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

GameOver

SmartLiving

Anti-intrusion control panel and security systems

Installation manual

inim

Warranty

Inim Electronics S.r.l. warrants that this product shall be free of defects in material and workmanship for a period of 24 months from the date of production.

In consideration of the fact that Inim Electronics does not install directly the products here indicated, and due to the possibility they may be used with other products not manufactured by Inim Electronics, Inim Electronics cannot guarantee the performance of the security installation. Seller obligation and liability under this warranty are expressly limited to repairing or replacing, at seller's option, any product not meeting its stated specifications. In no case can Inim Electronics be held responsible or liable by the buyer or any other person for any loss or damage, direct or indirect, 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 these products.

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover misuse or neglect, damage caused by fire, flood, wind, lightning, vandalism or wear and tear.

Inim Electronics shall, at its option, repair or replace any defective products. Improper use, that is, use for purposes other than those mentioned herein will void this warranty. For further details regarding this warranty contact the authorized dealer.

Limited Warranty

Inim Electronics S.r.l. shall not be liable for any damage caused by improper use of this product.

The installation and use of the products indicated herein must be carried out by authorized persons only. Moreover, the installation procedure must be carried out in full respect of the instructions provided in this manual.

Simplified EU declaration of conformity

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/EU:

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

The full text of the EU declaration of conformity is available at the following Internet address: www.inim.it.

Leading-edge systems (DM 37/08)

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 + A2:2017 + A3:2020 and EN 50131-5-3:2017, safety grade 2 (at highest) and an alarm transmission system (ATS) compliant with EN 50136-1:2012 + A1:2018 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 50131-6:2017 + A1:2021 (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.

Processing of personal data

SmartLiving control panels, by attributing them to installers and users registered with the Inim Cloud service, can be managed through dedicated web pages and/or apps available to both the installer and the end user.

In order to allow management of the control panel via Inim Cloud an explicit request is required from the users to whom the control panel is to be associated.

As soon as a control panel is connected to a LAN or a GSM/LTE network, it will be available on the Inim Cloud, however, until the association is explicitly requested by a user the data exchanged are:

- purely technical (in order to allow an association to a user in the future) and do not include any personal data
- always encrypted
- free from any correlation with personal data that may already be present in the Inim Cloud

The control panel events log becomes available only after associating the control panel with the users and can be viewed chronologically from the moment of such an association.

If you do not want to manage the control panel via Inim Cloud and/or do not want to allow any type of connection to Inim Cloud in advance, simply disable the connection with the service via programming.

Table of contents

Chapter 1 General information

1.1 Manufacturer's details

Manufacturer: Inim Electronics S.r.l.
Production plant: Centobuchi, via Dei Lavoratori 10
63076 Monteprandone (AP), Italy
Tel.: +39 0735 705007
Fax: +39 0735 734912
E-mail info@inim.it
Web: www.inim.it

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

1.2 Registered patents

The SmartLiving series of control panels include technology covered by the following patents:

- **Input/Output Terminals**: terminals "T1" and "T2" on-board the control panel can be configured by the installer as either input or output zones.
- **nBy/X proximity reader**: this reader has been especially designed to flush-mount to all models of light switch boxes.
- **Learn zone balancing**: under opportune conditions, this option allows the installer to start the process of automatic learning of the balancing of all the system zones, thus eliminating the task of entering the value of each zone in separately.

1.3 Operator Qualifications

Installer

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. It is the responsibility of the installer to instruct the user 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 (see "*Access Levels*").

User

The user or users are the occupants of the premises where the SmartLiving anti-intrusion system is installed. The users can arm and disarm the system or parts of it after valid authentication.

As a result of the extreme flexibility of the system, the most frequent operations can be carried out without prior authorization. This operating method must be expressly requested by the purchaser who must be made aware of the risks that this way of operating entails (false alarms, accidental arm/disarm operations, etc).

Each user is associated with a system access code. The code 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 some of the programming parameters

1.4 Access Levels

Specific legislation defines the following levels of access to the control panel, distinct from the limitations of system usability:

- **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 (expressly authorized by a user with level 2 access)
- **Level 4** - access by the manufacturer

1.5 Manuals

The manuals which are not supplied with the apparatus can be ordered, making reference to their respective codes, or downloaded from www.inim.it.

Installation and programming guide

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

This leaflet provides a quick guide to first startup, together with the wiring diagrams for the necessary connections, a table for the peripheral addresses, a quick guide to system programming as well as the default values of the programming parameters.

Installation manual (this manual)

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

It also contains the instructions for system commissioning

It is the responsibility of the installer to follow all the manufacturer's instructions in order to ensure proper functioning of the system and, at the same time, to comply with all the warnings relating to the active and passive security of the installation.

Programming manual

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

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

Software program

The SmartLeague software manual contains the description of the software and the instructions for its installation and use.

It is the responsibility of the person who programs the SmartLiving system to follow the instructions carefully and to ensure they have complete knowledge of the software in order to proceed swiftly and properly with the configuration and programming procedures.

User's manual

This manual contains instructions relating to the user interface of the SmartLiving control panel, its functions and use.

Supplied with every control panel, this manual must be given to the user who must be aware of and have fully understood all the system functions as well as the configuration set by the installer.

1.6 Documents for the users

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

Manuals can be downloaded free of charge from the web address www.inim.it, after authentication of credentials and by directly by accessing the page of each product.

1.7 About this manual

Manual code: DCMIINE0SLIVINGE

Revision: 710

1.8 Copyright

1.9 Terminology

Panel, control panel, device Refer to the main supervisory unit and any constituent parts of the SmartLiving security system.

Left, Right, Behind, Above, Below Refer to the directions as perceived by the operator when directly in front of the mounted device.

Qualified personnel 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.

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

Press Means click-on a video button or push a key on the control-panel keypad.

1.10 Graphic conventions

The following images represent the display of a control panel with an LCD screen and relative signalling. For other types of displays, it is necessary to refer exclusively to the notifications which are shown and not to the image shown:

Note The notes contain important information relating to the text.

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

DANGER!

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

Chapter 2 Control panels and modules

2.1 SmartLiving control panels

Models

SmartLiving 505,
SmartLiving 515,
SmartLiving 1050, SmartLiving 1050/G3,
SmartLiving 1050L, SmartLiving 1050L/G3,
SmartLiving 10100L, SmartLiving 10100L/G3

Compliance

- EN 50131-1:2006 + A1:2009 + A2:2017 + A3:2020
- EN 50131-3:2009
- EN 50131-6:2017 + A1:2021
- EN 50131-10:2014
- EN 50136-1:2012 + A1:2018
- EN 50136-2:2013
- EN 50130-4:2011 + A1:2014
- EN 50130-5:2011
- CEB T031:2017 + A1:2018 + A2:2022

Certification agency IMQ S.p.A.

