# ekey home

# English

# Table of contents

# General

ekey biometric systems GmbH operates a quality management system in compliance with EN ISO 9001:2008 and is certified accordingly.

**Note**

These instructions form a component of the product. Ensure that they are stored in a safe place. Please contact your dealer for further information about the product.

**Product liability and limitation of liability**

Safe operation and function of the devices can be impaired in the following situations. Liability due to malfunctioning is transferred to the operator/user in such cases:

- □ The system devices are not installed, used, maintained, or cleaned in accordance with the instructions
- □ The system devices are not used within the scope of proper use
- □ Unauthorized modifications are carried out on the system devices by the operator

These operating instructions are not subject to updating. We reserve the right to make technical modifications and change the product's appearance; any liability for errors and misprints is excluded.

**Warranty and manufacturer's guarantee**

The version of our general terms and conditions in force on the date of purchase shall apply. See http://www.ekey.net.

# Notices, symbols, and abbreviations

| ! | **NOTICE** |
|---|---|

Denotes additional information and useful tips.

| ⚠ | **DANGER** |
|---|---|

**Denotes imminent danger which could lead to death or serious injuries.**

| ⚠ | **ATTENTION** |
|---|---|

Denotes possible property damage which cannot result in injuries.

**Symbols:**

| | |
|---|---|
| 1. | Step-by-step instructions |
| $\boxed{i}$ | References to sections of these instructions |
| $\boxed{\partial i}$ | References to the mounting instructions |
| $\boxed{\mathcal{4}i}$ | References to the wiring diagram |
| □ | Listing without specified order, 1st level |
| Displayed value | Displayed values |
| *ekey home FS OM* | Product names |
| **MENU ITEM** | Menu items |
| Button | Buttons |

**Abbreviations and terminology**

| | |
|---|---|
| WM | Wall-mounted; *ekey control panel* model |
| ETS5 | Engineering tool software; software used for planning and configuring home automation systems with KNX bus system |
| FS | Finger scanner |
| IN | integra; *ekey control panel* model |
| KNX | Name given to a field bus (data transmission facility) for home automation systems |
| DRM | DIN-rail mounted |
| CP | Control panel |
| OM | Outlet-mounted; *ekey control panel* model |
| Event | Automated switching of individual or multiple consumers or actuators in an electrical system over the KNX bus system |
| Gateway | Data transfer point from one electronic system to another. |
| Home automation system | All electrical and electronic sensors and actuators in buildings which are connected via data transfer lines for the purpose of control and regulation. |

# Safety information

**Risk of electrocution**

**All ekey home devices are to be operated with Safety Extra Low Voltage (SELV). Only use power supplies rated protection class 2 according to VDE 0140-1.**
**Failure to do so will create a risk of fatal electrocution.**
**Only certified electricians are authorized to carry out the electrical installation work!**

**Tamper-proofing**

Mount the *ekey home converter KNX RS-485* in a secure internal area in the distributor. This prevents tampering from the outside.

# Product description

**System overview**
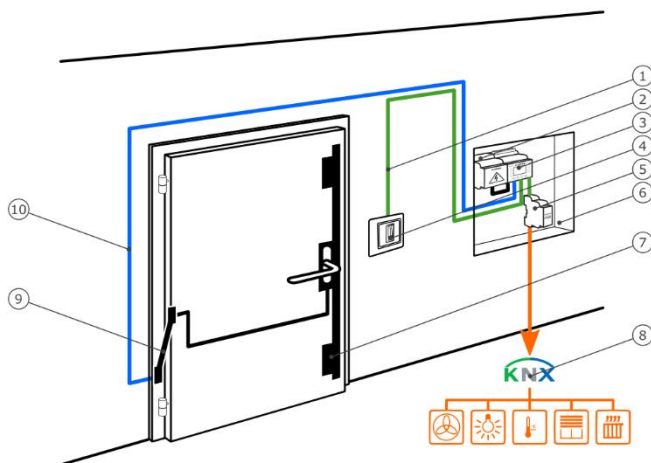


Fig. 1:     Overview of the system

1 Connection to finger scanner
2 Power supply
3 ekey control panel
4 ekey home finger scanner
5 ekey home converter KNX RS-485
6 Distributor
7 Motorized lock
8 Home automation system with KNX bus system

Your *ekey home converter KNX RS-485* includes the following components:

- □ *ekey home converter KNX RS-485*
- □ Operating instructions
- □ Wiring diagram

This product is a gateway. The product detects access information from an ekey biometric access control system. It processes this information and triggers events in KNX systems. This product is intended for installation in the distributor in the home and in small businesses.

