# BIO-N

# INSTALLER MANUAL

IM_ENG_REV0126_BIO-N

## 1.TABLE OF CONTENTS

## 2.INTRODUCTION

Installation manual for BIO-N reader with firmware version 2 (batches 21/25 onwards). Proximity and fingerprint reader for stand-alone and slave operation.

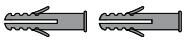

## 3.SPECIFICATIONS

| | |
|---|---|
| Material | Stainless steel and black ABS plastic |
| Protection degree | IP-66 |
| Input voltage | 12/18Vdc |
| Current | Standby current: ≤ 30mA / Active: ≤ 120mA |
| Capacity | 989 users (890 cards and 99 fingerprints) |
| Fingerprint reader | Resolution: 500DPI<br>Id time: <1s<br>FAR: <0.01%<br>FRR: <0.1% |
| Reading frequency | EM 125KHz |
| Reading range | 0-6cm |
| Relay | NO, NC, common<br>2A max. |
| Transmission format | Wiegand 26 |
| Dimension (H x W x D): | Electronics: 48(W) x 62(H) x 25(D)mm.<br>Electronics plus front cover: 86(W) x 86(H) x 25(D)mm |
| Working temperature range: | -25 ~60° C |
| Working humidity range: | 0-98% (non-condensing) |

## 4.PRODUCT CONTENT

Diode.

Varistors.

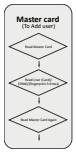


Fixing blocks.

Screws.

Screw cover labels.


Remote control
for programming.




MASTER
programming card.

IMPORTANT: Once the reader has been programmed keep the master card and the remote control in a safe place for future programming.

## 5.INSTALLATION

This reader is intended for mounting/integration in Nexa panels, which requires the use of an adapter module.
However, it can also be mounted independently on a specific embedding box (universal embedding box is not valid).

See chapter "13. TYPES OF INSTALLATION" to proceed.

## 6.CONNECTION

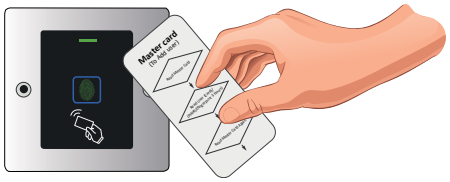
| WIRE COLOUR | FUNCIÓN | DESCRIPCIÓN |
|---|---|---|
| Red | 12Vdc | Input 12-18V DC current |
| Black | GND | GND |
| Blue | NO | Normally open relay output |
| Brown | Common | Common contact for relay output |
| Grey | NC | Normally closed relay output |
| Yellow | Opening | Exit pushbutton |
| Green | D0 | Wiegand Data 0 output |
| White | D1 | Wiegand Data 1 output |

## 7.BASIC PROGRAMMING

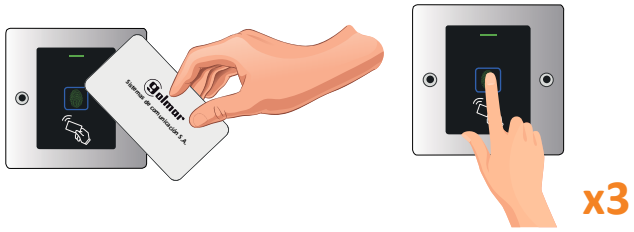
Basic programming (user registration/deletion) using the "Master Card" supplied with the product.

### USER REGISTRATION

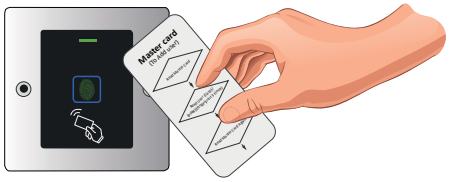
1) Approach the "Master Card" card to the reader.




2) Approach the card or fingerprint of the user to be registered.
*For the fingerprint, insert and remove your finger 3

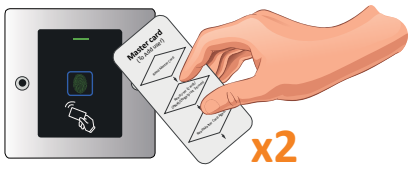



3) Approach the "Master Card" card to the reader.