Security grade 2 or 3 (in accordance with configurations, refer to *"ATS Categories"*)

ATS categories up to SP6 or DP4 (depending on the configurations, refer to *"ATS Categories"*)

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

Table 2.1: Control panel - main features

SmartLiving Control panel models	505	515	1050, 1050/G3, 1050L , 1050L/G3	10100L, 10100L/G3
Partitions	5		10	15
Total zones	10	30	100	200
Keypads	5		10	15
Voice memo slots	5		10	15
Expansions	5	10	20	40
Readers	10		20	30
Sounder/flashers	10			
Wireless transceiver	10		20	30
Digital keys and wireless command devices	50		100	150
Possible key combinations	4294967296			
Isolators	15			
GSM, GPRS, UMTS, HSPA and LTE communicator	1			
Codes	30		50	100
Scenarios	30			
Timers	10			20
Recordable Events	500		1000	
Programmable events	10		30	50

Table 2.2: Number of terminals

SmartLiving Control panel models		505	515	1050, 1050/G3, 1050L , 1050L/G3	10100L, 10100L/G3
Total terminals		10	15	50	100
Terminals on panel	total	5		10	
	configurable as inputs	5		10	
	configurable as rollerblind/shock	2			
	configurable as outputs	-		5	

SmartLiving Control panel models		505	515	1050, 1050/G3, 1050L , 1050L/G3	10100L, 10100L/G3
terminals on keypads		20		30	60
terminals on expansion boards	total	500			
	available	60	120	240	500
Outputs on control-panel motherboard	total	3			
	relay	1			
	open-collector output	2			

2.1.1 Package contents

Inside the package you will find:

- Metal box containing the mother board, power-supply (transformer or switching) and the LIVPWR100 board (IN140 for SmartLiving/G3 models), wired
- User's Manual
- Quick guide to installation and programming
- Plastic bag containing:

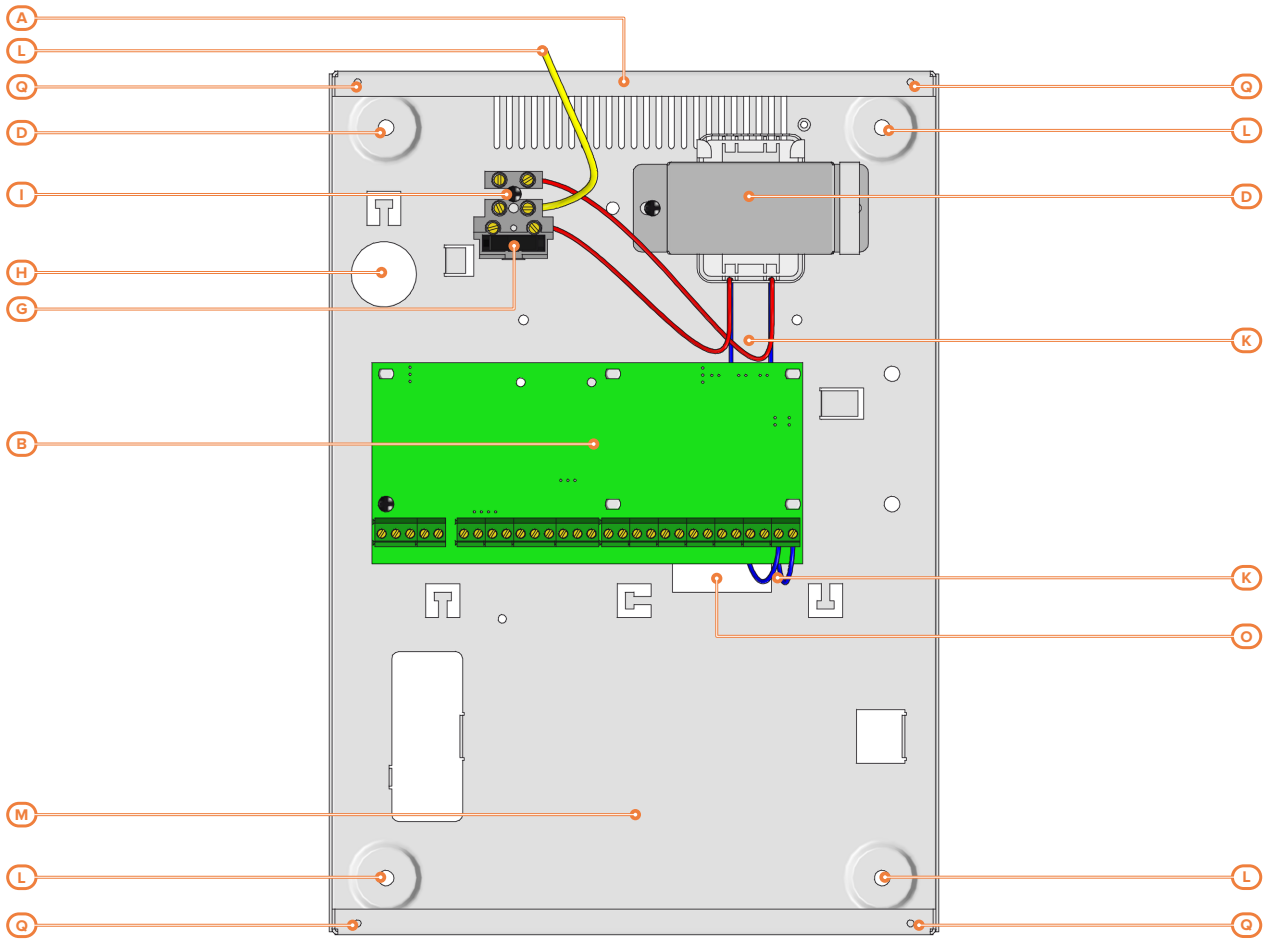
Table 2.3: Contents of the bag

SmartLiving Control panel models	505	515	1050, 1050/G3, 1050L , 1050L/G3	10100L, 10100L/G3
3k9 Ohm 1/4W resistors	10		20	
6k8 Ohm 1/4W resistors	10		20	
150Vrms varistors	2			
backup-battery wire	1			
eyelet terminal for the connection to earth	-		1	
thermal probe for optimization of the battery charging process	-			1
screws to secure the frontplate of the metal enclosure	4			
Sticker	1			