### Function of the *ekey home converter KNX RS-485*

The *ekey converter KNX RS-485* functions exclusively with the *ekey home* and *ekey multi* biometric access control systems from ekey. The *ETS5* software for planning and installing KNX systems is used to configure the *ekey home converter KNX RS-485*. The *ekey home converter KNX RS-485* can trigger 12 events in the KNX system.

### Controls of the *ekey converter KNX RS-485*
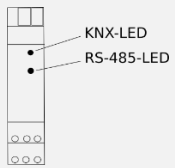
| Controls | Function |
|---|---|
|  KNX-LED RS-485-LED | The LEDs display the system statuses of the *ekey converter KNX RS-485*. |

Table 1: LED display table

# Technical specifications

| Name | Unit | Values |
|---|---|---|
| **Supply** | VDC | 12-24 |
| **Power consumption** | W | 0.5 |
| **Temperature range** | °C | 0 to +50 |
| **IP code** | IP | IP20 |
| **DIN-rail mounted** | HP | 1 |

Table 2: Technical specifications

# System identification

The *ekey converter KNX RS-485* can be operated using different ekey access control systems. Before you begin the commissioning process, determine which access control system you have. This is indicated by the *ekey control panel*:

*ekey home control panel mini 1*
*ekey home control panel mini 2*

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**i**    See Use with *ekey home control panel mini*, page 9.

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*ekey home control panel WM 1*
*ekey home control panel WM 3*

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**i**    See Use with *ekey home control panel WM/IN*, page 10.

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*ekey home control panel IN 1*
*ekey home control panel IN 2*

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**i**    See Use with *ekey home control panel WM/IN*, page 10.

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*ekey home control panel DRM 1*
*ekey home control panel DRM 2*

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**i**    See Use with *ekey home control panel DRM*, page 10.

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*ekey multi control panel DRM 4*

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**i**    See Use with *ekey multi control panel DRM*, page 14.

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# Installation

Mount the system in accordance with the supplied mounting instructions.

Wire the system in accordance with the supplied wiring diagram.

| NOTICE | ! |
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The wiring diagram displays the wiring of the *ekey home converter KNX RS-485*. Refer to the wiring diagram for the finger scanner for the wiring of the *ekey home finger scanner* and the lock.

# Commissioning

| NOTICE |
|---|

Extensive specialist knowledge is needed to configure a KNX system. Commissioning should be carried out by a KNX specialist.

The *ekey home converter KNX RS-485* is ready for operation once the wiring configuration has been carried out and it has been connected to the power supply.

The KNX LED lights up green. The RS-485 LED flashes green irregularly.

The *ETS5* engineering tool software and the required hardware components are used to configure the *ekey home converter KNX RS-485*. The *ekey home converter KNX RS-485* is a KNX-certified device and can be found in the device database of the KNX organization using the ETS5.

# Use

The *ekey home converter KNX RS-485* can trigger 12 events in a KNX system.

### Event "ekey-Event 1" - "ekey-Event 10"

Events are triggered when an authorized finger is recognized on the *ekey finger scanner*. Up to 10 events can be triggered. These events are referred to as "ekey-Event 1" to "ekey-Event 10". Every identified finger can trigger an event.

You can set the following functions for "ekey-Event 1" to "ekey-Event 10":

| Function | Settings | Description |
|---|---|---|
| **switch** | on/off | Switches an actuator on or off |
| **send value** | 0 – 100% | A control value between 0 and 100% is defined |
| **call scene** | [scene number] | A scenario programmed in the KNX system with the [scenario number] is triggered |

Table 2: Description of ekey event 1-10

All 3 functions can also be activated simultaneously.

### Event "unknown"

The ekey event "unrecognized" is triggered when the *ekey finger scanner* does not recognize a finger.

| **NOTICE** |
|---|

No settings need to be adjusted for this function in the ekey system (ekey control panel).

You can set the following functions for the ekey event "unrecognized":

| Function | Settings | Description |
|---|---|---|
| **switch** | on/off | Switches an actuator on or off |
| **send value** | 0 – 100% | A control value between 0 and 100% is defined |
| **call scene** | [scene number] | A scenario programmed in the KNX system with the [scenario number] is triggered |

Table 4: Description of event "unrecognized"

**Event "security"**

The ekey event "security" is triggered when the ekey finger scanner does not recognize a finger several times in a row within a specified time span.

