DE-950 User's Manual

DUALi Inc.

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We have our development center in South Korea to provide technical support. For any technical assistance can contact our technical support team as below;

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Revision History

- 2013.01 (Ver. 1.0) : First Release

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1. Introduction

DE-930 is refined design of proximity reader which supports Contactless (ISO 14443 A/B type, Mifare®, FeliCa™) and SAM. It also supports 26/32/34/64/66-bit Wiegand format for Host communication which is the most widespread system. DE-950 is IP65 complaint water proof reader and it's applicable to various systems as Access control system, Time attendance system, Parking management or e-Payment system.

2. Contents Confirmation

- **The following items are contained in DE-930 package.**

Reader
(1 ea)

bracket
(1 ea)

Manual
(1 ea)

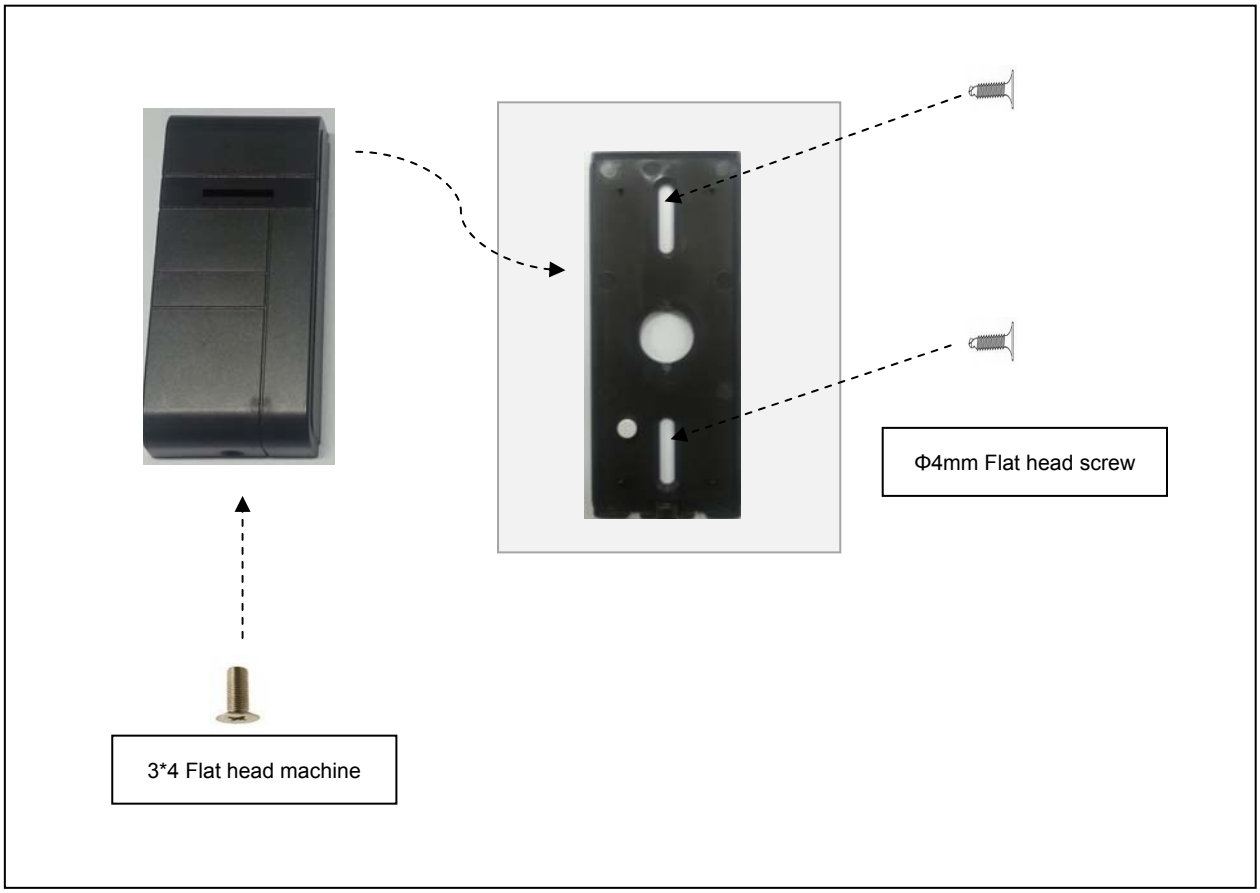
screw
(1 ea)

