



EN 50131-1  
EN 50131-3  
EN 50131-6  
EN 50131-10  
EN 50136-1  
EN 50136-2  
EN 50130-4  
EN 50130-5  
CEB T031



**Prime**  
Anti-intrusion control panels and security systems



**GameOver**

Installation manual

## 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 s.r.l. 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 s.r.l. 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 s.r.l. be liable to the purchaser or any other person for any loss or damage whether direct or 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.

## 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.

## Copyright

The information contained in this document is the sole property of INIM Electronics s.r.l. No part may be copied without written authorization from INIM Electronics s.r.l.

All rights reserved.

## RED European Directive compliance

Hereby INIM Electronics s.r.l. declares that the following devices are in compliance with the essential requirements and other relevant provisions of Directive 2014/53/UE.

Prime240L, Prime120L, Prime060S, Aria/HG, Joy/MAX, Quadra/P, nBy/S, nBy/X, Alien/GB and variants, Alien/SB and variants, Air2-BS200/50 and variants, Air2-KF100, Air2-MC100B and variants, Air2-MC200B and variants, Air2-UT100, Air2-FD100, Air2-Hedera-F and variants, Air2-Aria/B and Air2-Aria/N, AIR2-XIR200W, AIR2-XDT200W, AIR2-DT200TB and variants, SmartLinkAdv/GP, SmartLinkAdv/G

All the devices mentioned here above can be used in all EU countries without restrictions.

The full declarations of conformity can be found at URL: [www.inim.biz](http://www.inim.biz)

## Leading-edge systems (DM37/08)

The devices described in this manual, depending on the settings selected during the installation phase and the implementation of the concepts illustrated in this guide, allow you to create an Intrusion Detection and Hold-up Alarm System (I & HAS) compliant with EN 50131-1:2006 + A1: 2009, safety grade 3 (at highest) and an alarm transmission system (ATS) compliant with EN 50136-1: 2012 in category ATS6 (at highest SP6 or DP4).

The devices described are compliant with European standards EN 50131-3: 2009 (in reference to control and indicating equipment - CIE), EN 50131-6: 2008 + A1: 2014 (in reference to power supplies - PS), EN 50131- 10: 2014 and EN 50136-2: 2013 (in reference to transceivers on supervised sites - SPT).

As a support to the design, planning, operation, installation, commissioning and maintenance of intrusion alarm systems installed in buildings, the following regulatory documents should be consulted: CEI 79-3 and CEI CLC / TS 50131-7.

Depending on the State where the components described are installed, certified compliance with local laws and regulations may be required.

## WEEE



### 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 400m<sup>2</sup>, 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.

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# About this manual

DCMIINE0PRIMEE **MANUAL CODE**  
1.40 **VERSION**

## Terminology

Refer to the control panel or any constituent part of the Prime intrusion control system.

Refer to the directions as perceived by the operator when directly in front of the mounted device.

Persons whose training, expertise and knowledge of the products and laws regarding security systems, are able to create, in accordance with the requirements of the purchaser, the most suitable solution for the protected premises.

Click on a specific item on the interface (drop-down menu, options box, graphic object, etc.).

Click on a video button, or push a key on the control-panel keypad.

## 0-1

**CONTROL PANEL,  
SYSTEM, DEVICE**

**LEFT, RIGHT,  
BEHIND, ABOVE,  
BELOW**

**QUALIFIED  
PERSONNEL**

**SELECT**

**PRESS**

## Graphic conventions

---

The notes contain important information relating to the text.

---



---

**The "Attention" prompts indicate that total or partial disregard of the procedure could damage the device or its peripherals.**

---



---

**The "DANGER" warnings indicate that total or partial disregard of the procedure could injure the operator or persons in the vicinity.**

---

## 0-2

**Note**

**ATTENTION!**

**DANGER!**



# Chapter 1

## General information

### 1-1

### Manufacturer's details

Manufacturer: INIM ELECTRONICS s.r.l.  
 Production plant: Centobuchi, via Dei Lavoratori 10  
 63076, Montepandone (AP), Italy  
 Tel.: +39 0735 705007  
 Fax: +39 0735 704912  
 e-mail: info@inim.biz  
 Web: www.inim.biz

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

### 1-2

### Description of the product and various models

#### DESCRIPTION

Intrusion control panel

#### MODELS

Prime060S, Prime060L, Prime120L, Prime240L

#### COMPLIANCY

EN 50131-1:2006+A1:2009,  
 EN 50131-3:2009,  
 EN 50131-6:2008+A1:2014,  
 EN 50131-10:2014,  
 EN 50136-1:2012,  
 EN 50136-2:2013,  
 EN 50130-4:2011+A1:2014,  
 EN 50130-5:2011,  
 CEB T031:2014-12 (ed.1)

#### SECURITY GRADE

3

#### ATS CATEGORIES

up to SP6 or DP4 (depending on the configurations, refer to tables 2-8 and 2-9)

### 1-3

### Registered patents

The Prime series of control panels employs the following INIM-patented technologies.

- **Input/Output Terminals:** each terminal on board the control panel, keypads and expansion boards can be configured as either an input or output zone.
- **nBy/X proximity reader:** this reader has been especially designed to flush-mount to all models of electrical light-switch backboxes.
- **Learn zone balancing:** this option allows the control panel to save the balancing values of all the system zones automatically, thus eliminating the task of typing them in.

## Manuals

## 1-4

The guide, supplied with each control panel, provides all the instructions and illustrations necessary for fast installation and programming of the Prime system.

It provides step by step descriptions of the procedures required for the system wiring, the various connections and first powerup. It also provides a table for the peripheral addressing process and a quick guide indicating default parameters and values and how to program/change them.

The installation manual contains the technical specifications of all the system components and the instructions for their installation, including instructions with wiring diagrams relating to the various modules.

It also contains the instructions for system commissioning

In order to provide adequate protection, the installer must adhere to all the manufacturer's guidelines relating to the active and passive security devices of this system.

The Programming manual contains instructions for the configuration and programming of the Prime system, as well as the descriptions of all the parameters and options, irrespective the means chosen for system programming (keypad, software, etc.).

It also contains the instructions for commissioning, maintenance and troubleshooting techniques.

The Prime/STUDIO software manual contains the description of the software and the instructions for its installation and use.

It is the duty of the person who programs the Prime system to adhere to the instructions and to have complete knowledge of the software in order to proceed swiftly and properly with the configuration and programming procedures.

This manual provides the installer and programmer of the Prime system with useful information.

This manual contains instructions relating to the user interface of the Prime system, its functions and how to use them.

This manual is supplied with every control panel and must be given to the end-user for consultation. It is the duty of the installer to ensure that the end-user fully understands how the system works and is aware of the configuration set by the installer.

The manuals which are not supplied with the apparatus can be ordered, making reference to their respective codes, or downloaded from [www.inim.biz](http://www.inim.biz).

### INSTALLATION AND PROGRAMMING GUIDE

### INSTALLATION MANUAL (THIS MANUAL)

### MANUAL FOR SYSTEM PROGRAMMING

### SOFTWARE MANUAL

### SUPPORT MANUAL

### USER'S MANUAL

## Operator Qualifications

## 1-5

The installer is the person (or group of persons) who sets up and programs the entire security system in accordance with the purchaser's requirements and in respect of the safety laws in force. As the only individual in contact with system users, it is the installer's responsibility to instruct them on how to use the security system properly.

Under normal circumstances, the installer is not allowed to arm/disarm the system without previous authorization from the user. All the system partitions must be disarmed before accessing the parameter programming phase.

The access code of the installer is a level 3 access code.

The users are the occupants of the building where the Prime intrusion control panel is installed. Only authorized users can access and operate the system.

Thanks to the extreme flexibility of the system, the most common operations can be carried out without authorization. This operating method must be expressly requested by the main user, as it considerably lowers the security level of the system and may cause false alarms, accidental arm/disarm operations, etc.

### INSTALLER

### USER

A system access code can be associated with each user. The programming process allows you to define the code hierarchy:

- **User**
- **Manager**
- **Master**

Each code, in accordance with its assigned level in the system-hierarchy (the "User" being the lowest level), is capable of carrying out the following operations on all other codes that are hierarchically inferior:

- enable/disable
- change PIN
- change several programming parameters

If the system programming complies with security grade 3 of EN 50131, some partition arming or delete memory operations, requested from a keypad, may be authorized by the entry of a level 3 code (installer code) as well as by a user code.

## 1-6

## Access Levels

The normative defines the following system-access levels, regardless of system-access limitations:

- **Level 1** - access by any person (e.g. passer-by)
- **Level 2** - access by a user
- **Level 3** - access by the installer or maintenance operator access (authorized by a level 2 user)
- **Level 4** - manufacturer access



# The control panel and peripherals

## Chapter 2

### Prime control panels

### 2-1

#### Package contents

#### 2-1-1

Inside the package you will find:

- Metal enclosure containing the motherboard and wired power supply
- User's Manual
- Quick guide to installation and programming
- Plastic bag containing:
  - 20 3k9 Ohm 1/4W resistances
  - 20 6k8 Ohm 1/4W resistances
  - Backup-battery wire
  - Earth connection ring terminal
  - Ring terminal nut
  - Thermal probe for optimization of the battery charging process
  - 3 screws to secure the frontplate of the metal enclosure
  - "INIM Electronics security-protected area" sticker



The control panel data labels are affixed to the outside of the control panel enclosure.

### Control panel descriptions

### 2-1-2

**Table 2-1: Control panels - electrical and mechanical features**

Prime control panel models		Prime060S	Prime060L	Prime120L	Prime240L
Voltage	power supply	230V ~ -15% +10% 50/60Hz			
	nominal output	13,8V <sup>---</sup>			
	output range	from 9 to 13.8V <sup>---</sup>			
Current draw	maximum	0.5A		1.1A	
	of control panel motherboard	180mA @ 13.8V			
Fault voltage on power outputs		9.8V			
Threshold for protection	from deep discharge	9.5V			
	from overload	15.4V			
Maximum power-supply voltage ripple		550mV		200mV	
PS type		A			
Maximum voltage on I-BUS		4A			
Type of alarm notification (EN 50131-1, par. 8.6)		D (a)			
IP Protection grade		30			
Enclosure Dimensions (W x H x D)		27.5 x 37.4 x 8.6 cm	37.5 x 46.6 x 9.2 cm		
Weight (without battery)		3.2Kg	5Kg		
Security grade	EN50131-3	3			
	EN50131-6	3			

a. Also notification types A, B and C are possible depending on the configuration of the control panel and system.

**Table 2-2: Type SD and distribution of the currents**

Prime control panel models		Prime060S	Prime060L	Prime120L	Prime240L					
SD type (backup battery)	rated voltage	12V								
	maximum capacity	7Ah	9Ah	7Ah	9Ah	7Ah	9Ah	17Ah	18Ah	
	maximum recharge time	24h (80% charged)								
	maximum internal resistance ( $R_{i\ max}$ )	1.50Ohm				0.50Ohm				
Maximum deliverable current @ 12V	total	3.7A				6.2A				
	for external loads	autonomy 30h (a)	50mA	120mA	50mA	120mA	50mA	120mA	380mA	420mA
		autonomy 12h (b)	400mA	570mA	400mA	570mA	400mA	570mA	1230mA	1320mA
		autonomy 4h (c)	1570mA	2070mA	1570mA	2070mA	1570mA	2070mA	4070mA	4320mA
Max. current available on each +AUX terminal		1500mA								
Maximum deliverable current to open-collector outputs	T1, .., T10	250mA								
	OC1, OC2	500mA								

- a. The system autonomy in absence of the primary power source can be limited to 30h for systems with security grade 3 or 4, that is, as long as the primary power source failure is notified to an alarm receiving centre or to another remote control panel.
- b. If the system is declassified to grade 2, autonomy can be limited to 12h.
- c. For type A or B power supplies, if the system includes an ancillary power supply that switches automatically between the primary power source and the ancillary power-supply, the autonomy can be limited to 4h regardless of the system security grade.

The following table shows the maximum number of devices supported by the various control panel models.

**Table 2-3: Control panel - main features**

Prime control panel models	Prime060S	Prime060L	Prime120L	Prime240L
Partitions	10		20	30
Total zones	120		240	480
Keypads	10		15	
Voice memo slots	10			
Expansions	40			
Readers	20		30	
Sounder/flashers	10			
Air2-BS200 Transceivers	20		30	
Digital keys and wireless command devices	150			
Possible key combinations	4294967296			
IB200 isolators	16			
GSM/GPRS/2G/3G Communicators	1			
Codes	50		100	
Scenarios	30			50
Timers	20			40
Recordable Events	4000			
Programmable events	30		50	60

**Table 2-4: Number of terminals**

Prime control panel models	Prime060S	Prime060L	Prime120L	Prime240L
Terminals on panel	total	10		
	configurable as inputs	10		
	configurable as rollerblind/shock	10		
	configurable as outputs	10		
terminals on keypads		30		
terminals on expansion boards	total	200		
	available	60	120	200
Total terminals		60	120	240

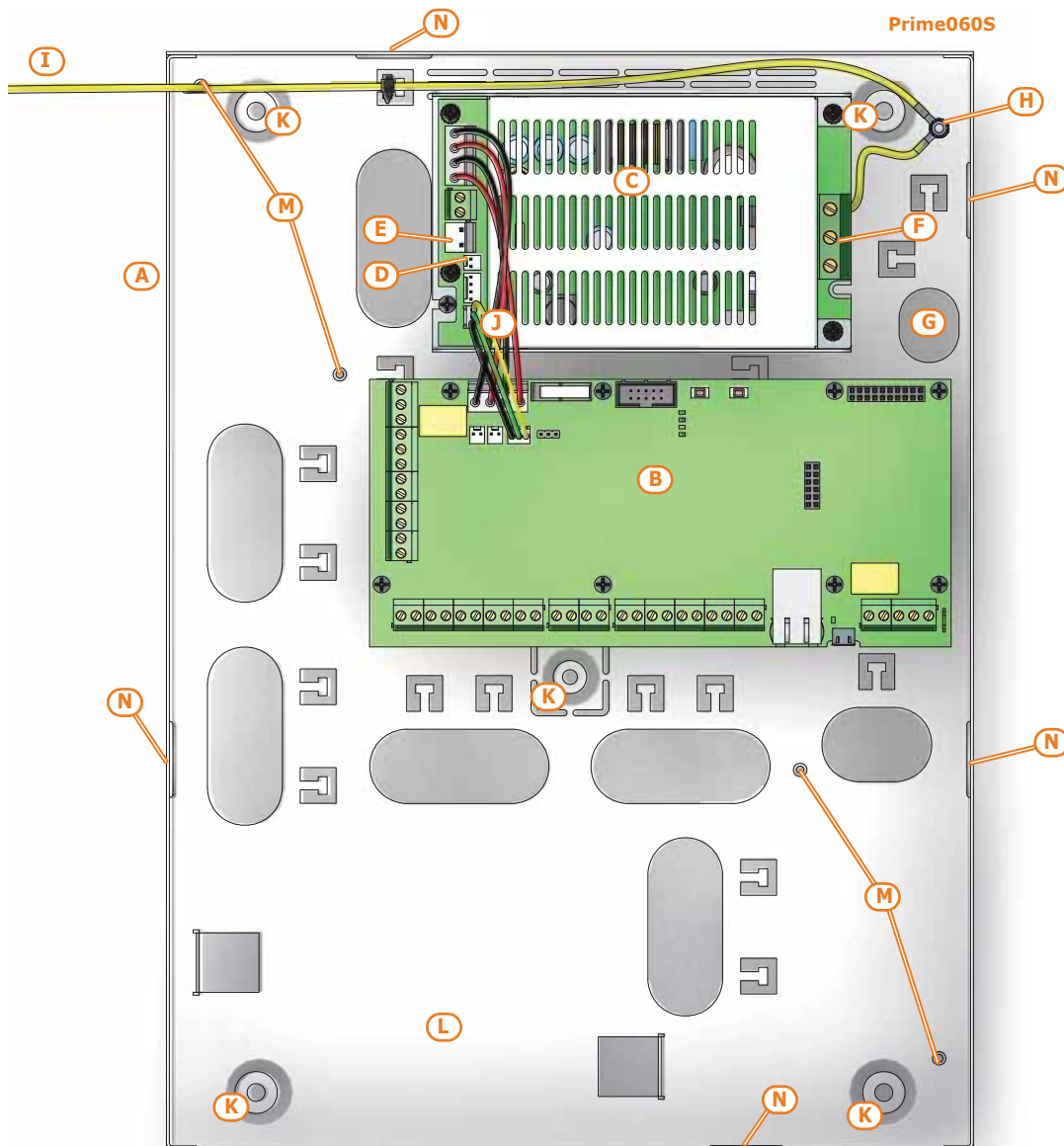
**Table 2-4: Number of terminals**

Prime control panel models		Prime060S	Prime060L	Prime120L	Prime240L
Outputs on control-panel motherboard	total			15	
	terminals (T1, ..., T10)			10	
	relay			1	
	open collector (OC1, OC2)			2	
	Auxiliary outputs (AUX1, AUX2)			2	

Following is an illustration of open Prime control panels showing their assembled parts and completed wiring, as supplied.