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

2.1.2 Description of parts

Following is an illustration of open SmartLiving control panels showing their assembled parts and completed wiring, as supplied.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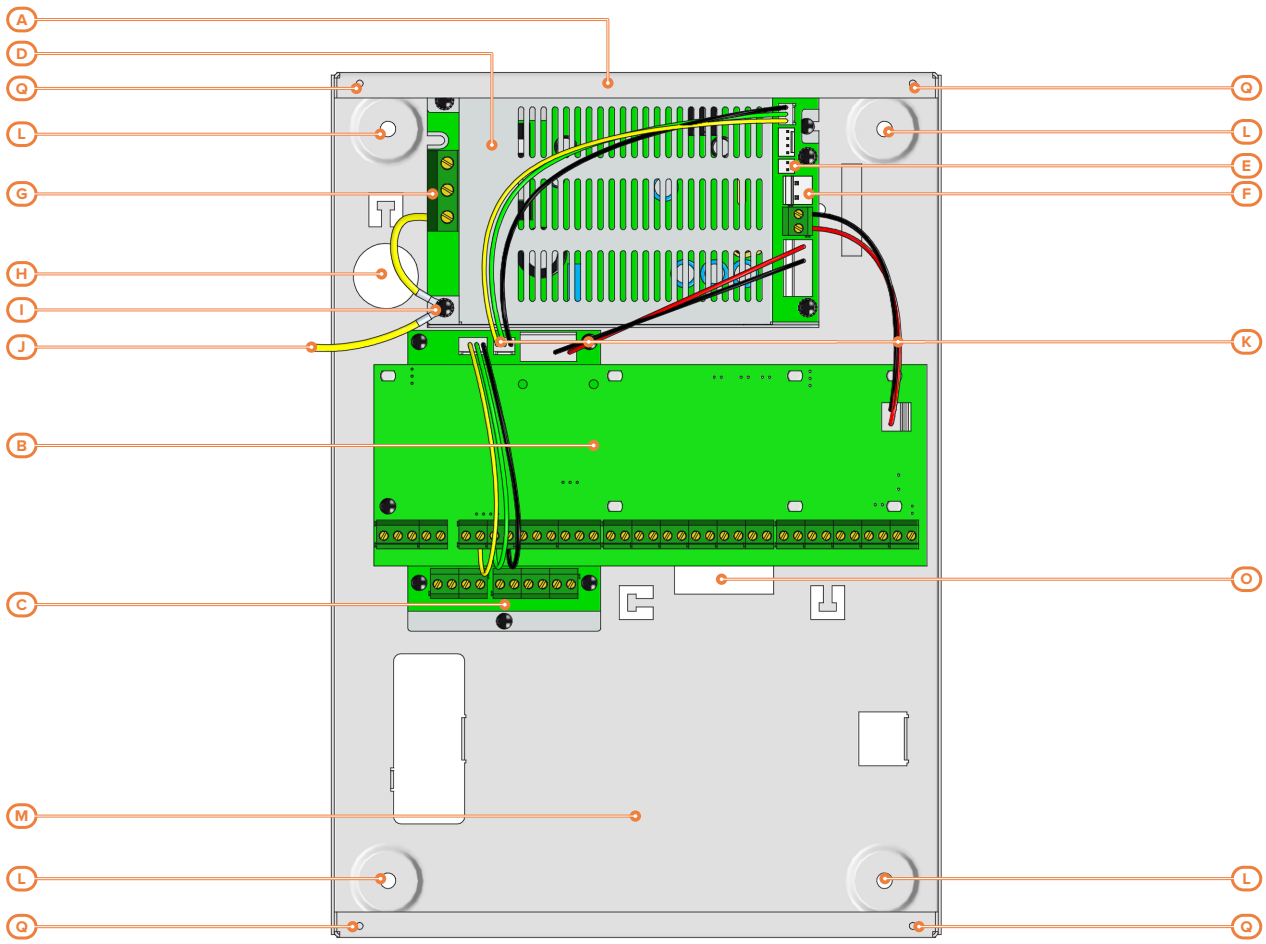
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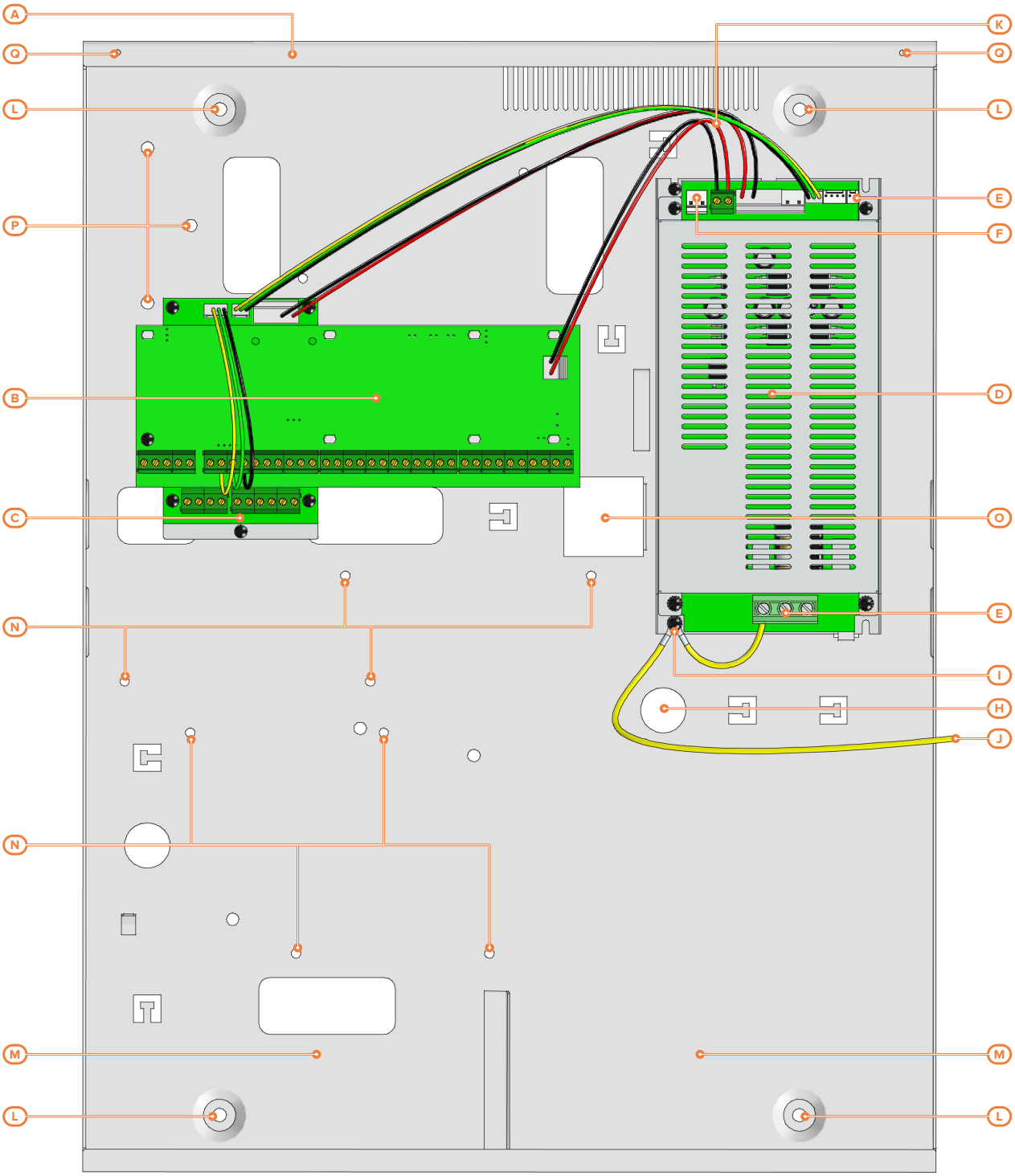
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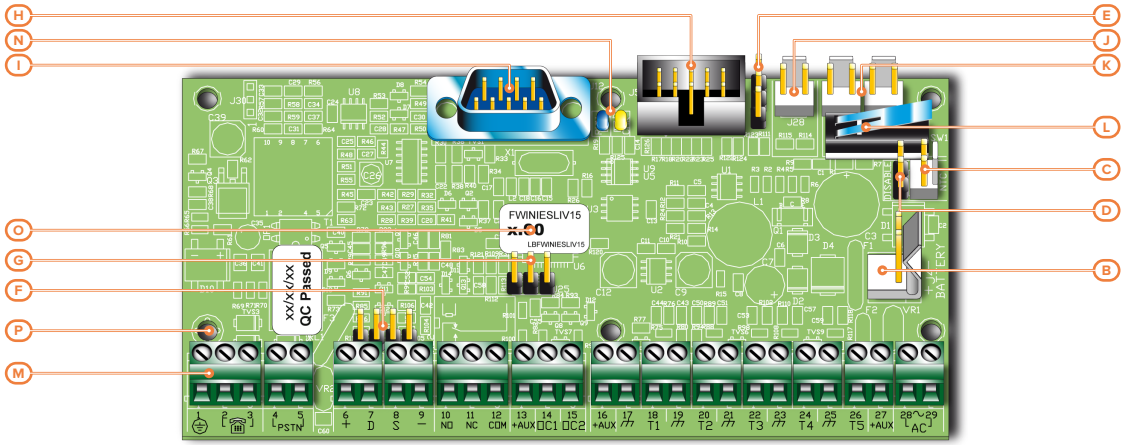
Table 2.4: Control panels - description of parts

