## FE-MF-FRW1
**WIEGAND 34 & OSDP MIFARE CARD READER**

Reader that allows the door to be opened when a remote key fob or card is used. Only authorized cards or key fobs will activate the device. Physical contact is not necessary. Proximity reader that uses an incorporated dipswitch configuration for addressing and protocol switching which can function with an autonomous or centralized system.

## *At a glance*

- Fashionable design
- IP 54 Water protection
- Card type: 13.56 MHz MIFARE Card
- Output format: Wiegand 34 & OSDP
- Integrated Buzzer Output
- Easy installation
- Operating voltage: 12V DC
- Reading distance: 5 cm



PROXIMITY ACCESS CONTROL

## Specification

| | |
|---|---|
| RFID Card Type | 13.56 MHz MIFARE |
| Output format | Wiegand 34, Clock-and-Data and RS-485 Half Duplex (OSDP) |
| Read direction | 8HR10D |
| IP Rating | IP 54 |
| Transmitting distance | 100 m |
| Buzzer | Yes |
| LED | Yes |
| Built-in Relay | Yes |
| I/O Output for Exit button | Yes |
| Reading distance (Card) | 5 cm |
| Reading distance (Key Fob) | 1.5 cm |
| Operating Voltage | 12V DC |
| Power Consumption | Up to 45 mA |
| Operating Temperature | -15 to 55°C |
| Operating Humidity | 0% to 98% |
| Incorporated DIP Switch | Yes |
| Dimensions | 105.2 x 47.5 mm |
| Impact Protection | IK 07 |
| Material | Polycarbonate |

**CENTRALISED Technical Characteristics:**
- Does not require physical reader-card contact. 5 cm (card) or 1.5 cm (key fob) reading distance.
- Acoustic and visual information for operations.
- Lock-release button entry, door sensor entry and lock-release relay (C, NO, NC).
- Reader cables central unit:
  - 2 wires (Power supply)
  - Shield twisted pair (data)

**CENTRALISED Technical Characteristics with the Wiegand 34 protocol:**
- The Wiegand (WG) readers provide the installation with greater protection from possible sabotage, as neither the reader nor the exit button connection is connected to the door opening mechanism. All the devices are connected to the door controller and as such cannot be interfered with. The door controller is installed in the interior (safe area) and the reader installed outside.
- The reader may be used with other door controllers that use the Wiegand 34 (WG) protocol.
- Cabling: 6 wires to the door controller.
  - D0 – data 0
  - D1 – data 1
  - LED – Led control from central unit
  - BUZZ – Buzzer control from central unit
  - 12V DC – Supply voltage
  - GND – Ground
- For more information, see the Technical Characteristics of the central unit (door controller)

**CENTRALISED Technical Characteristics with the OSDP protocol:**
- Open Supervised Device Protocol (OSDP™) is enabling better integration of security systems to support advanced applications and data encryption. This interoperable protocol could one day supplant the Wiegand standard for its ability to add significant feature sets.
- The OSDP™ protocol ensures secure data transmission and bi-directional communications between the reader and the controller.
- Supports AES encryption of bi-directional data (AES-128)
- Acoustic and visual information for operations through OSDP line. No extra wires needed.