**Do not tamper with or disconnect any wiring that has been completed at the factory. In the event of replacement by the installer of one of the parts listed below (for maintenance or repairs), the manufacturer recommends that connection or disconnection of any wires is done only after disconnecting both the AC mains voltage and the battery.**

**ATTENTION!**



Prime060L  
Prime120L  
Prime240L

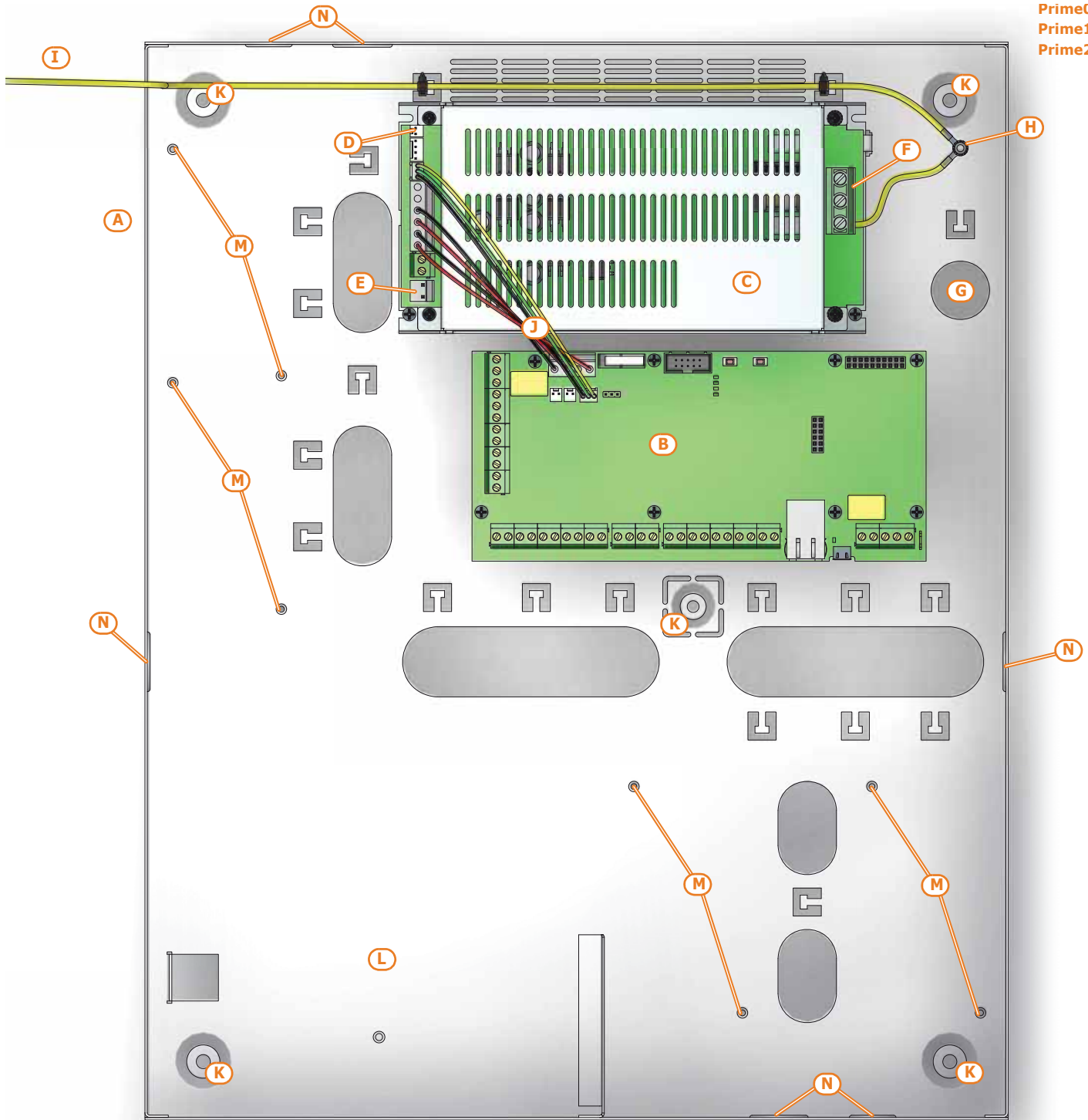
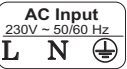
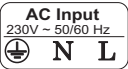
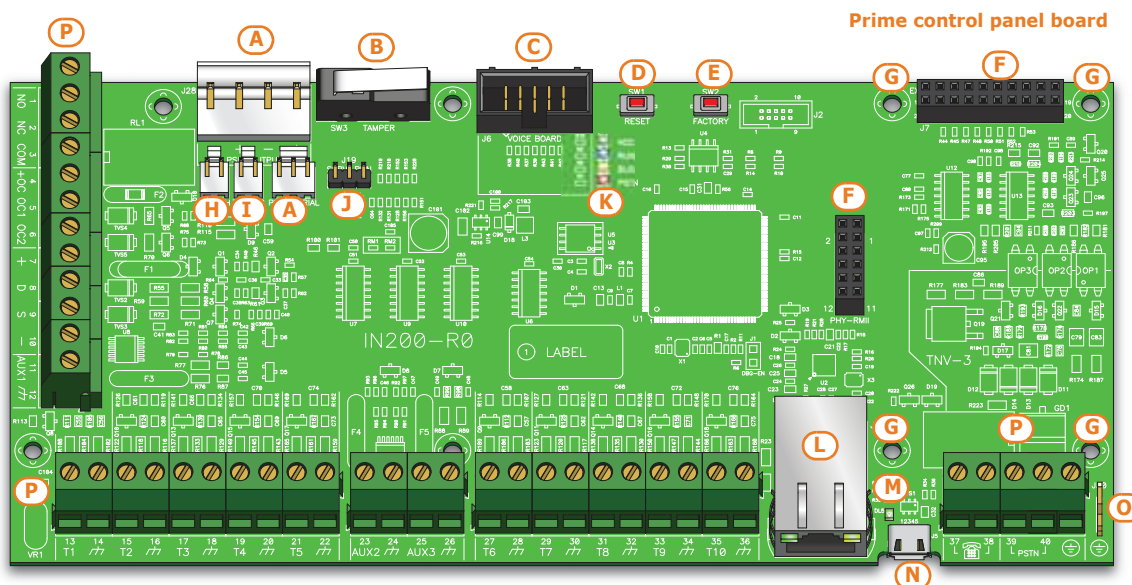


Table 2-5: Control panels - description of parts

Models Prime	Prime060S	Prime060L Prime120L Prime240L
A	Metal enclosure	
B	Mother board	
C	Switching power supply	
D	Thermal probe connector	
E	Battery connector	
F		
G	Mains cable entry	

**Table 2-5: Control panels - description of parts**




Models Prime	Prime060S	Prime060L Prime120L Prime240L
H	Ground connection screws	
I	Frontplate earth wire	
J	Wires between switching-power and control panel	
K	Fixing-screw locations for the metal enclosure	
L	Compartment for backup battery	
M	FLEX5/U or Nexus expansion board location holes	
N	Lateral cable entries (on the sides of the box)	



**Table 2-6: Mother board - description of parts**

A	Connector for the power supply to board wires	
B	Open-panel tamper microswitch	
C	SmartLogos30M voice-board connector	
D	<b>RESET</b>	System reset button
E	<b>FACTORY</b>	Button to reset default settings (factory settings)
F	Connector for the optional board	
G	Fixing holes for the optional board	
H	Dislodgement-tamper microswitch connector (accessory item)	
I	Connector for the open-panel tamper microswitch (accessory item)	
J	Maintenance jumper connectors	
K	<b>VCC</b>	Green power LED
	<b>RUN</b>	Blue activity LED
	<b>BUS</b>	Yellow BUS activity-on-BUS LED
	<b>PSTN</b>	Red PSTN-fault LED
L	RJ45 connector for the LAN network	
M	Green USB-connected LED	
N	MicroUSB connector	
O	Ancillary earth contact	
P	Terminal board	

Table 2-7: Mother board - terminal board

n.	icon/identifier	function
1-2-3	NO NC COM	Voltage-free contacts of the relay output
4	+OC	13.8V $\overline{\text{---}}$ 350mA ancillary power supply
5-6	OC1 OC2	Open-collector output
7-8-9-10	+ D S -	I-BUS connections
11-23	AUX1 AUX2	13.8V output terminals $\overline{\text{---}}$
25	AUX3	13.8V $\overline{\text{---}}$ 350mA protected ancillary power supply
12-14-16-18-20-22-24-26-28-30-32-34-36		Power supply negative (earth or GND)
13-15-17-19-21-27-29-31-33-35	T1-T2-T3-T4-T5-T6-T7-T8-T9-T10	Control panel input/output terminals
37-38		Internal telephone-line connection
39-40	PSTN	Land-line connection (PSTN)
/		Earth connection

## 2-1-3 LED activity

The LEDs on the control panel motherboard (refer to *Table 2-6: Mother board - description of parts, K*) may help in providing information regarding the proper operating capacity of the control panel firmware and I-BUS. Specifically:

### GREEN VCC LED

Green LED ON solid indicates the power supply is present. If ON solid it indicates that the control panel is operating properly. LED OFF or blinking indicates power-supply failure or that trouble is present. The control panel will continue to operate until the deep battery discharge threshold is reached (9.5V).

### BLUE RUN LED

If the control panel is operating properly, the blue LED on the motherboard will blink rapidly. At the end of a programming session via PC, during restoral of factory default settings and during re-programming operations on the control panel and peripheral firmware, the LED may be either On solid or Off or the entire time. However, once the operation is complete it will start to blink again as previously described.

If the LED is On or Off permanently for no apparent reason (see above), it means that all the system functions are blocked.

### YELLOW BUS LED

If the control panel is operating properly, the yellow LED on the motherboard should flicker. At the end of a programming session via PC, during restoral of factory default settings and during re-programming operations on the control panel and peripheral firmware, the LED may be either On solid or Off or the entire time. However, once the operation is complete it will start to blink again as previously described.

If the yellow LED is On or Off permanently, it means that there is trouble on the I-BUS.

If the LED is On or Off permanently for no apparent reason (see above), it means that the I-BUS is blocked. This condition is confirmed by the loss of communication with the keypads, readers and expansions.

### RED PSTN LED

The Red LED ON solid indicates the ongoing progress of:

- a phone call (on the PSTN line or through Nexus)
- an SMS text message
- a SIA-IP communication

## 2-1-4 ATS Categories

Prime control panels used alone or together with any of the following described optional devices constitutes an SPT (Supervised Premises Transceiver) which can be used to create an ATS (Alarm transmission System) as defined in EN 50136-1 and EN 50136-2 standards.

The following table shows the maximum ATS categories achievable with the SPT configurations and main communication channel in use, together with the respective parameters.

**Table 2-8: ATS categories based on configurations**

SPT Configurations				SPT primary network interface	ATS Categories	
Prime control panels	Nexus	Nexus/G Nexus/3G	PrimeLAN		Single Path (SP)	Dual Path (DP)
X				Internet	6	2
X	X					
X		X		Internet or GSM/GPRS/UMTS/HSPA	6	4
X			X			
X		X	X			

**Table 2-9: ATS Parameters**

ATS Categories		Transmission time		Time relation	Replacement security	Information security	Operating mode
		Classification	Maximum values				
Single Path	2	D2 (60s)	M2 (120s)	T2 (25h)	S0	I0	Pass-through
	6	D4 (10s)	M4 (20s)	T6 (20s)	S2	I3	
Dual Path	2	D3 (20s)	M3 (60s)	T3a (30min)	S0	I0	
	4	D4 (10s)	M4 (20s)	T5 (90s)	S2	I3	

## Events log memory

## 2-1-5

The control panel events are saved to a non-volatile semiconductor-memory which retains data without the need of power.

The electrical characteristics of semiconductor devices diminish over time. However, a minimum period of 40 years data retention is guaranteed.

## I-BUS interconnections

## 2-1-6

Prime control panels are equipped with a 4-wire BUS for peripheral interconnections (2 power-supply wires and 2 data exchange wires, refer to *paragraph 3-2-1 The I-BUS line wiring*).

The intellectual property rights regarding the electrical, structural and protocol features of the BUS are the sole property of INIM Electronics s.r.l.

The I-BUS is not a RS485 differential BUS.

The control panel monitors the I-BUS continuously.

If no signals (control panel and peripheral signals) are detected on the I-BUS for over 90 seconds, the keypad displays will show the warning opposite. The display will show:

1. Keypad model
2. Keypad firmware version
3. Error type
4. the address of the keypad and the address of the built reader

First check that cable "D" of the I-BUS is connected properly. Then check the proper operating capacity of the I-BUS and the general integrity of the entire system.

If the message opposite appears on the keypad display, it means that I-BUS is operating properly but cannot communicate with the keypad in question.

Therefore, the keypad is not present in the system configuration.

### COMMUNICATION I-BUS

```
- JOY/MAX -
FW RELEASE X.YZ
NO COMMUNICATION
K01 P14
```

```
- JOY/MAX -
FW RELEASE X.YZ
NOT ENROLLED
K01 P14
```

One of the two messages shown in the figures may also appear during the control panel firmware updates.

### Note

If you are using an Alien user interface, the above-mentioned information will be shown on the bottom bar on the home page.



## 2-2

## Environmental Conditions

Prime control panels must not be installed outdoors and are suitable for operating under the following conditions:

- **Temperature:** from -10° to +40°C
- **Maximum humidity:** 75% (without condensation)
- **Environmental Classification:** II

The peripherals must not be installed outdoors and are suitable for operating under the following conditions:

- **Temperature:** from -10° to +40°C
- **Maximum humidity:** 75% (without condensation)
- **Environmental Classification:** II

The nBy/S reader is suitable for outdoor installation and operates best under the following conditions:

- **Temperature:** from -25° to +70°C
- **Maximum humidity:** 93% (without condensation; for 30 days per year granting that the relative humidity can touch points of 95% without being subject to condensation)
- **Protection grade:** IP 34
- **Environmental classification:** IV

## 2-3

## Peripherals

The Prime system provides for the use of devices connectible to the control panel via I-BUS:

- JOY/GR, JOY/MAX, Aria/HG, nCode/G, Concept/G, Alien/G e Alien/S keypads
- Readers (nBy/S and nBy/X)
- Expansions (Flex5)
- Transceiver (Air2-BS200)
- Sounderflashers (Ivy-B)
- 2G/3G dialers (Nexus)
- Isolators (IB200)

### ATTENTION!

**The connectible peripherals must have firmware versions higher than or equal to 5.00.**

### 2-3-1

### Joy/GR and Joy/MAX keypads

- Backlit graphic display
- Icon Easy4U interface
- 4 indicator LEDs
- Signal buzzer
- Tamper and opening protection
- Mounts to "503" outlets
- 2 Input/Output terminals

Joy/MAX only:

- Thermometer and chronothermostat function
- Microphone and loudspeaker for voice functions
- Built-in proximity reader

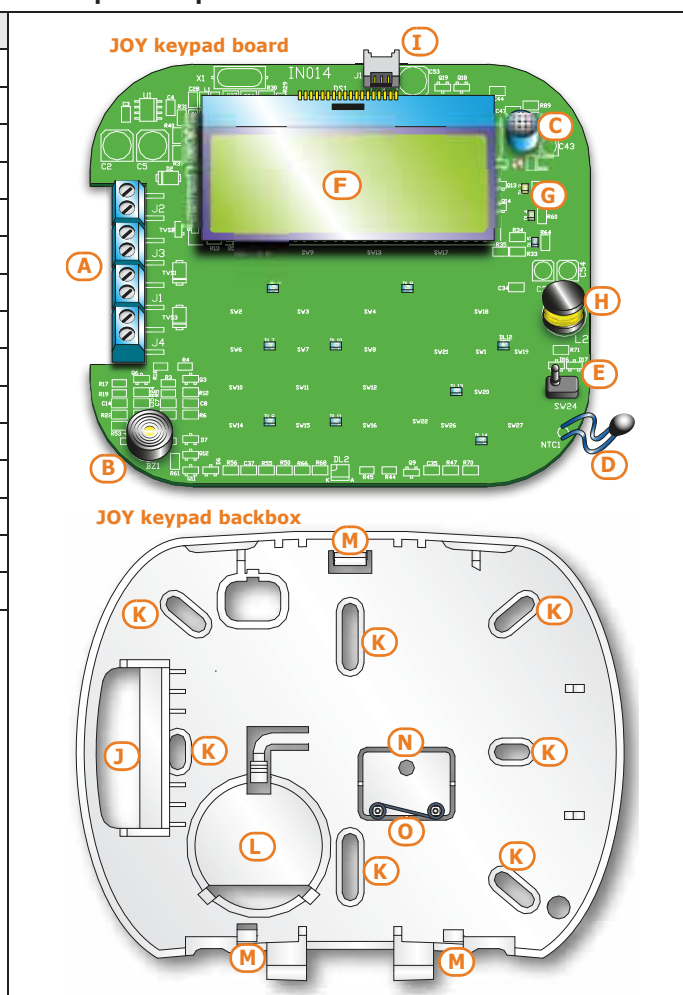
**Table 2-10: Joy - electrical and mechanical features**

Model	JOY/GR	JOY/MAX
<b>Voltage</b>	from 9 to 16V <sup>DC</sup>	
<b>Typical current draw</b>	70mA	90mA
<b>Terminals configurable as OC outputs</b>	2	
<b>Maximum current draw per terminal</b>	150mA	
<b>Dimensions (W x H x D)</b>	142 x 116 x 24 mm	
<b>Weight</b>	160g	180g



**Table 2-11: Joy - description of parts**

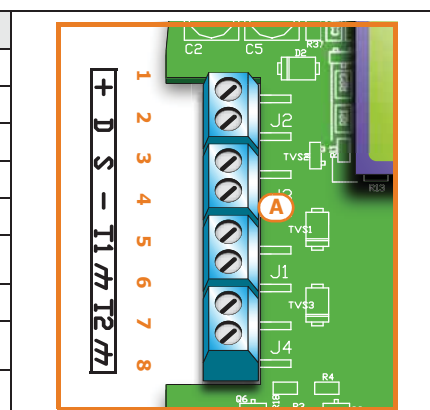
Model	JOY/GR	JOY/MAX
A	Terminal board	
B	Buzzer	
C	/	Microphone
D	/	Temperature sensor
E	Open-tamper microswitch	
F	Backlit graphic display	
G	Signaling LEDs	
H	/	Antenna
I	/	Speaker wire connector
J	Wire entry	
K	Wall-mount screw locations	
L	Speaker housing	
M	Board supports	
N	Dislodgement-tamper microswitch screw location	
O	Dislodgement-tamper microswitch spring	



Keypad terminals:

**Table 2-12: Joy - terminal board**

n.	identifier	description
1	+	Terminal "+" for the connection of the I-BUS
2	D	Terminal "D" for the connection of the I-BUS
3	S	Terminal "S" for the connection of the I-BUS
4	-	Terminal "-" for the connection of the I-BUS
5	T1	Screw terminal of keypad terminal T1
6	⌚	Negative power terminal (Negative or GND)
7	T2	Screw terminal of keypad terminal T2
8	⌚	Negative power terminal (Negative or GND)



Terminals T1 and T2 can be configured as:

- Input (also as Rollerblind or Shock)
- Output
- Double zone
- Supervised Output

The keypad package contains a sticker (to be located under the keypad flip) which can be used to note down the keypad address or label, its location, the partitions it controls and any phone-contact numbers.

