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1 Introduction to the instructions and warnings

This manual is only intended for qualified technical installation personnel.

None of the information contained in this document may be considered of interest to the end user.

This manual refers to the wireless numeric code keypads of the ROGER series H85/TDR for ROGER automation control and other devices that are within the specifications.



WARNINGS

Read the instructions carefully before installation. In accordance with the relevant legislation, installation should only be performed by qualified service personnel.

Make the connections with the cables that are suitable for the specified currents and voltages, respect the technical specifications of the product.

CAUTION! These devices are sensitive to electrostatic discharges, therefore avoid touching the sides of the card and wires with your hands.

2 Product description

The numeric code keypad allows for the activation of the radio transmission only after having entered an enabled code, i.e. one previously stored in the memory of the keyboard: this makes the activation of the device more secure, as well as the activation/de-activation of the alarms. The keyboard is configured as per the production standard to work with fixed code ROGER radio receivers (**H93/RX22A/I**, **R93/RX12A/I** and **R93/RX12A/U**). It is possible to change the type of transmission, in order to, as an alternative, attain compatibility with "rolling code" receivers **H93/RX2RC/I** and **R93/RX2RC/U** which adopt the RTHSE standard (Roger Technology High Security Encryption). The "rolling code" transmission is recommended for installations requiring a very high level of security, thanks to the 144-bit processed through multi-level encryption. It is possible to store up to 450 user codes, each of which can have a maximum of 6 digits. To store codes you need to know the password, which must be customized during installation in order to ensure the security of access. By making the password change, the transmission mode is also started (fixed or "rolling" code).

When choosing user codes it is recommended to use up to 5 digits for optimal system security as well as ease of use; for the more demanding users who seek maximum security there is a special mode, which is described in section 6 ADVANCED FEATURES: MASKING OF THE CODE.

The wireless numeric code keypad exists in three versions:

- **H85/TDR/E**: version for wall mounting
- **H85/TDR/C**: version for mounting on pedestal
- **H85/TDR/I**: built-in version

Spare part code:

- **H85/TDR**: replacement wireless keyboard, includes all the components shown in **Figure 1**.

3 Technical specifications

NUMBER OF STORABLE USER CODES	450
MAXIMUM NUMBER OF DIGITS PER USER CODE	6
MINIMUM NUMBER OF DIGITS PER USER CODE	3
BIT NUMBER OF THE IDENTIFICATION CODE OF THE KEYBOARD	16 (fixed code) - 32 ("rolling code")
NUMBER OF CODE COMBINATIONS	65536 (fixed code) - 4.294.967.296 ("rolling code")
NUMBER OF BITS TRANSMITTED	28 (fixed code) - 144 ("rolling code")
TRANSMISSION FREQUENCY	433.92 MHz
MODULATION TYPE	AM / ASK
MAXIMUM DISTANCE OF OPERATION IN FREE FIELD	100m
AVERAGE CONSUMPTION WITH ACTIVATED KEYBOARD	12mA
BATTERIES	2 x CR2032
BATTERY LIFE	minimum 2 years with 10 activations/day
OPERATING TEMPERATURE	-10°C ... +55°C
PROTECTION RATING	IP54
PRODUCT DIMENSIONS	H85/TDR/I size in mm. 75x77x60 Weight: 119g H85/TDR/E size in mm. 75x77x41 Weight: 114g H85/TDR/C size in mm. 75x98x58 Weight: 256g

4 Functioning of the keys and messages

The keys **0** to **9** along with the keys ***** and **#** allow the activation of the change of password sequences, the save/delete code, the full deletion of codes and more. Four keys have a dual function since they are also used to activate the radio broadcast:

- Key **1 / A**: activation of the radio channel **CHA**
- Key **4 / B**: activation of the radio channel **CHB**
- Key **7 / C**: activation of the radio channel **CHC**
- Key ***** / **D**: activation of the radio channel **CHD**

The **A,B,C,D** channel keys do not have a predetermined function and can be stored on any function of the radio receiver.

