en SPECIFICATIONS

ekey Crestron

ID348/724/0/651: Version 1, 2019-07-25; Media Center ID: 3019

English

Specifications– ID348/724/0/651

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1 Information about these specifications

1.1 Note

Read these specifications carefully before use. These specifications form a component of the product. Ensure that they are stored in a safe place. These specifications contain important information on the product; in particular, its proper use, safety, installation, activation, usage, maintenance, and disposal.

Please contact your dealer for further information about the product.

A large-font version of these specifications is available at http://www.ekey.net.

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.

1.2 Declaration of conformity

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

1.3 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.

1.4 Copyright

1.5 Target group

These specifications are aimed at persons who activate and perform maintenance on the *ekey net* system, create users, and instruct users in how to operate the system.

2 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
	Reference to sections of these instructions
	Reference to the mounting instructions
	Reference to the wiring diagram
□	Listing without specified order, 1st level
ekey home FS OM	Product names
Button	Buttons

Abbreviations:

CP	Control panel

3 Product description

This driver allows direct connection of multiple ekey finger scanners to a 3-series processor via RS-485 and management of user access rights.

In version 1.0, up to 10 ekey FSX (RFID) can be combined in one RS-485 network. Up to 100 fingerprints can be managed. The system information is synchronized automatically and without user intervention over all connected scanners.
The user can authorize individual persons, access plans and user-defined functions at the touch of a finger, using an intuitive Smart Graphics GUI. The system informs the user through various pop-ups of entry events, ensures the validation of critical changes and keeps a long-term entry log.

The development is based on S# (which is a programming language based on C#), using extensive multithreading to manage the sophisticated communication protocol, dynamic user/finger/door element display and optimal response time.
The solution is packaged in a module and can be used individually or integrated into a larger Crestron project.

A license is required for operation, which is linked to the serial number of the finger scanner. Without a corresponding license, the system only works for 1 hour.

3.1 Supported finger scanners

Product group	Illustration	Product name	
ekey FS OM		*ekey FS OM I Crestron* *ekey FS OM I RFID Crestron* *ekey FS OM E Crestron* *ekey FS OM E RFID Crestron*	*ekey FS UP I SC Crestron* *ekey FS UP I SC RFID Crestron* *ekey FS UP E SC Crestron* *ekey FS UP E SC RFID Crestron*

Table 1: Finger scanner outlet mounted for Crestron

Product group	Illustration	Product name
ekey FS IN		*ekey FS IN E Crestron* *ekey FS IN E RFID Crestron*

Table 2: Finger scanner integra for Crestron

3.1.1 Function of the Crestron access control system

- Enrolling and deleting users/fingerprints/RFID cards
- Time slots
- Assignment of individual fingerprints to specific relay contacts
- Centralized data management on the 3-series controller
- Forced update by pressing the ekey symbol to synchronize either new or existing finger scanners.

A help file for Crestron system integrators is available for download at https://applicationmarket.crestron.com/ekey-crestron-fs-for-integration/.

If a project requires a TSW1060 instead of an iPad, the source project archives can be downloaded from: www.avitdev.com/downloads/ekey2TSW1060.vta.zip

For the ekey demo cases, as there is no need to modify the sources, the compiled file can be directly uploaded to a TSW1060: www.avitdev.com/downloads/ekey2TSW1060.vtz.zip

3.1.2 Displayed LED codes for *ekey FS Crestron*

Display	Meaning	Solution
 The status LED lights up red.	The finger or RFID transponder was not recognized.	Swipe the finger over the sensor again. Check that your RFID transponder is the valid one.
 Both function LED flash green.	Active door relay. Feedback either from a successful entry or by the request-to-exit(RTE) button.	If permanently ON, double-check wiring of RTE button.
 The status LED lights up red immediately.	No fingers or RFID transponders are stored.	Store a minimum of one finger or RFID transponder.
 The status LED flashes red.	Access denied due to time slot restrictions.	
 The status LED flash orange.	Status LED blinking in orange. Finger scanner is offline. Double check wiring or add missing license key in scanner application settings.	

3.1.3 Frequently asked questions

Could I use any ekey finger scanner in combination with Crestron?

