EN 50131-1
EN 50131-3
EN 50130-4
EN 50130-5
CEB T031

nBy/S

Proximity reader for outdoor installation

Installation and programming manual

inim

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1. Description of nBy/S

The nBy/S module is a proximity reader for arming and disarming the system or for sending commands to the control panel via a key.

It has break-open and dislodgement tamper protection and a warning buzzer used the control panel to provide audible signals to attract the attention of users.

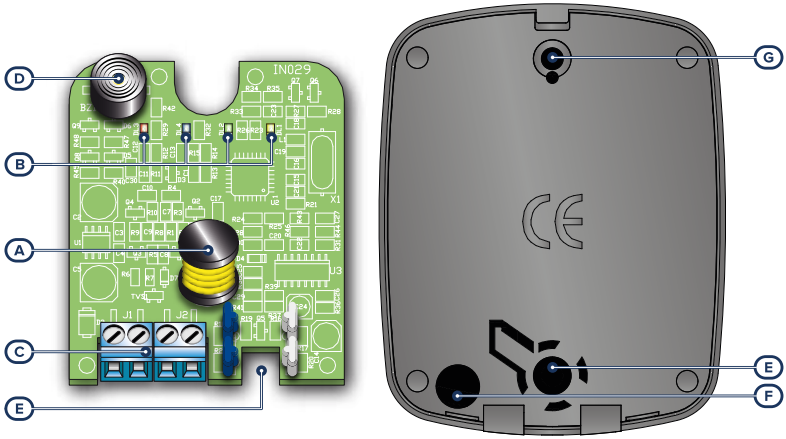
Moreover, it is IP34 grade rated and therefore is suitable for outdoor use.

It has 4 LEDs that can be associated with arming scenarios or shortcuts for the execution of actions.

The proximity reader system is completed by proximity (tags) or cards that allow system-user authentication through the readers.

It is also possible to program a customized shortcut associated to the key in use with the reader.

1.1 Description of parts



[A]	Antenna
[B]	LED
[C]	I-BUS terminals
[D]	Buzzer
[E]	Anti-opening and anti-dislodgement
[F]	Cable entry
[G]	Mounting screw hole

Terminals

num.	identifier	description
1	**+**	Terminal '+' for the I-BUS connection
2	**D**	Terminal 'D' for the I-BUS connection
3	**S**	Terminal 'S' for the I-BUS connection
4	**-**	Terminal '-' for the I-BUS connection

1.2 Technical specifications of nBy/S

Power supply voltage	from 9 to 15 V ⎓
Current absorption	40 mA
RFID reader	

Band frequency	119/128.6 kHz
Field strength H (max.)	66dBµA/m at 10 m
Operating environmental conditions	
Temperature	from -25 to +60 °C
Relative humidity	≤ 93% without condensation
Security grade	3
Environmental class	IV
Dimensions (W x H x D)	64 x 80 x 17 mm
Weight	45 gr

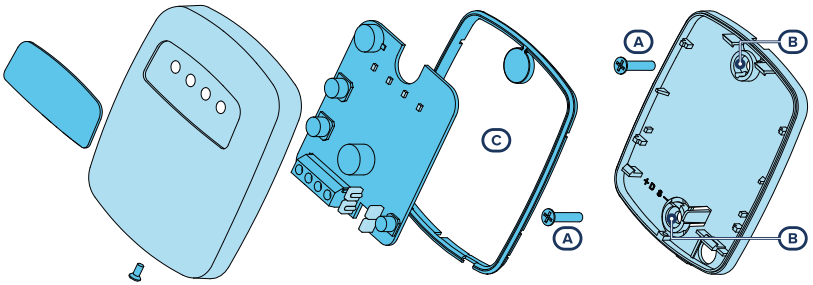
Keys

Model	**nKey**	**nCard**	**nBoss**
Dimensions	35 x 28 x 6 mm	54 x 85 x 1 mm	85 x 29 x 4 mm
Weight	5 gr	6 gr	15 gr

(EN IEC 62368-1)

