or hold-up key active</b> 1 Enter <b>1</b> and <b>#</b> in succession. Enter a duration from 1 to 300 s, finally press <b>#</b> .	OK = ● + 1 signal
<b>2A</b> 2	OK = ● + 2 signals Fehler = 3 signals
<b>2B</b> <b>Call or hold-up key inactive</b> (factory setting) Enter <b>2</b> and <b>#</b> in succession..	OK = ● + 2 signals Fehler = 3 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●

### 10.4 Keypad Illumination

To start programming mode, see point VII.

Keys	LED / Signal tone
1 <b>51</b> (Activates the function)	●
<b>2A</b> <b>Illumination always on</b> (factory setting) Enter <b>1</b> and <b>#</b> in succession.	OK = ● + 2 signals Error = ● + 5 signals
<b>2B</b> <b>Illumination always off</b> Enter <b>2</b> and <b>#</b> in succession.	OK = ● + 2 signals Error = ● + 5 signals
<b>2C</b> <b>Automatic switch-off of the illumination after 60 s</b> Enter <b>3</b> and <b>#</b> in succession.	OK = ● + 2 signals Error = ● + 5 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●

## 10.5 Buzzer Volume

To start programming mode, see point VII.  
Volume of the buzzer when entering a code or reading an RFID tag.

	Keys	LED / Signal tone
1	<b>61</b> (Activates the function)	●
2	Enter a volume from 0 to 5 (0 = OFF / 5 = maximum), finally press <b>#</b> (factory setting: volume 3)	OK = ● + 2 signals Error = ● + 5 signals
3	Select another function or press <b>*</b> to exit the mode.	● or ●

## XI. Alarm Programming



### ATTENTION

The alarm Door open too long/ Door broken open requires the connection of a position contact (e.g. magnetic contact) between the brown (DPC) and the grey (GND) lead. This contact must be closed when the door is closed.

### 11.1 «Door Open Too Long» Alarm

To start programming mode, see point VII.  
Clear the alarm by simply closing the door, reading in an RFID tag or entering a valid user code.

Keys	LED / Signal tone
1 <b>71</b> (Activates the function)	●
<b>2A</b> 1 <b>Alarm TZLO active.</b> Enter <b>1</b> and <b>#</b> in succession.	OK = ● + 1 signal
Enter a duration of 1 to 300 s before the alarm is triggered, finally press <b>#</b> .	OK = ● + 1 signal
<b>2A</b> 2	Error = 3 signals
<b>2A</b> 3 Buzzer <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> .	OK = ● + 1 signal
<b>3</b>	Error = 3 signals
<b>2A</b> 4 Alarm output <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> .	OK = ● + 2 signals
<b>4</b>	Error = 3 signals
<b>2B</b> 3 <b>Alarm TZLO inactive</b> (factory setting). Enter <b>2</b> and <b>#</b> in succession.	OK = ● + 2 signals
<b>3</b>	Error = 3 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●

## 11.2 Alarm «Door Broken Open»

To start programming mode, see point VII.  
Clear the alarm by simply closing the door and the end of the alarm duration, reading in an RFID tag or entering a valid user code.

Keys	LED / Signal tone
1 <b>72</b> (Activates the function)	●
<b>2A</b> <b>Alarm TA active.</b> 1 Enter <b>1</b> and <b>#</b> in succession.	OK = ● + 1 signal
<b>2A</b> Enter an alarm duration from 1 to 300 s, finally press <b>#</b> . <b>2</b>	OK = ● + 1 signal Error = 3 signals
<b>2A</b> Buzzer <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> . <b>3</b>	OK = ● + 1 signal Error = 3 signals
<b>2A</b> Alarm output <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> . <b>4</b>	OK = ● + 2 signals Error = 3 signals
<b>2B</b> <b>Alarm TA inactive</b> (factory setting). Enter <b>2</b> and <b>#</b> in succession.	OK = ● + 2 signals Error = 3 signals
<b>3</b> Select another function or press <b>*</b> to exit the mode.	● or ●

### 11.3 Alarm «Abuse Attempt»

To start programming mode, see point VII.  
Locking of the keypad / reader and activation of the alarm and/or buzzer output after 10 consecutive invalid RFID tags or user codes within 10 minutes. If the "call or hold-up button" function is active, it remains functional during the alarm period.