JOY		n.
<input type="checkbox"/>	A01	<input type="checkbox"/>
<input type="checkbox"/>	A02	<input type="checkbox"/>
<input type="checkbox"/>	A03	<input type="checkbox"/>
<input type="checkbox"/>	A04	<input type="checkbox"/>
<input type="checkbox"/>	A05	<input type="checkbox"/>
<input type="checkbox"/>	A06	<input type="checkbox"/>
<input type="checkbox"/>	A07	<input type="checkbox"/>
<input type="checkbox"/>	A08	<input type="checkbox"/>
<input type="checkbox"/>	A09	<input type="checkbox"/>
<input type="checkbox"/>	A10	<input type="checkbox"/>
<input type="checkbox"/>	A11	<input type="checkbox"/>
<input type="checkbox"/>	A12	<input type="checkbox"/>
<input type="checkbox"/>	A13	<input type="checkbox"/>
<input type="checkbox"/>	A14	<input type="checkbox"/>
<input type="checkbox"/>	A15	<input type="checkbox"/>
<input type="checkbox"/>	→	<input type="checkbox"/>

2-3-2

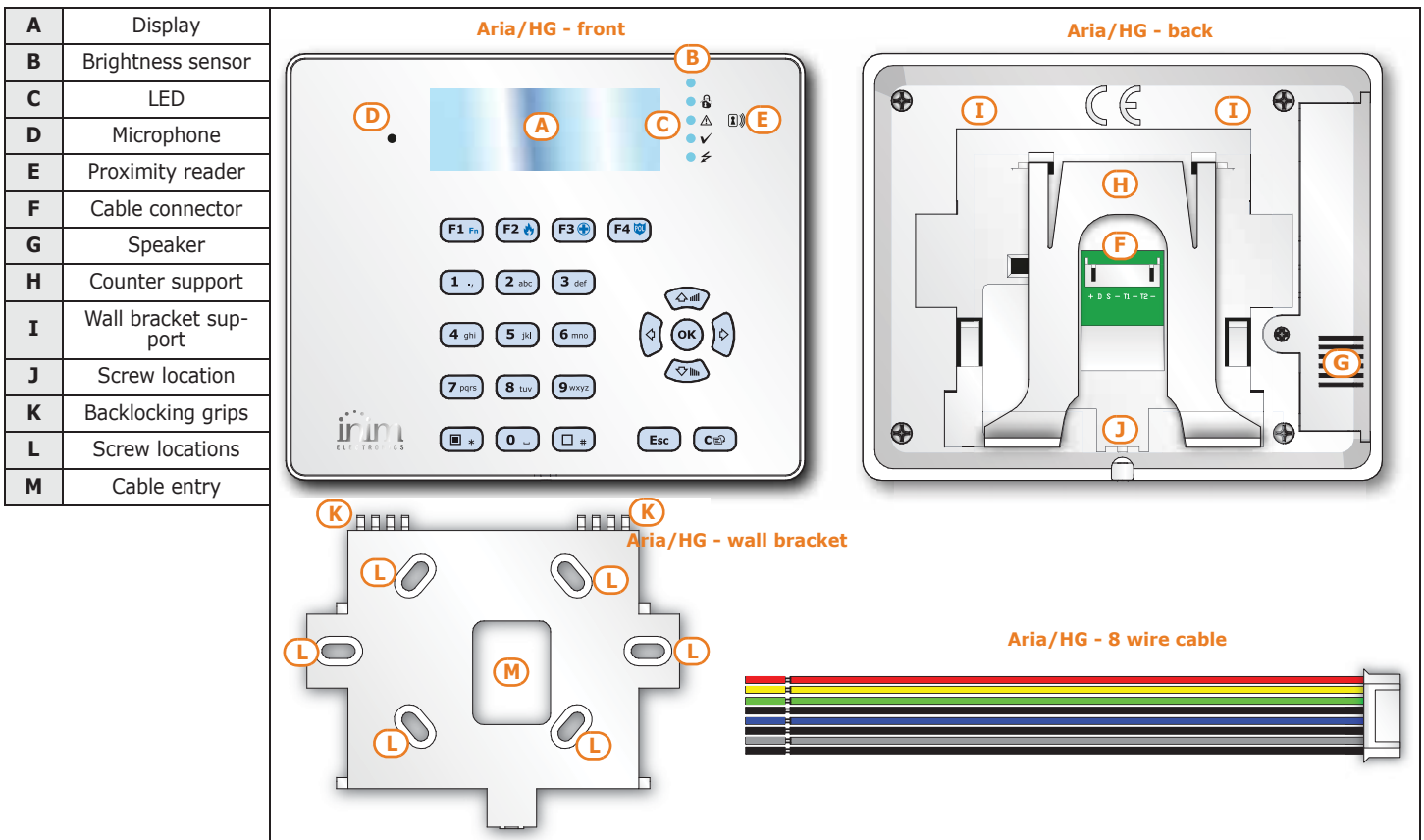
Aria/HG keypad

- Backlit graphic display
- Icon Easy4U interface
- Brightness sensor
- 4 indicator LEDs
- Signal buzzer
- Inertial tamper protection
- Mounts to "503" outlets
- Thermometer and chronothermostat function
- 2 Input/Output terminals
- Microphone and loudspeaker for voice functions
- Built-in proximity reader

Table 2-13: Aria/HG - electrical and mechanical features

<b>Voltage</b>	from 9 to 16V $\overline{DC}$
<b>Typical current draw</b>	90mA
<b>Terminals configurable as OC outputs</b>	2
<b>Maximum current draw per terminal</b>	100mA
<b>Dimensions (W x H x D)</b>	140 x 115 x 27mm
<b>Weight</b>	228g

Table 2-14: Aria/HG - description of parts



Connection of the keypad is achieved through the connector on the back and must be done using the 8 wire cable which comes with the keypad.

Table 2-15: Aria/HG - connection wires

colour	terminal	description
Red	+	Cable/Terminal "+" of the I-BUS and RS485 BUS
Yellow	D	Cable/Terminal "D" for the I-BUS connection
Green	S	Cable/Terminal "S" for the I-BUS connection
Black	-	Cable/Terminal "-" of the I-BUS and RS485 BUS

**Table 2-15: Aria/HG - connection wires**

colour	terminal	description
Blue	T1	Wire/terminal of keypad terminal T1
Black	-	Negative power wire/terminal (Negative or GND)
Grey	T2	Wire/terminal of keypad terminal T2
Black	-	Negative power wire/terminal (Negative or GND)

Terminals T1 and T2 can be configured as:

- Input (also as Rollerblind or Shock)
- Output
- Double zone
- Supervised Output

## nCode/G and Concept/G Keypads

## 2-3-3

- Backlit graphic display
- Icon Easy4U interface
- 4 indicator LEDs
- Signal buzzer
- Tamper protection
- Mounts to "503" outlet boxes, vertical position
- 1 Input/Output terminal

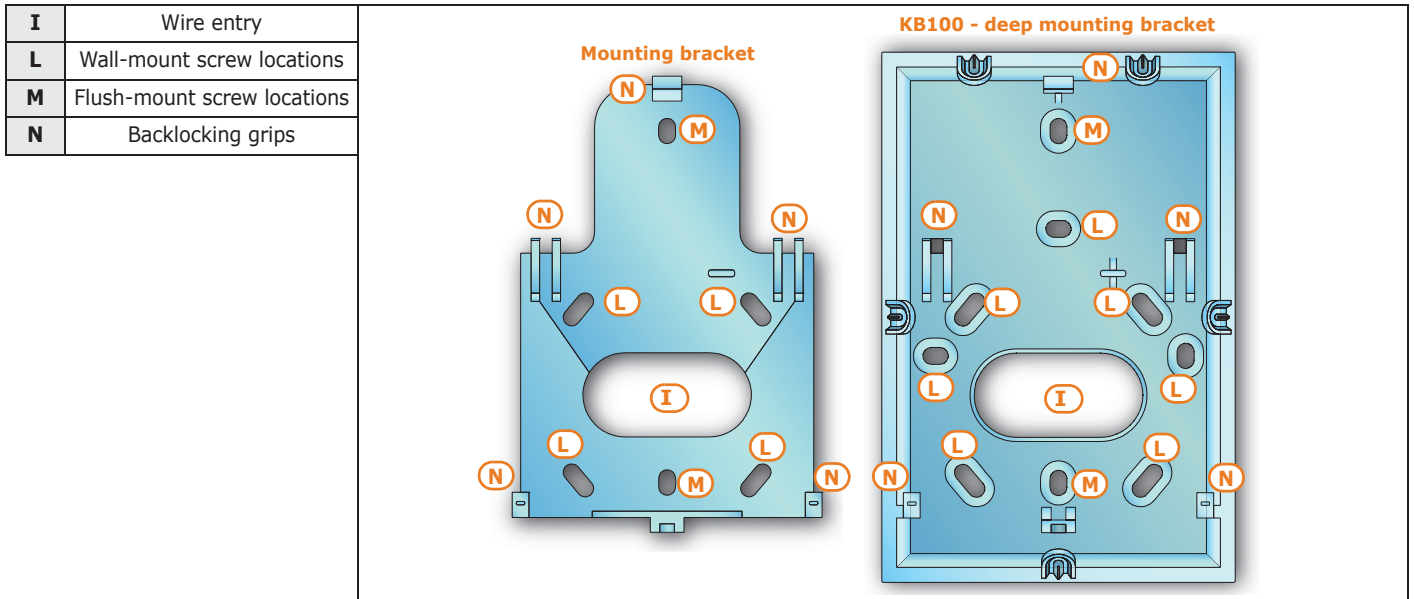
**Table 2-16: nCode/G, Concept/G - electrical and mechanical features**

Model	nCode/G	Concept/G
<b>Voltage</b>	from 9 to 16V <sup>---</sup>	
<b>Typical current draw</b>	70mA	80mA
<b>Terminals configurable as OC outputs</b>	1	
<b>Maximum current draw per terminal</b>	150mA	
<b>Dimensions (W x H x D)</b>	87 x 129 x 18 mm	87 x 129 x 16.5 mm
<b>Weight</b>	135g	155g
<b>Buttons</b>	23 (in soft rubber)	23 (touch)

**Table 2-17: nCode/G and Concept/G - description of parts**

<b>A</b>	Backlit graphic display	
<b>B</b>	Signaling LEDs	
<b>C</b>	Cable connector	
<b>D</b>	Tamper microswitch	
<b>E</b>	Screw location	
<b>F</b>	Screw location	
<b>G</b>	Terminal board guide	
<b>H</b>	Buzzer	

**Table 2-18: Brackets - description of parts**



You can connect Code/G and Concept/G keypads using the connector on the back of the device, using either the 6 wire cable (included), or the KB100 terminal board included in the deep-bracket kit (accessory kit).

**Table 2-19: Connection cables - KB100 terminal board**

n.	colour	KB100 terminal board	description
1	Red	+	Wire/Terminal "+" for the I-BUS connection
2	Yellow	D	Wire/Terminal "D" for the I-BUS connection
3	Green	S	Wire/Terminal "S" for the I-BUS connection
4	Black	-	Wire/Terminal "-" for the I-BUS connection
5	Blue	T1	Wire/terminal of keypad terminal T1
6	Black	$\text{///}$	Negative power wire/terminal (Negative or GND)

nCode/G and Concept/G keypads are equipped with a buzzer and a T1 terminal which can be configured as:

- Input (also as Rollerblind or Shock)
- Output
- Double zone

## 2-3-4

### Alien/G and Alien/S touch screen keypads

- 65000 colour display
- Touch-screen
- Protection against removal and dislodgement tamper
- Input/Output terminals (Alien/G only)
- Thermometer and chronothermostat function
- Microphone and loudspeaker for voice functions
- Built-in proximity reader
- System interface with I-BUS (and BUS RS485, for future use)
- USB Interface
- SD card interface
- Photoframe function with images on SD card
- Background customization with images on SD Card
- Skin selection
- Colours available: black or white

**Table 2-20: Alien - electrical and mechanical features**

Model	Alien/S	Alien/G
<b>Voltage</b>	from 9 to 16V $\pm$ 5%	
<b>Typical current draw</b>	150mA	400mA
<b>Terminals configurable as OC outputs</b>	/	2
<b>Maximum current draw per terminal</b>	/	150mA
<b>Input/Output terminals</b>	/	2
<b>Display size</b>	4.3	7
<b>Number of display colours</b>	65000	
<b>Display resolution</b>	480x272	800x480
<b>SD card capacity</b>	Max 32Gbyte	
<b>Mounting</b>	Bracket for mounting to standard "503" outlet boxes	Flush-mount enclosure supplied (214x129x54 mm)
<b>Dimensions (W x H x D)</b>	131x81x17mm	219x143x34mm If mounted to flush-mount box: 219x143x17
<b>Weight</b>	160g	520g

**Table 2-21: Alien - description of parts**

<b>A</b>	Display
<b>B</b>	Microphone
<b>C</b>	Proximity reader
<b>D</b>	Touch pen holder
<b>E</b>	Closure hooks
<b>F</b>	Backlocking grips
<b>G</b>	Securing screw
<b>H</b>	Cable entry
<b>I</b>	Screw locations
<b>J</b>	Back-locking grip locations
<b>K</b>	Flush-mount screw locations for "503" box
<b>L</b>	PCB
<b>M</b>	Terminal board/Connector for wires
<b>N</b>	Dislodgement-tamper microswitch
<b>O</b>	Open-tamper microswitch
<b>P</b>	Battery connector
<b>Q</b>	Mini USB connector
<b>R</b>	Slot for micro-SD card
<b>S</b>	Selection jumper connectors for EOL resistance on RS485
<b>T</b>	LED activity
<b>U</b>	Temperature sensor
<b>V</b>	Reset button
<b>W</b>	Forced calibration button

The diagram illustrates the components of the Alien control panels. It shows the front and back views of both the Alien/G and Alien/S models. The Alien/G front view shows the display (A), microphone (B), proximity reader (C), touch pen holder (D), and closure hooks (E). The Alien/S front view shows the display (A), microphone (B), and proximity reader (C). The back views show the terminal board (M), dislodgement-tamper microswitch (N), open-tamper microswitch (O), battery connector (P), mini USB connector (Q), and slot for micro-SD card (R). The mounting brackets for both models are shown with labels F, H, and K. The 8-wire cable is shown with labels U, V, and W.

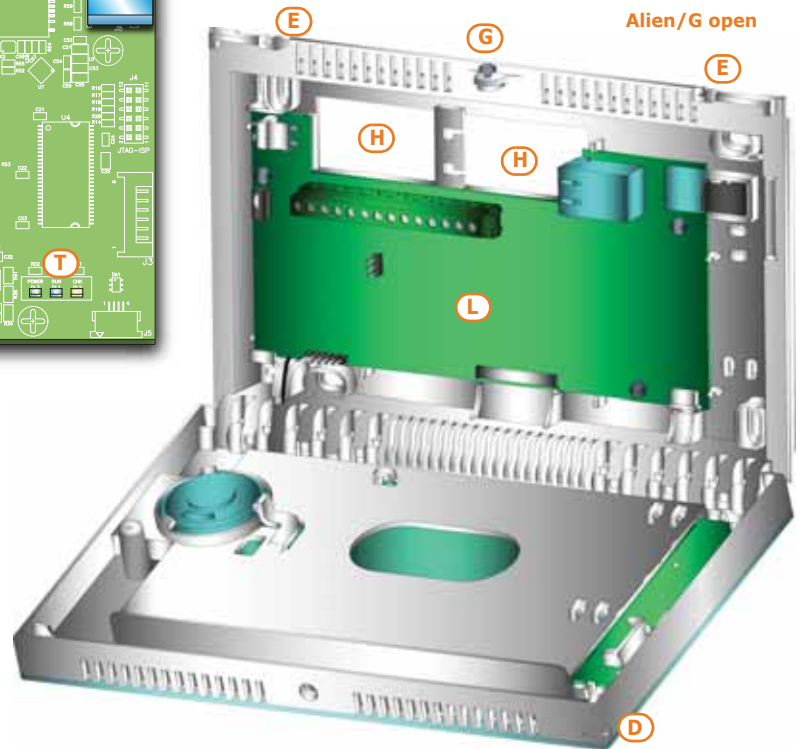
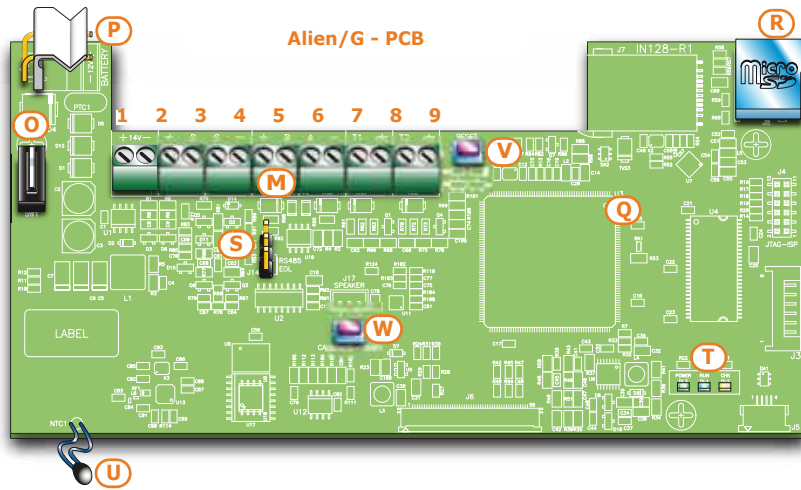


Table 2-22: Alien/S - Connection wires

colour	Terminal board	description
Red	+	Cable/Terminal "+" of the I-BUS and RS485 BUS
Yellow	D	Cable/Terminal "D" for the I-BUS connection
Green	S	Cable/Terminal "S" for the I-BUS connection
Black	-	Cable/Terminal "-" of the I-BUS and RS485 BUS
Grey	B	Terminal "B" for the RS485 BUS connection
Blue	A	Terminal "A" for the RS485 BUS connection
White	REOL	Wire/Terminals to establish the EOL on the RS485

Table 2-23: Alien/G - terminal board

n.	identifier	description
1	+ 14V	Positive power terminal
2	- 14V	Negative power terminal
3	+	Terminal "+" for the connection of the I-BUS
4	D	Terminal "D" for the connection of the I-BUS
5	S	Terminal "S" for the connection of the I-BUS
6	-	Terminal "-" for the connection of the I-BUS
7	+	Terminal "+" for the RS485 BUS connection
8	B	Terminal "B" for the RS485 BUS connection
9	A	Terminal "A" for the RS485 BUS connection
10	-	Terminal "-" for the RS485 BUS connection
11	T1	Screw terminal of keypad terminal T1
13	T2	Screw terminal of keypad terminal T2
12 - 14	⏏	Negative power terminal (Negative or GND)

Terminals T1 and T2 can be configured as:

- Input (also as Rollerblind or Shock)
- Output
- Double zone
- Supervised Output

### TOUCH-SCREEN CALIBRATION

If the touch screen of the Alien keypad does not respond to taps, you must carry out the forced calibration process.