No, special versions of ekey finger scanners are required for the operation with Crestron. Compatible finger scanners carry “Crestron” in their item name/description.

Part Number	Description	Remarks
102067	ekey FS IN E Crestron	Black finger swipe area
102068	ekey FS IN E RFID Crestron	With built-in RFID card reader. Black finger swipe area
102069	ekey FS OM I Crestron	Silver finger swipe area
102070	ekey FS OM I RFID Crestron	With built-in RFID card reader. Silver finger swipe area.
102071	ekey FS OM E Crestron	Silver finger swipe area
102072	ekey FS OM E RFID Crestron	With built-in RFID card reader. Silver finger swipe area
102073	ekey FS OM I BL Crestron	Black finger swipe area
102074	ekey FS OM I BL RFID Crestron	With built-in RFID card reader. Black finger swipe area
102075	ekey FS OM E BL Crestron	Black finger swipe area
102076	ekey FS OM E BL RFID Crestron	With built-in RFID card reader. Black finger swipe area

What do I require for the operation of ekey finger scanners?

Apart from the actual hardware, a license key is required for operation. The license key is supplied along with ekey finger scanners for Crestron. Without a license, the finger scanner can only be operated for 1 hour. Afterwards it will go into the offline mode.

Which Crestron controllers are supported?

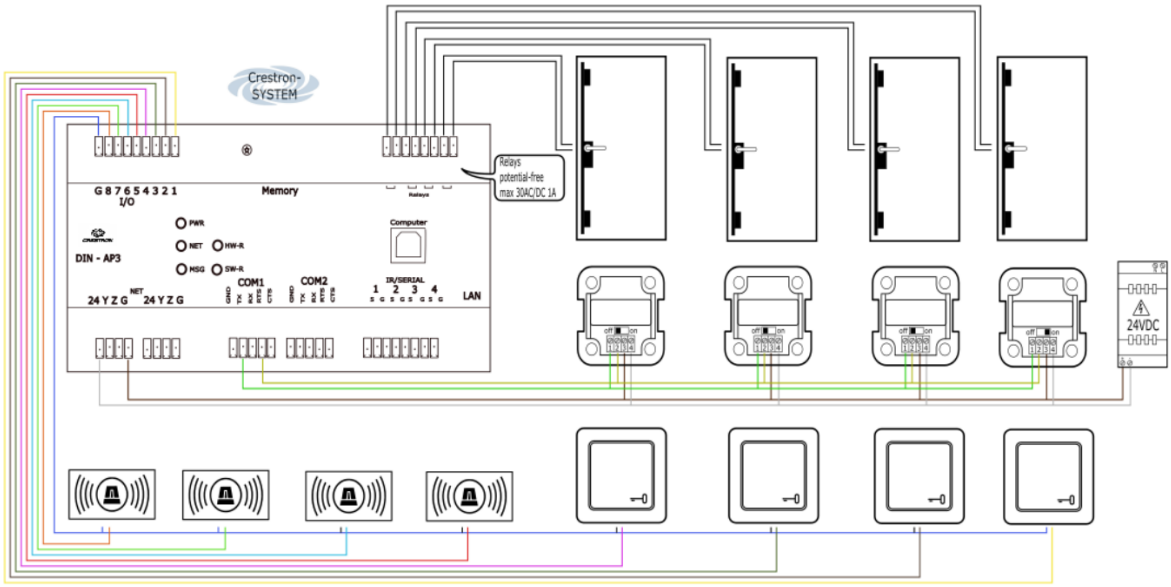
Any Crestron controller from the 3-series is compatible with ekey finger scanners. Controllers from the 2-series do not support S#, and will therefore not work.

How can I include additional relay contacts into a project?