SmartLiving models	505, 515	1050, 1050L	1050/G3, 1050L/G3	10100L	10100L/G3
[A]	Back plate of the metal enclosure				
[B]	Mother board				
[C]	-	-	LIVPWR100 board	-	LIVPWR100 board
[D]	Power adapter (Transformer)	Switching power supply			
[E]	-	Thermal probe connector			
[F]	Battery connector				
[G]	-	Mains input terminal board AC Input 230V ~ 50/60 Hz L N ⏚		Mains input terminal board AC Input 230V ~ 50/60 Hz ⏚ N L	
[H]	Mains cable entry				
[I]	Earth connection screw				
[J]	Earth wire for front plate				
[K]	Wires between transformer and control panel	Wires between switching-power and control panel			
[L]	Fixing-screw locations for the metal enclosure				
[M]	Compartment for backup battery				
[N]	Mounting holes for expansion board or Nexus				
[O]	Mounting hole for anti-tamper device				
[P]	Anchor-screw locations for AUXREL32 board				
[Q]	Mounting holes for the front plate of metal enclosure				



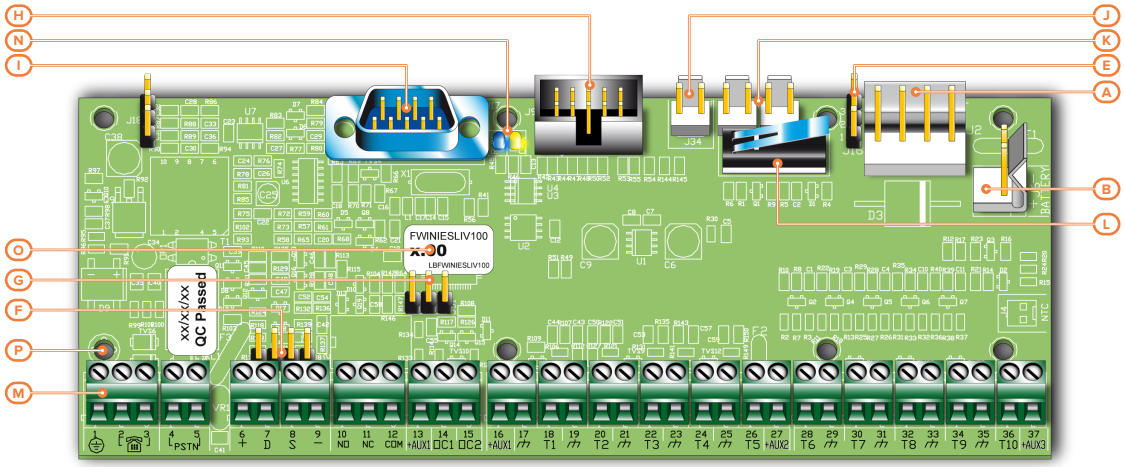


Table 2.5: Mother board - description of parts

SmartLiving models	505, 515	1050, 1050L, 10100L	1050/G3, 1050L/G3, 10100L/G3
[A]	-	Connector for power-supply cable between power-supply unit and control panel	
[B]	Backup-battery connector		Do not use
[C]	Thermal probe connector	-	
[D]	Thermal probe (enable/disable) jumper	-	
[E]	Connectors for the SmartLAN power-supply jumper		
[F]	Local I-BUS connector		Do not use
[G]	Connectors for Maintenance jumper		
[H]	Connector for SmartLogos30M voice-board		
[I]	Control panel to PC serial cable connector		
[J]	Dislodgement-tamper microswitch connector (accessory item)		
[K]	Open-panel tamper microswitch connector (accessory item)		
[L]	Open-panel tamper microswitch		
[M]	Terminal board		
[N]	Blue and yellow activity LEDs		
[O]	Firmware version label		
[P]	Earth connection screw		

Table 2.6: Mother board - terminal board

Terminal		SmartLiving models		
no.	icon / identifier	505, 515	1050, 1050L, 10100L	1050/G3, 1050L/G3, 10100L/G3
1	⏚	Earth connection		
2-3	☎	Internal telephone-line connection		
4-5	**PSTN**	Land-line connection (PSTN)		
6-7-8-9	**+ D S -**	I-BUS connection		
10-11-12	**NO NC COM**	Voltage-free contacts of relay output		
13	**+AUX +AUX1**	12V Ancillary power supply		
14-15	**OC1 OC2**	Open-collector outputs		
16	**+AUX +AUX1**	12V Ancillary power supply		
17-19-21-23-25	⏚	Power supply negative (earth or GND)		
18-20-22-24-26	**T1-T2-T3-T4-T5**	Control panel input/output terminals		
27	**+AUX +AUX2**	12V Ancillary power supply		
28-29	**AC**	Power supply input from the transformer	-	
28-30-32-34-36	**T6-T7-T8-T9-T10**	-	Control panel input/output terminals	
29-31-33-35	⏚	-	Power supply negative (earth or GND)	
37	**+AUX3**	-	12V Ancillary power supply	

Table 2.7: LIVPWR100 board - terminal board

n.	icon / identifier	function
1-2-3-4	**+ D S -**	I-BUS connection
10-11-12	**NO NC COM**	Voltage-free contacts of relay output
5	**+AUX1**	12V Ancillary power supply
7	**+AUX2**	12V Ancillary power supply
9	**+AUX3**	12V Ancillary power supply
6-8-10	⏚	Power supply negative (earth or GND)

Note

Use of the +AUX terminals on the mother board annuls standard 50131 - 3 compliance.

Attention!

Do not tamper with or disconnect any wiring that has been completed at the factory. In the event of the necessary replacement by the installer of one of the parts indicated 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.

2.1.3 Activity LED

The LEDs on the control panel motherboard (refer to *Description of parts, [N]*) can providing useful information regarding the proper operating capacity of the control panel and I-BUS. Specifically:

Blue LED

During normal operation of the control panel, the blue LED will blink rapidly.

On exiting the installer menu at the end of a programming session via PC, during reset of factory default settings and during reprogramming operations on the control panel and peripheral firmware, this LED may be either ON solid or OFF for the entire duration of the operation in progress. However, once the operation has been completed it should start blinking as previously described.

If the LED is ON or OFF permanently in situations other than those previously described, it indicates that all the functions of the control panel are blocked.

Shut the system down and contact your dealer immediately.

Yellow LED

During normal operation of the control panel and if the system has at least one peripheral on the I-BUS, the yellow LED will flicker. On exiting the installer menu at the end of a programming session via PC, during reset of factory default settings and during reprogramming operations on the control panel and peripheral firmware, this LED may be either ON solid or OFF for the entire duration of the operation in progress. However, once the operation has been completed it should start blinking as previously described.

If the system is completely without peripherals on the I-BUS, the yellow LED will be either ON or OFF permanently.

If the LED is ON or OFF permanently in situations other than those previously described, it indicates that the I-BUS is blocked. This condition can be confirmed by checking the loss of interactivity with readers, expansions or keypads.

Check the integrity of the I-BUS line.