You can start this process by pressing and holding for 7 seconds the (Table 2-21: Alien - description of parts, W) button which, for the Alien/G, can be reached on the PCB after opening its casing and, for the Alien/S, can be reached through the relative hole. Once the calibration process starts, simply follow the instructions provided by the keypad.



## Readers - nBy/S and nBy/X

## 2-3-5

**Table 2-24: nBy - electrical and mechanical features**

Model	nBy/S	nBy/X
<b>Voltage</b>	from 9 to 16V $\overline{=}$	
<b>Typical current draw</b>	40mA	35mA
<b>Dimensions (W x H x D)</b>	64 x 80 x 17 mm	19 x 50 x 51 mm
<b>Weight</b>	45g	25g

**Table 2-25: nBy - description of parts**

Model	nBy/S	nBy/X
<b>A</b>	Terminal board	
<b>B</b>	/	Buzzer
<b>C</b>	LED	
<b>D</b>	Antenna	
<b>E</b>	Anti-opening and anti-dislodgement	/
<b>F</b>	Cable entry	/
<b>G</b>	Mounting screw hole	/
<b>H</b>	/	Light guide
<b>I</b>	/	Mounting screw

Reader terminals:

**Table 2-26: nBy - terminal board**

n.	identifier	description
1	+	Terminal "+" for the connection of the I-BUS
2	D	Terminal "D" for the connection of the I-BUS
3	S	Terminal "S" for the connection of the I-BUS
4	-	Terminal "-" for the connection of the I-BUS

nBy/X is a registered patent

**Note**

## Flex5 Input/Output expansions

## 2-3-6

The input/output expansion board enclosure is available in two versions, which differ with regard to the board housing:

- **Flex5/P** comes in the enclosure shown above. This version can be set up to monitor dislodgement and open-enclosure tamper by inserting a jumper into connector [D], as shown below.
- **Flex5/U** comes in an enclosure with on-view terminals and address DIP-Switch, as shown opposite. It is evident that this version offers little protection to the terminals. The jumper of connector [D] enables/disables the protection against open and dislodgement tamper of the plastic enclosure only.

Terminals T1, T2, T3, T4 and T5 can be configured as:

- Input (Roller blind or Shock for terminals T1, T2, T3 and T4 only)
- Output
- Double zone
- Supervised Output

The T5 terminal can be configured as a dimmer output that allows the adjustment of the current supplied to an analogue device (industrial standard 0 - 10V).

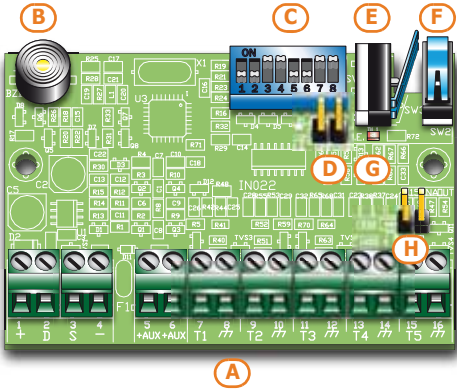
**Table 2-27: Flex5 - electrical and mechanical features**

Model	FLEX5/P	FLEX5/U
<b>Voltage</b>	from 9 to 16V <sup>---</sup>	
<b>Typical current draw</b>	30mA	
<b>Max. current across +AUX terminals</b>	300mA	
<b>Maximum current draw for OC terminal</b>	150mA	
<b>Dimensions including enclosure (W x H x D)</b>	125 x 79 x 26 mm	105 x 58 x 18 mm
<b>Weight including enclosure</b>	103g	66g

The packages of both versions of the Flex5 expansion board contain:

- Flex5 expansion board in a plastic enclosure
- Dislodgement/Open tamper jumper
- Jumper to set terminal T5 as an analogue output
- 10 resistors @ 3K90hm 1/4W
- 10 resistors @ 6K80hm 1/4W

**Table 2-28: Flex5 - description of parts**

<b>A</b>	Terminal board	
<b>B</b>	Buzzer	
<b>C</b>	DIP-Switch strip for peripheral device addressing	
<b>D</b>	Connector to enable peripheral-tamper detection	
<b>E</b>	Dislodgement-tamper microswitch	
<b>F</b>	Open-tamper microswitch	
<b>G</b>	Peripheral activity LED (where present)	
<b>H</b>	Connector to set terminal T5 as an analogue output	

Peripheral activity LED signals are as follows:

- fast blinking - peripheral operative and enrolled (in configuration)
- slow blinking - peripheral operative but not enrolled (not in configuration)

By means of appropriate programming it is possible to activate the buzzer on activation of terminal T1 configured as an output.

The Flex5 expansion board terminals are as follows:

**Table 2-29: Expansion terminal board**

n.	identifier	description
<b>1-2-3-4</b>	<b>+ D S -</b>	I-BUS connection terminals
<b>5-6</b>	<b>+AUX</b>	12V ancillary power source terminals
<b>7-9-11-13-15</b>	<b>T1-T2-T3-T4-T5</b>	Screw terminals for expansion terminals: T1, T2, T3, T4 and T5
<b>8-10-12-14-16</b>	<b>⏏</b>	Negative power terminals (Negative or GND)

## 2-3-7

### Flex5/DAC alternating current output expansion

The Flex5/DAC provides 5 terminals for controlling both AC and DC loads.

Each terminal can be configured as an output with the following attribute type:

- Relay, dry contact for AC or DC devices of up to 10A
- TRIAC ON/OFF, electronic contact that functions as a relay for AC devices up to 4A maximum
- TRIAC dimmer, dimmer contact for power-choke type AC devices of up to 4A

For the technical description and installation of the Flex5/DAC refer to the manual included in the respective package.



## Air2-BS200 Transceiver

## 2-3-8

All versions of the Prime control panel are capable of managing the Air2 two-way wireless system.

Description of the Air2 system devices:

- **Air2-BS200/50** transceiver module, 50 terminals
- **Air2-BS200/30** transceiver module, 30 terminals
- **Air2-BS200/10** transceiver module, 10 terminals
- **Air2-MC200** magnetic contact with shock and tilt sensor in white or brown
- **Air2-MC300** magnetic contact with two I/O terminals, in white or brown
- **Air2-KF100** 4 button remote-control key
- **Air2-Pebble** 4 button remote-control key
- **Air2-Ergo** 4 button remote-control key
- **Air2-FD100** smoke detector
- **Air2-Aria/W** keypad with graphic display
- **Air2-Hedera** outdoor sounder, in white or chrome effect
- **Air2-DT200T** dual technology curtain detector, in white or brown
- **Air2-XIR200W** PIR detector, 12m
- **Air2-XDT200W** dual technology curtain detector
- **Air2-UT100** universal transceiver
- **Air2-ODI100W** outdoor wireless dual-infrared detector
- **Air2-OTT100W** outdoor wireless triple-technology detector

For the technical specifications and installation instructions relating to Air2 devices refer to the manuals supplied with each device and to the Air2-BS200 installation manual.

## Aria/W Keypad and Hedera sounder

## 2-3-9

The Prime control panel can manage up to 4 Aria/W keypads and 4 Hedera sounders for each Air2-BS200. However, each control panel model supports a maximum limit of keypads and sounders.

During the addressing phase it is necessary to use free addresses only and to ensure that no other keypads (Aria/HG, Joy, Concept, NCode or Alien) are present at the address of the Aria/W keypads, or other sounders (Ivy-B) at the address of the Hedera sounderflashers to be included in the configuration.

## IVY sounder/flasher

## 2-3-10

The self-powered sounders from the IVY outdoor series are controlled continuously by a microprocessor which monitors all the device parameters to ensure performance and reliability at all times.

INIM Electronics s.r.l. also offers Ivy sounder/flasher models which are connectible via I-BUS cable, this permits the programming and control of Prime intrusion-control panels for the extended customization of the security system.

For a complete description of all these devices refer to the Installation Guide provided with the sounder/flasher.

## Nexus dialers

## 2-3-11

Nexus is a device managed by the BUS designed to interface control panels with cellular communication channels.

The Nexus communicator is available in four models, with different transmission functions and technologies.

**Table 2-30: Nexus - models**

model	network	frequency	terminals	backup battery
<b>Nexus</b>	2G	for 2G (GSM/GPRS): Quad band (850/900/1800/1900 MHz) for 3G (UMTS/HSPA): World wide (800/850/900/1900/2100 MHz)	on view	no
<b>Nexus/G</b>	2G, GPRS		on view	no
<b>Nexus/3GU</b>	2G, GPRS, 3G		on view	no
<b>Nexus/3GP</b>	2G, GPRS, 3G		protected	Yes

The functions available for the intrusion control panels, depending on the model of the Nexus they are equipped with, are:

**Table 2-31: Nexus - functions for the control panels**

model	Nexus	Nexus/G	Nexus/3GU	Nexus/3GP
Voice calls using the SmartLogos30M voice board installed on the control panel	*	*	*	*
Digital calls using CONTACT-ID protocols	*	*	*	*
SIA-IP Transmission events	/	*	*	*
Send SMS for each event using alternatively: <ul style="list-style-type: none"> <li>• the description provided by the keypad events log</li> <li>• a customizable description</li> </ul>	*	*	*	*
Commands sent by the user via SMS	*	*	*	*
Commands using recognition of the telephone number of the user (CALLER-ID)	*	*	*	*
Answerphone function	*	*	*	*
Connection to the INIM Cloud	/	*	*	*

For a complete description of all Nexus communicators refer to the Installation Guide provided with the product.

## 2-3-12

### IB200 Isolators

The Isolators are peripherals which can be connected directly to the I-BUS in order to increase both its extension and performance.

#### FUNCTIONS

Each isolator has 4 terminals for input connections to the I-BUS and 4 terminals for output connections to the I-BUS. The functions they provide are:

- Galvanic Isolation, up to 2750V, for the entire BUS between input and output
- regeneration of communication signals, limiting losses caused by the excessive length of the I-BUS cable
- detection of functional anomalies in direction of the output section and the consequent isolation of the section concerned

#### MODELS

3 versions are available:

- **IB200/P**, model with BUS isolation functions, signal regeneration on BUS, uninsulated power supply; comes in a plastic enclosure with protection against forced opening.
- **IB200/U**, model with BUS isolation functions, signal regeneration on BUS, uninsulated power supply; comes in a plastic enclosure with on-view terminals, without protection against forced opening and dislodgement.
- **IB200/P**, model with BUS isolation functions, signal regeneration on BUS, insulated power supply; and DC/DC converter, comes in a plastic enclosure with protection against forced opening and dislodgement.

#### INSOLATOR

The isolator makes it possible to create two groups of peripheral devices by means of the galvanic isolation of the power supply, the ground and the data channels D and S of each group. In this way it is possible to separate one group of peripherals connected and powered directly via the control panel ("group A") from the group connected to the control panel via isolator and not powered via the control panel ("group B").

The protection function is achieved by isolating group B in the event the isolator detects malfunctions in this group:

- short-circuit between terminals "+" and "-"
- short-circuit between terminals "D" and "+" or "D" and "-"
- short-circuit between terminals "S" and "+" or "S" and "-"
- short-circuit between terminals "D" and "S"
- current absorption higher than 1A between the "+" and "-" terminals (only if the IB200/A model is used)

Once one of these malfunctions has been detected, the isolator will isolate group B thus protecting group A. This status will remain active for 10 seconds or until the next control panel reset operation.

## SmartLogos30M voice board

2-4

The SmartLogos30M voice board is an optional board that is necessary if voice functions are to be provided by the system:

- Voice mailbox, to record, play and delete voice messages.
- Voice dialler, to send voice calls to programmed contact numbers.
- Answerphone, to answer incoming calls.  
After a pre-set number of rings, the control panel will pick-up and play the recorded answer message. During the call, the recipient can type-in a valid PIN (enabled for over-the-phone control) and access the authorized functions.

The SmartLogos30M voice board provides 500 voice message slots, 310 of which are pre-recorded at factory. The messages are arranged in such way as to produce event-related voice calls which clearly describe the related event.

## PrimeLAN ethernet interface

2-5

Prime control panels have the ability to connect directly to LANs and to the Internet.

Network connectivity allows the installer to remotely program and supervise the system via LAN using Prime/STUDIO software, a web-browser, the AlienMobile application or Cloud connection.

Using the optional PrimeLAN network board provides the user with additional features, such as:

- sending e-mails with attachments in relation to the control panel events
- interaction with the control panel via any browser thanks to an integrated web server. The web interface, after user authorization, allows you to:
  - view the status of zones
  - view status of outputs
  - view status of partitions
  - view the status of timers
  - view status of the Nexus
  - view contents of the events log
  - faults
  - view virtual keypads
  - view graphic maps
  - view system voltage
  - manage Onvif cameras (real time and video events)
- interface with KNX protocol systems
- interface with Modbus protocol systems

Thus the user will be able to arm/disarm partitions, bypass/unbypass zones, activate/deactivate the alarm and tamper memories.

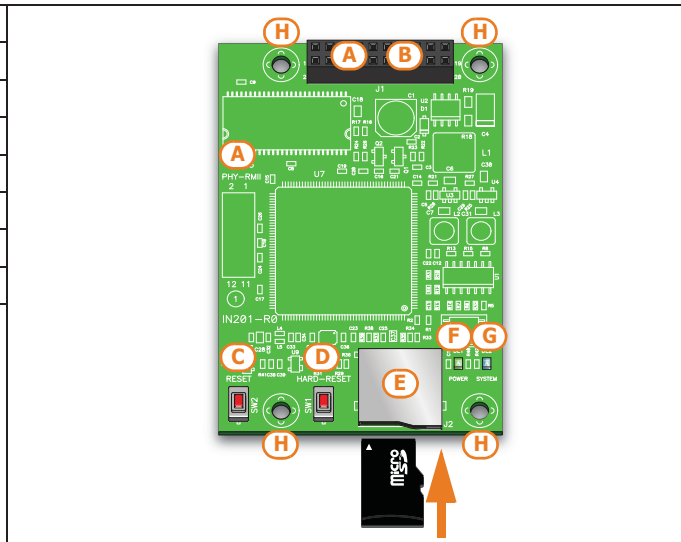
For a more detailed explanation of how to use the Web interface, refer to the User Manual of the control panel in use.

**Table 2-32: PrimeLAN - electrical and mechanical features**

<b>Supply voltage</b>	12V $\overline{---}$
<b>Maximum current draw</b>	30mA
<b>Operating temperature</b>	from -5 to +40 °C
<b>Dimensions</b>	50 x 73 x 19 mm
<b>Maximum capacity of the <math>\mu</math>SD-card</b>	32Gbyte
<b>Security protocol</b>	128-bit AES

**Table 2-33: PrimeLAN - description of parts**

<b>A</b>	Connectors for the motherboard (on the back)
<b>B</b>	Connector for the optional board
<b>C</b>	RESET button
<b>D</b>	HARD RESET button
<b>E</b>	µSD-card connector
<b>F</b>	LED - Board power
<b>G</b>	LED - Connection between control panel and board
<b>H</b>	Mounting screw hole



**KNX INTERFACE**

PrimeLAN allows the Prime control panel to interface with systems that use the KNX protocol via the LAN.

When programming the control panel via software/STUDIO it is possible to translate commands and events into specific signals from and to the KNX system.

However, it is necessary to use a KNX/IP interface, KNX device to be connected to the LAN and to the KNX BUS.

# Installation

## Chapter 3

### Installing the control panel

3-1

#### Wall-mounting

3-1-1

The control panel should be located in a hidden place that can be accessed by authorized building occupants only.

1. Locate the fixing holes at the corners of the back of the metal enclosure of the control panel (*Table 2-5: Control panels - description of parts, K*).
2. Using the metal enclosure, mark the fixing screw locations on the wall. Be sure not to drill in the vicinity of electrical wiring or plumbing/gas pipes, etc.
3. Insert the screw anchors (recommended size 6mm).
4. Pull the wires through the wire entry.
5. Using the screws, attach the backbox to the wall.

---

The cable gland must be flame class rating V-1 or higher.

---

**Note**

#### Connecting the Mains power supply

3-1-2

The control panel must be powered through a separate line coming from the Mains box. The line must be protected by a safety-standards compliant circuit breaker (trip switch).