Terminal type	**+ D S -**	ES1, PS2

2. Installation of nBy/S



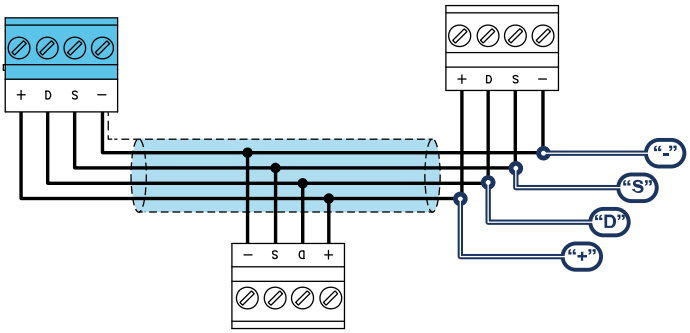
The nBy/S device has been designed to be mounted to wall surfaces, also outdoors.

Insert the two fixing screws [A] (included) into the two screw locations [B] on the back of the plastic casing.

Attention!

In order to avoid the risk of piercing the silicone seal *[C]*, and thus jeopardizing the water-proofing of the enclosure,
insert the screws before fitting the seal.

2.1 Connecting to the I-BUS line



The peripheral devices of Inim Electronics control panels are to be connected to the control panel via the I-BUS.

The connection between the control panel and its peripherals is achieved through a shielded 4 wire (or more) cable.

Attention!

The shield must be connected to one of the ground terminals (or GND) only on the control panel side and must follow the entire BUS without being connected to ground in other points.

The control panel connection is done using terminals '**+ D S -**' on the motherboard.

Sizing

The sizing of the I-BUS line, i.e. the distribution of peripherals and the use of cables to connect them, must be done on the basis of various project factors, in order to ensure the diffusion of the signals of conductors '**D**' and '**S**' and the power supplied by conductors '**+**' and '**-**'.

The factors are:

- The current consumption of the connected devices.

  In the case of insufficient power supply from the BUS line to peripherals and detectors (refer to the Technical specifications table), this can also be supplied by external power supplies.

- Cable type

  The cable section used affects the dispersion of the conductor signals.

Recommended cable

Cable AF CEI 20-22 II	number of conductors	section (mm2)	I-BUS terminal
4 wire cable + shield	2	0.5	**+ -**
	2	0.22	**D S**
6 wire cable + shield	2	0.5	**+ -**
	2	0.22	**D S**
	2	0.22	available
6 wire cable + shield	2	0.75	**+ -**
	2	0.22	**D S**
	2	0.22	available

- Communication speed over the BUS

  This parameter can be changed by means of the programming software (38.4, 125 or 250kbs).

BUS sizing

BUS speed	maximum admissible length (sum of the sections downstream of the control panel or of an isolator)
38.4kbps	500m
125kbps	350m
250kbps	200m

- Number and distribution of IB200 isolators.

  To increase the reliability and the extension of the BUS, it is necessary to use isolators.

2.2 nBy/S project

After installing the control panel peripherals and connecting them to the BUS, it is necessary to allow the control panel to recognize and distinguish one from another in order for them to be placed in the configuration.

This is possible firstly by assigning an address to each peripheral.

The addressing procedure changes in accordance with the type of peripheral. The types available are:

- keypads (both with keys and LCD display and also with touch-screens)
- proximity readers (both stand-alone and integrated into keypads)
- expansions (both with input/output and relay terminals)
- sounder/flasher
- home-automation modules
- thermostats
- wireless transceivers
- power-supply stations

Warning

Peripherals of different types can have the same address, whereas peripherals of the same type must always have different addresses.

Wireless transceivers must have different addresses from those of readers and expansions.

After assigning all the addresses, it is necessary for the control panel to carry out the peripheral enrolling procedures in order to include them in the system configuration that the control panel will manage.

2.2.1 Fast addressing of keypads and readers

If the button relating to open-tamper on the control panel cover is pressed within 4 seconds of inserting the ‘service’ jumper, the function for fast addressing of the keypads and readers will activate.