You can set the following functions for the ekey event "security":

| Function | Settings | Description |
| --- | --- | --- |
| switch | on/off | Switches an actuator on or off |
| amount of failed attempts | 0–50 | The ekey event is triggered when a finger is not recognized by the *ekey finger scanner* the selected number of times. |
| time zone | 1-10 min | The number of unrecognized fingers must occur within this time span. |

Table 5:     Description of event "security"



*ekey home control panel mini 1*
*ekey home control panel mini 2*

**Use with *ekey home control panel mini***

No settings need to be configured on the *ekey home control panel mini*. The following ekey events are automatically triggered in the KNX system:

- □ If a finger is recognized, the event "ekey-Event 1" is triggered
- □ If a finger is not recognized, the ekey event "unrecognized" is triggered
- □ The ekey event "security" is triggered when the set conditions are met

**Use with *ekey home control panel WM/IN***

*ekey home control panel WM 1*
*ekey home control panel WM 3*

*ekey home control panel IN 1*
*ekey home control panel IN 2*

| NOTICE |
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For storing fingers, please see the *ekey home CP WM/IN* operating instructions.

When a finger is stored (see *ekey home CP WM/IN* operating instructions, section "Storing fingers"), it is assigned a number in the range of F1-F10. This assigned finger number defines which ekey event is triggered in the KNX system:

- □ If a finger is stored as finger number F1, then the event "ekey-Event 1" is triggered in the KNX system
- □ If a finger is stored as finger number F2, then the event "ekey-Event 2" is triggered in the KNX system
- □ Etc.

The ekey events "security" and "unrecognized" do not need to be configured in the *ekey home control panel WM/IN*. They are automatically triggered when the conditions are met.

**Use with *ekey home control panel DRM***

*ekey home control panel DRM 1*
*ekey home control panel DRM 2*

| NOTICE |
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In order to configure the *ekey home control panel DRM* for use with the *ekey converter KNX RS-485*, please see the *ekey home CP DRM* operating instructions.

**Activating KNX**

When operating the *ekey converter KNX RS-485* with the *ekey home control panel DRM*, the KNX function must be activated in the control panel.

Enter the security code into the control panel. The system displays the main menu.

| Step | Action | Description | Display |
|------|--------|-------------|---------|
| 1. | ⊘,⊘ | Press ∧ or ∨ until **SETTINGS** is selected. | Save user<br>Delete user<br>Fair mode<br>Settings<br>Reset |
| 2. | OK | Press OK. | Settings<br>Digital input<br>LED brightness<br>Test mode<br>Demo mode<br>Security code<br>KNX settings |
| 3. | ⊘,⊘ | Press ∧ or ∨ until **KNX SETTINGS** is selected. | Settings<br>Digital input<br>LED brightness<br>Test mode<br>Demo mode<br>Security code<br>KNX settings |
| 4. | OK | Press OK. | KNX settings<br><br>CV KNX available: N<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 5. | ⊘,⊘ | Press ∧ or ∨ until **CV KNX AVAILABLE** is selected. | KNX settings<br><br>CV KNX available: N<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 6. | OK | Press OK and set **CV KNX AVAILABLE** to **Y.** | KNX settings<br><br>CV KNX available: Y<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 7. | ⊘,⊘ | Press ∨ until the desired ekey-Event (E01–E10) is selected. | KNX settings<br><br>CV KNX available: Y<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 8. | OK | Press OK | KNX settings<br><br>CV KNX available: Y<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 9. | ⊘,⊘ | Press ∧ or ∨ to select character 1. You are assigning a name to the ekey event 1. | KNX settings<br><br>CV KNX available: Y<br>E01: S00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 10. | OK | Press OK. | KNX settings<br><br>CV KNX available: Y<br>E01: S00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 11. | ⊘,⊘ | Repeat steps 9 and 10 until you have finished entering the name of the ekey event. | KNX settings<br><br>CV KNX available: Y<br>E01: HOME SCENARIO<br>E02: F01<br>E03: F02<br>E04: F03 |

| Step | Action | Description | Display |
|------|--------|-------------|---------|
| 12. | No action required | Repeat steps 7 to 11 for all additional ekey events. | KNX settings<br><br>CV KNX available: Y<br>E01: HOME SCENARIO<br>E02: CHILDREN<br>E03: F02<br>E04: F03 |
| 13. | (ESC) | Press ESC twice. | Enroll user<br>Delete user<br>Fair mode<br>Settings<br>Reset |

The *ekey home control panel DRM* is now ready for operation with the *ekey converter KNX RS-485*.

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**NOTICE**

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If you do not wish to give the ekey-Events 1-10 (E01-E10) descriptive names, then you can skip steps 7 to 12. Assigning descriptive names is helpful when carrying out further configurations of the system.

