



DINB100-SA Standalone Biometric Reader

User Manual

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1.0 INTRODUCTION

DINB100-SA is a simple one-door standalone biometric system. The reader can store up to 97 finger templates, it has one relay output and one exit button input. If secure installation is needed, the reader can be connected to remote relay unit at secured area, which also plays the role of request-to-exit push button. Proximity reader or keypad can be added for additional entry mode (Card or/and Finger, PIN Code or/and Finger, Finger on Card). Complete setup and programming can be done by scrolling and tapping on the sensor or by keypad menu if keypad is connected.

The sensor incorporates dedicated sensing hardware to facilitate the detection of "spoofing" attacks based on fake fingers. This data is embedded into the image data stream, and is processed on the processor. The system is capable of detecting and defeating well-known fake finger mechanisms, such as molded "gummy" fingers.

The coating on the surface of the TouchChip sensor provides protection from scratching and abrasion due to normal contact with fingertips and any incidental contact with fingernails.

The reader is capable of working in so called "Finger on Card" mode, where the authentication is done by verifying that the biometric data stored on the card matches the finger being placed on the reader.

2.0 MOUNTING AND DISMOUNTING





Do not install the device and cabling close to a source of strong electro-magnetic fields like radio-transmitting antenna. Do not place the device near or above heating equipments. If cleaning, do not spray or splash water or other cleaning liquids but wipe it out with smooth cloth or towel. Do not let children touch the device without supervision.

Note that if the sensor is cleaned by detergent, benzene or thinner, the surface will be damaged and the fingerprint can't be entered.

3.0 SPECIFICATIONS

Fingerprint Capacity: 97 templates Output: 1 x Relay (2A/24V AC/DC) **Push Button Input:** Yes Door Open Time: Pulse (1, 3, 5, 10, 20, 30, 60sec) or Toggle(ON/OFF) Entry Mode: Finger (Basic installation) Finger or/and Card (when used with card reader DIN Card reader) Finger or/and PIN code (when used with keypad DINPAD-M) Finger on Card (when used with mifare reader DINMTPX-MF) **Programming:** By scrolling and tapping on the sensor or by keypad Master/Admin Fingers: 1 Master and 2 Admin Fingers Image resolution: Up to 508 DPI Backlight ON/OFF: Yes Buzzer ON/OFF: Yes Firmware upgrade: via RS485 converter and windows application **Current Consumption:** 100 mA max. 9-14 V DC Power Supply: Indication: Tricolor Status LED and 4 x Programming LEDs Mounting: Flush mount **IP** Factor: **IP40** Storage/Operating Temperature: -20°C to +50°C Storage/Operating Humidity: 5% to 93% RH without condensation Dimensions(mm): 80 x 80 x 9



DINB100-SA

4.0 APPLICATION DIAGRAM



6.0 RECOMMENDED SWIPING TECHNIQUE



Follow the below instructions for correct finger swiping Starting from the first finger joint, place the selected finger on the swipe sensor and move it evenly towards oneself in one steady movement.

Result:

For a valid swipe: Tricolour Status LED turns green + OK Beep(short + long beep)

For an invalid or misread swipe: Tricolour Status LED turns red + Error Beep (3 short beeps)

6.1 Taping the sensor

Tap the sensor to enter Submenu or to confirm a command



Enter and confirm

6.2 Scrolling the sensor up and down

Scroll the sensor DOWN to navigate the programming menu



Navigate the Programming Menu

Scroll the sensor UP to exit the programming menu



Exit the Programming Menu

7.0 INDICATION



Tricolor Status LED Green - Access Granted Red - Access denied Orange - Idle Mode



4 x Tricolor Programming LEDs (red, green, orange) OK Beep - short + long beep Error Beep - 3 short beeps Swipe Again - 2 short beeps

8.0 QUICK PROGRAMMING

8.1 Adding Master Finger and delete all users



- 1. There is 1 Master Finger. The master finger can enroll/delete user and all the other settings. The Master finger can be changed ONLY with the jumper.
- 2. There are 2 Administrator Fingers. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.
- 3. The User can be assigned to one of the 8 available User Groups. With the Quick programming feature, the Users are assigned in Group 1 or Group 2. For most of the installations 2 groups are enough and can be used as: Group 1 for permanent residents, Group 2 for guest and visitors.
- 4. The user can be deleted by swiping its user finger or by deleting the group in which that user is enrolled. Once the Group of users is deleted, all the users within that group will be deleted.
- 5. The Groups are not limited by the number of users. (ex. Group 1 can contain 20 users, Group 2 can contain 70 users, but the total number must remain bellow 97...)