All the keypads and readers connected to the I-BUS will be placed in address programming mode.

At this point, the installer can either change or confirm the assigned addresses.

2.2.2 Addressing of nBy/S via key

1. Put the control panel in ‘Maintenance’ mode.
2. Start the ‘Address Programming’ phase using the software or from a keypad:

Via software

By clicking on the **Readers** button in the menu on the left, the ‘Readers parameters’ section on the right will provide the **Proximity Reader addresses programming** button.

Via keypad

`Type-in Code` (Installer), `PROGRAMMING Readers, Prog. address`

Each reader will indicate its own address on the LEDs, in accordance with the table below.

3. Hold a valid key in the vicinity of the reader. The reader will run through a series of available reader-addresses (an address every 2 seconds). Remove the key when the LEDs indicate the desired address.

4. The reader will hold the addressing phase for a further 10 seconds, in order to allow you to change the address if necessary.
5. The reader will assign the selected address when the 10 second period expires.
6. If you wish to assign an address to another reader, hold a valid key in the vicinity of the reader and work through points 4 to 6.
7. End the address programming phase initialized at point 2 by exiting the 'Prog. address' menu via the keypad or by clicking the **End Proximity-reader address programming** button in the software.

Note

This procedure does not apply to readers that are built into the keypads.

0	LED Off
1	LED On
L	Flashing LED

Address	Red LED	Blue LED	Green LED	Yellow LED	nBy/S
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	
4	0	1	0	0	
5	0	1	0	1	
6	0	1	1	0	
7	0	1	1	1	
8	1	0	0	0	
9	1	0	0	1	
10	1	0	1	0	
11	1	0	1	1	
12	1	1	0	0	
13	1	1	0	1	
14	1	1	1	0	
15	1	1	1	1	
16	0	0	0	L	
17	0	0	L	0	
18	0	0	L	L	
19	0	L	0	0	
20	0	L	0	1	
21	0	L	L	0	
22	0	L	L	L	
23	L	0	0	0	
24	L	0	0	L	
25	L	0	L	0	
26	L	0	L	L	
27	L	L	0	0	
28	L	L	0	L	

29	L	L	L	0	
30	L	L	L	L	

2.2.3 Enrolling of nBy/S

Inim Electronics control panels allow the enrolling of peripherals in different ways, with a choice between automatic or manual procedures, depending on installer access to the system.

Automatic, from control panel in 'service' mode

Placing the control panel in 'maintenance' mode activates automatic enrolling of peripherals on the BUS at intervals of 10 seconds.

If the installer assigns addresses to peripherals connected to the BUS, at 10 second intervals, the control panel will enroll in the configuration the peripherals it finds.

Automatic, from keypad

Alternatively, it is also possible to start an automatic enrolling process by means of the following installer menu options:

`Type in Code` (Installer), `PROGRAMMING Default settings, Auto enrolPeriph`

Manual, via Prime/STUDIO software application

Once the solution for the system to be designed has been opened, click on the **System Layout** button on the menu on the left. Then in the section on the right click on the **Add device on BUS** button.

A window opens where you can select the devices to be configured and add them to the configuration.

In the section on the left you can increase the number using the button corresponding to the selected device type.

To remove a device from the structure, work through the Add device procedure, but instead deselect the device you want to remove

Alternatively, you can access the programming section by clicking on the relevant button on the menu on the left, and from the list that appears click on the **Delete** button that corresponds to the line of the device to be removed.

Manual, via SmartLeague software application

Once the solution of the system to be designed *[A]* has been opened, in the right 'Design' tab *[B]*, it is possible to select an icon of the type of peripheral to be configured and drag it to the relevant part of the tree structure on the left *[C]*.

Alternatively, you can double-click on the device icon to add it to the configuration.

In the tree structure on the left, the number corresponding to the selected device type increases.

To remove a component from the tree structure, select it and press **CANC** on the computer keyboard.

Manual, from keypad

The enrollment of addressed peripherals is possible by enabling the menu options after reaching the installer menu section:

In this section it is possible to add/remove readers from the configuration, by means of keys '▣' and '☐'.