The keyboard has a green LED and a red one (see **Figure 1**, Detail **A**: **LV** and **LR**, respectively), and a buzzer: these are used to give messages while typing and during the various stages of operation.

During the radio broadcast:

- in fixed code mode the red LED flashes
- in "rolling code" mode the green LED flashes.

5 Installation

Before attaching the keyboard into the appropriate slot:

- Connect the batteries to the keyboard connector (see **Figure 6** details **D**, **F**).
- Change the security password (see section 5.1 CHANGE PASSWORD); write down the new

password in an adequate and secure place. Upon performing the password change you also enable the transmission mode (fixed or "rolling" code).

CAUTION! A change of password is required in order to maintain the level of security of the installation, otherwise a code could be stored in a fraudulent manner thus allowing an attacker to activate radio commands using this fraudulent code.

- Deleting saved user codes (see section 5.2 COMPLETE DELETION OF USER CODES).
- Storing at least one user code in the keyboard memory (see paragraph 5.3 STORING A USER CODE).
- Determine the maximum number of radio functions you want to activate on the receiver or receivers envisaged in the installation: this determines the number of channel keys to be enabled on the keyboard.¹
- Store the aforementioned keyboard channel keys on the receiver (see paragraph 5.4 STORAGE ON THE RECEIVER)
- Verify, when placing the keyboard, that the intended installation point allows for the remote operation of the receiver; if the placement distance does not guarantee good transmission, change the installation point or evaluate the positioning of the receiver's antenna (or, if absent, its installation)

After completing these operations you may now

attach the keyboard in the desired location, the attachment is performed in the same way (see **Figure 2, 3, 4**).

- Remove the trims that cover the housings of the mounting screws (**Figure 2,3,4**, detail **B**).
- With the two screws provided, secure the keyboard onto the included support.
- Reattach the trims, making sure they interlock properly.

NOTE

¹It is possible to use one keyboard to control several radio receivers, for example 4 receivers can each be activated with a single channel button (**A, B, C, D**) on your keyboard. It is possible to store user codes that enable transmission with all channel keys, and other codes that allow a limited use instead.

5.1 Changing the password

CAUTION! The factory assigned password is **0000**. A change of password is required in order to ensure a secure installation.

The sequence of key presses also allows you to set the transmission type: fixed code or "rolling code". This setting can be changed as many times as you want, but must be accompanied by a change of the radio receiver (if you set the "rolling code" transmission you must use a receiver **H93/RX2RC/I** or **R93/RX2RC/U**).

User codes will remain unchanged in the memory, the only difference is that this changes the radio transmission, as evidenced by the flashing red (fixed code) or green ("rolling code") LED.

We use *<old password>* to refer to the sequence of numbers that make it up, and *<new password>* to refer to the password you want to set; then type in the following sequence:

- To change the password and set the transmission mode with a fixed code:

* * *<old password>* *

the red LED **LR** turns on steadily. Then type the following:

<new password> * *<new password>* *

If the procedure was successful: the green LED **LV** lights up and the buzzer is activated for 2". Otherwise you will receive the error message (5 quick flashes of the red LED **LR**, accompanied by the intermittent activation of the buzzer; see

paragraph 7).

- To change the password and set the "rolling code" transmission mode:

* * *<old password>* #
<new password> # *<new password>* #

EXAMPLE

To change the password **0000** to **352894**, setting the transmission as a "rolling code", enter the following sequence:

* * **0000** # **352894** # **352894** #

5.2 Completely deleting user codes

We use *<password>* to refer to the sequence of numbers that make up the password; to delete all user codes from memory, enter the following sequence:

* *<password>* # # *

If the inserted password is correct, the green and red LEDs flash slowly for 2", along with the simultaneous activation of the buzzer.