2.1.4 Technical features

Table 2.8: Control panels - electrical and mechanical features

SmartLiving Control panel models		505	515	1050	1050/G3	1050L	1050L/G3	10100L	10100L/G3
Voltage	power supply	230V ~ -15% +10% 50/60Hz							
	nominal output	13.8 V⎓							
	output range	from 9 to 13.8V⎓							
Current draw	maximum	0.2A		0.5 A				1.1 A	
	of control panel motherboard	180mA @ 13.8V							
	of LIVPWR100 board	-	-	-	35mA @ 13.8V	-	35mA @ 13.8V	-	35mA @ 13.8V
Fault voltage on power outputs		-	-	-	9.8 V	-	9.8 V	-	9.8 V
Protection tripping voltage	from deep discharge	-	-	-	9.5 V	-	9.5 V	-	9.5 V
	from overload	-	-	-	15.4 V	-	15.4 V	-	15.4 V
Maximum power-supply voltage ripple		350 mV		550 mV	350 mV	550 mV	350 mV	200 mV	
PS type		A							
Maximum current on I-BUS		1,5 A				4 A			
IP protection grade		30							
Enclosure Dimensions (W x H x D)		21.5 x 30.5 x 8.5 cm				37.5 x 51 x 8.5 cm			
Weight (without battery)		2,5Kg		2,2Kg		5,3Kg			
Security grade	EN50131-3	3							
	EN50131-6	2	2	2	3	2	3	2	3

Table 2.9: Type SD and distribution of the currents

SmartLiving Control panel models			505	515	1050	1050/G3	1050L		1050L/G3		10100L	10100L/G3
SD type (backup battery)	rated voltage		12 V									
	maximum capacity	EN 50131-1	7Ah	7Ah	7Ah	7Ah	7Ah	17Ah	7Ah	17Ah	17Ah	17Ah
		T031	9Ah	9Ah	9Ah	9Ah	17Ah		17Ah		17Ah	17Ah
	maximum recharge time		24h (80% charged)									
	maximum internal resistor ($R_{i\ max}$)		-	-	-	1.50Ohm	-		1.50Ohm		0.50Ohm	
	low battery voltage		11 V									
	battery recovery voltage		11.5 V									
Maximum deliverable current @ 12V	total		1.2A	1,2A	3A	3.7A	3A		3.7A		6.2A	6.2A
	for external loads		530mA	530mA	500mA	130mA	500mA	1350mA	130mA	450mA	1350mA	450mA
Max. current available on each +AUX terminal	mother board		900mA		1350mA							
	LIVPWR100 board		-	-	-	2A	-		2A		-	2A
Maximum deliverable current to open-collector outputs			150mA		500mA							

Table 2.10: SPT (Supervised Premises Transceiver) consumptions

Consumptions	On-board PSTN	SmartLAN/G	SmartLAN/SI	Nexus Nexus/G	Nexus/4GU Nexus/4GP
Peak current	170mA	90mA	70mA	900mA	540mA
Hourly average current	16mA	85mA	65mA	115mA	85mA

(EN IEC 62368-1)		
Isolation class	**I**	
Terminal type	**AC input**	ES3, PS3
	BAT-, BAT+	ES1, PS2
	+ D S -	
	AUXn	ES1, PS1
	NO, NC, COM	ES1, PS2
	Tn, OCn	ES1, PS1
	Cn, NOn, NCn (AUXREL32)	ES1, PS2
	RS232	ES1, PS1
	Ethernet (SmartLAN)	ES1, PS1
	Antistrappo, antisabotaggio	ES1, PS1
	, PSTN	ES2, PS1

2.1.5 ATS Categories

SmartLiving control panels whether used alone or combined with any of the optional transmission devices constitute 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 maximum ATS categories achievable with SPT configurations and the main communication channel used together with the respective parameters are shown in the following tables.

Table 2.11: ATS categories based on configurations

SPT Configurations					SPT primary network interface	ATS categories	
SmartLiving control panels On-board PSTN	**Nexus**	**Nexus/G-4G**	**SmartLAN/G**	**SmartLAN/SI**		**Single Path (SP)**	**Dual Path (DP)**
✓					PSTN	2	-
✓	✓				PSTN or GSM	2	2
✓		✓			GSM/GPRS/UMTS/LTE	6	2
✓			✓		Internet	6	2
✓				✓	Internet	6	2
✓	✓		✓		Internet	6	2
✓	✓			✓	Internet	6	2
✓		✓	✓		Internet or GSM/GPRS/UMTS/LTE	6	4
✓		✓		✓	Internet or GSM/GPRS/UMTS/LTE	6	4

The table above explains the SPT interface when using only one module of the Nexus models:

- Nexus, GSM module
- Nexus/G, GSM and GPRS module
- Nexus/4G, GSM, GPRS and LTE module

Table 2.12: 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	

2.1.6 Environmental conditions

SmartLiving control panels must not be installed outdoors and operate properly under the following conditions:

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

The peripherals must not be installed outdoors and operate properly under the following conditions:

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

2.1.7 Events log memory

The control panel can store up to 4,000 events.

The control panel events are saved to a non-volatile semiconductor-memory which does not need to be powered to ensure data retention.

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

2.1.8 I-BUS interconnections

SmartLiving control panels are equipped with a 4-wire BUS for peripheral interconnections (2 power-supply wires and 2 data exchange wires, refer to "*Connecting to the I-BUS line*").

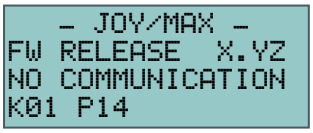
The intellectual property rights regarding the electrical, structural and protocol features of the BUS are the sole property of Inim Electronics S.r.l..

The I-BUS is not a RS485 differential BUS.

Communication I-BUS

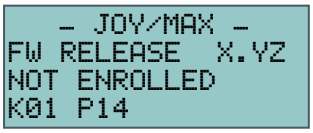
The control panel monitors the I-BUS continuously.

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 screen will show:



- keypad model
- keypad firmware version
- error type
- the number of the keypad and the number of the integrated reader

In this case, the installer must 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.

This indicates that the keypad is not present in the system configuration.

Note

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

In the case of Alien keypads, the above-mentioned information will be shown on the bottom bar on the home page.

2.2 Peripherals

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

- keypads (Joy, Aria/HG, nCode/G, Concept/G, Alien)
- readers (nBy)

- expansions (Flex5/SP, Flex5/SU, Flex5/R, Flex5/DAC)
- transceivers (Air2-BS200)
- sounder/flashers (Ivy-B, DS100)
- 2G/4G communicators (Nexus)
- isolators (IB200)

For the description of technical specifications and installation of the peripherals listed above, please refer to the relevant manuals included in the respective packages.

2.3 SmartLAN Ethernet interface board

The SmartLAN board, in SmartLAN/G and SmartLAN/SI models, allows extension of the connectivity of all the Inim Electronics control panels to LAN networks and the Internet or connection to the Cloud.

The operating capacity of the SmartLAN depends on the proper configuration of the networks it is connected to. Therefore, if you are installing a SmartLAN board, it is necessary to contact the network administrator in order to configure it correctly.

Both boards allow you to program the control panel parameters via the LAN through the SmartLeague software program.

The SmartLAN/G also allows users to:

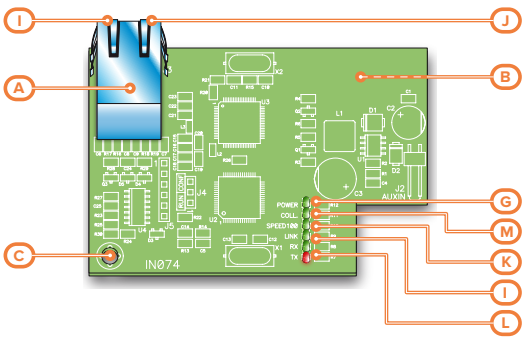
- sending e-mails with attachments in relation to the control panel events
- interaction with the control panel via any browser thanks to an integrated web server. The web interface, after user authorization, allows you to:
  - view status of zones
  - view status of outputs
  - view status of partitions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

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

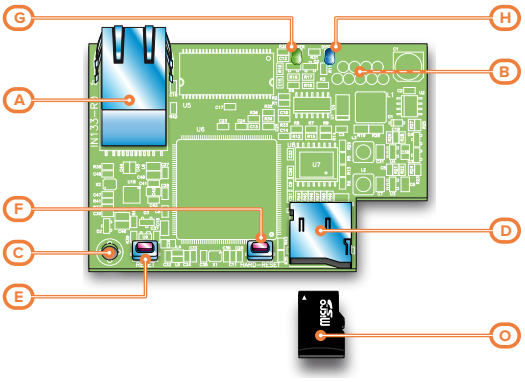
Note

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.