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**Configuring KNX**

ekey events 1-10 are assigned to a finger via the **SAVE USER** process (see *ekey home CP DRM* operating instructions, section Saving users). In the storing process, the ekey event is assigned before the switching relay.

ℹ️ See *ekey home CP DRM* operating instructions, section Saving users.

Select **SAVE USER** in the menu. Carry out all steps up to **FINGER SELECTION**.

| Step | Action | Description | Display |
|------|--------|-------------|---------|
| 1. | ⊘/⊘ | Press ∧ or ∨ to select the desired finger. | Max<br>01N              R K<br>le thumb<br>ri thumb finger<br>ri index finger<br>ri middle finger<br>ri ring finger |
| 2. | (OK) | Press OK. | KNX event<br>OK<br>  HOME SCENARIO<br>  CHILDREN<br>  F03<br>  F04 |
| 3. | ⊘/⊘ | Press ∧ or ∨ to select the **EKEY EVENT**. | KNX event<br>OK<br>  HOME SCENARIO<br>  CHILDREN<br>  F03<br>  F04 |
| 4. | (OK) | Press OK. | Max<br>ri index finger<br><br><br>    Relay 1<br>    Relay 2<br>    Double relay |
| 5. | ⊘/⊘ | Press ∧ or ∨ to select the relay function. | Max<br>ri index finger<br><br>    Relay 1<br>    Relay 2<br>    Double relay |
| 6. | (OK) | Press OK. |     Swipe finger<br>      or<br>    Press [ESC] |
| 7. | | Swipe your finger. | Save user<br>Max  -------1--------<br>02N  -------1--------<br>03N  -------1--------<br>04N  -------1--------<br>05N  -------1--------<br>06N  -------1-------- |

The ekey events "security" and "unrecognized" do not need to be configured in the *ekey home control panel DRM*. They are automatically triggered when the conditions are met.

*ekey multi control panel DRM 4*

| NOTICE |
|---|

In order to configure the *ekey multi control panel DRM* for use with the *ekey converter KNX RS-485*, please see the *ekey multi CP DRM* operating instructions.

**Activating KNX**

When operating the *ekey converter KNX RS-485* with the *ekey multi control panel DRM*, the KNX function must be activated.

Enter the security code into the control panel. The system displays the main menu.

| Step | Action | Description | Display |
|---|---|---|---|
| 1. | ⌄/⌃ | Press ∧ or ∨ until **SETTINGS** is selected. | Save user<br>Delete user<br>Logging<br>Special mode<br>Settings<br>Reset |
| 2. | OK | Press OK. | Settings<br>Set time<br>Master key plan<br>Change relay times<br>Config input<br>DEV configuration<br>DEV assignment |
| 3. | ⌄/⌃ | Press ∧ or ∨ until **DEV CONFIGURATION** is selected. | Settings<br>Set time<br>Master key plan<br>Change relay times<br>Config input<br>DEV configuration<br>DEV assignment |
| 4. + | OK | Press OK. | DEV configuration<br><br>DEV1 - 80131004110777<br>DEV2 -<br>DEv3 -<br>DEV4 -<br>KNX - converter |
| 5. | No action required | Press ∧ or ∨ until **KNX-CONVERTER** is selected. | DEV configuration<br><br>DEV1 - 80131004110777<br>DEV2 -<br>DEV3 -<br>DEV4 -<br>KNX - converter |
| 6. | OK | Press OK. | KNX settings<br><br>CV KNX available: N<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 7. | ⌄/⌃ | Press ∧ or ∨ until **CV KNX AVAILABLE** is selected. | KNX settings<br><br>CV KNX available:  N<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |

| Step | Action | Description | Display |
|------|--------|-------------|---------|
| 8. | (OK) | Press OK and set **CV KNX AVAILABLE** to **Y.** | KNX settings<br><br>CV KNX available: Y<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 9. | /  | Press V until the desired ekey-Event (E01–E10) is selected | KNX settings<br><br>CV KNX available: Y<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 10. | (OK) | Press OK. | KNX settings<br><br>CV KNX available: Y<br>E01: F00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 11. | /  | Press Λ or V to select the first character. You are assigning a descriptive name to the ekey event 1. | KNX settings<br><br>CV KNX available: Y<br>E01: S00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 12. | (OK) | Press OK. | KNX settings<br><br>CV KNX available: Y<br>E01: S00<br>E02: F01<br>E03: F02<br>E04: F03 |
| 13. | /  | Repeat steps 11 and 12 until you have finished entering the name of the ekey event. | KNX settings<br><br>CV KNX available: Y<br>E01: HOME SCENARIO<br>E02: F01<br>E03: F02<br>E04: F03 |
| 14. | No action required | Repeat steps 9 to 13 for all additional ekey events. | KNX settings<br><br>CV KNX available: Y<br>E01: HOME SCENARIO<br>E02: CHILDREN<br>E03: EXIT<br>E04: F03 |
| 15. | (ESC) | Press ESC three times to return to the main menu. | Enroll user<br>Delete user<br>Logging<br>Special mode<br>Settings<br>Reset |

The *ekey multi control panel DRM* is now ready for operation with the *ekey converter KNX RS-485*.

