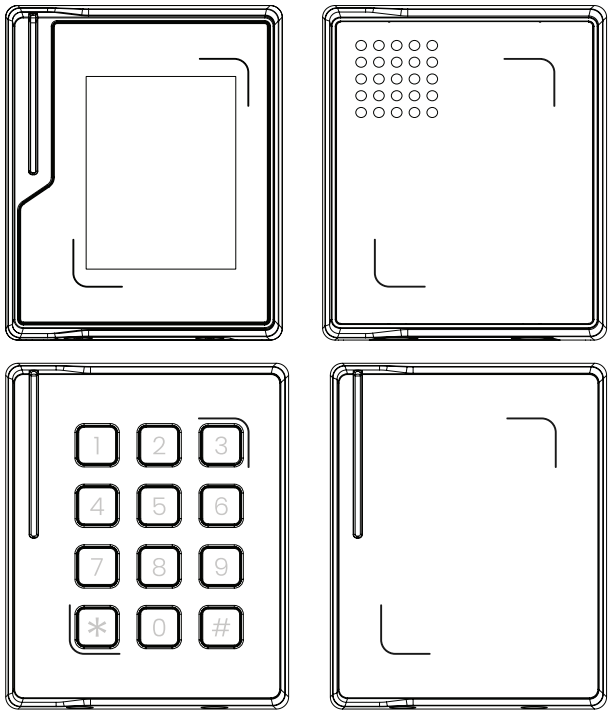
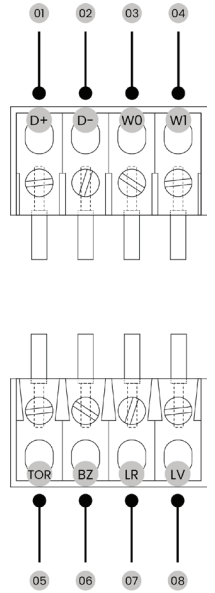
LiNEGUARD

Installation Guide



13,56MHz & 2,4GHz (NFC/BLE) Proximity reader with RS485 (OSDP, SSCP) & TTL (Wiegand) protocols.

Wiring & communication settings



	Terminal	Description
1	D+	+VDC
2	D-	Ground (RTN)
3	W0	Wiegand 0 / Data
4	W1	Wiegand 1 / Clock
5	L0	LED 0
6	L1	LED 1 / D0 RS485 A
7	BZ	Buzzer / D1 RS485 B
8	TOR/GND	Tamper / Ground

Several switches ( ) are located on the electronic board accessible from the back of the reader. RS485/Wiegand: Defines whether the reader communicates with the access control unit using a RS485-based protocol (SSCP, OSDP V2) or TTL (Wiegand).

- Address 0/1: Allows you to change the reader's addressing without software intervention. This is useful for easily assigning two readers to a door.
- 120R: LiNEGUARD readers include a 120Ω end-of-line resistor. This resistor can be disabled if the access control unit to which the reader is wired is equipped with one.

End of life

Do not dispose of this product with household waste. Take it to a WEEE collection point or an approved WEEE center to ensure its recycling.

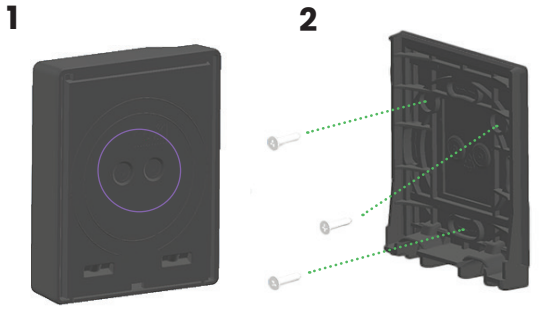
A founding member of Recylum, find out more at www.recylum.com

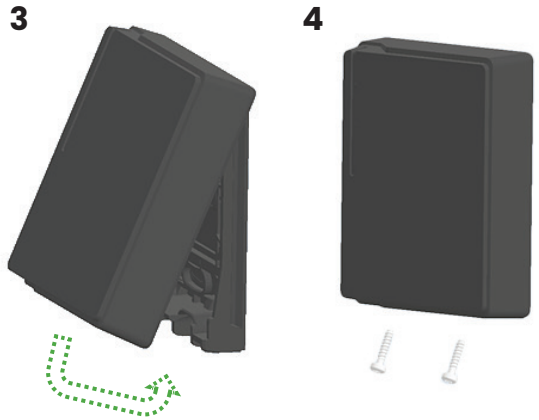
Regulatory information

FDI Access, the manufacturer, declares under its sole responsibility that the readers in the LiNEGUARD range comply with the applicable Union harmonization legislation: RED directive 2014/53/UE from 05/22/2014

- Electro magnetic compliance (EMC): EN 301 489-3 V1.6.1
- Radio : EN 302 291-2 V1.1.1
- Sécurité : EN 50364 (07/2010) & EN 60950-1 (2006) + amendments

Reader installation





1. Using a Phillips screwdriver (smaller in diameter than the cable), pierce the flexible membrane on the back of the reader bracket.