2.2.4 Enrolling keys

The key enrolling procedure is carried out in this section:

Via keypad

`Type-in Code` (Installer) , `PROGRAMMING Keys, Enroll`

1. The readers present in the control panel configuration will be shown. Select the reader you want to use for enrolling the keys, then press '**OK**'.
2. Select the key you wish to enroll and press '**OK**'; if the selected reader is not integrated all the LEDs will start blinking whilst waiting for the key to be enrolled.
3. The keypad will indicate the current description of the digital key concerned.
4. Hold the digital key in the vicinity of the reader and then move it away.
5. The keypad you are working on will emit a beep to confirm that the key has been enrolled; if programming is being done on one of the non-integrated readers, the red LED will go On.
6. The digital key description on the display will pass to the next key automatically. This method (from step '4') allows you to enroll as many digital keys as the system requires.
7. Once all the keys have been enrolled, press the '**Esc**' or '**Canc**' button.

Note

All the enrolled keys will be enabled to operate the system immediately.

Delete keys

`Type-in Code` (Installer), `PROGRAMMING Keys, Delete key`

This section allows you to delete enrolled digital keys from the system configuration. The enrolled digital keys can be found in the list with the '▣' symbol:

1. Use the 'up' and 'down' buttons to select any enrolled keys you wish to delete.
2. Press the button to delete the key.
3. Press '**OK**' to confirm and exit.

Through an appropriate section of the installer menu it is also possible to delete all the enrolled keys at once. This section can be reached as follows:

`Type-in Code` (Installer), `PROGRAMMING Default settings, Only keysDefault`

Key enablements

`Type-in Code` (Installer) , `PROGRAMMING Keys, Enable/disable`

This section allows you to enable/disable the digital keys. These operations are not irreversible:

1. Use the ‘up’ and ‘down’ buttons to select the key in question.
2. Use keys ‘■’ and ‘□’ to enable/disable the key.
3. Press ‘**OK**’ to confirm and exit.

3. Programming of nBy/S

The programming of nBy/S devices, as peripherals of the Inim Electronics control panel, can be carried out either via software or from a keypad.

3.1 Programming of proximity readers

Via software

Click-on the 'Proximity readers' button on the menu on the left, to access two programming sections on the right:

- 'Configured readers', with the list of all the configured readers, whether they are standalone peripherals or integrated into keypads.
  Selecting one of the options will allow you to configure the parameters of the single reader by clicking on the  button.
- 'Reader parameters', section containing the parameters common to all the readers.

Via keypad

`Type-in Code (Installer), PROGRAMMING Readers, ChoosePeripheral`

In this section, it is possible to program the various parameters of each reader after selecting it, regardless of whether it is a standalone peripheral or integrated into a keypad.

3.1.1 Reader parameters

Parameters common to all readers

Parameter		Software section	Installer menu section
Programming the proximity reader address	Section for the programming of the proximity reader addresses.	 Reader parameters	`Readers, Prog. address`
Address LED codes	Section for the visualization of how the addresses will be reproduced on the LEDs.		/
Reader Buzzers OFF	No reader buzzers will emit audible signals when the entry time, exit time, output time or pre-arm time is running.		`Parameters, ReaderBuzzersOFF`

Parameters of single reader

Parameter		Software section	Installer menu section
Description	This is the name used to identify the reader, customizable by the installer.	 Configured readers, selected reader	`Readers, ChoosePeripheral, "reader"`
Partitions	Section for the selection of the partitions the reader can operate on.		
Type	It is possible to assign a shortcut type, selectable from those available, to each of the LEDs (refer to Appendix C, Shortcuts by default). The type of activatable shortcut is to be chosen in accordance with the reader model, whether standalone or integrated, as the activation of some shortcuts depends on the presence of a keypad with a display.	 Configured readers, selected reader, Shortcut	`Readers, ChoosePeripheral, "reader", Shortcut, Type`
Parameter	It is necessary to specify a further parameter for each shortcut:		