The circuit breaker (trip switch) must be located externally to the apparatus and should be easily accessible. The distance between contacts must be at least 3mm. The manufacturer strongly advises the use of a magnetothermic switch with C intervention curve and nominal (maximum) current - 16A.

The protective earthing system must be compliant with all safety standards and laws in force.

---

**Ensure that the Mains is switched Off during the mains connection phase. Danger of electric shock.**

---

**DANGER!**



1. Pull the power-supply wires through the wire entry [A].
2. Connect the primary power-supply to the appropriate terminals [B] (*Table 2-5: Control panels - description of parts, F*).  
Follow the indications on the label [C] located near the mains terminal board.  
For a safety standard compliant installation the phase wire must be connected to the "L" terminal and the neutral wire to the "N" terminal.
3. Ensure that very low safety voltage or signal wires do not come into contact with dangerous voltage points.  
Using a plastic cable tie, bunch the wires together and secure them to one of the wire hooks on the backplate of the enclosure [F].

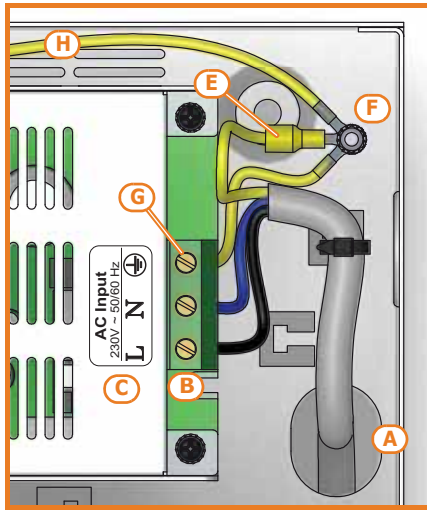
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The end of a stranded wire must not be consolidated with soft soldering in points where the wire is subjected to contact pressure.

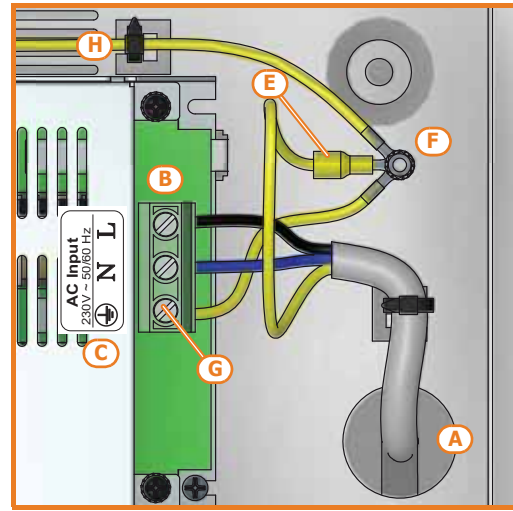
---

**Note**

4. Crimp the earth wire to the ring terminal [E] (included).
5. Using the nut, attach the ring terminal wire to the earth screw [F] (*Table 2-5: Control panels - description of parts, H*) of the control panel.
6. Ensure that terminal "⊕" of the power supply module [G] and the frontplate [H] are connected to earth.



Prime060S



Prime060L, Prime120L, Prime240L

### 3-1-3

### Connecting the backup battery

Connection of the backup (buffer) battery [A] must be carried out during the phase described in Chapter 4, *First power up*.

The metal enclosure of the Prime060S is capable of housing one lead battery @12V 7Ah or 9Ah.

The metal enclosure of the Prime060L, Prime120L and Prime240L is capable of housing one lead battery @12V 17Ah.

**Note**

The battery casing must have HB flame rating or higher.

Using the battery wire [B] (included), connect the battery directly to the control panel motherboard.

**ATTENTION!**

**Ensure that battery polarity is correct:**

- black wire = negative
- red wire = positive

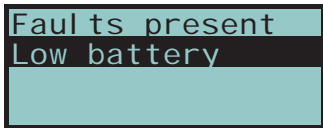
Connect the cable to the control panel using the appropriate connector ([C] on the switching power supply *Table 2-5: Control panels - description of parts, E*).

The lead battery is the secondary power source which powers the system when the primary (mains) power source fails (230V 50Hz).

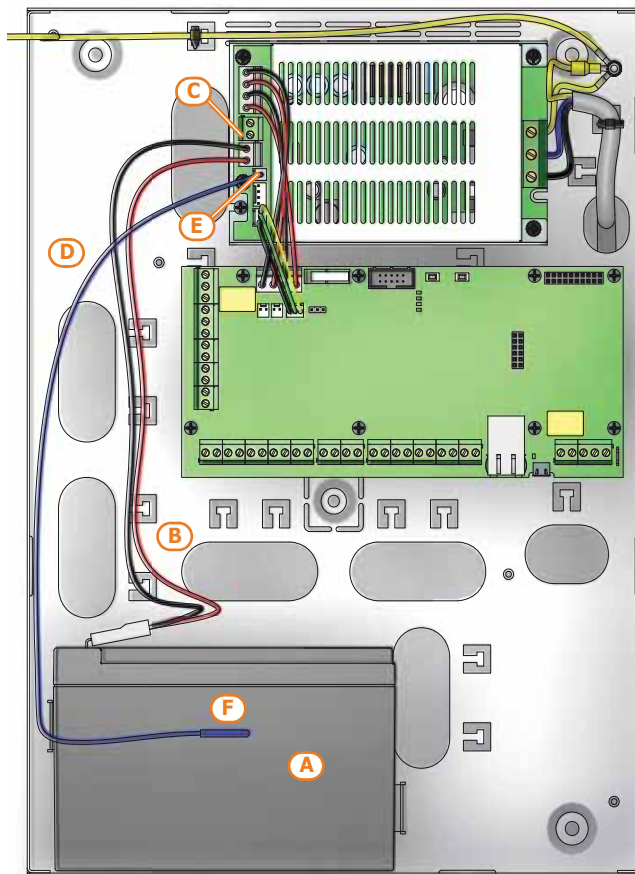
Once powered up, the panel will charge and monitor the batteries automatically. The panel tests the efficiency of the batteries by simulating load current demand at regular 4 minute intervals. If the control panel detects a voltage inferior to 10.4V (battery inefficient), it will generate an Empty battery event that will not clear until the voltage goes back to over 11.4V.

This fault will be signalled on the yellow LED on the keypads. To view the fault event, work through the following steps:

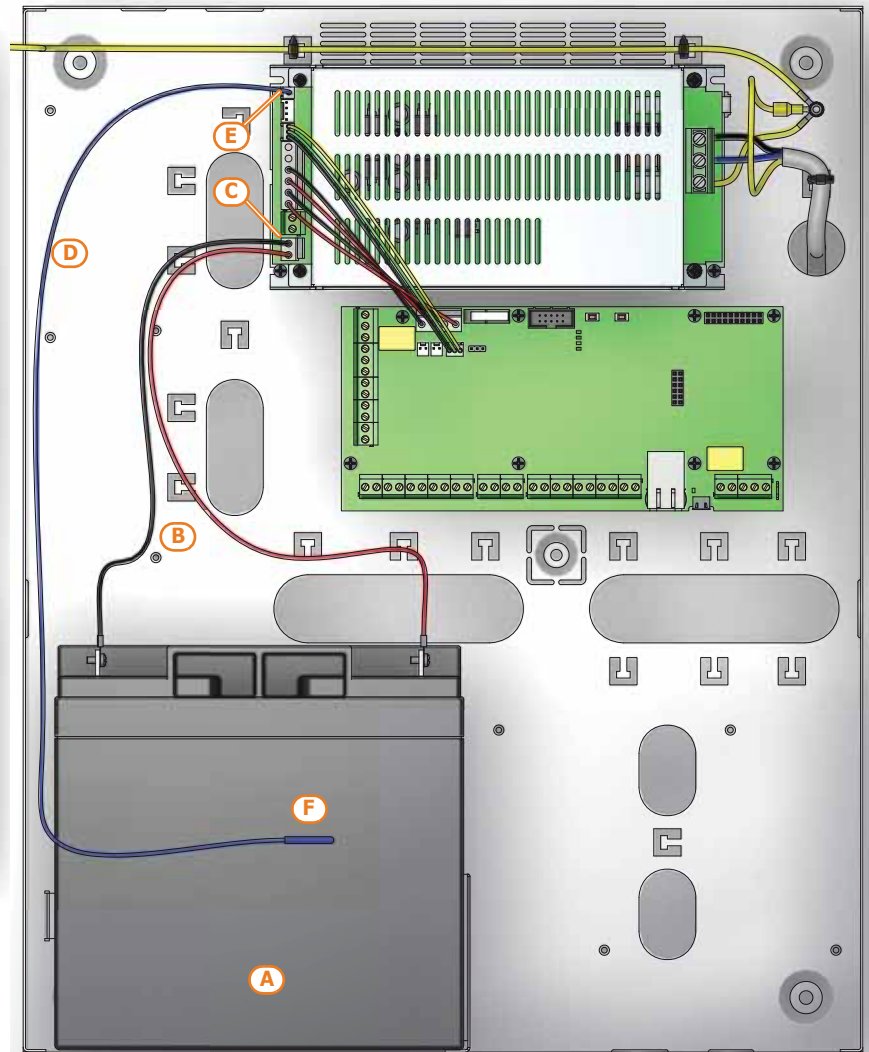
User menu, View, Faults.







Prime060S



Prime060L, Prime120L, Prime240L

## Thermal probe

## 3-1-4

The thermal probe [D] optimizes the battery charge process. This device regulates the charging process in accordance with the battery temperature. The thermal probe protects against battery overheating and consequent permanent damage to the battery.

To connect a thermal probe, work through the following steps.

1. Disconnect the battery (if necessary).
2. Connect the thermal probe to the connector on the power supply [E] (Table 2-5: Control panels - description of parts, D).
3. Attach the thermal probe to the battery [F], in such a way as to provide optimized heat-transfer measurements.

## Opening and closing the control panel

## 3-1-5

If you wish to remove the metal frontplate, work carefully through the following steps.

1. Type-in the installer code on the keypad and press **OK**. Access to the installer menu inhibits the activation of the output and any report calls associated with the "Open-panel" event.
2. Remove the 2 screws and the metal frontplate.
3. Insert the Maintenance jumper (refer to paragraph 3-1-9 Maintenance status) and carry out the necessary work.

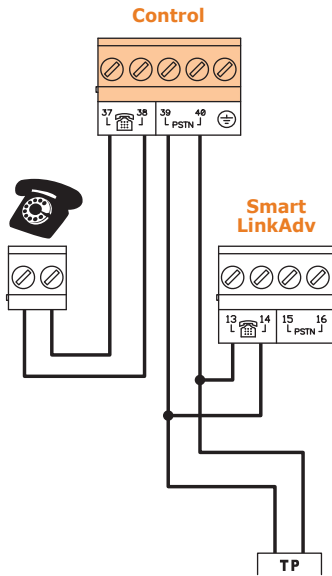
Once your task is complete, work carefully through the following steps.

1. Remove the Maintenance jumper.
2. Using the 2 screws, secure the frontplate in place.
3. Exit the Installer menu.

**Note**

If you exit the Installer menu before replacing the panel frontplate, the system panel will not generate an "Open-panel" event.

However, the system will generate an open-panel event, if the frontplate is not replaced within 15 seconds of closing the open-tamper microswitch.

**3-1-6****Land-line connection (PSTN)**

Connect the land line (PSTN) to terminals 39 and 40 on the control panel motherboard (*Table 2-7: Mother board - terminal board, 39-40*).

If you are installing the system in a place where the land line (PSTN) service is not available, or if you wish to increase the level of security of the system, these terminals also accept a GSM interface (such as SmartLinkAdv) which simulates the analogue land-line.

Inim's SmartLinkAdv telephone dialler is available in two versions, model G and model GP. Both devices monitor the analogue land line and in the event line-down conditions (e.g. wire-cutting) simulate the analogue land line and allow the control panel to switch incoming/outgoing calls to the GSM network.

You can also use the terminals on the SmartLinkAdv board to extend the functions provided by the Prime system. The following section describes several methods which will allow you to provide users with advanced functions.

- Arming/Disarming the system over-the-phone using a cost-free call or SMS text  
By connecting one of the Prime board terminals programmed as "follow zone" to an output on the SmartLinkAdv board, it will be possible to arm or disarm the Prime system via SMS text.  
In a similar way, using a terminal programmed as a "switching zone", it will be possible to arm or disarm the control panel simply by means of a recognized incoming call.
- Receive an SMS text in the event of Control panel alarm  
By connecting one of the alarm outputs of the Prime control panel to an input on the SmartLinkAdv board, it will be possible to receive alarm communications via SMS text. The system can be set up to send an SMS text (editable) to 10 different contact numbers.

All the functions of the Prime system which use the PSTN line (voice dialler, answerphone, alarm receiving centre and teleservice) can be managed completely over the GSM network by the SmartLinkAdv. This device also allows teleservice maintenance over the GSM network.

**Note**

If there are ADSL filters on the line, you must connect the control panel downstream of the filters, to the line dedicated to telephone equipment (this line is clearly indicated on the filters).

If the control panel is not equipped with a SmartLogos30M voice board, voice calls will produce a continuous beep for 30 seconds.

**3-1-7****Connecting to a PC**

In order to program the control panel using a PC, it is necessary to have the Prime/STUDIO software (refer to the programming manual) and a USB cable with a microUSB terminal or an Ethernet cable.

To connect the PC, simply insert the cable into the appropriate connector (*Table 2-6: Mother board - description of parts, L* for an Ethernet cable or *Table 2-6: Mother board - description of parts, N* for a USB cable).

For details regarding the connection, refer to the Prime/STUDIO software manual.

**3-1-8****Connecting the SmartLogos30M board**

For proper installation of the board, work carefully through the following steps.

1. Disconnect all power sources to the control panel (mains and lead batteries).
2. Connect the board to the appropriate connector (*Table 2-6: Mother board - description of parts, C*).
3. Power up the system from the mains and reconnect the lead batteries.



## Maintenance status

### 3-1-9

The maintenance status is signaled on the keypads by the "Maintenance" message and the address of the keypad. In the case of keypads with built-in readers, the address of the reader (if enabled) will also be shown.

During service/maintenance mode, the control panel:

- Forces the relay output on the motherboard (*Table 2-7: Mother board - terminal board, 1-2-3*) to standby status.
- Does not activate the outputs (and will force to standby any active outputs) triggered by:
  - alarm or zone/partition tamper
  - peripheral tamper
  - open/dislodged panel tamper
- It allows initialization of the keypad address programming phase.
- It allows initialization of the reader address programming phase.
- Initializes automatically the auto-enrollment of the peripherals connected to the BUS at 10 seconds intervals. It allows assignment of the addresses to the peripherals connected to the BUS and, at 10 second intervals, enrolls the peripherals it finds.
- The control panel will not reset the BUS in an attempt to retrieve peripherals in the event of peripheral loss.
- It will continue to operate as normal, except under the aforesaid circumstances.

During service/maintenance mode, the Alien keypad:

- Does not require user-code entry to access the sections which correspond to the "Settings" key.
- The first parameters shown in the "Settings - Alien" section are the addresses of the Alien keypad and its built-in proximity reader and, only for the Alien/S, the status of tamper enablement on the keypad.
- It is not possible to access the "Climate" section.
- The display shows the address of the Alien keypad and its built-in proximity reader in the top left-hand corner of the home page.
- The display shows the letters relating to the operating status of the partitions in the bottom left-hand corner of the home page.

The control panel can be placed in maintenance mode by:

- Inserting the Maintenance jumper in the "SERV" position.
- Enabling the "Maintenance" option

The Maintenance jumper (*Table 2-6: Mother board - description of parts, J*) can be inserted in two different positions:

- "RUN" (control panel operating normally)
- "SERV" (control panel ready for maintenance work)

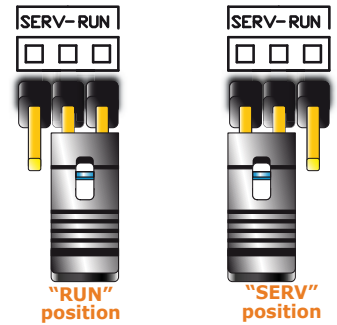
The control panel enters "Maintenance" mode when this option is enabled and exits "Maintenance" mode when it is disabled. You can enable/disable this option at the keypad or via computer.

1. Access the "Programming Panel options" section.

Type-in Code (Installer PIN) , PROGRAMMING Panel options .

2. Press to enable the "Maintenance" option, or to disable it.
3. Press **OK** to exit and save.

This option is made available by clicking on the **Control panel parameters** button in the section on the left and accessing the "Programming" section on the right. The "Control panel parameters" section provides the "Maintenance" option, click-on this option to enable/disable it.



#### USING THE MAINTENANCE JUMPER

#### THE "MAINTENANCE" OPTION

#### Via keypad

#### Via software



# 3-2

# Connecting peripherals

## 3-2-1

## The I-BUS line wiring

The peripheral devices of the Prime system must be connected to the control panel via the I-BUS.

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

### ATTENTION!

**The shield must be connected to one of the terminals  $\overline{\text{D}}$  (Negative or GND) at the control panel end only, and must run along the BUS without being connected to negative or GND at any other point.**

The control panel connection is done using terminals "+ D S -" on the motherboard (Table 2-7: Mother board - terminal board, 7-8-9-10).

### DIMENSIONING (SIZING)

The dimensioning (sizing) of the I-BUS line, that is, the distribution of the peripheral devices and length/sizing of the cables/wiring used for their connections must be done in accordance with the various factors of the layout, in order to guarantee 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, this can also be supplied by external power supplies.
- Cable type  
The cable section used affects the dispersion of the conductor signals.