8.2 Add User In Group 1



- 1. Swipe the Master or Admin Finger
- 2. Swipe the user finger min. 6 times (until Ok Beep)





User Finger x 6

8.3 Add User In Group 2



- 1. Swipe the Master or Admin Finger twice
- 2. Swipe the user finger min. 6 times (until Ok Beep)









- 1. Swipe the Master or Admin Finger
- 2. Swipe the user finger (already enrolled)



8.5 Delete All Users in Group 1



1. Swipe the Master or Admin finger 3 times,

2. Wait 6 seconds for the light pattern on figure.4 3. Swipe the Master or Admin finger once more Note: All fingers that are enrolled in Group 1 will be deleted.



wait 6 seconds

Master Finger x 1

8.6 Delete All Users in Group 2



1. Swipe the Master or Admin finger 4 times, 2. Wait 6 seconds for the light pattern on figure.6 3. Swipe the Master or Admin finger once more

Note: All fingers that are enrolled in Group 2 will be deleted.



If you make any mistake or you just simply want to exit Quick Programming, wait for the timeout of 10 seconds.

With this, the quick programming is completed. The system is now operational with default value for Door Open Time of 3 seconds.

For more comprehensive programming, refer to the "DINB100-SA Programming" section.

Important:

When using proximity reader for Finger Or/And Card Mode, first present the Card then swipe the finger min. 6 times. When using keypad for Finger Or/And Pin Code mode first enter the PIN Code, then swipe the finger min. 6 times. When using Mifare card reader for Finger On Card Mode first swipe the finger min. 6 times, then present a Card.

For Fast Deleting a user in Finger On Card mode swipe the Master or Admin finger then present an existing user card

9.0 PAIRING - BIOMETRIC READER AND REMOTE RELAY UNIT

If secure installation is needed, the reader can be connected to remote relay unit at secured area, which also plays the role of request-to-exit push button. Follow the instructions bellow to pair(couple) both devices or refer to the Remote Relay's Manual.

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9.1 Pairing DINB100-SA with DINRTT



1. Close the Jumper. DINRTT beeps continuously and the red led blinks.

2. Open the Jumper

3. Wait for Beep + OK Beep (short + short + long beep)

After the OK beep, the coupling is done.

9.2 Pairing DINB100-SA with RTT



1. Put Dipswitch No.1 to position ON. RTT beeps continuously and the red led blinks.

- 2. Put Dipswitch No.1 to position OFF.
- 3. Wait for Beep + OK Beep (short + short + long beep)

After the OK beep, the coupling is done.

10.0 KEEP THE DOOR UNLOCKED

Swipe ANY enrolled finger twice (within 7 seconds) and the Door will stay unlocked, until valid finger is swiped.

While the door is unlocked the tricolor status LED stays green.

To use this feature, enable the same from the menu.(page 15). It applies for product version 1.0.2.0.0 and above. **Note:** Make sure that the door lock can withstand activation in longer periods.



11.1 Adding Users



Task: Add a user in Group2, that will activate Relay1.

Scroll Master Finger 5 times, tap, scroll ones, tap, tap, swipe user finger 6 times, swipe UP to exit.

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11.2 Delete User



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11.4 Delete Group of Users



NOTE: Swipe UPWARDS to exit the MENU

Note: All fingers that are enrolled in the Group will be deleted.

Example: Task: Delete all users in Group3

Scroll Master Finger 6 times, tap, scroll twice, tap, swipe UP to exit.

11.5 Add Administrator





- There is 1 Master Finger. The master finger can enroll/delete user and all the other settings.

- The Master finger can be changed ONLY with the jumper.

- There are 2 Aministrator Fingers. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.

11.6 Delete Administrator





NOTE: Swipe UPWARDS to exit the MENU

- There is 1 Master Finger. The master finger can enroll/delete user and all the other settings.

- The Master finger can be changed ONLY with the jumper.

- There are 2 Aministrator Fingers. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.

11.7 Settings



Entry Mode - used when additional proximity or keypad reader is connected Remote Relay Touch Function - Enabling/Disabling the Touch Button Function in the remote relay Unit Buzzer - Enabling/Disabling the Buzzer Backlight - Enabling/Disabling the Backlight

NOTE:

11.7 Settings

11.7.1 Double Swipe Unlocks Door, Entry Mode, Remote Relay Touch Function



Note: Refer to Chapter 10 for this feature

NOTE: Swipe UPWARDS to exit the MENU

Example: Task: Set the Reader to work in "Finger and Card" mode

Scroll Master Finger 10 times, tap, scroll twice, tap, scroll 4 times, tap, swipe UP to exit.

11.7 Settings

11.7.2 Buzzer Sound, Backlight, Reset to defaults





NOTE: Swipe UPWARDS to exit the MENU

Example: Task: Put the Buzzer OFF.

