

## HEWI wallreader basis-unit ES5403

### Product description / scope

The HEWI wallreader basis-unit ES5403 is defined for usage within the electronic locking system ES5000 in combination with reading-modules ES5401, ES5402 or ES5404 to control peripheral devices like electric door openers, electric locks, electric door and gate drives, elevators and so on.

The usage for scopes apart from the usual requests for electronic locking systems has to be authorized by HEWI in the doubt. The basis-unit is suitable for security-critical applications only in combination with the reading-modules ES5401 / ES5402 / ES5404 and correct installation (see beyond). It must not be used in humid rooms or outside of buildings. For further informations contact the HEWI Servicecenter locking systems, fon +49 5691 82-200. The usage in dusty environment without further protections (for instance the mountage in dust protected casings) is not allowed.

### Warning

#### a) Security against manipulation (unauthorized access)

Attention: If using the ES5403 manipulation in access-direction is possible, if the basis-unit is not installed in the secured inside area (seen in access direction). That means that by removing the basis-unit the connection cables could be used for operating the peripheral device. For security-relevant applications the reader-module has to be seperated from the basis-unit. Please use the ES5403 in the secured inside area in combination with the ES5401 / ES5402 / ES5404 in the „unsecured“ outside area.

#### b) Environmental requirements

Combined with the HEWI covers the protection-class corresponds to IP21, therefore the ES5400 has to be used inside of buildings an in dry rooms. For the usage in humid rooms or in dusty environment, specially designed products are offered.

#### c) Combination with peripheral devices

For the operation with peripheral devices the operating instructions, technical specifications of the devices have to be observed.

#### d) Installation / maintenance

Installation and maintenance musted be executed without power supply – danger of injury or damage of the product or devices.

#### e) Sensitivity against contact (z.B. ESD)

Never touch electronical components or circuits of the circuit board, otherwise you could damage the wallreader irreparable.

#### f) Combination with electrical door openers / special time zones

If a special time zone should be used, which operates an electrical door opener for a longer time-period (> 20 s, e.g. opening from 9 to 12 am), you must use a door opener which could endure permanent power.

#### g) Non-operating at blackout

During a blackout (no power-supply) the wallreader is non-operational. The wallreader has an included battery-buffer, which guarantees the perservation of the stored data (programming, internal clock) Nonetheless plase check the internal time after a longer blackout. If a special time zone or a manual activated toggle-function was in work during the blackout, it will be automatically deactivated for security reasons, even if it should be active in

the moment after the blackout. For example: A special time zone has been programmed between 2 and 4 am. During this time the relay is activated, a peripheral electrical door opener is active, the door can be used by everyone without valid access-rights. At 3 am a blackout occurs, at half past 3 the power supply returns. The relay isn't activated any more, the door can only be opened by people with valid access-rights.

#### **h) Danger of lock-out or lock-in during installation**

Ensure, that during the installation of a wallreader combined with a door-lock, the door can always be opened manually, even if the wallreader or the door-lock is not working (e.g. because of incorrect installation). Always make complete function-test after installation.

#### **i) Interferences**

Strong electro-magnetic fields (e.g. transformers, tomographs, ...) and transmitters (IT-networks, telecommunications, ...) near the wallreader can cause malfunction or interferences!

#### **j) Connecting multiple reading-modules with a basis-unit / a compact-wallreader**

Up to 8 reading-modules ES5401 / ES5402 / ES5404 can be connected to a basis-unit ES5403. Up to 7 reading-modules ES5401 / ES5402 / ES5404 can be connected to a compact-wallreader ES5400. A unique address of the reading-modules is important (address-switch). Each address (1..9) must be used once per basis-unit / compact-wallreader (see figure 5).

The data connection uses a RS485-Bus, that means, the connection-cable is wired from the basis-unit / compact-wallreader to the first reading-module and from there to the second reading-module and so on. Umbrella wiring is not possible!

### **Variations**

The wallreader basis-unit ES5403 can be expanded with additional reading-modules ES5401 / ES5402 / ES5404. These can be connected with the connection-bar. For Details see the installation manual of those products.