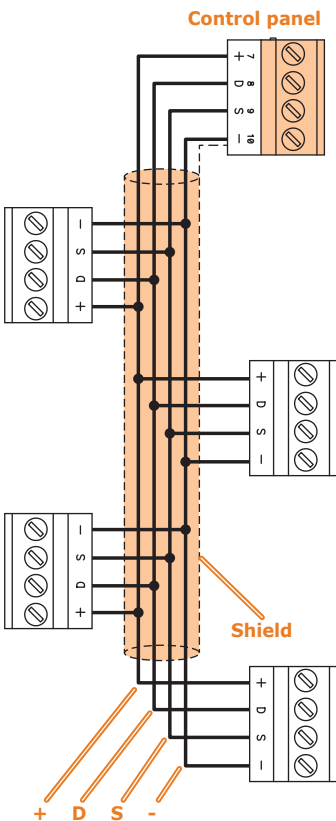


Table 3-1: Recommended cable

Cable AF CEI 20-22 II	n. wires	Section (mm <sup>2</sup> )	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 Prime/Studio software (38.4, 125 or 250kbs).

Table 3-2: Dimensioning (sizing) of the BUS

BUS speed	Maximum BUS cable length
38.4kpbs	1000m
125kpbs	700m
250kpbs	300m

- Number and distribution of IB200 isolators.  
To increase the reliability and the extension of the BUS it is necessary to use isolators.  
For a correct installation of the isolator and of the BUS, it is necessary to size the BUS line in which the isolator is located on the basis of the number of peripherals connected and their total current absorption. This absorption is to be compared with the "Maximum absorption from the control panel" feature.

Another feature of the isolators, which affects their dimensions (sizing) is the length of the line downstream of the isolator, to the next isolator or to the end of the line. Following is a table with indicative values of the length depending on the BUS speed:

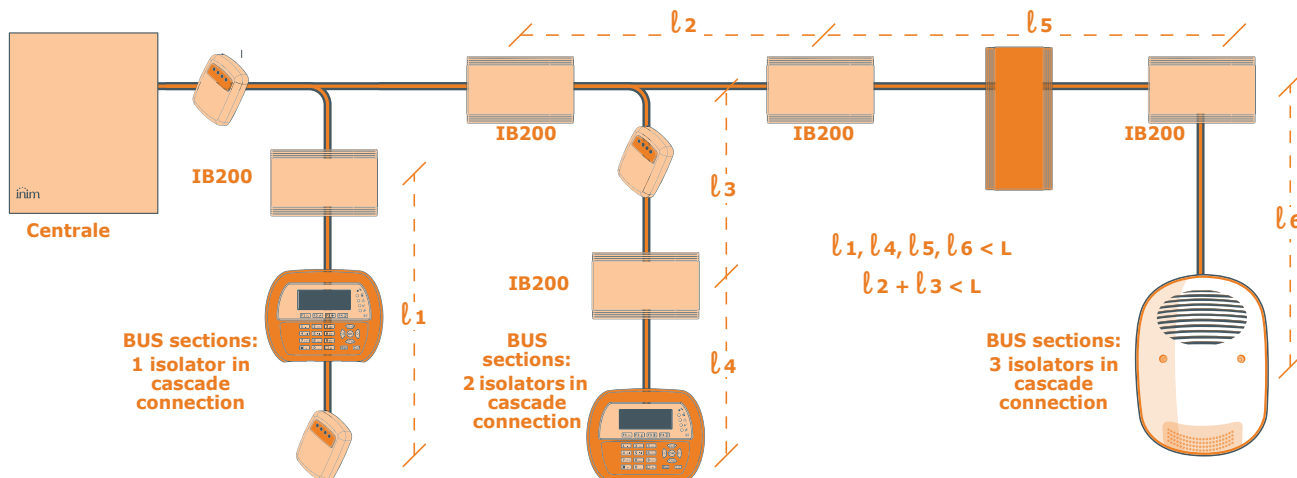
Table 3-3: Dimensioning (sizing) of IB200 isolators

BUS speed	Cable length downstream of the isolator (L)	Maximum number of cascaded isolators
38.4kpbs	500m	9
125kpbs	350m	6
250kpbs	200m	2

The lengths (L) shown here can be identified with:

- the length of the cables between an isolator and the next peripherals or, in the case of a single line, between two successive isolators.
- the sum of the lengths of all the lines between an isolator and the next isolators or the end of the lines, in the case of branched lines, between two successive isolators.

The following example will help you achieve a correct evaluation for a 125kbps BUS:



The lengths quoted in the tables can be obtained by means of optimal wiring conditions and respecting the points indicated above.

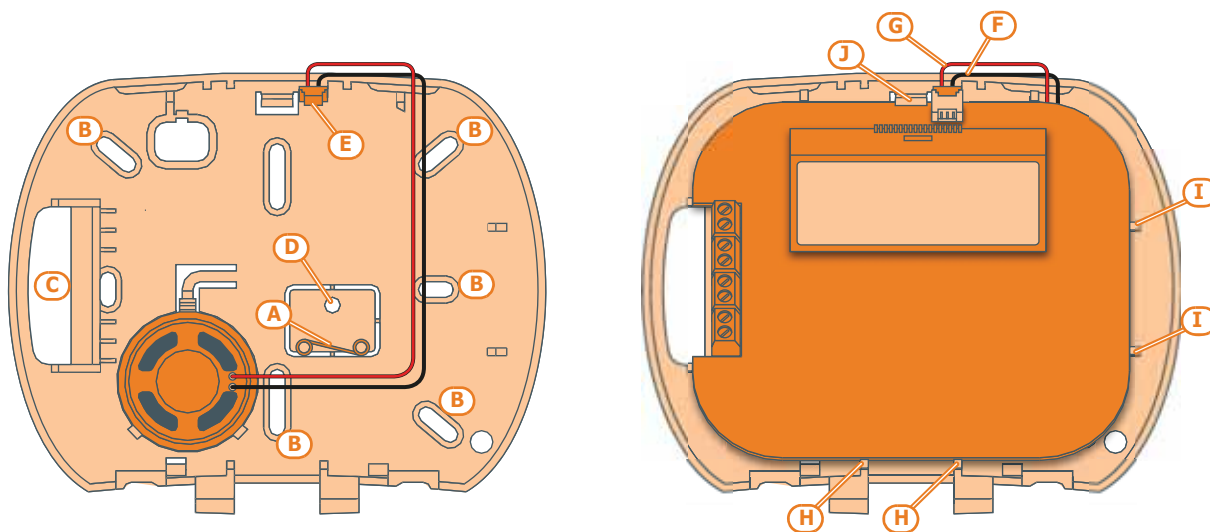
**Note**

It is not recommended to place an insulator immediately after the control panel. Each isolator should be positioned where the quality of the BUS drops drastically.

## Installing JOY keypads

## 3-2-2

1. Remove the keypad from its package.
2. Detach the cover and down-flip (lid) from the enclosure.
3. Remove the board, taking care not to damage the anti-dislodgement spring ([A]).
4. Mark the chosen fixing-screw locations on the wall. Use at least 2 of the 7 screw locations available [B]. Pull the BUS and terminal connection wires through the wire entry [C].
5. Using the screw, fasten the dislodgement-tamper bracket into its location [D].
6. For JOY/MAX only: Plug the speaker connector [E] into the keypad circuit, ensure that polarity is correct (black wire to the right [F] and red wire to the left [G]). Be careful not to damage the connector during this operation.  
If it is necessary to disconnect the connector from the speaker, use a small screwdriver or similar tool to disengage it by pressing lightly on the part in plastic. DO NOT pull the connector out by the wires.

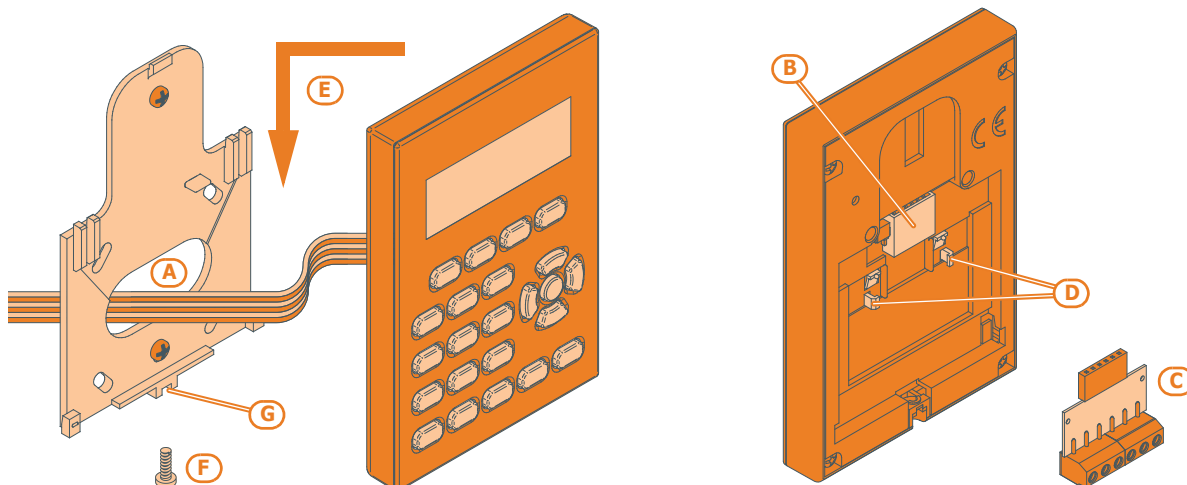


7. Place the circuit on the two lower supports [H] and, after aligning it with the other supports [I], push the back-locking grip [J] slightly outwards until it clicks closed. Take care not to damage the dislodgement-tamper spring [A].
8. Replace the cover and down-flip. If necessary, secure the two screws into their screw locations on the bottom part of the cover.

## 3-2-3

## Installing nCode/G and Concept/G keypads

1. Connecting the device to the system
2. Pull the connection wires through the wire entry [A].
3. Connect the wires to the connector on the back of the keypad [B]. If you want to use the connector with the KB100 kit terminals [C], connect the cables to the terminals following the instructions provided in *paragraph 2-3-3 nCode/G and Concept/G Keypads*, then insert the connector along the guides [D] until the grips click.
4. Using at least 2 screws, mount the bracket to the wall.
5. Using the back-locking grips, attach the keypad to the bracket (as shown in figure [E]).
6. Fasten the screw [F] (included) into the screw location [G], to secure the keypad properly to the bracket.



## 3-2-4

## Installation of the Aria/HG keypad

1. Choose a suitable mounting location.
2. Attach the wall mounting bracket to the mounting location (*Table 2-14: Aria/HG - description of parts, L*) or use the supplied drilling template and mark the holes.
3. Drill the holes.
4. Pull the wires through the cable entry (*Table 2-14: Aria/HG - description of parts, M*) and wire up the keypad.
5. Using the fixing screws, secure the bracket to the wall.

**ATTENTION!**

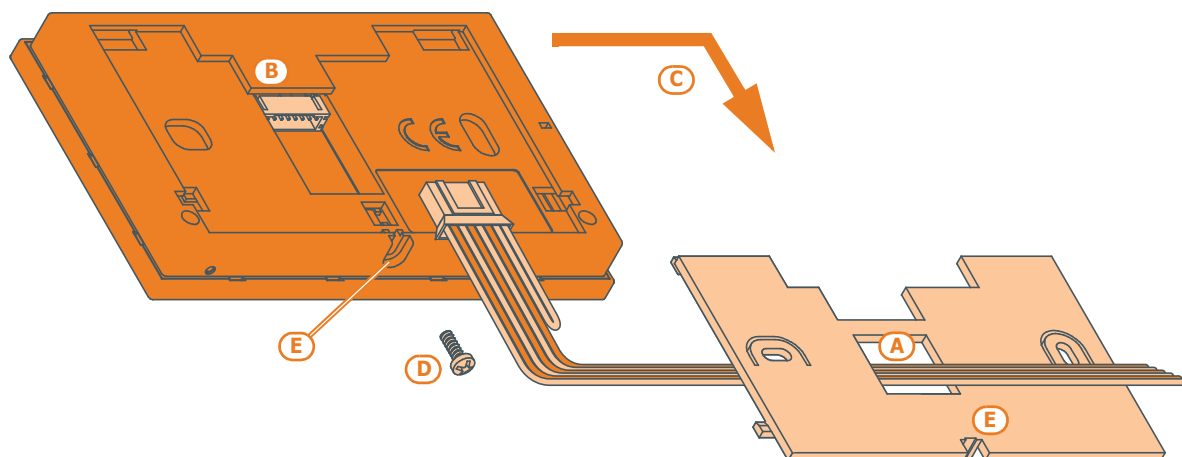
**Do not use or remove the counter support on the back of the keypad (*Table 2-14: Aria/HG - description of parts, H*).**

6. Mount the keypad to the wall bracket, by first inserting the locking grips (*Table 2-14: Aria/HG - description of parts, K*) in place, then by pushing the keypad toward the wall then downward.
7. Fasten the securing screw in place (*Table 2-14: Aria/HG - description of parts, J*).

## 3-2-5

## Installation of Alien/S keypads

1. Connecting the device to the system
2. Pull the connection wires through the wire entry [A].
3. Connect the wires to the connector on the back of the keypad [B].
4. Using the respective anchor holes, mount the bracket to the wall or 503 box.
5. Attach the keypad to the bracket by means of the back-locking grips as shown in figure [C].
6. Fasten the screw [D] (included) into the screw location [E], to secure the keypad properly to the bracket.



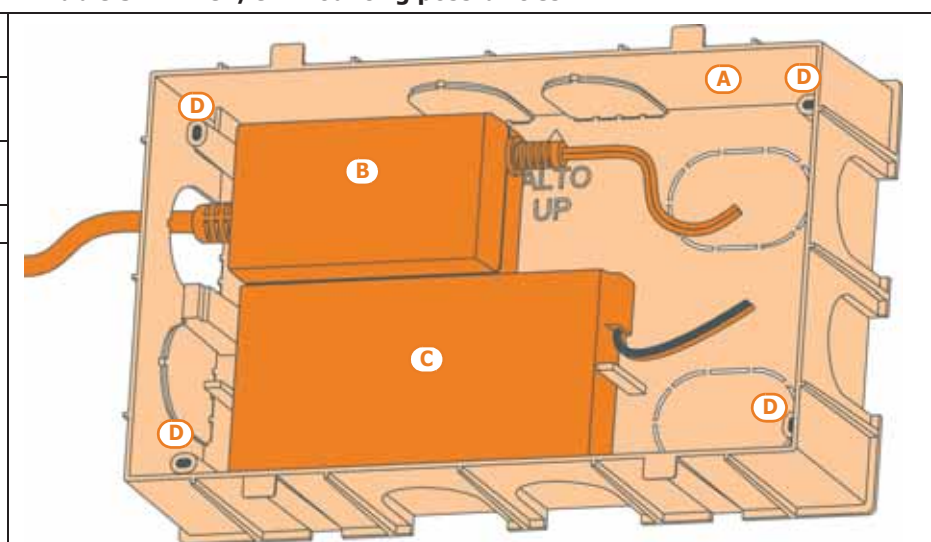
### Installing the Alien/G keypad

### 3-2-6

1. Prepare the placement area on order to flush-mount the device, taking care not to damage any electrical wiring, gas or water papers, etc.
  2. Insert the supplied flush-mount box (*Table 3-4: Alien/G - mounting possibilities, A*) into the wall recess and secure it in place.
  3. Pull the wires through the most suitable wire entry.
  4. Place the backup battery and Alien/G power supply in the most suitable position inside the box.
  5. Connect to the mains network.
  6. Open the Alien/G casing by first removing the safety screw and then pushing the enclosure clasp open.
  7. Pass the wires through the wire entry on the back of the Alien/G.
  8. Fit the screws into the screw locations (*Table 3-4: Alien/G - mounting possibilities, D*) and attach the Alien/G securely to the flush-mount box.
- After securely mounting the Alien/G, make sure that the microswitch is closed.
9. Complete all the connections.
  10. Close the Alien/G.

**Table 3-4: Alien/G - mounting possibilities**

<b>A</b>	Flush-mount box (included)
<b>B</b>	Power supply (optional)
<b>C</b>	Backup battery (optional)
<b>D</b>	Screw locations



## 3-2-7

### Alien/G power supply

The Alien/G can be powered via three different sources, which can be used, therefore connected, individually or simultaneously.

#### MAINS POWER SUPPLY 230V~ 50HZ

The mains supply requires the use of a power supply (*Table 3-4: Alien/G - mounting possibilities, B*) and a separate line from the mains box. The line must be protected by a safety-standards compliant circuit breaker (trip switch).

The protective earthing system must be compliant with all safety standards and laws in force.

Connect the power supply (already connected to the mains) to terminals "+ 14V" and "- 14V" on the PCB, taking care to respect the correct polarity of the wires. The power supply provides power to the Alien/G and the devices connected to terminal "+" of the BUS and also recharges the backup battery.

#### I-BUS

The I-BUS line for the direct connection to a Prime control panel also supplies a 12V current through the I-BUS connection terminals "+" and "-" on the PCB. This current provides power to the Alien/G and the devices connected to terminal "+" of the BUS and also recharges the backup battery.

#### BACKUP BATTERY

The backup battery connection (*Table 3-4: Alien/G - mounting possibilities, C*) must be done using the connector on the PCB and the wire with a faston terminal at each end (included).

#### ATTENTION!

**Ensure that battery polarity is correct:**

- black wire = negative
- red wire = positive

The lead battery is a secondary power source that provides power to the Alien/G and the devices connected to the BUS, whether it is equipped with a power supply or I-BUS or both.

## 3-2-8

### Calibration of the Alien touch-screen

If the touch screen of the Alien keypad does not respond to taps, you must carry out the forced calibration process.