**Configuring KNX**

ekey events 1-10 are assigned to a finger and a finger scanner via the **SAVE USER** process (see *ekey multi CP DRM* operating instructions, section **SAVING USERS**). In the storing process, the ekey event is assigned after selecting the user, key, and finger.

| ! | NOTICE |
|---|--------|

In an ekey multi system, different ekey events can be triggered on the various finger scanners with one user finger.

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| i | See ekey home CP DRM operating instructions, section Saving users. |
|---|--------|

Select **SAVE USER** in the menu. Carry out all steps up to **FINGER SELECTION**.

| Step | Action | Description | Display |
|------|--------|-------------|---------|
| 1. | ⊘,⊘ | Press ∧ or ∨ to select the desired finger | Max    S1<br>le middle finger<br>le index finger<br>le thumb<br>ri thumb finger<br>ri index finger<br>ri middle finger |
| 2. | (OK) | Press OK. | KNX ri index finger<br>OK<br>DEV1: empty<br>DEV2: empty<br>DEV3: empty<br>DEV4: empty |
| 3. | ⊘,⊘ | Press ∧ or ∨ to select the desired **DEVICE**. | KNX ri index finger<br>OK<br>DEV1: empty<br>DEV2: empty<br>DEV3: empty<br>DEV4: empty |
| 4. | (OK) | Press OK to select the desired ekey event 1. | KNX ri index finger<br>OK<br>DEV1: HOME SCENARIO<br>DEV2: empty<br>DEV3: empty<br>DEV4: empty |
| 5. | No action required | Repeat steps 3 and 4 in order to assign the ekey event to be triggered for the next finger scanner. If it is left **EMPTY**, identification on the respective finger scanner will not trigger an ekey event | KNX ri index finger<br>OK<br>DEV1: HOME SCENARIO<br>DEV2: HOME SCENARIO<br>DEV3: EXIT<br>DEV4: empty |

| Step | Action | Description | Display |
|------|--------|-------------|---------|
| 6. | ⊘,⊘ | Press Λ or V and select **OK**. | KNX ri index finger<br>OK<br>DEV1: HOME SCENARIO<br>DEV2: empty<br>DEV3: empty<br>DEV4: empty |
| 7. | (OK) | Press OK. | Swipe finger<br>or<br>Press [ESC] |
| 8. | | Swipe your finger | Max<br>enabled<br>always<br>S        Finger      R  P<br>S1   ---------X----   -  -<br>S2   -------------    -  -<br>S3   -------------    -  - |

The ekey events "security" and "unrecognized" do not need to be configured in the *ekey multi control panel DRM*. They are automatically triggered when the conditions are met.

# Error displays and troubleshooting

| Display | Meaning | Remedy |
|---------|---------|--------|
| KNX LED off | There is no connection to the KNX bus system. | Check the wiring of the KNX bus system. |
| RS-485 LED off | The *ekey converter KNX RS-485* is not supplied with power. | Check the function and the wiring of the power supply. |
| RS-485 LED permanently on | There is no data connection to the *ekey finger scanner*. | Check that the ekey finger scanner is functioning properly.<br>Check the wiring between the *ekey converter KNX RS-485* and the *ekey finger scanner*. |

## Maintenance

The product is installed in the control cabinet. The mounting location protects the device from damage caused by dirt, dust, etc.; maintenance measures are not necessary.

## Disposal

Pursuant to Directive 2002/96/EC of the European Parliament and Council of January 27, 2003 on the sale, return, and environmentally friendly disposal of waste electrical and electronic equipment (WEEE), electrical and electronic equipment supplied after August 13, 2005 is to be recycled and may not be disposed of with household waste. As disposal regulations within the EU can differ from country to country, please contact your dealer for further information as necessary.

## Declaration of conformity

ekey biometric systems GmbH hereby declares that the product conforms to the relevant European Union directives. The declarations of conformity for the individual products can be downloaded from http://www.ekey.net.

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*ID224/517/0/369: Version 2, 2016-06-27*

**www.ekey.net**

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