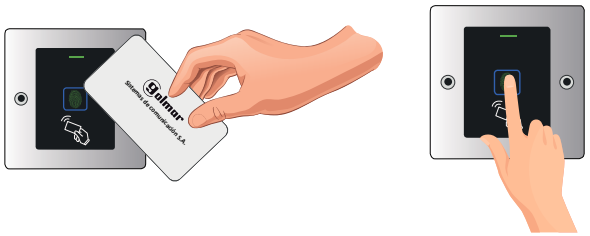



### USER DELETION

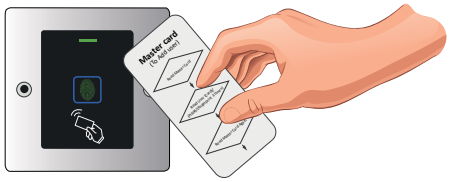
1) Approach the "Master Card" card to the reader 2 times at an interval shorter than 5 seconds.




2) Approach the card or fingerprint of the user to be deleted.




3) Approach the "Master Card" card to the reader.




NOTE
In case of loss of the MASTER CARD you can create one by performing the process described in section "10.4.Reset to factory settings". This same process also allows you to create fingerprint as MASTER.

## 8.ADVANCED PROGRAMMING

For advanced programming it will be necessary to use the remote control:

-Remove the protective plastic from the battery before starting to use the remote control.
-Use the remote control in a position close to the reader and pointing to the

## 8.1. PROGRAMMING

Perform the following sequence to enter programming:

| Enter to administrator mode | | |
|---|---|---|
| * | MASTER CODE<br>(by default: 123456) | # |

IMPORTANT

The reader will indicate the access to programming with the "green" lighting up and then the flashing LED in "red" . At the start of the programming sequence (function to be programmed) the led will be "orange".

To exit programming, press "*" and the reader will go to standby, the status LED will be "steady red". If you do not press anything, after 30 seconds the reader will also automatically exit programming.

Once in programming, perform the desired programming sequence. The different system programming sequences are detailed below.

### 8.1.1.CHANGE MASTER CODE

It is highly recommended to modify the master code:

| Enter administrator mode | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| * | MASTER CODE | # | 0 | NEW MASTER CODE<br>(6 DIGITS) | # | NEW MASTER CODE<br>(6 DIGITS) | # |

Example: * 123456 # 0 987654 # 987654 #

### 8.1.2.CARD REGISTRATION (AUTO ID)

Card registration with automatic registration.

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 1 | APPROACH CARD |

Example: * 987654 # 1 APPROACH CARD

### 8.1.3.CARD REGISTRATION (specific ID)

Maximum number of records is 890. User IDs from 100 to 989.

| Enter administrator mode | | | | | | |
|---|---|---|---|---|---|---|
| * | MASTER CODE | # | 1 | USER ID<br>(100-989) | # | APPROACH CARD |

Example: * 987654 # 1 1 # APPROACH CARD

IMPORTANT: do not enter user IDs with zeros before the ID value.

### 8.1.4.FINGERPRINT REGISTRATION (AUTO ID)

PIN registration with automatic recording position.

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 1 | FINGERPRINT (3 times) |

Example: * 987654 # 1 ENTER FINGERPRINT x3

### 8.1.5.FINGERPRINT REGISTRATION (specific ID)

Maximum number of records is 99. User IDs from 0 to 98.

| Enter administrator mode | | | | | | |
|---|---|---|---|---|---|---|
| * | MASTER CODE | # | 1 | USER ID<br>(0-98) | # | FINGERPRINT (3 times) |

Example: * 987654 # 1 1 # FINGERPRINT x3

IMPORTANT: do not enter user IDs with zeros before the ID value.

### 8.1.6.FINGERPRINT DELETION (by fingerprint reading)

Fingerprint deletion by entering the fingerprint to be deleted.

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 2 | FINGERPRINT |

Example: * 987654 # 2 ENTER FINGERPRINT

### 8.1.7.CARD DELETION (by card reading)

Deletion of cards by approaching the card to be deleted.

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 2 | APPROACH CARD |

Example: * 987654 # 2 APPROACH CARD

### 8.1.8. FINGERPRINT OR CARD DELETION (specific ID)

Enter the ID corresponding to the user to be deleted.

| Enter administrator mode | | | | | |
|---|---|---|---|---|---|
| * | MASTER CODE | # | 2 | USER ID (0-989) | # |

Example: * 987654 # 2 1 #

## 9.OTHER SETTINGS

## 9.1. IDENTIFICATION MODE

### 9.1.1.IDENTIFICATION BY CARD OR FINGERPRINT (default value)

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 42 | # |

Example: * 987654 # 42 #

### 9.1.2.IDENTIFICATION BY FINGERPRINT ONLY

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 40 | # |

Example: * 987654 # 40 #

### 9.1.3.IDENTIFICATION BY CARD ONLY

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 41 | # |

Example: * 987654 # 41 #

## 9.2. ALARM SETTINGS (TAMPER)

### 9.2.1.ACTIVATE TAMPER

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 5(0-3) | # |

Example: * 987654 # 52 #

The tamper alarm activation time is from 0 to 3 minutes. In the example, the value 52 has been entered, so it would be active for 2 minutes.
Default value: 51 (1 minute).