### **Alternatives**

Alternative to the wallreader basis-unit ES5403 the compact wallreader ES5400 can be used.

### **Preparation of installation**

Please check before the installation, if the wallreader you tend to install is suitable for your application! Check especially:

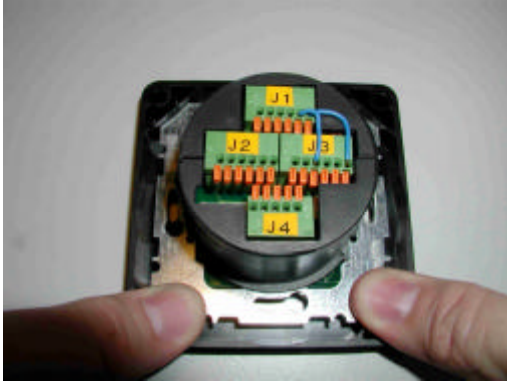
- Electrical data (voltage, current, power) of the wallreader and the peripheral devices.
- Suitability of the wallreader for the environment, especially the protection class IP21.
- The request at security of the system. In doubt always use an additional reader-module which will be installed on the „unsecure“ side, in combination with a basis-unit ES5403 or the compact-wallreader ES5400, installed on the „secure“ side.
- Please notice, that the security of the whole system always depends on the quality of peripheral devices such as doors, self-locking-locks, burglar-protected products, or an alarm-device. In addition the installation has always to consider the supposed attacking-direction.
- Please let security-relevant installations be implemented by suitable specialists.

### **Required Tools**

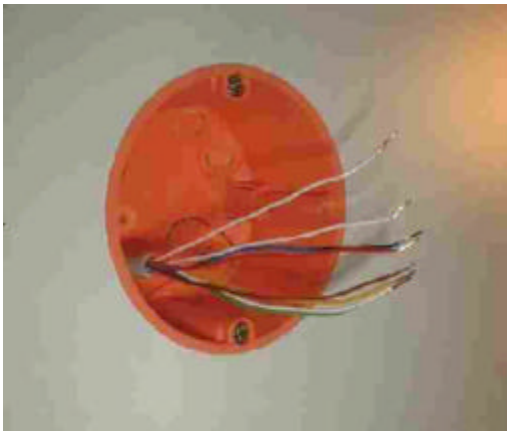
For the installation a screwdriver or a suitable screwdriver for mounting other screws is needed. To strip the connection cables a cable stripper or a side cutter is needed.

Attention: After the installation the relays are active. Therefore a door opener could be active. According to the application, a door could be unlocked and used by everyone. If this is not wished, please programm the wallreader instantaneously using the HEWIKey5 Administration-software, the programming device and the programming key / card. In doubt please contact the HEWI Servicecenter locking systems, fon +49 5691 82-200. Ensure, that during the installation of a wallreader combined with a door-lock, the door-lock, the door can always be opened manually, even if the wallreader or the door-lock is not working (e.g. because of incorrect installation). Always make a complete function-test after installation.

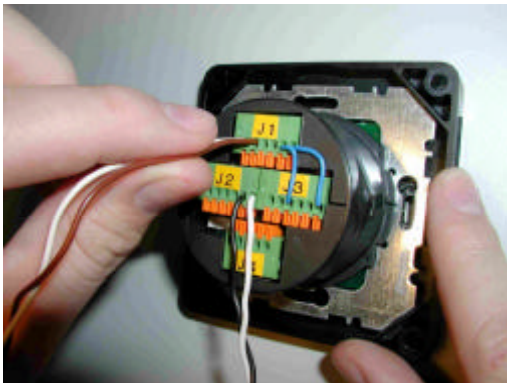
## Description of standard-installation



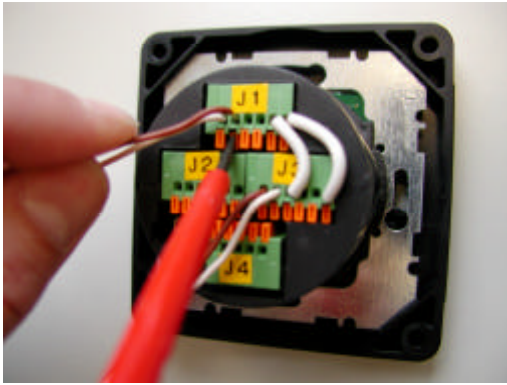
1. Lock the basis-unit ES5403 in backside of the cover (ES5410).