SmartLAN /SI



SmartLAN /G



[A]	RJ45 LAN line jack
[B]	DB9 serial line jack (on the back)
[C]	Fixing hole and earthing
[D]	µSD-card connector
[E]	'RESET' button
[F]	'HARD RESET' button
[G]	LED - board power
[H]	LED - connection between control panel and SmartLAN
[I]	LED - Network connection
[J]	LED - Network activity
[K]	LED - Connection speed at 100Mbps
[L]	LED - transmission/reception over BUS RS232
[M]	LED - Network collision
[N]	µSD-card (not included)

Table 2.13: SmartLAN - electrical and mechanical features

Models	SmartLAN/SI	SmartLAN/G
Voltage	12V⎓	
Maximum current draw	70mA	90mA
Maximum capacity of µSD-card	-	32 GByte
Security protocol	8-bit proprietary encryption	128-bit AES
Operating temperature	from -5 to +40 °C	
Dimensions (W x H x D)	81 x 54 x 25 mm	

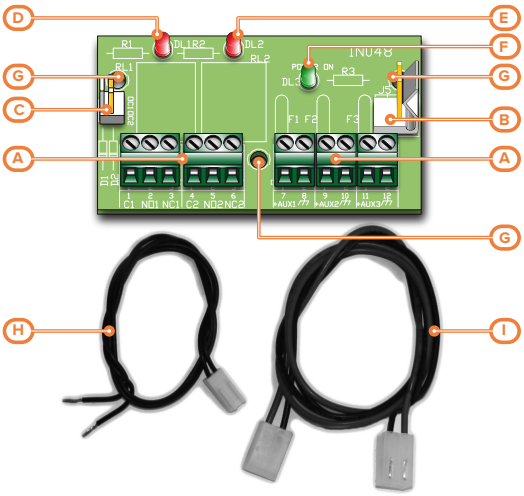
2.4 AUXREL32 Power distribution board

The optional power distribution board, AUXREL32, suitable only for SmartLiving models in large cabinets, provides two relays and allows the system to take full advantage of the current supplied by the switching power supply of the control panel.

Each relay, has a voltage-free contact identified by terminals C1-NO1-NC1 and C2-NO2-NC2. The relays are activated by the OC1 and OC2 outputs on the control panel.

The activation of each relay is signalled by the relevant LED on the board.

The 3 pairs of terminals are available, each protected by a resettable fuse (GND/AUX1 – GND/AUX2 – GND/AUX3), and each capable providing 12V@1A.



[A]	Terminal board
[B]	12V connector
[C]	OC1/OC2 connector
[D]	Relay LED 1
[E]	Relay LED 2
[F]	12V present LED
[G]	Mounting screw hole
[H]	OC1/OC2 connection wire (included)
[I]	12V power wire (included)

Table 2.14: AUXREL32 – terminal board

no.	icon / identifier	function
1-2-3	**C1-NO1-NC1**	Free voltage relay 1
4-5-6	**C2-NO2-NC2**	Free voltage relay 2
7-9-11	**+AUX1 / 2 / 3**	12V@1A screw terminals
8-10-12	⏚	Power supply negative (earth or GND)

Table 2.15: AUXREL32 - electrical and mechanical features

Voltage	12V⎓
Maximum current draw	3A
Operating temperature	from -5 to +40 °C
Dimensions (W x H x D)	42 x 78 x 20 mm

2.5 SmartLogos30M voice board

The optional SmartLogos30M voice board is necessary when voice functions are required by the control panel:

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

The voice mailbox manages 500 voice messages, of which 310 are pre-recorded.

The messages are arranged in such way as to produce event-related voice calls which clearly describe the related event.

2.6 Wireless systems

The Air2-BS200 wireless module allows the integration and management of wireless detectors, keypads, sounders, home-automation modules and remote-control keys in the hardwired environments of all models of SmartLiving intrusion control panels.

The module simulates:

- a reader, at a programmed address (ADD), which allows you to configure the remote control keys
- up to 10 expansion boards, at addresses ADD, ADD+1, ... ADD+9, capable of managing the terminals

Air2-BS200 allows the control panel to manage up to the following wireless devices: 4 keypads, 4 sounders.

Table 2.16: Technical specifications of Air2 system

Operating frequency	**range**	868.0 - 868.6MHz
	selectable channels	868.1, 868.3, 868.5 MHz
Maximum RF output power		25mW e.r.p.
Communication type		Two-way
Modulation		GFSK
Device monitoring		from 12 to 250 minutes

Note

In order to comply with the EN 50131-1 standards the alarm system supervision time must be below 120 minutes.

The installer has the choice of 3 transmission channels between modules. Changing the channel can be useful in situations in which wireless systems are close proximity (for example, in two adjoining apartments).

For the technical descriptions and installation instructions of Air2 devices, refer to the manuals included in the respective packages.

2.7 Certified items and conformity

The SmartLiving control panel and devices described in this manual are IMQ certified - Sistemi di sicurezza (IMQ S.p.A.) and conform to the above mentioned standards, when duly programmed, as described in the Programming manual .

The control panel enclosure in capable of housing the following certified items:

- INIM Electronics switching-power supply
- Motherboard (IN082 or IN088)
- SmartLogos30M voice board (accessory item)
- FLEX5/U input/output expansion board (accessory item)
- AUXREL32 relay board (accessory item)
- SmartLAN/SI and SmartLAN/G LAN interface boards (accessory items)
- GSM Nexus communicators, for all models (optional)
- IB200/U BUS isolator board (accessory item)
- ProbeTH thermal-probe kit for battery-charge optimization (accessory item)
- TamperNO tamper-protection kit (accessory item)
- Backup battery, 12V @ 7, 9 or 17Ah (depending on the control panel)
- Motherboard (IN082 and IN088) integrated Type B notification apparatus

The compliance of the control panel is also guaranteed when connected to the following certified devices:

- FLEX5/P input/output expansion boards
- Joy, Aria/HG, nCode/G, Concept/G, Alien keypads and their variants
- nBy/S outdoor-mount proximity readers
- nBy/X universal-mount proximity readers
- IB200/P and IB200/A BUS isolator
- nCard access-control card for proximity readers
- Tag for nKey or nBoss proximity readers
- Ivy self-powered sounder/flashers for outdoor installation, for all models
- Devices of the Air2 wireless system
- SmartLinkAdv communicators, for all models

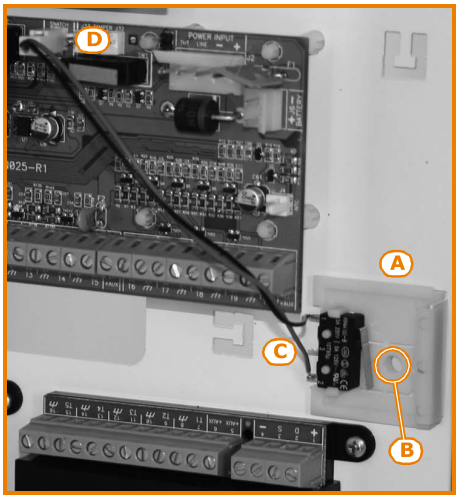
Chapter 3 Installation

3.1 Installing the control panel

3.1.1 Wall-mounting

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

1. Open the metal enclosure of the control panel by removing the front plate.
2. Mark the mounting holes in the corners on the metal back plate of the control panel (*Description of parts, [L]*) as well as the hole for the anti-tamper device (*Description of parts, [O]*).
3. Using the metal enclosure, mark the mounting holes on the wall. Drill the holes taking care not to drill in the vicinity of electrical wiring, plumbing or gas pipes, etc.
4. Insert a wall plug into each of the holes (recommended diameter 6mm).
5. Fit the control panel dislodgement-tamper protection (optional):



   i. Insert the dislodgement-tamper bracket *[A]* into its location on the backbox of the control panel.
   ii. Using screw location, screw the bracket to the wall where the box is mounted *[B]*.
   iii. Connect the wire coming from the dislodgement-tamper microswitch *[C]* to the connector *[D]* on the board (*Description of parts, [J]*).