## 9.3. RELAY SETTINGS

### 9.3.1.PULSE MODE

| Enter administrator mode | | | | | |
|---|---|---|---|---|---|
| * | MASTER CODE | # | 3 | 1-99 | # |

Example: * 987654 # 3 15 #

The pulse can be active from 1 to 99 seconds. In the example, the value 15 has been entered, so it would be active for 15 seconds.
Default value: 5 seconds.

### 9.3.2.LATCHING MODE

| Enter administrator mode | | | | | |
|---|---|---|---|---|---|
| * | MASTER CODE | # | 3 | 0 | # |

Example: * 987654 # 3 0 #

The relay switches to ON/OFF mode.

## 9.4. LOCKOUT ALARM (FAILED ATTEMPTS)

The lockout alarm will be triggered after 10 unsuccessful fingerprint/PIN entry attempts. The factory default is OFF, but it can be set to deny access for 10 minutes or to activate the alarm after triggering.

### 9.4.1.LOCKOUT DISABLED (default value)

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 60 | # |

Example: * 987654 # 60 #

### 9.4.2.10-MINUTE ACCESS LOCKOUT

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 61 | # |

Example: * 987654 # 61 #

The LED will start blinking and the reader will be locked for 10 minutes. To return to the normal state, wait 10 minutes or restart the reader.

### 9.4.3.ALARM

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 62 | # |

Example: * 987654 # 62 #

In case a valid user card or MASTER card is approached, the alarm will stop.

## 9.5. RESET TO FACTORY DEFAULTS

The reset returns the reader to factory defaults. Restoring the configuration and the master code. User information will be kept.

1. Turn off the power.
2. Press and hold the exit pushbutton*.
3. Turn on the power.
4. When you hear 2 beeps, release the exit pushbutton*.
5. The LED will light up yellow.
6. Approach a 125KHz card through the reader.
7. The light will illuminate red and the equipment will be reset to factory defaults.

*Requires exit push button, yellow wire (OPEN) and black wire (GND) to be connected.

NOTE

- This process generates a MASTER card replacing the previous one.
- In case it is not desired to replace the current MASTER card, skip step 6 and wait for the reader to retun to the idle state (red led).

## 9.6. DELETION OF ALL USERS

| Enter administrator mode | | | | | |
|---|---|---|---|---|---|
| * | MASTER CODE | # | 2 | 0000 | # |

Example: * 987654 # 2 0000 #

IMPORTANT:

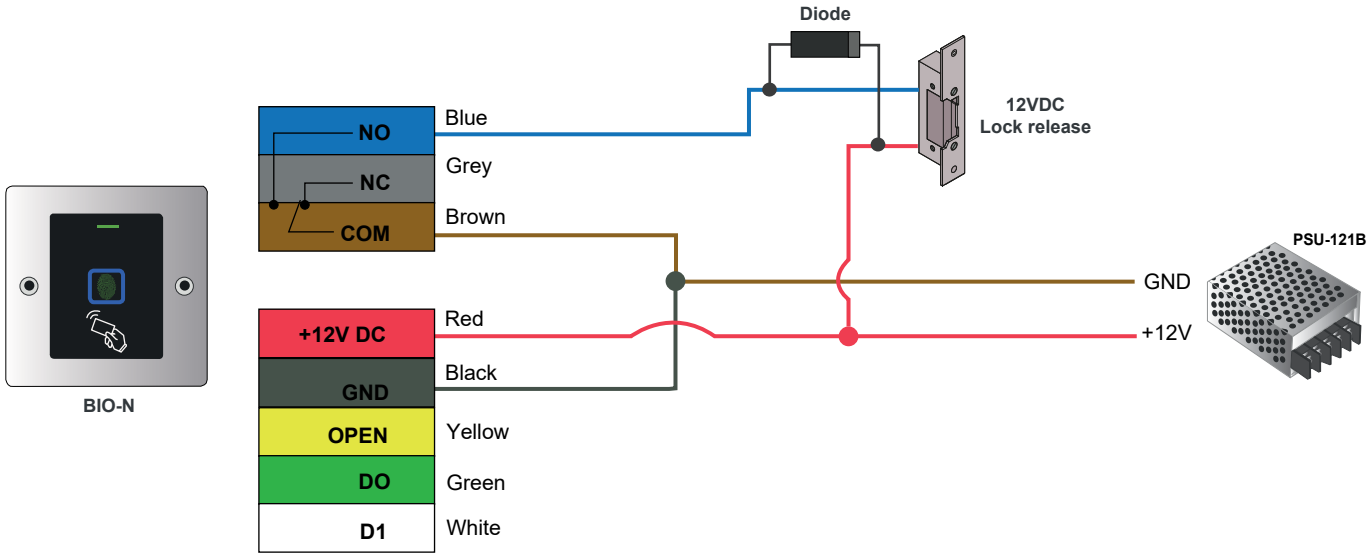
Before performing this function, make sure that it is OK to REMOVE all previously registered users.