## OSDP Configuration:
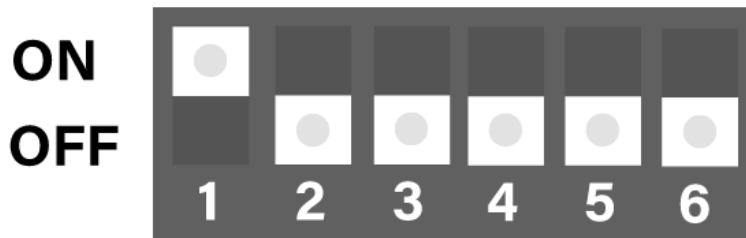


| DIP 1 | Boot mode |
|---|---|
| OFF | Normal Mode |
| ON | Boot Mode |

| DIP 6 | Read Direction |
|---|---|
| OFF | 8HN10D |
| ON | 8HR10D |

| DIP 2 | Reader Mode |
|---|---|
| OFF | OSDP |
| ON | Wiegand 34 |

| DIP 3 | LSB |
|---|---|
| DIP 5 | MSB |

| DIP 3 | DIP 4 | DIP 5 | OSDP Address | Door in system |
|---|---|---|---|---|
| OFF | OFF | OFF | 0 | Door 1 – Reader A |
| ON | OFF | OFF | 1 | Door 1 – Reader B |
| OFF | ON | OFF | 2 | Door 2 – Reader A |
| ON | ON | OFF | 3 | Door 2 – Reader B |
| OFF | OFF | ON | 4 | Door 3 – Reader A |
| ON | OFF | ON | 5 | Door 3 – Reader B |
| OFF | ON | ON | 6 | Door 4 – Reader A |
| ON | ON | ON | 7 | Door 4 – Reader B |
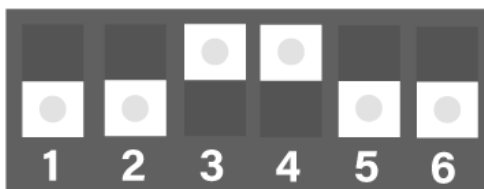


**Example :**
DIP Switch OSDP
setting for Door 2 - Reader B
Address 3

**Note1: Every change you make to DIP Switch requires device to be rebooted so the settings will be applied.**

Here is additional explanation on how DIP 6 controls the Read Format:
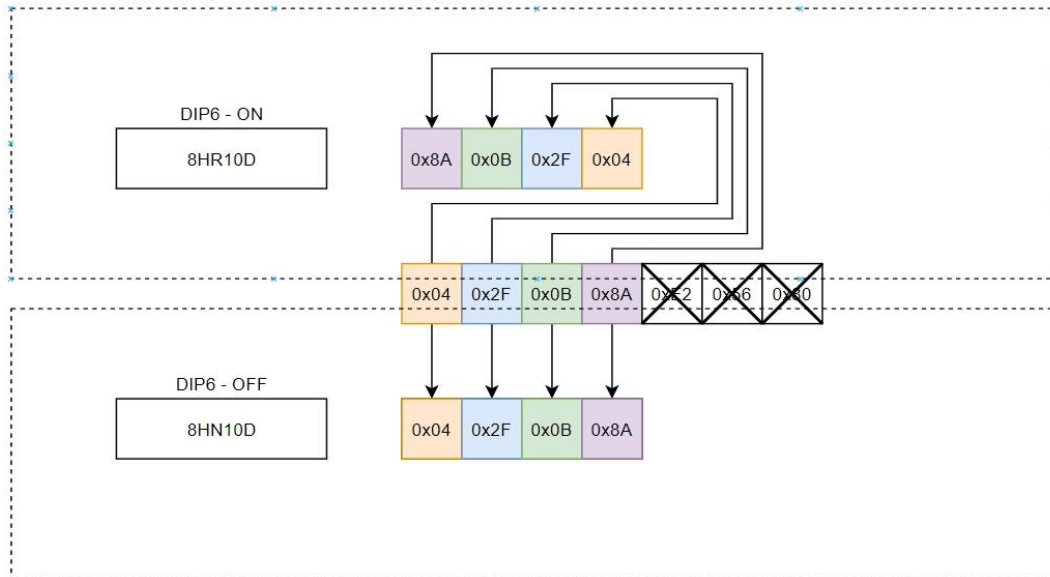


**Note2: When there is a multiple readers connected, the last one in a line needs to have jumper plugged on the connector shown in the picture below. The jumper needs to be 120 Ω one.**

Freund Elektronik A/S, in cooperation with our sister company Freund Elektronika D.O.O. Sarajevo, is developing an IP-Based Intercoms, Audio Systems, Access Control and Smart Home solutions.

As a developer, manufacturer, and reseller, we have been self-improving and perfecting ourselves for over 30 years.

In the industry, we negotiate the most advanced and innovative solutions regarding the building communication. Our daily focus is on the development and user friendliness of our high quality and pleasantly designed products.

As a developer and manufacturer of our own IP-INTEGRA system, we have made a top-of-the-line products for Door Telephony, Public Audio, and Access Control solution.

Our development department, together with our partners, has created elegant and robust door phones, SIP-Centrals, Terminals, IP-Speakers, ACC Controllers, and applications with intelligent features using the most advanced technologies when available, and creating new technologies when they are not while keeping it simple for our customers.