⚠ To avoid compromising the membrane'swatertightness, do not drill crosswise with a cutter. If two cables need to reach the reader, drill two holes in the membrane.

2. Screw the reader bracket on the wall, after first drilling the wall and inserting wall plugs. Select the used screws according to your wall mount.

⚠ Screw diameters must be between 3 and 4 mm. All standard screw head and socket shapes are accepted.

3. After correctly wiring the reader (see page 4), swing the device onto its support. The notch at the top of the plastic insert fits into the upper part of the bracket.

4. After correctly wiring the reader (see page 4), swing the device onto its support. The notch at the top of the plastic insert fits into the upper part of the bracket.

⚠ Be careful not to exceed the tightening torque of 0.6Nm. Beyond this, there is a risk of failing the screw barrel of the base.

This installation procedure applies to LiNEGUARD readers from the Matrix Ultra and Line Ultra product lines.

Marketing

The readers incorporate all the technologies offered by the LiNEGUARD range. They operate in four different modes:

- **CSN:** Reads the card serial number (CSN) of badges. This is an unsecured mode, but it allows the device to read any card from any manufacturer, complying with the ISO 14443 standard.
- **PRESET:** Keys pre-configured by FDI Access. More secure, the reader is ready-to-use.
- **CUSTOM:** Allows the user to configure their own security keys via the LiNEGUARD Studio software.
- **MOBILE:** Allows identification to be unlocked via smartphone (Bluetooth & Apple/Google Wallet).

Readers in CSN or PRESET mode have their own reference. CUSTOM or MOBILE modes are accessible by swiping a specific activation card in front of a reader in CSN or PRESET mode. For more information, contact our teams at sales@fdi-access.com.

Device specifications

Power supply				
Operating voltage	12VDC (Min: 7VDC / Max: 28VDC)			
Energy consumption (12V)	**Line Ultra Prox**	**Line Ultra Keypad**	**Line Ultra Touch**	**Matrix Ultra Prox**
	Low: 20 mA | 0,25 W Mid: 40mA | 0.45w High: 160mA | 2w	Low: 25mA | 0,25 W Mid: 35mA | 0,5 W High: 145 mA | 1,7 W	Low: 20mA | 0.26W Mid : 80mA | 1w high : 240mA | 3w	Low: 25mA | 0,3 W Mid: 30mA | 0,35 W High: 120mA | 1,5 W
Communications & Protocols				
RS 485 (OSDP V2, SSCP)	4 wires (2x data wires & 2x power supply wires including GND) - 1000m max or 5 wires (2x data wires, 2x power supply wires & 1x GND wire) – 1000m max **It is essential to wire the same pair of wires for RS485 outputs A & B.**			
TTL (Wiegand - 26 to 58 bits)	Up to 8 wires– 100m max			
Wiring recommandations	Cross-section of 0.22mm² – Shielded pair cable to prevent signal interferences.			
Connection	Terminal stripe			
Distances de lecture				
MIFARE Classic	Up to 40mm			
MIFARE Plus & DESfire	Up to 20mm			
BLE	Up to 25m in open fields (depending on smartphone)			
NFC	Up to 40mm			
LEDs and Buzzer				
LINE series	6 LEDs light signature – RGB 256			
MATRIX series	25 LEDs Matrix light signature - RGB 256			
Buzzer	Ajustable in tone			
LEDs & buzzer customization	Via the LiNEGUARD Studio configuration software (available with license)			
Protection				
Tamper	Sensor detection			
Mechanical protection	IK10	IK08		
Environment protection	IP65			
Operating temperature	-40° to +60°C | -40° to +140°F			
Compatible products				
Controller	Every OSDP V2, SSCP or Wiegand controller. IPassan controller in 2Wires or RS485 FDI protocol.			
Chip compatibility	13.56MHz ISO 14443. ISO 15693 (CSN only).			
Hardware				
Dimension (h x w x d)	109,8 x 41,8 x 23,5 mm | 4.29 x 1.61 x 0.90 in			
Weight	130g | 4.58 oz	152 g | 5.36 oz	153g | 5.39 oz	128g | 4.51 oz

Setting of the reader

Readers and their behaviors are configured using the LiNEGUARD Studio software, accessible by license at the following URL: studio.lineguard-access.com.