## 10.STATUS DISPLAYS

| OPERATION STATUS | COLOUR LED | BUZZER |
|---|---|---|
| Stand by | Red | - |
| Enter programming mode | Flashing red | Short beep |
| In programming mode | Orange | Short beep |
| Operation error | - | 3 beeps |
| Exit programming mode | Red | Short beep |
| Door open | Green | Short beep |
| Alarm | Flashing red | Beeps |

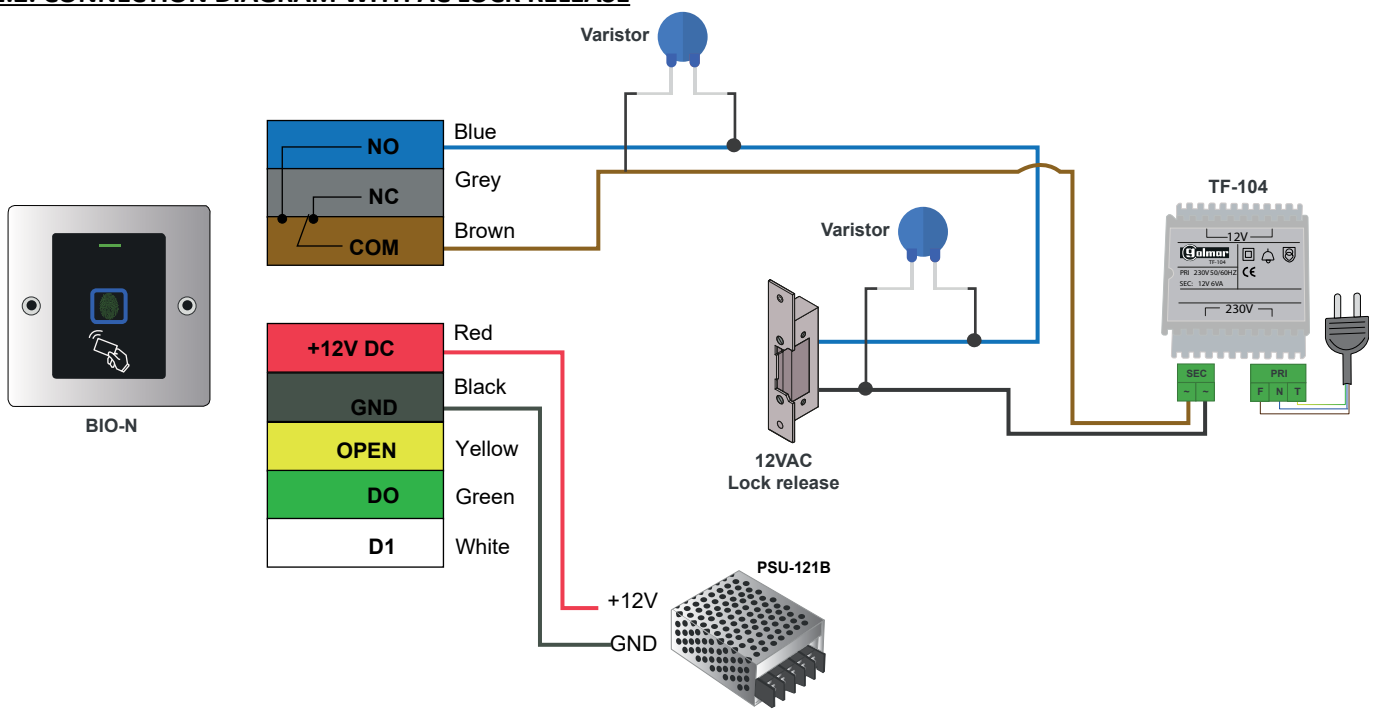
## 11.CONNECTION DIAGRAMS

### 11.1. CONNECTION DIAGRAM WITH DC LOCK RELEASE



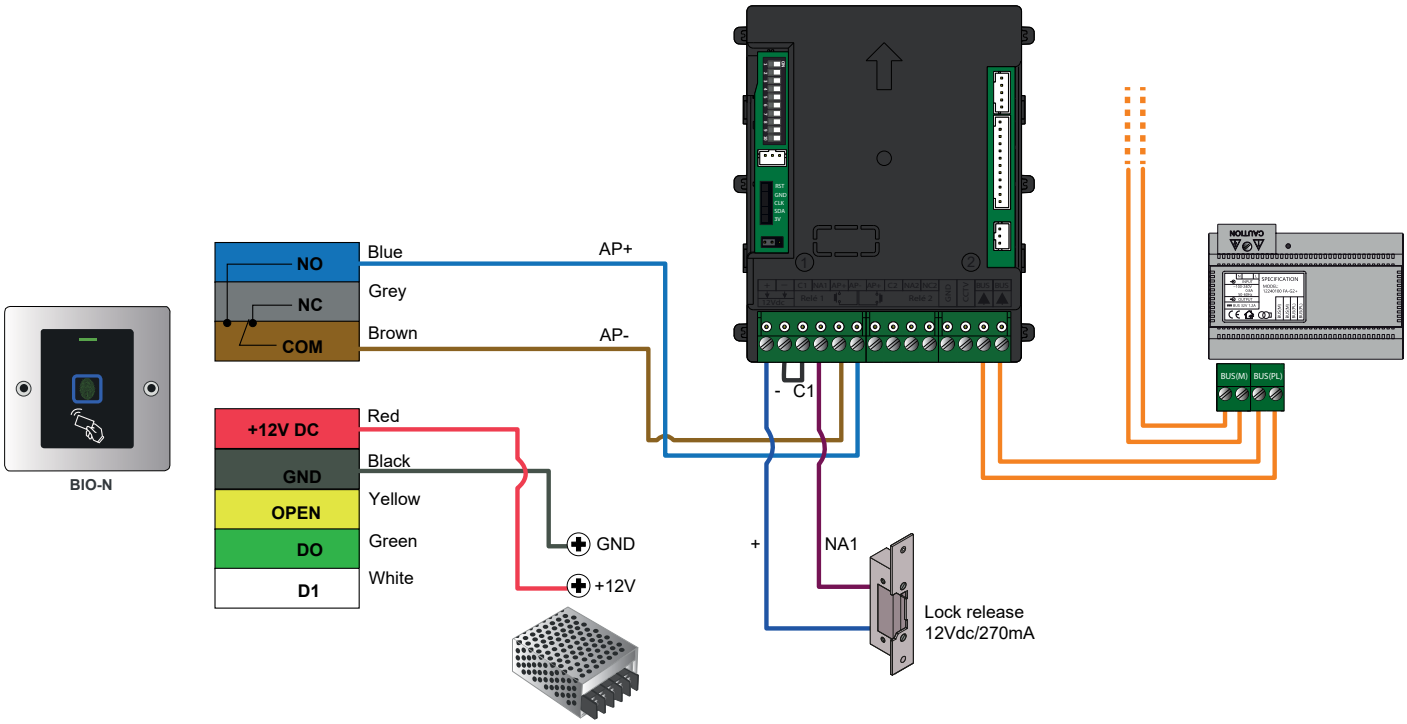

IMPORTANT: Do not forget to connect the supplied diode in parallel to the lock release to protect the equipment.

### 11.2. CONNECTION DIAGRAM WITH AC LOCK RELEASE




IMPORTANT: Golmar recommends using DC lock releases, as connecting an AC lock release may cause high voltage spikes that could damage the device or cause it to malfunction. However, in the event the AC lock release is used, protect the equipment by fitting a varistor to the relay contact output and another in parallel with the lock release.