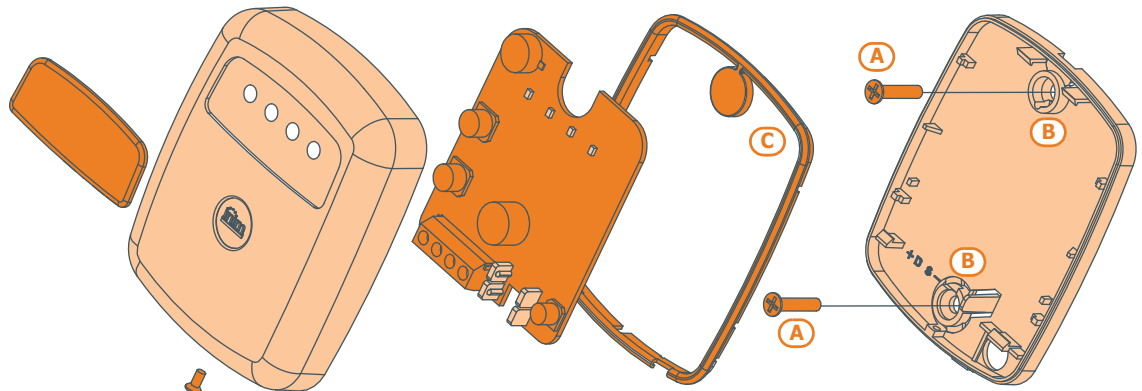
You can start this process by pressing and holding for 7 seconds the (*Table 2-21: Alien - description of parts, W*) button which, for the Alien/G, can be reached on the PCB after opening its casing and, for the Alien/S, can be reached through the relative hole. Once the calibration process starts, simply follow the instructions provided by the keypad.

## 3-2-9

### Installation of nBy/S readers

The wall-mount nBy/S reader is suitable for indoor and outdoor installation.

Insert the two anchor screws [A] (included) into the two screw locations [B] on the plastic backplate.



#### ATTENTION!

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

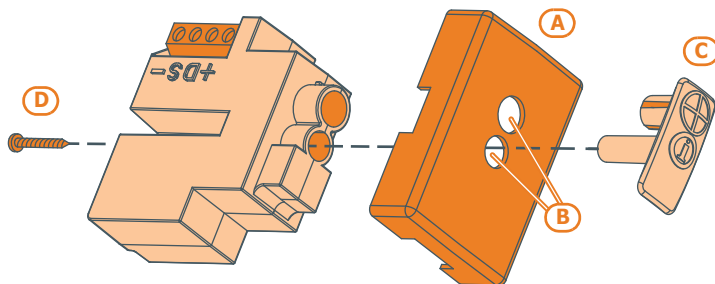


## Installing nBy/X readers

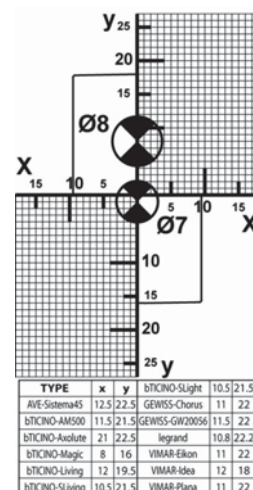
The flush mount By/X reader (Registered patent) has been especially designed to integrate with all brands of cover plates. Drill two holes [B] for the light guide [C].

Use the adhesive drill-pattern (see opposite) to mark the drilling locations accurately.

1. Ensure that the centre of the cover plate coincides with the crossing of the axes x and y on the drill-pattern. In this way, the two drilling locations (1 x 7mm diameter and 1 x 8mm diameter) will be positioned precisely.
2. Using the screw [D], supplied with the reader, assemble and secure the reader components.
3. Insert the cover plate (with the reader already assembled) into the light switch box.



### 3-2-10

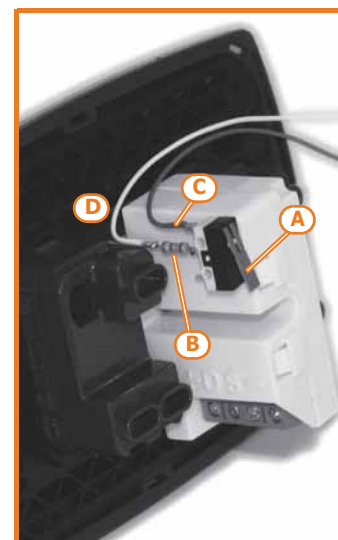


The nBy/X reader is not equipped with built-in dislodgement-tamper protection. However, the following section describes how you can protect nBy/X reader against this kind of tamper.

Please note that in order to comply with security standards, all the system peripherals must be protected against tamper. Installation of a microswitch will allow the reader to signal tamper events. To obtain this type of protection, work carefully through the following steps.

1. Use a microswitch with at least 2 normally-open contacts [A] (the one shown in the figure has 3 contacts: COM-NO-NC).
2. Take a terminal and program it as an input, 24H, whose description is "Tamper reader x", balanced with single resistance of 6K8Ω [B], unlimited alarm cycles, belonging to a partition that is visible on at least one keypad.
3. Using 2 wires, connect the microswitch to the 24H input terminal.
4. On the microswitch:
  - 4.1. identify the common contact (COM) and connect it using one of the two wires, to the GND terminal of the 24H terminal [C].
  - 4.2. identify the normally open contact (N.O., which is the contact that generates a short-circuit between the contact itself and the COM contact when the switch lever is compressed) and connect one end of the 6k8Ω resistor to it [D]. Connect the other end of the resistance to the wire which is connected to the 24h input terminal.
5. Install the microswitch as shown in the previous figure, so that the switch lever is compressed. If an unauthorized attempt to dismantle the nBy/X reader occurs, the lever will expand in order to open the contact which triggers instant alarms on the 24H terminal.

### DISLODGE- MENT TAMPER



This wiring method can be applied in most situations, however, it is only a point of reference. In order to ensure proper protection, you must always take in to account the specific mechanical and electrical conditions of the device you are working on.

### Note

**In order to avoid malfunction, it is advisable not to install nBy/X readers onto metal plates.**

### ATTENTION!

## Addressing the peripherals

### 3-3

In order to allow the control panel to identify the peripherals distinctly, you must assign a different address to each device. However, you can assign the same address to two devices which belong to different categories (e.g. a Flex5 expansion and a JOY keypad) as, in this case, the control panels will see them as two distinct devices.

Table 3-5: Peripherals address

Keypads address	Expansions address	DIP-switch 12345678	Expansions and transceivers address	Red	Blue	Green	Yellow	nBy/S BS200	nBy/X
1	1	00000000	1	0	0	0	1	○○○●	⊕
2	2	00000001	2	0	0	1	0	○○●○	⊕
3	3	00000010	3	0	0	1	1	○○●●	⊕
4	4	00000011	4	0	1	0	0	○●○○	⊕
5	5	00000100	5	0	1	0	1	○●○●	⊕
6	6	00000101	6	0	1	1	0	○●●○	⊕
7	7	00000110	7	0	1	1	1	○●●●	⊕
8	8	00000111	8	1	0	0	0	●○○○	⊕
9	9	00001000	9	1	0	0	1	●○○●	⊕
10	10	00001001	10	1	0	1	0	●○○○	⊕
11	11	00001010	11	1	0	1	1	●○○●	⊕
12	12	00001011	12	1	1	0	0	●●○○	⊕
13	13	00001100	13	1	1	0	1	●●○●	⊕
14	14	00001101	14	1	1	1	0	●●●○	⊕
15	15	00001110	15	1	1	1	1	●●●●	⊕
	16	00001111	16	0	0	0	L	○○○Ⓟ	⊕
	17	00010000	17	0	0	L	0	○○Ⓟ○	⊕
	18	00010001	18	0	0	L	L	○○ⓅⓅ	⊕
	19	00010010	19	0	L	0	0	○Ⓟ○○	⊕
	20	00010011	20	0	L	0	L	○Ⓟ○Ⓟ	⊕
	21	00010100	21	0	L	L	0	○ⓅⓅ○	⊕
	22	00010101	22	0	L	L	L	○ⓅⓅⓅ	⊕
	23	00010110	23	L	0	0	0	Ⓟ○○○	⊕
	24	00010111	24	L	0	0	L	Ⓟ○○Ⓟ	⊕
	25	00011000	25	L	0	L	0	Ⓟ○Ⓟ○	⊕
	26	00011001	26	L	0	L	L	Ⓟ○ⓅⓅ	⊕
	27	00011010	27	L	L	0	0	ⓅⓅ○○	⊕
	28	00011011	28	L	L	0	L	ⓅⓅ○Ⓟ	⊕
	29	00011100	29	L	L	L	0	ⓅⓅⓅ○	⊕
	30	00011101	30	L	L	L	L	ⓅⓅⓅⓅ	⊕
	31	00011110							
	32	00011111							
	33	00100000							
	34	00100001							
	35	00100010							
	36	00100011							
	37	00100100							
	38	00100101							
	39	00100110							
	40	00100111							

0	○	LED Off
1	●	LED On
L	Ⓟ	Flashing LED

You must not exceed the maximum number of addresses allowed for each type of peripheral. The following table shows the available peripheral addresses and the maximum number of addresses accepted.

The first section on the left of the table shows the addresses available for the keypads (refer to *paragraph 3-3-2 Addressing the keypads*) and for the expansions, together with the configuration of the expansion board DIP-switch (refer to *paragraph 3-3-4 Addressing FLEX5 expansion boards*).

In the second section at each address of the nBy/S and nBy/X readers and of the transceivers is the combination of the reader LEDs (refer to *paragraph 3-3-5 Addressing nBy readers*).

For the addressing procedures of Air2-BS200 transceivers, Ivy-B sounder/flashers and IB200 isolators refer to their respective Installation Guides.

It is possible to connect only one Nexus device to the Prime control panels, therefore, there no addressing procedure is required.



## Fast addressing of keypads and readers

### 3-3-1

If, within 4 seconds of inserting the maintenance jumper (*Table 2-6: Mother board - description of parts, J*) the open-tamper microswitch is pressed on the control panel frontplate (*Table 2-6: Mother board - description of parts, B*), the Prime system will activate the function for the fast addressing of keypads and readers.

All the keypads and readers connected to the I-BUS will be placed in address programming status and assigned their addresses in sequential order.

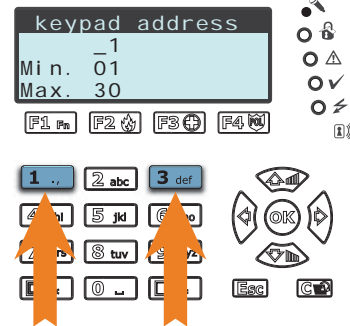
At the point, you (the installer) can either change or confirm the assigned addresses.

## Addressing the keypads

### 3-3-2

To assign addresses to keypads, follow the procedure described in *paragraph 3-3-1 Fast addressing of keypads and readers* or work through the following steps:

1. Put the control panel in "Maintenance" mode by inserting the respective jumper (*Table 2-6: Mother board - description of parts, J*).
2. Using the keypad you want to address, press and release keys **1** **.** and **3** **def** simultaneously; set the desired address then press **OK**.
3. If the keypad has a built-in reader, enable or disable the reader by pressing key **1** **.** or **2** **abc**.
4. If the keypad is enabled, set the address and press **OK**.
5. Enable or disable the anti-dislodgement tamper switch by pressing key **1** **.** or **2** **abc**.
6. Enable or disable the anti-opening tamper switch by pressing key **1** **.** or **2** **abc**.



For security reasons, if the address is not assigned within 30 minutes of accessing "Maintenance" mode (SERV jumper inserted), the keypad will exit the programming phase automatically.

#### Note

## Addressing the Alien keypad

### 3-3-3

Work carefully through the following steps.

1. Put the control panel in "Maintenance" mode (*paragraph 3-1-9 Maintenance status*).
2. From the Alien keypad, access the "Settings" section by pressing the "Settings" button and then access the "Alien" section. This section provides a list of the keypad parameters.
3. Set the parameters:
  - PROXY ADDRESS - Alien keypad address
  - PROXY ADDRESS - built-in reader address
  - ALIEN TAMPER - keypad tamper enablement
4. This parameter can be changed by means of keys **+** and **-**.
5. Tap **SAVE** to set the addresses and exit.

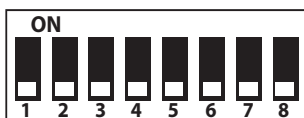


## Addressing FLEX5 expansion boards

### 3-3-4

Using a small screwdriver or similar tool, set the expansion board address on the 8-segment DIP-Switch strip (*Table 2-28: Flex5 - description of parts, C*). Each segment can be set at "1" (On) or "0" (Off).

The figure shows some examples.



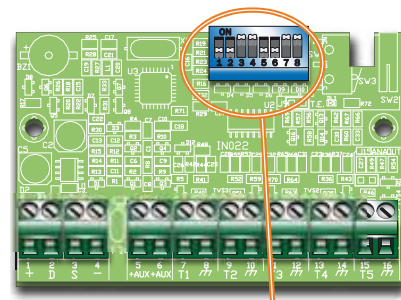
Expansion n. 1



Expansion n.29



Expansion n.40



Position 1

Position 2



The address of the Flex5/DAC board is assigned through its programming menu (refer to the attached manual).

### 3-3-5

## Addressing nBy readers

To assign addresses to the system readers (with the exception of the built-in readers of keypads), follow the instructions described in *paragraph 3-3-5 Addressing nBy readers* or work carefully through the following steps:

1. Put the control panel in "Maintenance" mode (*paragraph 3-1-9 Maintenance status*).
2. Start the "Address Programming" phase using the software or from a keypad:

#### Via software



#### Via keypad

Click on the **Proximity readers** button in the menu on the left, then access the **Proximity reader address configuration** option in the "Programming - Parameters" section on the right.

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

3. Each reader indicates its own address on its LEDs (refer to the Table in *paragraph 3-3 Addressing the peripherals*).
4. 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.
5. The reader will hold the addressing phase for a further 10 seconds, in order to allow you to change the address if necessary.
6. The reader will assign the selected address when the 10 second period expires.
7. 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.
8. End the reader-address programming phase initialized at point 2 by exiting the "Prog. Address" menu via keypad or, if you are using the Prime/STUDIO software, by clicking on **End Proximity reader address configuration**.

#### Note

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

## 3-4

## Auto-enrolling peripherals

The peripherals connected to the BUS are enrolled automatically in the following situations:

- on first startup (refer to *Chapter 4, First power up*)
- in "Maintenance" mode (refer to *paragraph 3-1-9 Maintenance status*)
- from the installer menu (refer to the Programming manual, *Chapter 17, Parámetros de fábrica*):

Type in Code (Installer), PROGRAMMING Factory settings , Auto enroll periph.

## 3-5

## Wiring and balancing alarm detectors

The wiring and respective balancing method depend on the type of detector you are installing, and the level of protection you wish to achieve. The detectors can be powered through:

- terminals [+AUX/12V] and [-/GND] on the control panel
- terminals [+AUX/12V] and [-/GND] on FLEX5 expansions
- terminal [+12V] and terminals [-/GND] on keypads
- from any 12V ancillary source on condition that its GND reference is in common with that of the control panel.

The resistors used for balancing are:

- 3K90hm 1/4W
- 6K80hm 1/4W

The following Table indicates the protection level of each detector type and the balancing options provided by the control panel:

**Table 3-6: Protection level**

BALANCING	N.O.	N.C.	Single	Double	Double zone	Double zone with EOL
PIR or Dual technology	very low	low	medium	high	medium	high
Magnetic contact	very low	low	medium	/	medium	high

Single balancing provides the same level of protection as Double balancing, when the tamper contact of the detector is connected to a balanced zone on the control panel.

**Note**

### N.C./N.O. Balancing

For N.C. (normally closed) and N.O. balancing (normally open), it is possible to detect two distinct zone conditions:

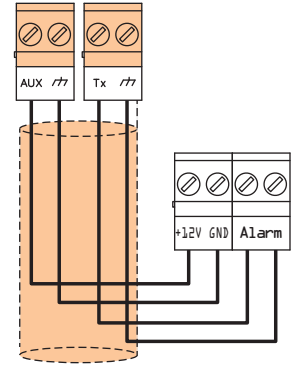
- standby
- alarm

For each of these, the control panel reads different resistance values on the terminal, expressed below in Ohm.

Ohm	Zone	N.O.
$> 2 \times 3900 + 6800$	alarm	standby
$> 2 \times 3900 + 6800$	alarm	standby
$3900 + 6800$	alarm	alarm
$2 \times 3900$	alarm	alarm
3900	standby	alarm
0	standby	alarm

If you wish the detector to signal tamper events, connect the detector "Tamper" terminal to a "24h" zone on the control panel.

### 3-5-1



### Single balancing

Single zones can discriminate 3 conditions on the entire terminal:

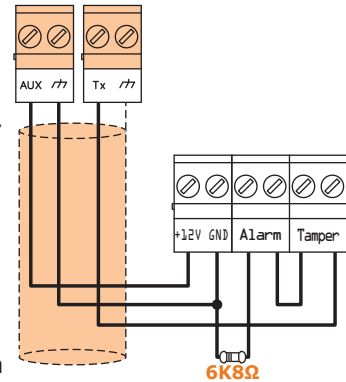
- standby
- alarm
- tamper (short-circuit)

For each of these, the control panel reads different resistance values on the terminal, expressed below in Ohm.

Ohm	Zone
$> 6800$	alarm
6800	standby
0	tamper

If you wish the detector to signal tamper events, connect the detector "Tamper" terminal to a "24h" zone on the control panel.

### 3-5-2



### Double balancing

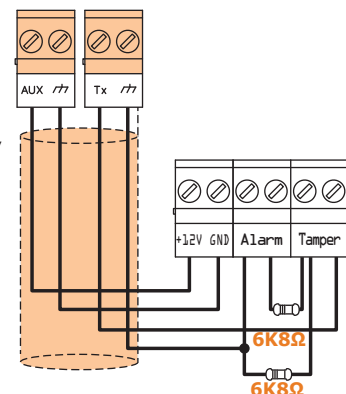
Double balancing discriminates 4 distinct conditions on the zone terminal:

- standby
- alarm
- tamper (short-circuit)
- tamper (wire cutting)

For each of these, the control panel reads different resistance values on the terminal, expressed below in Ohm.