3. Hardware Specifications

Read Range	Up to 3cm
Input Voltage/Current	DC 12 V, 200 mA
LED/Beeper	2 LEDs(Red, Blue) / Magnetic Buzzer
Color	BLACK(Body)
Operating Environment	-20℃ ~ +60℃, 10~90% Humidity
Overall Size(WxHxD)	46 x 150 x 20mm
Output Format	32 / 34 / 64/ 66 bit Wiegand, RS-232/485(option)

4. Installation

1. Place the wall mount bracket on the wall and fix it tightly with Screw (Φ4mm Flat head) -4nos.
2. Connect the power and communication cable to DE-950's Terminal Block. (refer to the picture as below)
3. Tilt the device slightly and insert to the wall mount from the top. Fix it tightly with 3*4 Flat head machine screw.



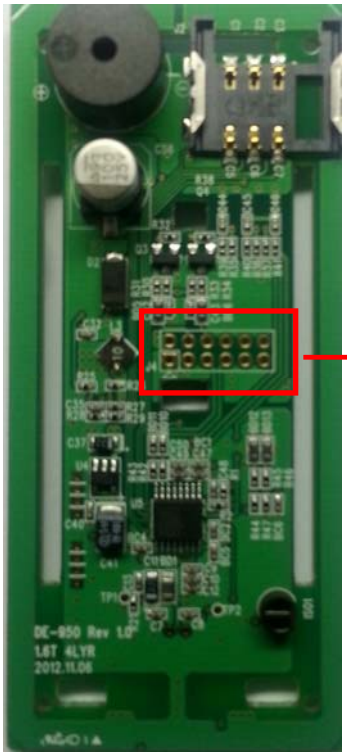
<Picture 1.Installation>

※ Caution

- Do not push the device/ wall mount bracket when fixing it to the wall.
- Screw has to be re-considered depends on wall's material and condition.
- Please place flat panel before wall mount bracket if the wall's not flat. It could cause a problem to assemble the device if the bracket bent.

5. Connection Diagram

Terminal block can be differ by choosing option (RS485 OR Wiegand). See the table as below

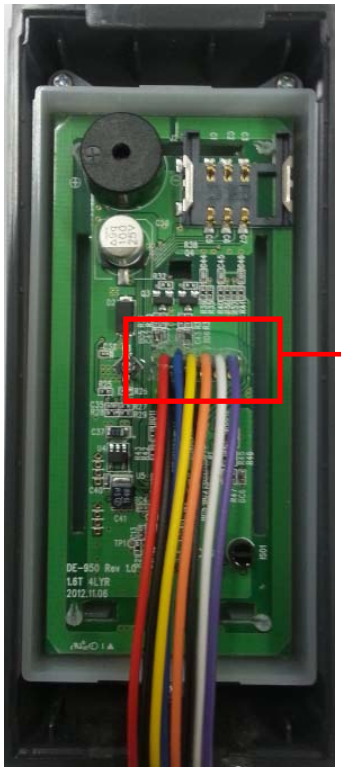


PIN Number

7	8	9	10	11	12
1	2	3	4	5	6

Pin No.	Name	Cable color	Description	Cable Option
1	GND_SINGLE	BLACK	POWER	POWER
2	GND_SINGLE	BLACK	POWER	
3	RS232_RX	GRAY	Comm.	RS232 Comm. option
4	RX232_TX	VIOLET	Comm.	
5	RS485_DP	BROWN	Comm.	RS485 Comm. option
6	RS485_DM	GREEN	Comm.	
7	PWR_IN	RED	POWER	POWER
8	WD_DATA0	BLUE	Comm.(Output)	Wiegand Comm. option
9	WD_DATA1	YELLOW	Comm.(Output)	
10	EX_IO0_PT (LED)	ORANGE	Input	
11	EX_IO1_PT (BEEP)	WHITE	Input	
12	EX_IO2_PT (TAMPER)	VIOLET	Output	