## 11.3. CONNECTION DIAGRAM WITH INTERCOM



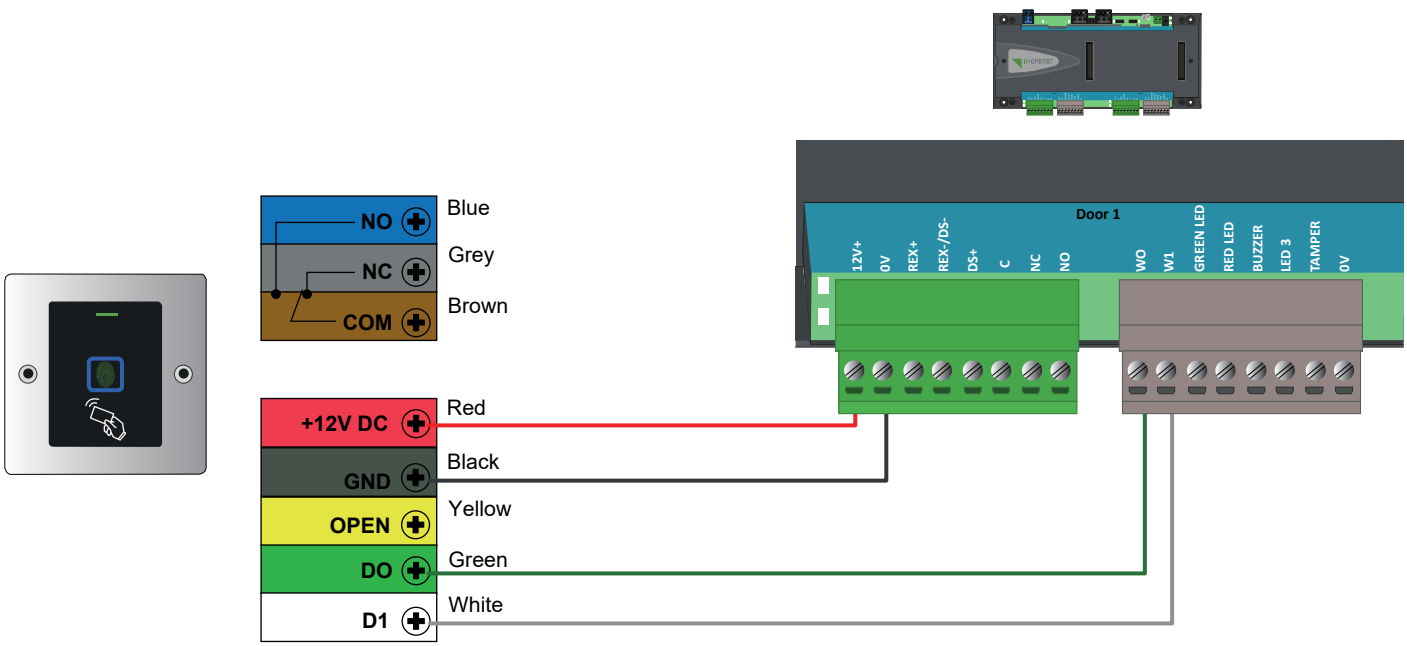

NOTE: The door opener (AP) does not activate the lock release until the pulse on the BIO-N reader has been finished. To avoid opening delays set the minimum pulse time to 1 second at the reader:

| Enter administrator mode | | | | | |
|---|---|---|---|---|---|
| * | MASTER CODE | # | 4 | 1 | # |

## 12.WIEGAND

The following chapter describes how to use the BIO-N reader in an iP Opener system with a Wiegand controller.