Parameter		Software section	Installer menu section
	• Execute Arm/Disarm, the parameter is one of the scenarios • Activate output, the parameter is an output • Deactivate output, the parameter is an output • Activate output scenario, the parameter is one of the scenarios • Panic, the parameter will be one of the panic events • Access shortcuts to menus and data viewing on keypad displays, the parameter is the reference access code		
Valid key at reader	Button to access directly the programming section of the 'Valid key at reader' event	 Configured readers, selected reader	Events, ValidKeyAtReader

4. General information

4.1 About this manual

Manual code: DCMIINE0NBYS

Revision: 102

4.2 Manufacturer's details

Manufacturer: Inim Electronics S.r.l.
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Web: www.inim.biz

The persons authorized by the manufacturer to repair or replace the parts of this system have authorization to work only on devices marketed under the brand Inim Electronics.

4.3 Warranty

Inim Electronics S.r.l.. (Seller, Our, Us) warrants the original purchaser that this product shall be free from defects in materials and workmanship under normal use for a period of 24 months.

As Inim Electronics does not install this product directly, and due to the possibility that it may be used with other equipment not approved by Us;Inim Electronics does not warrant against loss of quality, degradation of performance of this product or actual damage that results from the use of products, parts or other replaceable items (such as consumables) that are neither made nor recommended by Inim Electronics. Seller obligation and liability under this warranty is expressly limited to repairing or replacing, at Seller's option, any product not meeting the specifications. In no event shall Inim Electronics be liable to the purchaser or any other person for any loss or damage whether direct of indirect or consequential or incidental, including without limitation, any damages for lost profits, stolen goods, or claims by any other party caused by defective products or otherwise arising from the incorrect or otherwise improper installation or use of this product.

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover damage arising from improper maintenance or negligence, damage caused by fire, flood, wind or lightning, vandalism, fair wear and tear.

Inim Electronics S.r.l. shall, at its option, repair or replace any defective products. Improper use, that is, use for purposes other than those mentioned in this manual will void the warranty. Contact Our authorized dealer, or visit our website for further information regarding this warranty.

4.4 Limited warranty

Inim Electronics S.r.l. shall not be liable to the purchaser or any other person for damage arising from improper storage, handling or use of this product.

Installation of this Product must be carried out by qualified persons appointed by Inim Electronics. Installation of this Product must be carried out in accordance with Our instructions in the product manual.

4.5 Simplified EU Declaration of Conformity

Hereby, Inim Electronics S.r.l. declares that the radio equipment type nBy/S is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.inim.biz.

4.6 Documents for the users

Declarations of Performance, Declarations of Conformity and Certificates concerning to Inim Electronics S.r.l. products may be downloaded free of charge from the web address www.inim.biz, getting access to Extended Access and then selecting "Certifications" or requested to the e-mail address info@inim.biz or requested by ordinary mail to the address shown in this document.

Manuals may be downloaded free of charge from the web address www.inim.biz, getting access to the reserved area, after the login, and then to the section of each product.

4.7 Disposal of the product

Informative notice regarding the disposal of electrical and electronic equipment (applicable in countries with differentiated waste collection systems)

The crossed-out bin symbol on the equipment or on its packaging indicates that the product must be disposed of correctly at the end of its working life and should never be disposed of together with general household waste. The user, therefore, must take the equipment that has reached the end of its working life to the appropriate civic amenities site designated to the differentiated collection of electrical and electronic waste. As an alternative to the autonomous-management of electrical and electronic waste, you can hand over the equipment you wish to dispose of to a dealer when purchasing new equipment of the same type. You are also entitled to convey for disposal small electronic-waste products with dimensions of less than 25cm to the premises of electronic retail outlets with sales areas of at least 400m2, free of charge and without any obligation to buy. Appropriate differentiated waste collection for the subsequent recycling of the discarded equipment, its treatment and its environmentally compatible disposal helps to avoid possible negative effects on the environment and on health and favours the re-use and/or recycling of the materials it is made of.

Evolving Security

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