6. Pull the cables through the cable entry.
7. Using the wall plugs, attach the enclosure to the wall.
8. Replace the front plate of the metal enclosure.

Note

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

3.1.2 Connecting the Mains power supply

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).

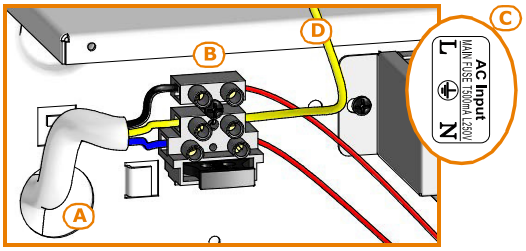
The circuit breaker (trip switch) must be positioned externally to the apparatus and should be easily accessible. The distance between contacts must be at least 3mm. The manufacturer strongly advises the use of a magnetothermic switch with C intervention curve and maximum nominal current - 16A.

The electrical earthing system of the site must be compliant with all safety standards and laws in force.

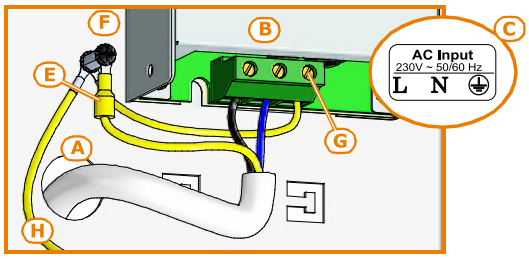
DANGER!

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

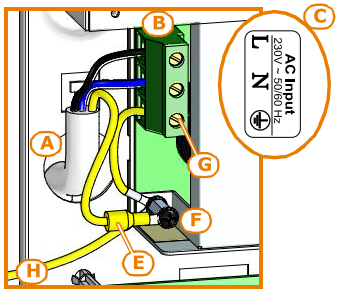
SmartLiving 505, 515



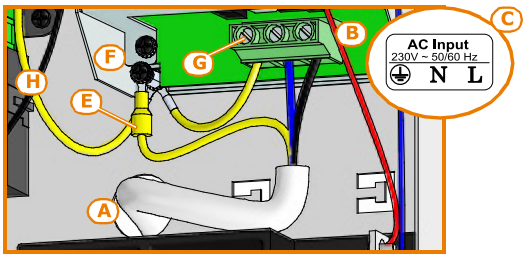
SmartLiving 1050L, 1050L/G3



SmartLiving 1050, 1050/G3



SmartLiving 10100L, 10100L/G3



1. Pull the power-supply cables through the cable entry [*A*].
2. Connect the mains power supply to the appropriate terminals *[B]* (*Description of parts, [G]*).
   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 low voltage security wires 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.

Note

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

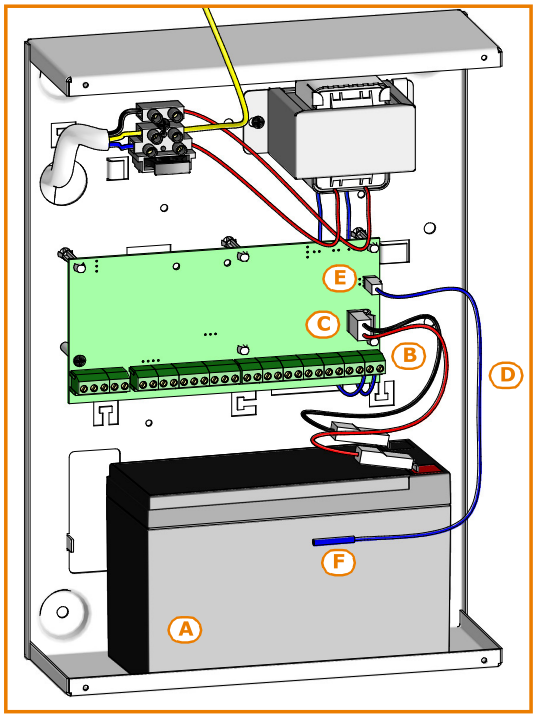
4. Crimp the earth wire to the eyelet terminal *[E]* (included).
5. Using the nut (supplied) attach the wire with the eyelet terminal to the earthing screw [*F]* (*Description of parts, [I]*) of the control panel.
6. Ensure that terminal "⏚" of the power supply module *[G]* and the front plate *[H]* are connected to earth.

Note

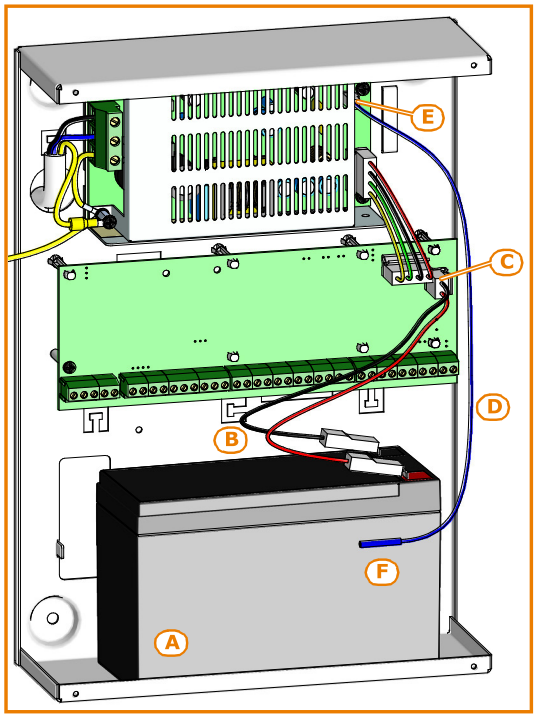
The installation must be carried out in accordance with the national regulations governing the equipment concerned and the power source must be supplied through a bipolar protection device. The power supply cables used for the product wiring must have an adequate section and must comply with standard IEC 60332-1-2 or IEC 60332-2-2.