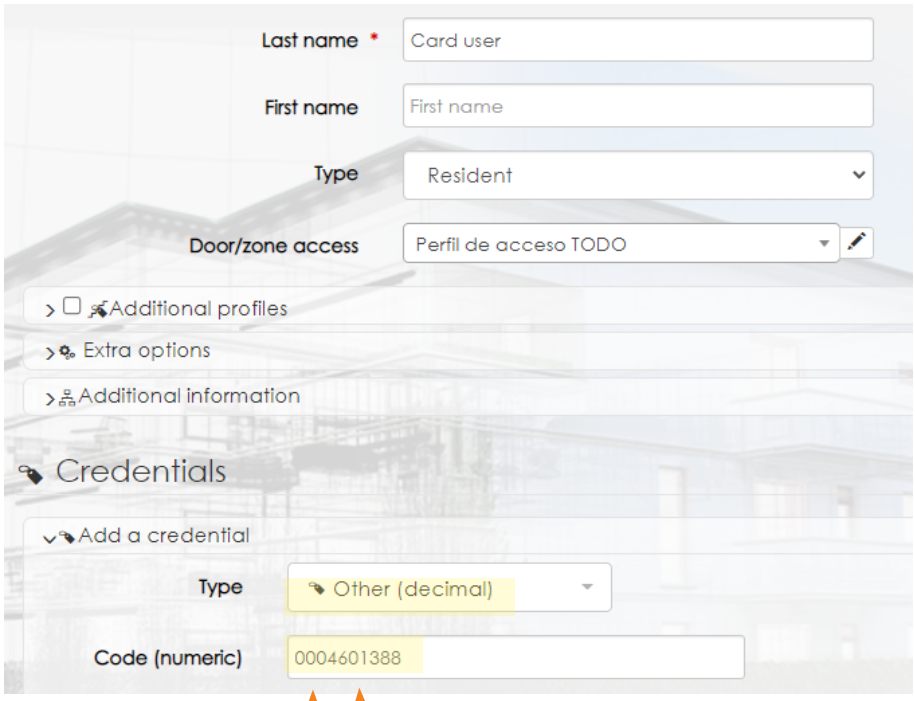
## 12.1. CONNECTION DIAGRAM



## 12.2. PROGRAMMING

### 12.2.1.PROGRAMMING CARD

Generate a user with credential type "Other (decimal)" and enter in the field "code" the ID of the card or key fob:





At this point the card or key fob will be registered in iP Opener and the access will be granted:

| Fecha / Hora | Evento | Elemento | Informaciones | Dirección de la persona | Grupo | Login |
|---|---|---|---|---|---|---|
| 2022-06-28 12:31:30 | Acceso autorizado | 2P WIEGAND - Puerta 0001<br>Lector 0001<br>Secu | Usuario Tarjeta | -- | -- | 0004601388 |

| Fecha / Hora | Evento | Elemento | Informaciones | Dirección de la persona | Grupo | Login |
|---|---|---|---|---|---|---|
| 2022-06-28 12:32:24 | Acceso autorizado | 2P WIEGAND - Puerta 0001<br>Lector 0001<br>Secu | Usuario Llavero | -- | -- | 0009701804 |

### 12.2.2.PROGRAMMING FINGERPRINT

Register the fingerprint in the reader:

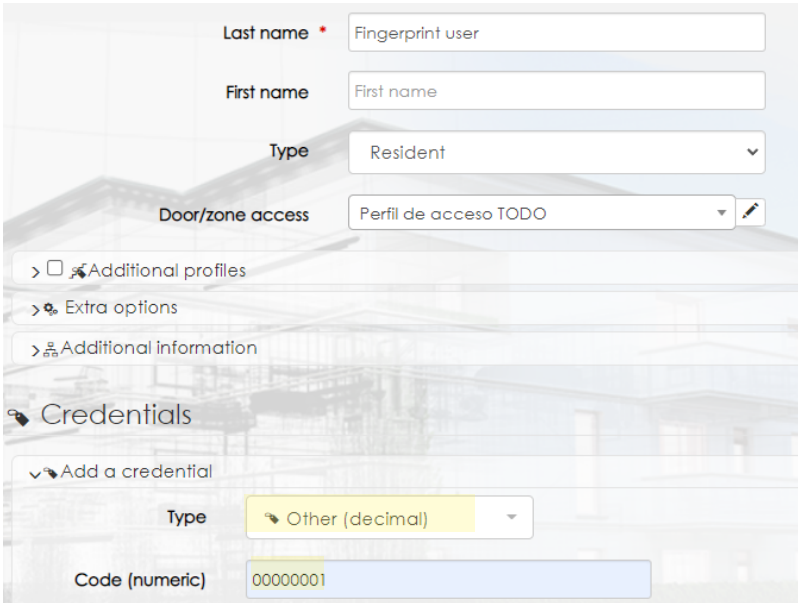
| Enter administrator mode | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| * | MASTER CODE | # | 1 | USER ID (1-98) | # | FINGERPRINT (3 times) | | |

Example: * 987654 # 1 1 # FINGERPRINT x3

NOTE

Do not use ID 0. Register in this case the fingerprint from ID 1 (ID 1 to 98, ID 0 is not interpreted by iP Opener).