Ohm	Zone
$> 6800$	tamper (wire cutting)
6800	alarm
$6800 / 2$	standby
0	tamper (short-circuit)

### 3-5-3



### 3-5-4

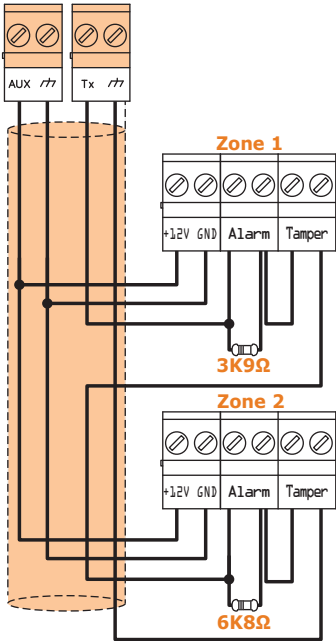
## Double-Zone balancing

Double zones without EOL resistor can discriminate 5 conditions on the entire terminal:

- stand-by on both zones
- alarm on zone 1 and standby on zone 2
- alarm on zone 2 and standby on zone 1
- alarm on both zones
- tamper (wire cutting)

For each of these, the control panel reads different resistance values on the terminal, expressed below in Ohm.

Ohm	Zone 1	Zone 2 (double)
$> 3900 + 6800$	tamper	
$3900 + 6800$	alarm	alarm
6800	standby	alarm
3900	alarm	standby
0	standby	standby



### 3-5-5

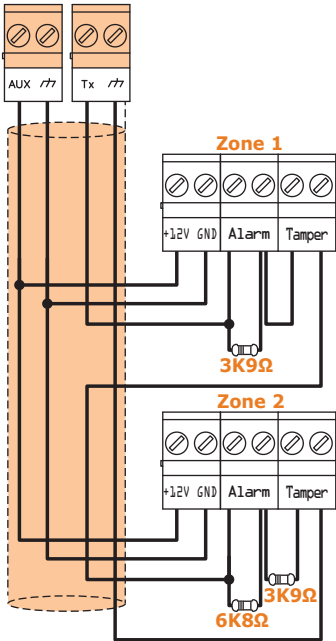
## Double Zone balancing with EOL

Double zones with EOL resistors can discriminate 6 conditions on the entire terminal:

- stand-by on both zones
- alarm on zone 1 and standby on zone 2
- alarm on zone 2 and standby on zone 1
- alarm on both zones
- tamper (wire cutting)
- tamper (short-circuit)

For each of these, the control panel reads different resistance values on the terminal, expressed below in Ohm.

Ohm	Zone 1	Zone 2 (double)
$> 2 \times 3900 + 6800$	tamper (wire cutting)	
$> 2 \times 3900 + 6800$	alarm	alarm
$3900 + 6800$	standby	alarm
$2 \times 3900$	alarm	standby
3900	standby	standby
0	tamper (short-circuit)	



### 3-6

## Wiring and balancing rollerblind/ shock sensors

It is possible to choose between two types of balancing for Rollerblind and Shock sensors:

- Normally closed (N.C.)
- Single balancing (NC with EOL)

The following table compares the protection level of rollerblind/shock sensors using the two balancing options provided by the control panel.

Table 3-7: Protection level

BALANCING	N.C.	Single balancing (N.C. with EOL)
Roller blind or Shock sensor	very low	high

If the rollerblind or shock sensor is connected to a terminal of a wireless device, the connection cable must be less than 2 meters long.

The roller blind sensor must generate pulses with a length of between 500µsec and 10msec.

## Normally closed (N.C.)

In this case, the alarm condition is revealed exclusively by the number of pulses (pulse count) the control panel detects on the terminal.

If this balancing method is applied, the control panel will be unable to detect tamper, wire-cutting or short-circuit.

The discriminated conditions are:

- standby
- alarm

The alarm condition is detected exclusively by the pulse count and sensitivity, in accordance with the programmed parameters (refer to the Programming manual, *paragraph 6-1 Zonas/ Entradas, Detector type*).

### 3-6-1

## Single balancing (N.C. with EOL)

In this case, the discriminated conditions are:

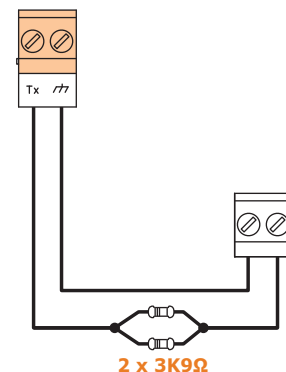
- standby
- alarm
- tamper (wire cutting)
- tamper (short-circuit)

For each of these, the control panel reads different resistance values on the terminal, expressed below in Ohm.

Ohm	Zone
$> 3900 / 2$	tamper (wire cutting)
$3900 / 2$	standby
0	tamper (short-circuit)

The alarm condition is detected exclusively by the pulse count and sensitivity, in accordance with the programmed parameters (refer to the Programming manual *paragraph 6-1 Zonas/ Entradas, Roller blind/Shock*).

### 3-6-2



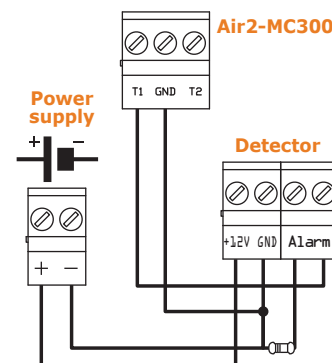
## Connection of wireless detectors

For the connection and deployment of wireless detectors refer to the installation manual of the Air2-BS200 transceiver.

For the connection and balancing of detectors connected to terminals **T1** and **T2** of the Air2-MC300 device, refer to paragraphs 3-5-1, 3-5-2, 3-5-3, 3-6-1 and 3-6-2.

It is necessary for the "GND" terminal of the Air2-MC300 device to be connected to GND (Negative) of the power supply of the detector connected to terminals **T1** or **T2**.

### 3-7



## Learn zone balancing

Once you have completed the wiring and configured the balancing of all the zones, you can instruct the control panel to save all the related parameters automatically, by activating the Learn zone balancing option (refer to the Programming manual, *Chapter 17, Parámetros de fábrica, Learn zone bal.*).

### 3-8

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The Self-balancing feature is a Registered patent.

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**Note**

## 3-9

# Connection of outputs

It is possible to set up the outputs to activate in response to the events the control panel manages.

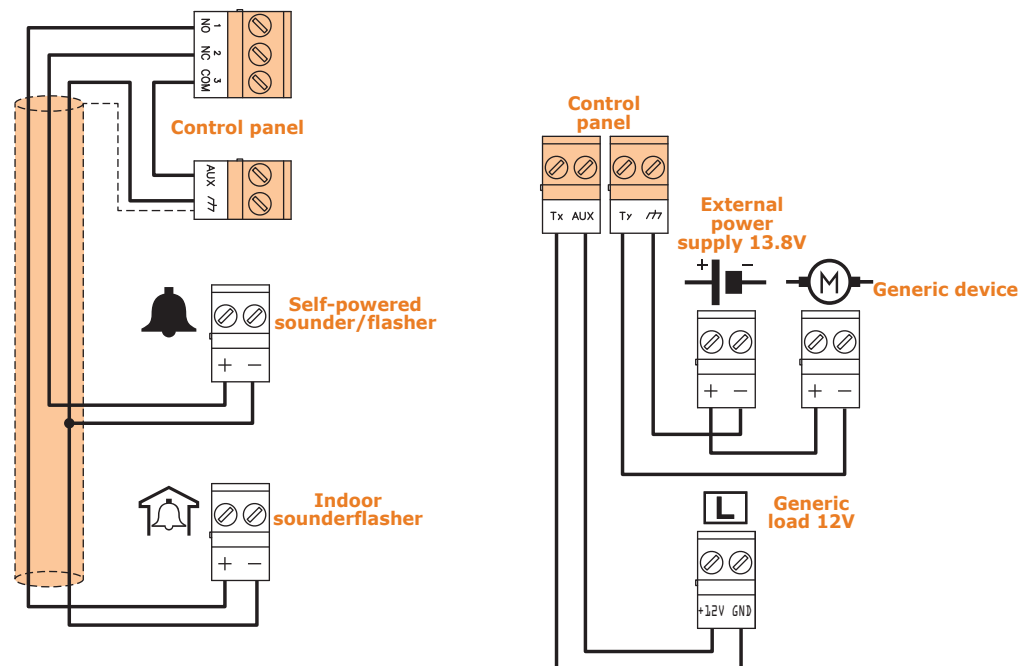
For the connection of the outputs to terminals **T1** e **T2** of the Air2-MC300 device, refer to the Installation Guide supplied with the Air2-BS200.

### 3-9-1

## Connection of sounders

In the event of intrusion alarm, the control panel activates the output which is connected to the audible/visual signalling devices. The relay output on the control panel motherboard is the alarm output which is most commonly used to drive a self-powered sounder.

The following wiring diagram shows the connection of a self-powered sounder (IVY manufactured by INIM) and an indoor sounder.



### 3-9-2

## Connection of open-collector outputs

With the exception of the relay output, all the control panel and Flex5/P and Flex5/U outputs are "open collector" outputs:

- **OC1** and **OC2** are open-collector outputs that sink maximum currents in accordance with the *Table 2-1: Control panels - electrical and mechanical features*.
- All the terminals configurable as outputs are open-collector outputs that sink a maximum current of 150mA.

The wiring diagram below illustrates a series of typical connections which activate the load of a Normally Open output when it closes to GND (r/r).

## 3-10

# Installation of add-on boards

### 3-10-1

## Flex5/U

The metal enclosures of Prime060S control panels are capable of housing two Flex5/U expansion boards. The enclosures of Prime060L, Prime120L and Prime240L control panels are capable of housing up to four.

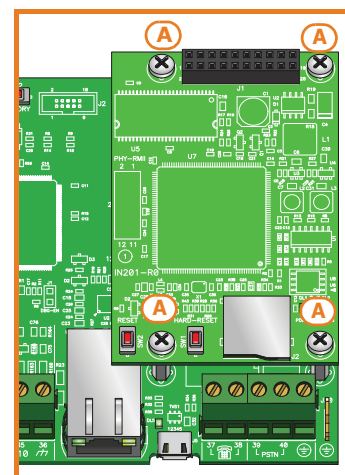
If you intend installing this type of board, work carefully through the following steps.

1. Disconnect the primary power supply to the control (230V~) and the buffer battery.
2. Secure the plastic enclosure of the Flex5/U to the backplate of the control panel (*Table 2-5: Control panels - description of parts, M*).
3. Connect it to BUS line as described in *paragraph 3-2-1 The I-BUS line wiring*.
4. Address it as described in *paragraph 3-3-4 Addressing FLEX5 expansion boards*.
5. Power up the control panel by reconnecting the mains power (230V~) and backup battery.

## PrimeLAN

The picture opposite shows the PrimeLAN mounted inside the enclosure. If you intend installing this board, work carefully through the following steps.

1. Disconnect the primary power supply to the control (230V~) and the buffer battery.
2. Remove the 4 screws from the motherboard fixing holes that coincide with the holes for the optional board (*Table 2-6: Mother board - description of parts, G*).
3. Replace the screws with the threaded metal spacers (supplied with the PrimeLAN board).
4. Insert the board making sure that the connectors on the back (*Table 2-33: PrimeLAN - description of parts, A*) coincide with the appropriate ones on the motherboard (*Table 2-6: Mother board - description of parts, F*).
5. Fix the 4 screws into the holes in correspondence with the spacers ([A], *Table 2-33: PrimeLAN - description of parts, H*).
6. Power up the control panel by reconnecting the mains power (230V~) and backup battery.



### Note

It is important to note that the e-mail service does not guarantee delivery time of e-mails and their attachments nor even their final delivery.



## Chapter 4

# First power up

On first power up, the control panel initializes the parameters at default (factory settings).

In addition, the control panel automatically enrolls all the peripherals it "sees" on the I-BUS (automatic addressing phase).

The default address of all expansions, keypads and readers is address 1, therefore, if the system is equipped with more than one of each type of device, the automatic enrolling operation will be erroneous.

In order to allow the system to perform an accurate auto-enrolling operation on "First power-up", work carefully through the following steps.

### ATTENTION!

**When wiring the system, ensure that no power from the mains (230V~) or backup battery reaches the control panel or any of its peripherals.**

1. Attach the control panel to the wall.
2. Complete the wiring of the peripherals to the BUS.
3. Connect the BUS wires to the control panel.
4. Complete the wiring and balancing of the system detectors.
5. Connect the detectors to the terminals.
6. Connect the outputs to the control panel and peripheral terminals.
7. Connect the control panel to the telephone line.
8. Connect the SmartLogos30M board to the appropriate connector on the control panel motherboard.
9. Insert the maintenance jumper in the "SERV" position.
10. Connect the primary power source (230V~).
11. Connect the buffer battery and the thermal probe.  
The first line of the display of each keypad in the system will show the 'Maintenance' message and the keypad address at default. On first power up (first startup), all the keypads will show "K01" (refer to *paragraph 3-1-9 Maintenance status*).

### Note

If several keypads are connected to the I-BUS, their displays may be blank. If this occurs, disregard this aspect and go directly to the next step.

12. Address the peripherals (refer to *paragraph 3-3 Addressing the peripherals*). At least one keypad must be assigned to address 1. Using keypad 1, initialize the addressing phase for nBy/S and nBy/X readers (refer to *paragraph 3-3-5 Addressing nBy readers*).
13. From the installer menu, start the self-enrolling process of zone balancing (refer to the Programming manual, *Chapter 17, Parámetros de fábrica, Learn zone bal.*).

### ATTENTION!

**During this phase it is essential that all partitions are at in stand-by status.**

14. If present, specify the expansion terminals simulated by the Air2-BS200 transceiver as "Wireless" terminals (refer to the Programming manual, *Chapter 6, Programación de los terminales*).
15. If the installation requires the use of a telephone communicator, program the telephone numbers for the voice and digital dialer (refer to the Programming manual, *Chapter 11, Programación del teléfono*).
16. Remove the maintenance jumper from the "SERV" position and place it in the "RUN" position.

# First operational test

## Chapter 5

A procedure is provided for an operational test on the Prime system after installation. The test consists in the violation of a "Delayed" type zone.

This procedure must be carried out only after the complete installation of the Prime control panel and of all the components that make up the entire installation. To do this it is advisable to follow the instructions provided in *Chapter 4, First power up*.

1. Make sure all partitions are in stand-by status.  
This status is signalled on the blue LED on the keypad or the blue icon on the Alien keypad when the latter is ON solid.
2. Enter the control panel programming phase and program the partition you intend to violate.



To program the zone to be tested, click-on the **Terminals** button. The "Programming" section on the right will show an illustration of all the terminals on the entire system.

By double clicking on the terminal concerned you will enter the terminal programming phase. Set "Delayed" as the "Type".

Type in Code (Installer), PROGRAMMING Terminals, select the terminal concerned  
or

Type-in Code (Installer), PROGRAMMING Zones, select the zone associated with the terminal concerned  
Once the section has been accessed, set the "Type" as "Delayed".

Via software



Via keypad

Terminal xyz
Description
Partitions
Type

3. Set up the telephone dialer to provide voice signalling of violation.

To program voice signalling via the telephone dialer, click-on the **Telephone** button. The "Programming" section on the right will show a list of all the available telephone numbers.

By selecting the telephone number "1" from the list, it is possible to modify the parameters. In this case it is necessary to enter the number to call and set the "Type" as "Voice".

Type in Code (Installer), PROGRAMMING Telephone, Number selected, "NUMERO 001".

Once in this section it is necessary to enter the number to call and set the "Type" as "Voice".

Via software



Via keypad

NUMERO 001
Number
Description
Type

4. Exit the programming phase and carry out an Away Arming operation.  
If the default programming has not been changed, it can be carried out as follows:

Activate the "Arm/Disarm" shortcut (shortcut no. 1) associated with the **F1 Fn** button shown on the display.

Via keypad



Press the **Scenarios** button. This section provides a list of the scenarios which can be activated by means of the **ACTIVATE** button.

Via Alien



5. Wait until the "Exit Time" expires (30 seconds by default).  
The keypads will emit a series of pulses (3 pulses + 5-second pause, 4 short pulses + 5-second pause during the last 20 seconds of the exit time).
6. Violate the programmed zone.
7. Being a "Delayed" type zone, the "Entry Time" will begin (30 seconds by default).  
The keypads will emit a series of pulses (8 pulses + 5 second pause).

TEST ENTRY TIME

8. If the arming scenario is still active when the entry time expires, alarm signalling will trigger:

- The visual and audible alarm signals will activate
- The red LED on the keypad or the red icon on the Alien interface will blink rapidly

TEST ALARM  
SIGNALLING



**DIALER TEST**

9. The control panel will carry out signalling by means of a voice call to the programmed number.

10. Perform a disarm partitions operation. This operation also stops any alarms. If the default programming has not been changed, it can be carried out as described below, following entry of the user code:

**Via keypad**

Activate the shortcut associated with **F2** button shown on the display. The shortcut will carry out a "Disarm" operation.

**Via Alien**

Press the **Scenarios** button. This section provides a list of the scenarios, activate scenario 2 "Disarm" by pressing the **ACTIVATE** button.

11. Delete alarm memories. If the default programming has not been changed, it can be carried out as described below, following entry of the user code:

**Via keypad**

Activate the "Delete memory" shortcut (shortcut no. 4) associated with the **F4** button shown on the display.

**Via Alien**

Press the **Menu** button, access the "Actions" section then press the **ON** button that corresponds to the "Delete alarm memory" operation.

Performing all the phases described above on a regular basis without problems is sufficient to confirm proper functioning and correct basic programming of the control panel.





ISO 9001 Quality Management  
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Centobuchi, via Dei Laboratori 10  
63076 Montepandone (AP), Italy  
Tel. +39 0735 705007 \_ Fax +39 0735 704912

info@inim.biz \_ [www.inim.biz](http://www.inim.biz)



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