5.3 Storing a user code

We use *<password>* to refer to the sequence of numbers that make up the password, *<new code>* to denote the user code you want to store and *<A/B/C/D>* to denote any sequence of channel keys you want to enable for the user who will use the said code, in order to activate the desired number of functions on the radio receiver; type the following sequence:

* *<password>* *

If the password is correct, the red LED **LR** lights up. Then type the following:

<new code> # *<A/B/C/D>* #

the red LED **LR** turns off and the green **LV** one lights up for 2", and the buzzer remains active until the LED turns off

NOTE: If you want to enable all four channel buttons, you can avoid pressing keys in sequence **A, B, C, D** and go straight to typing #.

EXAMPLES

The password **432189**, is used to store the user code **3474** enabling all the channel buttons, enter the following sequence:

```
* 432189 * 3474 # #
```

The password **432189** is used to store the code **4211** and only enable the channel **B**:

```
* 432189 * 4211 # B #
```

5.4 Storing on the radio receiver

The wireless keypad, after being enabled with the user code, becomes in effect a 4-button remote control (1/A, 4/B, 7/C, */D). In order to activate a receiver you must store one or more of these channel buttons on the receiver or receivers provided for in the installation.

Then proceed as described below.

With the receiver powered on, press on the (**P1** or **P2**, see **Figure 5**) corresponding to the function where you want to store the channel key of the keyboard: upon releasing the button, the corresponding LED (**L1** or **L2**) emits 3 slow flashes.

During this time, enter one of the user codes previously stored in the keyboard, press the asterisk key * and finally press the button for the chosen channel: a prolonged lighting up of the receiver LED (**L1** or **L2**) indicates the storage was executed, while 3 consecutive quick flashes indicate that the code is now present in the memory.

The LED will now proceed with another 3 slow blinks awaiting the new storage. If during this time no other codes are transmitted the receiver exits the programming phase. A channel key on the keyboard may only be associated to a single receiver function. **CAUTION!** If you want to delete a keyboard channel key from the receiver, you must enter the code deletion procedure on the receiver (see instruction leaflet), and then proceed as stated above. The code that is transmitted from the keyboard is deleted in the receiver.

5.5 Activation of the radio transmission

To activate transmission, type in the user code followed by the asterisk key *. If the code entered is stored in the memory, the green LED **LV** lights up; at this point by pressing a channel button (provided it is associated with that user code when stored) the radio transmission is turned on: in the case of a fixed transmission code the red LED flashes, if you

are employing a "rolling code", however, the green LED flashes.

The minimum duration of the transmission is preset, you can continue to transmit (for example to activate a "dead-man" automation) with a consequent increase in battery consumption compared to a standard use.

The time available between pressing a button and the next one is 5 seconds; if you are typing too slow, you will activate the error message and must start over.

The time allowed to send a radio command (after entering the user code with the green LED **LV** lit) is 5 seconds, after which you will exit the mode (the green LED turns off, the buzzer makes one long "beep").

CAUTION

- If you press a channel button that is not enabled, there is no radio transmission; the available 5 second countdown will be reset.
- To exit the transmission mode as soon as you have sent a command, press the # key.

5.6 Deleting a user code

We use *<code to be deleted>* to indicate the sequence of numbers that make up the code that you want to delete; type the following sequence:

```
# # <code to be deleted> *
```

If the code is present in the memory, the red LED **LR** flashes a few times then stays lit. Then type the following:

```
<code to be deleted> *
```

If the code entered is the same as the previous one, then the procedure has been successful and the green LED **LV** lights up for 2", the buzzer will remain on until the LED turns off.

6 Advanced Features: masking the code

CAUTION! This feature is automatically enabled when using 6-digit user codes.

To increase the level of security of the installation, a masking function provides you the ability to "hide" the actual code in the middle of randomly keyed digits, of any desired quantity. The code that will be considered will be composed of the last 6 digits entered before the asterisk key *.

If you press the asterisk key * you will not receive

any signal from the LEDs or buzzer.