Generate a user with credential type "Other (decimal)" and with the user ID value registered in the reader:




At this point the fingerprint will be registered in iP Opener and the access will be granted:

| Fecha / Hora | Evento | Elemento | Informaciones | Login |
|---|---|---|---|---|
| 2021-12-28 15:55:36 | Acceso autorizado | 2P WIEG - Puerta 0002<br>Lector 0002<br>Perfil de acceso TODO | Usuario huella | 00000001 |

IMPORTANT

- The value to be entered in decimal must contain 8 digits. For this reason, the value 00000001 has been registered in this case.
- The reader can register 99 fingerprints (ID 1 - 98).
- For a correct management/use of the users, follow the programming dynamics described in the following table:

| FINGERPRINT USER ID | iP OPENER CODE (Other decimal) |
|---|---|
| 1 | 00000001 |
| 2 | 00000002 |
| ... | ... |
| 97 | 00000097 |
| 98 | 00000098 |

NOTE

The use of the reader integrated in the iP Opener system implies the loss of the buzzer and led states ( there will be no visual and audible confirmation on the reader of validated or denied accesses).

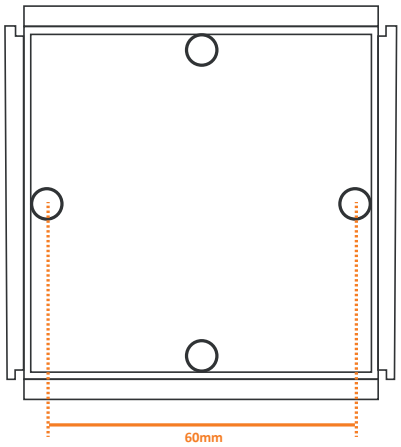
IMPORTANT

As can be observed, the use of fingerprints in iP Opener requires to register the fingerprint in the reader and later the memory location in iP Opener Manager. This is because iP Opener respects the data protection law and does not allow storing biometric data in the system itself. Golmar recommends the use of other types of identification whenever possible in order to have a centralized, simple and efficient management in iP Opener Manager.

## 13.TYPES OF INSTALLATION

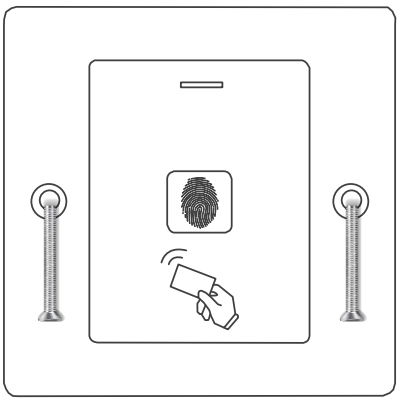
### 13.1. STAND-ALONE INSTALLATION

As briefly mentioned in section "5.INSTALLATION", the installation of these readers is designed to be integrated in Nexa panels. However, you can choose to install the reader independently on a embedding box. In this case, follow the steps below:




1

Place a embedding box AP-1 (20363401).



2

Attach the reader to the box with the metric screws supplied. Then cover the screws with the supplied screw cover labels.

IMPORTANT: The reader incorporates an anti-tamper LDR sensor on the back of the reader 
It is light-sensitive, so if light shines on the sensor after placing the reader, the tamper alarm will be triggered.

### 13.2. INSTALLATION ON GOLMAR MODULAR PANELS

To integrate the reader into modular panels, it must be acquired on a kit basis:

N3000/BIO-N (20700015), mounting kit for the BIO-N reader on Nexa Aluminium.
NX3000/BIO-N (20700016), mounting kit for the BIO-N reader on Nexa Stainless Steel.
NX3000/BIO-N BLACK (20700016B), kit for mounting the BIO-N reader on Nexa Inox with a black finish.
S3000/BIO-N/AL (12583315), kit for mounting the BIO-N reader on Supra.

Due to the fact that the kits are supplied with the reader assembled in a special frame, as in the example below:

Front view of Nexa Aluminium cover panel with reader

Back view of Nexa Aluminium cover panel with reader

# 14.ANNEX

## 14.1. BUZZER SETTINGS

BUZZER ACTIVATED

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 71 (default value) | # |

Example: * 987654 # 71 #

BUZZER DEACTIVATED

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 70 | # |

Example: * 987654 # 70 #

## 14.2. LED SETTINGS

LED ACTIVATED

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 73 (default value) | # |

Example: * 987654 # 73 #

LED DEACTIVATED

| Enter administrator mode | | | | |
|---|---|---|---|---|
| * | MASTER CODE | # | 72 | # |

Example: * 987654 # 72 #

## NOTES

**NOTES**

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