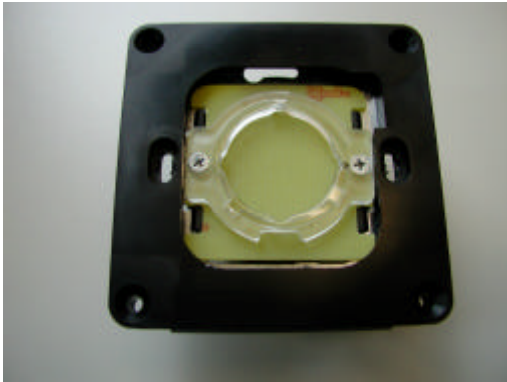
2. The sub-finery-socket (depth min. 40 mm) should be mounted smooth to the wall.



3. Install all necessary connections (power supply, relay, etc.) as shown in the wiring plan beyond. Plug the still connection cables into the right connector. They fit automatically.



3a. De-Installation:  
Move the lever with a small screwdriver (or smthg. similar) and remove the cable.



4. Mount the basis-unit onto the socket using the enclosed screws. Turn the screws carefully so that the circuit board doesn't become distorted. Alternative use 4 screws at the outside fitting-points.



6. Plug the cover onto the wallreader.

After switching on the power-supply, a beep sounds. The red and green LED blink in change every second. Simultaneously the relays are activated. This is because to ensure the door opening with non-personalised wall-readers.

For further steps (esp. programming) see the manual of the HEWIKey 5 Administration software.

## Description of known problems during installation including correctional action

- Connection cables are too thick and cannot be fitted into the connection-bar: Please use luster terminals and a short linkup of the cable-type specified in the data-sheet beyond.
- The wallreader (basis-unit + reading-module) isn't working correctly, for instance identifiers aren't red: Check the Position of the adress-switch of the reading-modules. Each module needs a unique adress (see installation-instruction of the modules ES5401 / ES5402 / ES5404).

## Control of function

Please always check the complete function of the installation.

## Maintenance

Basically the ES5403 doesn't need maintenance. However, we recommend to check the actuality of the internal time regularly. At least make the checks during the time switches (summer- wintertime).

We further recommend a regulary check of the correct function of the wallreader, especially in security-relevant areas. Security relevant can be every area, which will be affected by a possible malfunction or wrong programming. This means especially alarm-systems, which are operated by the wallreader or locks in escape- or outside-doors.

Please control the event-protocolls, which can be evaluated using the programming-device and the HEWIKey Software. Coceivably you'll find indications of a wrong-programming of the locking system, which can be critical (e.g. an active toggle-function, which wasn't planned or an occured access from a person without access-rights to given time). In that case, please check the correct programming of the wallreader first (especially time, holidays, special time zones) and the ident-media (especially access-rights to given time, groups and validity). In doubt, contact the HEWI Servicecenter locking systems, fon +49 5691 82 – 200.