Scroll Master Finger 10 times, tap, scroll 4 times, tap, scroll ones, tap,, swipe UP to exit.

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<u>11.8 Set Door Relay Time</u>





NOTE: Swipe UPWARDS to exit the MENU

Example: Task: Put Relay1 to stay activated 10 seconds.

Scroll Master Finger 8 times, tap, scroll 3 times, tap,, swipe UP to exit.

Swipe the Master/Admin \x9 finger 9 times Tap sensor Blinking row > Select relay open time Scroll down to select: 1 sec 20 sec RI 3 sec 30 sec 5 sec 60 sec 10 sec Toggle RI Tap sensor **OK Beep Back to MAIN MENU**

Relay2 time

(for Relay 2 in DINRTT Remote Relay Unit)

11.9 Adding Users In Finger On Card Mode (when Mifare Reader is connected)





In "Finger on Card" mode, the fingerprint is stored only into the Mifare card (Mifare Classic 1K/4K or DesFire) and not in the reader. The matching is done by first presenting the card, then swiping the finger. According to this, the system in "finger on Card" mode does not have capacity limit. Furthermore, the fingerprint is not stored in the reader's memory, which disables any misuse of the stored fingerprint templates

Example:

Task: Add a user in Group2, that will activate Relay1.

Scroll Master Finger 5 times, tap, scroll ones, tap, tap, swipe user finger 6 times, present the card, swipe UP to exit.

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<u>12.1 Adding Users</u>

Important:

To use the keypad for programming, <u>Master Finger</u> must be enrolled. Please refer to **page 6**, to enroll Master finger. Then, set the Entry Mode to "<u>Finger or PIN</u>". Please refer to **page 14 & 15** to set the reader in "<u>Finger or PIN</u>" mode. In addition to that, **set the keypad** to work with the biometric reader:

> Press **B+000000** Press **0** Press **2** - slave mode Press **A**

Press **B+000000** Press **4** Press **0** - Any PIN Code length with "A" in the end Press **A**



Example:

Task: Add a user no.5, with PIN Code: 12345, that will activate Relay1.

Scroll Master Finger 5 times, press 1, press 05, press A, press 12345, press A, Swipe Finger 6 times, press 0,A to exit

12.2 Delete User By User Location Number

Swipe Master/Admin finger or enter Admin PIN. The Biometric reader starts to blink.





12.3 Delete User Group



Note: All fingers that are enrolled in the Group will be deleted.

12.4 Delete All Users



12.5 Delete User by User Finger



12.6 Set Door Relay Time

Swipe Master/Admin finger or enter Admin PIN. The Biometric reader starts to blink.



x 5

1.	Press 2.
2.	Press 1 or 2 to select Relay1 or Relay2

3. Select the time code from the **Table1**.

Table1.				
	Time Codes	Time Mode		
	1	1 sec		
	2	3 sec		
	3	5 sec		
	4	10 sec		
	5	20 sec		
	6 30 se	30 sec		
	7	60 sec		
	8	Toggle		
4.	4. Press A to confirm.			



Example: Task: Put Relay1 to stay activated 10 seconds.

12.7 Buzzer Settings



Note 1: When "Remote OFF" is selected, the buzzer is OFF in the remote relay unit. In the biometric reader and in the keypad the buzzer is ON.

Note 2: When "Reader OFF" is selected, the buzzer is ON in the remote relay unit. In the biometric reader and in the keypad the buzzer is OFF.

12.8 Backlight Settings





Note 1: When "Remote OFF" is selected, the backlight is OFF in the remote relay unit. In the biometric reader and in the keypad the backlight is ON.

Note 2: When "Reader OFF" is selected, the backlight is ON in the remote relay unit. In the biometric reader and in the keypad the backlight is OFF.

12.9 Set the Touch Button Function



Remote Relay Touch Function - Enabling/Disabling the Touch Button Function in the remote relay Unit

12.10 Unpair Remote Relay



12.11 Entry Mode Settings





Example: Task: Set the Reader to work in "Finger and PIN" mode

12.12 Add Administrator





- There is 1 Master Finger, but no master PIN Code. The master finger can enroll/delete user and all the other settings.

- The Master finger can be changed ONLY with the jumper.

- There are 2 Administrator Fingers and 2 Administrator PIN Codes. In order to enrol Admin, Master Finger MUST be enrolled first. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.

12.13 Delete Administrator



12.14 Reset to defaults

product ver. 1.0.2.0.0



Note:

Does not affect the fingerprints stored and the pairing

12.15 Double Swipe Unlocks Door

product ver. 1.0.2.0.0



Note: Refer to Chapter 10 for this feature



This product herewith complies with requirements of EMC directive 2014/30/EU. In addition it complies with RoHS directive EN50581:2012

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