Keys	LED / Signal tone
1 <b>73</b> (Activates the function)	●
<b>2A</b> <b>Alarm MV active.</b> 1 Enter <b>1</b> and <b>#</b> in succession.	OK = ● + 1 signal
2A Enter an alarm duration from 1 to 300 s, finally press <b>#</b> . 2	OK = ● + 1 signal Error = 3 signals
<b>2A</b> Buzzer <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> . 3	OK = ● + 1 signal Error = 3 signals
<b>2A</b> Alarm output <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> . 4	OK = ● + 2 signals Error = 3 signals
<b>2B</b> <b>Alarm MV inactive</b> (factory setting). Enter <b>2</b> and <b>#</b> in succession.	OK = ● + 2 signals Error = 3 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●



## 11.4 «Self Protection» Alarm

To start programming mode, see point VII.  
The alarm is cleared by closing the keypad / reader and the end of the alarm duration, reading a badge or entering a valid user code.

Keys	LED / Signal tone
1 <b>74</b> (Activates the function)	●
<b>2A</b> 1 <b>Alarm SS active.</b> Enter <b>1</b> and <b>#</b> in succession.	OK = ● + 1 signal
<b>2A</b> 2 Enter an alarm duration from 1 to 300 s, finally press <b>#</b> .	OK = ● + 1 signal Error = 3 signals
<b>2A</b> 3 Buzzer <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> .	OK = ● + 1 signal Error = 3 signals
<b>2A</b> 4 Alarm output <b>1</b> = active / <b>2</b> = inactive (during alarm), finally press <b>#</b> .	OK = ● + 2 signals Error = 3 signals
<b>2B</b> Enter <b>2</b> and <b>#</b> in succession. <b>Alarm SS inactive</b> (factory setting).	OK = ● + 2 signals Error = 3 signals
3 Select another function or press <b>*</b> to exit the mode.	● or ●

## XII. Reset to Factory Settings

## XIII. Dimensions

## XIV. Standard Displays

### XII. Reset to Factory Settings

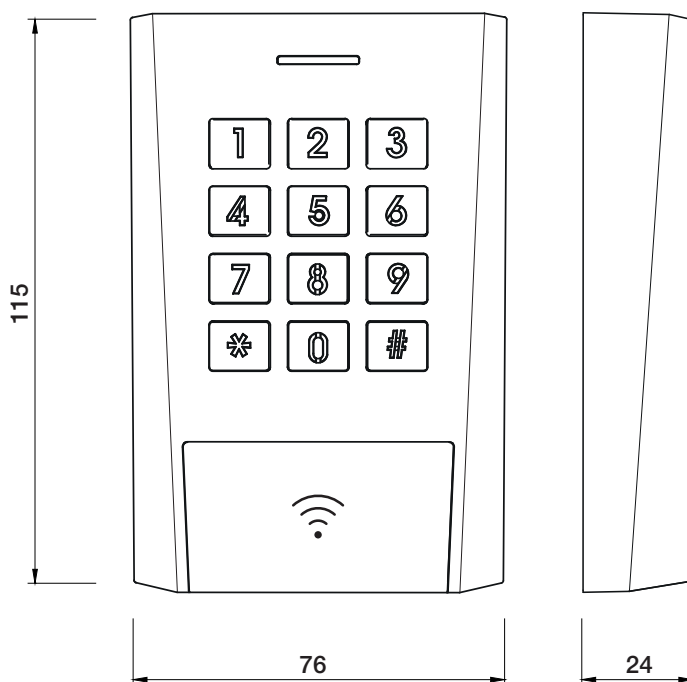


#### ATTENTION

This operation restores the factory default settings. The programmed users are not deleted (for deleting users see page 9).

- Switch off the unit.
- Press and hold the \* key.
- Switch on the unit.
- Release the \* key AFTER the 4 signal tones.

### XIII. Dimensions



### XIV. Standard Signals

Status	LED / Signal tone
Standby (in normal operation/standby mode)	●
Relay 1 and/or relay 2 activated	● and/or ● + 1 signal
PIN code or RFID Tag	● + 5 signals
On alarm	● + signal during alarm duration