## Care

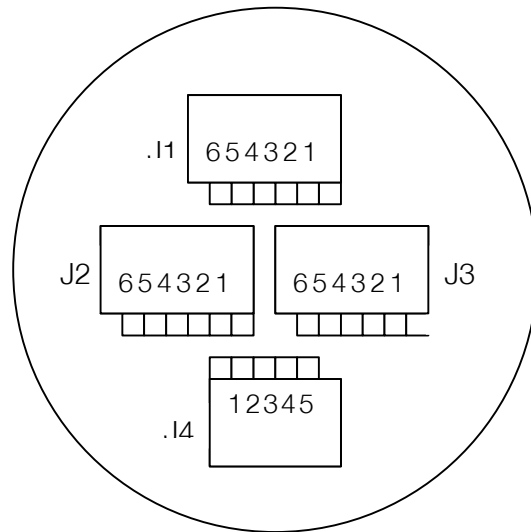
HEWI products are easy-care. Generally speaking, an occasional wipe with a damp cloth is enough, however, you fell you have to use detergents, you should take note of the following information: Only use detergents with ph-rating of between 6 and 8. Detergents containing active substances such as phospates, soap and tensides may be used. Detergents containing acids, alkalis, bleach or scouring agents may not be used. Nor should utensils with a scouring effect such as brushes etc. be used. Usage of any detergent requires full compliance with the manufacturer's instructions (concentration, soaking time etc.).

If this is not done, the surface finishes of the HEWI products may suffer as a result and sustain damage. HEWI accepts no liability whatsoever for damage occuring from incorrect handling.

For further information please contact HEWI Servicecenter locking systems, fon +49 5691 82-200.

**Data sheet**

General	
Product description	Wallreader basis-unit ES5403
<b>Casing</b>	
Length x width x height	70 x 70 x 44 mm
Material	synthetic
Installation depth	min. 40 mm
Installation diameter	50 mm
<b>Power supply / connections</b>	
Current	12 - 37 V DC unregulated 23 - 27 V AC
Input	4 - 37 V DC / 4 - 27 V AC 30 - 100 Hz +/- 10%
Current consumption	max. 500 mA without load (with 6 reader modules )
Switching capacity	Relay Closer/NO max. 40 V AC/DC / 1,6 A Relasi Opener/NC max. 40 V AC/DC / 0,25 A Relais Opener/NC (Alarm) max. 40 V AC/DC / 0,25 A
Connection cable	I-Y(ST)Y 8 x 2 x 0,8
Power adaptor	Depending on number of wallreaders.
<b>Specific data</b>	
Operating temperature	-20 bis +70 °C
Storage temperature	-40 bis +85 °C
Humidity	Max. 95% not condensing
Outputs	3 Relays (Photomos-Relays) 1 x NO (Closer), 2 x NC (Opener)
Data interfaces	RS485 e.g. for operating a programmable logic controller RS485 for communication with up to 8 reading-modules ES5401 / ES5402 / ES5404
Communication with programming device	Inductive coupling.
Connection configuration	See figure
Memory size	25.000 or 60.000 identifiers (after consultation of HEWI)
Time zones	2 per identifier
Special time zones	20, programmable with administration software HEWIKey5
<b>Tests</b>	
CE-test	Basic technical standard EN 5002 1081

**Wiring plan:**

Backside view

**inputs:**

- J1.1: input 1
- J1.2: input 1
- J1.3: input 2
- J1.4: input 2
- J1.5: power supply
- J1.6: power supply

Input 1 needs to be connected. If there is no alarm-device in use, the power supply has to be connected to input 1.

**outputs:**

- J2.1: closer 1 (NO)
- J2.2: closer 1 (NO)
- J2.3: opener 1 (NC)
- J2.4: opener 1 (NC)
- J2.5: opener 2 (NC)
- J2.6: opener 2 (NC)

**Serial interfaces:**

- J3.1: VCC (only for separated reader-module)
- J3.2: RS485-A (only for separated reader-module)
- J3.3: RS485-B (only for separated reader-module)
- J3.4: GND (only for separated reader-module)
- J3.5: RS485-A (SPS-interface)
- J3.6: RS485-B (SPS-interface)

**Connection basis-unit ES5403 <--> reading-module ES5401:**

	Basis-unit ES5403	Reading-module ES5401
RS485-A	J3.2	2 (socket X1 or X2)
RS485-B	J3.3	3 (socket X1 or X2)
VCC	J3.1	1 (socket X1 or X2)
GND	J3.4	4 (socket X1 or X2)