We use <previous random digits> and <following random digits> to indicate the random number sequences typed by the user before the <6 digit user code>, and after having pressed the asterisk key *, respectively; the typing sequence with masking code will therefore be the following:

<previous random digits>
<6 digit user code> *
<following random digits> *

If the <6 digit user code> is present in the memory then the green LED **LV** lights up, at this point by pressing a channel button (provided that it matches the stored user code) you can activate the radio transmission.

For example, to activate the 6-digit code **245672** you can type the following sequence:

294862...308236 **245672** * 057986...791964 *

and finally the channel keys **A, B, C, D** to activate the transmission.

NOTE: The numbers are irrelevant and not necessary. Activation can be done by simply typing **245672 ****.

7 Error message

Any time the typed sequence is not correct the error signal will be given, by emitting 5 quick flashes of the red LED **LR**, accompanied by the intermittent activation of the buzzer. An error signal can occur for the following reasons:

- The entered number is not recognized (for example, you typed an incorrect password or a user code that is not present in the memory).
- You are trying to enter a code or password with more than 6 digits or less than 3 digits.
- You typed the number too slowly.
- In the procedure for the deletion of a user code or password change, if there is a difference between the first number inserted and the confirmation number.
- If you are trying to store a code already present in the memory
- If a begun sequence has not been completed; for example, if you enter a code, but you do not press the * character after a few seconds the keypad will signal an error message
- When running a storage or cancellation operation and the # key is typed instead of the asterisk *.

8 Keypad lock message

If you enter an incorrect user code 5 consecutive times, the keyboard will start to flash the red and green LEDs (**LR** and **LV**) in an alternating manner and will then be locked for 20 seconds. Pressing the keys will give you no message at all.

9 Low battery indicator

The loss of battery charge is indicated by the simultaneous lighting up of the red and green LEDs while typing the user code. You can still perform a radio transmission, but it is advisable to replace the batteries.

If you continue to use the keyboard, it will be locked definitively: even if you key in the correct user code, you will see the lockout signal (red and green LEDs that flash alternately), and the radio transmission is disabled.

10 Replacing the batteries

CAUTION! Use batteries of the same brand; do not mix new batteries with used batteries.

To replace the batteries, follow the following sequence of operations:

- Remove the side trims and unscrew the two screws underneath to remove the keyboard from the slot (**Figure 2,3,4**, detail **B**).
- Remove the battery pack connector (**Figure 6**, detail **D**)
- Loosen the screw that secures the battery pack to enable opening it (**Figure 6**, detail **E**).
- Replace the batteries while ensuring the correct polarity as indicated on the battery holder (**Figure 6**, detail **C**).
- Reinstall the battery pack and secure it with the appropriate screw
- Reconnect the connector to the keyboard: at this point the keyboard is presented as shown in **Figure 6**, detail **F**.
- Replace the keypad in its slot, secure it with the screws and reinsert the trims

11 Testing

Verify that the activation of the radio transmission activates all the corresponding outputs on the receivers.

Make sure that during the transmission, the red LED flashes when the fixed code transmission is set, or

that the green LED flashes if set to "rolling code" transmission.

Make sure that as you type your user code the red and green LEDs do not light up simultaneously (if so, the battery has no charge: assess if substitution is necessary).

While typing the "beep" emitted by the buzzer should be heard, and the green LED must light up briefly.

12 Maintenance

Perform scheduled maintenance every 6 months by checking the state of cleanliness and operation of the device, as indicated in paragraph 11 Testing).

13 Disposal

The product must always be removed by qualified personnel using the appropriate procedures for the proper removal of the product.

This product is made from various types of materials, some can be recycled and must be disposed of through the recycling or disposal guidelines established by local regulations for this type of product.

It is forbidden to dispose of this product as household waste. Reserve for "separate collection" when disposing in accordance with the guidelines specified by local regulations; or return the product to the seller when purchasing an equivalent new product.

Local regulations may provide for heavy penalties for illegal disposal of this product.

Warning: some parts of the product may contain pollutants or may be hazardous, if disposed of improperly they could cause harmful effects to the environment and to human health.