Crestron has hundreds (or even thousands) of devices. System integrators usually need to determine the exact configuration based on the business case. Although RMC3 is as powerful as the other controllers, it has the IO limitations and it does not support running multiple programs in parallel (e.g. installing our ekey demo app as-is on a running system). System integrators must choose a controller based on the IO requirement. There is also the case of adding Crestron peripherals into a system. In case of additional relays and input contacts, you can find a few selected examples below (as of November 2018 – this list is subject to change):

Model	Connection	Relays	Inputs
DIN-8SW8-I	Cresnet	8, high voltage	8
C2N-UNI8IO	Cresnet	8, low voltage 100mA	8
CEN-CI3-3	TCP/IP	Up to 48, low voltage 1A	Up to 48

There are more possibilities than the examples mentioned above. System integrators normally need to evaluate scenarios and pricing in order to arrive at a solution. Often, they require assistance from Crestron's technical support. Due to the complexity, from ekey's point of view, it is better to focus on 1-2 selected business cases only. Below a wiring sketch for a configuration for 4 finger scanners/doors/buttons with a DIN-AP3 controller.



How would I use ekey with my AP3 controller?

The DIN-AP3 controller is 3-series, supporting RS-485 on COM1 and COM2. It can run up to 10 programs. As a result, it is possible to use the demo app on an existing installation in a new program slot and an iPad/XPanel/Touch Panel, changing the COM ports, relays and door override IOs.

Is it possible to further customize the driver?

Yes. System integrators can change the demo app at any time. Changing the controller model (e.g. RMC3 → AP3) requires minimal effort, as long as the controller is from the 3-series and has a port or a peripheral supporting RS-485.

What is Cresnet?

Cresnet connection is Crestron's proprietary network, requiring UTP cabling.

Is it possible to restore the database?

Yes. All configurations, setup and log data are stored under /USER/ekey directory.

The enroll button would not open the popup to register fingerprints.

The most probable cause for the enroll button not to be enabled is that there is no finger scanner in the system. When the FS unit is not communicating, this is indicated by the main LED flashing orange. When the FS is properly setup and communicating, it is indicated by a steady blue light from the main LED.

4 ekey Product Comparison

	Product Name Description	ekey Crestron	ekey home	ekey multi	ekey net
GENERAL	Scanner style	Wall-mounted Flush-mounted	Wall-mounted Flush-mounted	Wall-mounted Flush-mounted	Wall-mounted Flush-mounted
	RFID support	☑	☑	☑	☑
	Keypad	☒	☑	☑	☑
	Finger scanner arte	☒	☑	☒	☒
	Number of fingerprint templates	100	99	99	Up to 2,000
	Number of supported finger scanners	10	1	4	100
	User/System administration	Via Crestron Touch Panel	Smartphone app	ekey multi control panel	Client server software (Windows PC)
	Remote management	Via Crestron	☒	☒	☑
	Customized access rights	By scanner and time schedule	YES/NO	Via virtual keys by scanner and time schedule	For each user by scanner, calendar, time schedule
	Logging	☑	☒	☑	☑
	Requires license for operation	☑	☒	☒	☑
	Wiring	Daisy chain	Home run	Daisy chain	Support both Daisy chain & Home run options, depending on how many scanners/control units are connected on the same bus to the same network gateway (CV LAN)

INTERFACES	Integration interface	RS-485 native	RS-485 native	RS-485 native	Network IP UDP
	Number of relays	Flexible via Crestron	Up to 3 (depends on assigned ekey home controller)	4 relay contacts	Up to 4 (depends on assigned ekey net controller)
	Wiegand support	☒	☑	☑	☑
	SDK	Flexible via Crestron	☒	☒	SDK to interact and manipulate ekey net database

5 System Security

ekey products guarantee the very highest standard of security against misuse and unauthorized access.

To guarantee the same level of security, it is strongly recommended to setup Crestron Controller with Authentication ON, as per latest Crestron best practices. Additionally, the User/FS setup pages should be available under elevated user authorization, according to your installation standards.

6 Hardware Maintenance

The system is largely maintenance-free. The sensor surface is essentially self-cleaning due to repeated use (swiping of fingers). However, if the finger scanner becomes soiled, clean it with a damp (not wet), non-abrasive cloth. Q-tips, microfiber cloths, and glasses-cleaning cloths are suitable for this purpose. Cotton-containing materials, paper towels, tissues, kitchen sponges, damp dish towels, and kitchen roll are not suitable. Use clean water without adding detergent. Treat the sensor surface with care.

7 Disposal

Pursuant to Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment, electrical and electronic equipment supplied after 13/08/2005 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.

YOUR FINGER. YOUR KEY.

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