- **Wiegand**



7	8	9	10	11	12
RED	BLUE	YELLOW	ORANGE	WHITE	VIOLET
1	**2**	**NC**	**NC**	**NC**	**NC**
BLACK	BLACK	X	X	X	X

6. Operation & Usage

1. Apply power of the Reader, check the Beep sound of buzzer and RED LED is on. It means this device is ready.

2. When user present (authorized) contactless card to the reader, the reader makes 1 time of Beep sound with blinking Blue LED . It sends Card's data to Access controller through the Wiegand data line.

3. When user present unauthorized card to the reader, its Red LED will be blinking.

4. Tamper (TAMP) :

   This reader makes alarm when its case forced to open.

7. Output Format

7-1. Wiegand output format

1. Data format

- Data format can be decided by setting(Function Configuration). (Chapter 8)

<34bit>

First Bit 1 : Even parity of bit 2 ~ bit 17

Data[1-32] : ID number(transmission data)

Last Bit 34 : Odd parity of bit 18 ~ bit 33

<66bit>

First Bit 1 : Even parity of bit 2 ~ bit 33(Data[1-32])

Data[1-64] : ID number(transmission data)

FeliCa™ card – IDM data(8bytes)

Mifare® card – Card serial number(4bytes)+0x00(4bytes)

Last Bit 66 : Odd parity of bit 34 ~ bit 65(Data[33-64])

<32bit>

Data[0-31] : ID number(transmission data)

<64bit>

Data[0-63] :

FeliCa™ card – IDM data(8bytes)

Mifare® card – Card serial number(4bytes)+0x00(4bytes)

8. Function Configuration

Following is the Wiegand communication frame for setting

It is saved in flash memory. You don't need setting after first setting.

(9600bps, 8 data, no parity, 1 stop bit)

STX	LENH	LENL	CMD	DATA	LRC
0x02	0x00	0x02	0xE0	DATA[0]	LRC

DATA[0]	State	Description
Bit7~4	RFU	RFU
Bit3	0	4byte ID(32 or 34bit) depend on parity setting(No.2)
	1	8byte ID(64 or 66bit) depend on parity setting(No.2)
Bit2	0	Parity Send(34 or 66bit) depend on ID bytes(No.1)
	1	Parity Omit(32 or 64bit) depend on ID bytes(No.1)
Bit1	0	Forward ID byte order
	1	Reverse ID byte order
Bit0	0	Not Read MIFARE card in Security Mode (Security Mode : SAM authentication for FeliCa, Reader enters security mode when SAM exists when boot.)
	1	Read MIFARE card in Security Mode

9. Warning

EU

This product is CE marked according to the provision of the R&TTE Directive (99/5/EC). Here by DUALi Inc. declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

CE 1177

FCC STATEMENT

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.

10. Warranty & Service

‣ Warranty and Repair service

- DUALi Inc. warrants to the original consumer or other end user that this product, DE-950, is free from defects in materials and workmanship for a period of 1 year from the date of purchase.

※ **Note** Warranty/non-warranty repair fees do not include any shipping charges.

‣ The damages(defaults) prescribed below are NOT to be covered by warranty.

- User's misuse of part/component.
- Fault by the unqualified user's own intention of repairs.
- Product's inspection requirement.
- Adding certain functions or extension of system.
- Fault by User's misuse against the product's manual.

***Please contact our service team for the technical/ sales supports.**

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