3.1.3 Connecting the backup battery

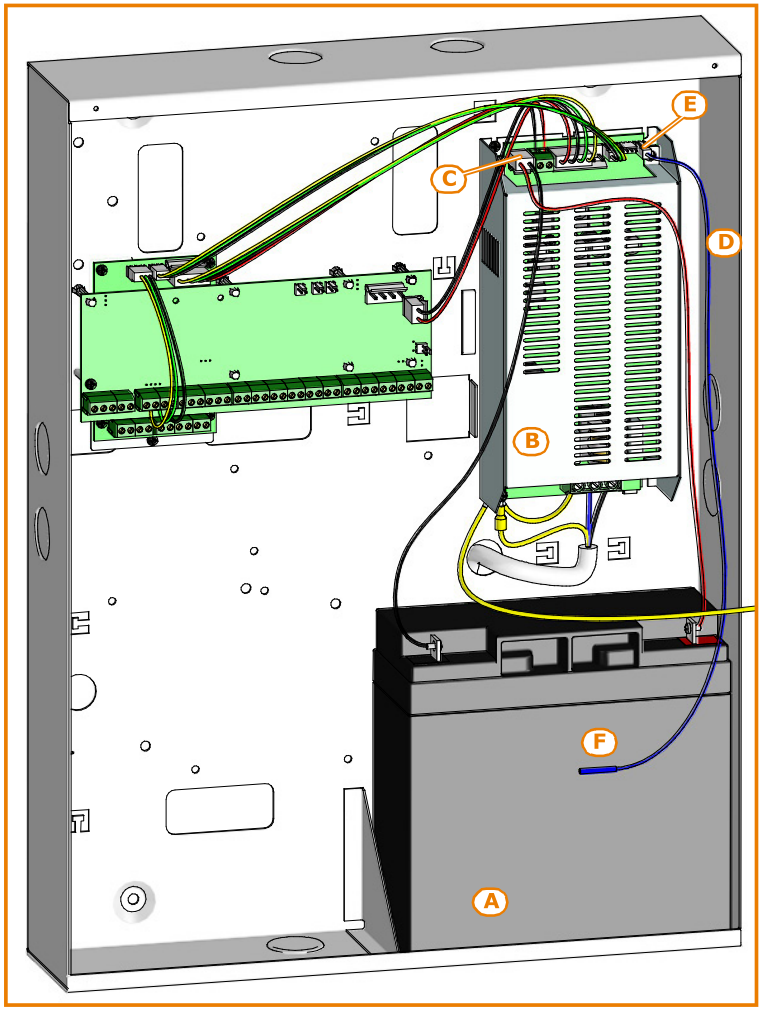
SmartLiving 505, 515



SmartLiving 1050L



SmartLiving 10100L/G3



Connection of the backup battery *[A]* must be carried out during the phase described in *"First startup"*.

The metal enclosure of the SmartLiving 505, 515, 1050, 1050/G3 control panel is capable of housing one lead battery @12V 7Ah or 9Ah.

The metal enclosure of the SmartLiving 1050L, 1050L/G3, 10100L, 10100/G3 control panel is capable of housing one lead battery @12V 17Ah.

Note

The battery casing must have HB flame rating or higher.
The backup batteries of the equipment power supply are not included. The installer must use only valve regulated lead-acid batteries (VRLA) for stationary use, compliant with IEC 60896-21 and IEC 60896-22 standards.

For the connection of the battery use the connection wire *[C]* supplied with the control panel.

Attention!

Ensure that the polarity of the battery is respected:

- **black wire = negative**
- **red wire = positive**

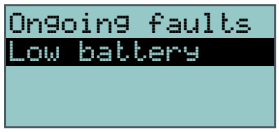
Connect the cable to the control panel using the appropriate connector *[C]*:

For SmartLiving 505, 515, 1050 and 1050L control panel models, the connector is on the motherboard (*Description of parts, [B]*).

For SmartLiving 1050/G3, 1050L/G3, 10100L and 10100L/G3 control panel models, the connector is on the power supply unit (*Description of parts, [F]*).

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 control 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 "Low Battery" event that will not clear until the voltage restores to over 11.4V.
In this case the yellow LED on the keypad will light up. To view the fault event, work through the following steps:
User menu, View, Faults

3.1.4 Thermal probe

A thermal probe *[D]* is available for compensation of the battery charge voltage based on the battery temperature. The thermal probe protects against battery overheating and consequent permanent damage to the battery.
To connect the thermal probe, work through the following steps:

1. Disconnect the battery.
2. Connect the thermal probe to the connector on the power supply *[E]*.
   For control panels equipped with transformers (SmartLiving 505 and 515), it is necessary to connect the probe directly to the connector on the motherboard (*Description of parts, [C]*).
3. If you are installing a SmartLiving 505 or 515 model, remove the jumper on the motherboard to enable the thermal probe (*Description of parts, [D]*).
4. Attach the thermal probe to the battery *[F]*, in such a way as to provide optimized heat-transfer measurements.

3.1.5 Opening and closing the control panel

To gain access to the control panel, it is necessary to remove the front plate of the metal enclosure and proceed as follows:

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 screws and the metal frontplate.
3. Insert the Maintenance jumper (refer to "*Maintenance mode*") and carry out the necessary work.

To close the metal enclosure work carefully through the previously mentioned steps in reverse order.

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

Note

If you exit the Installer menu before replacing the front plate, the control panel will not generate an "Open-panel" event immediately.
However, the system will generate an open-panel event, if the front plate is not replaced within 15 seconds of closing the open-tamper microswitch.

3.1.6 Maintenance mode

Maintenance status is signalled on the first line of keypad displays by the word "Maintenance" and the keypad address.
In the case of a keypad with an enabled integrated proximity reader, the reader address will also be shown.

- Kkk, keypad address
- PPP, reader address

During service/maintenance mode, the control panel:

- Forces the relay output on the motherboard ("*Mother board - terminal board*", "*10-11-12*") to stand-by status.
- Does not activate the outputs (and will force any active outputs to stand-by status) 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.
- It initializes automatically the auto-enrolling process of the peripherals connected to the BUS at 10 seconds intervals.
  The installer programs the addresses of the peripherals connected to the BUS and, at 10 second intervals, the control panel enrolls in the configuration the peripherals it finds.
- If there are any lost devices, the BUS will not be reset repeatedly in an attempt to retrieve them.
- It continues, except for the points mentioned above, to be operational in all of its functions.

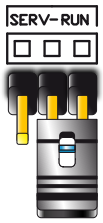
During maintenance mode, the Alien keypad:
Does not require user-code entry to access the sections which correspond to the "Settings" button.

- The first parameters shown in the "Settings - Alien" section are the addresses of the Alien keypad and its built-in proximity reader and the tamper enablement status of the keypad.
- It is not possible to access the "Climate" section.

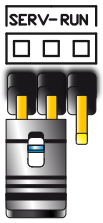
- The display shows the address of the Alien keypad and its integrated proximity reader in the top left-hand corner of the home page.
- The display shows the characters relating to the operating status of the partitions in the bottom left-hand corner of the home page.

The control panel can be placed in maintenance mode in one of the followings ways:

- Inserting the Maintenance jumper in the "SERV" position.
  The Maintenance jumper (*Description of parts, [G]*) can be inserted in two different positions:



"RUN"



"SERV"

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

- Enabling the "Maintenance" option
  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.

Via keypad

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.

Via software

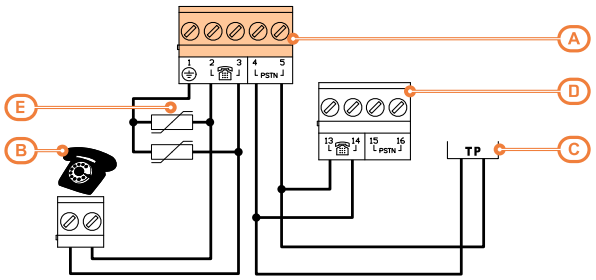
Select "SmartLiving System" from the tree menu on the left, then go to the "Parameters settings" template on the right.
The "Control panel parameters" section provides the "Maintenance" option, click-on this option to enable/disable it.

3.1.7 Connecting the Land-line (PSTN)

Connect the land line (PSTN) to terminals 4 and 5 on the control panel motherboard (*"Mother board - terminal board"*, *"Description of parts"*).
In order to protect the control panel against the discharge of atmospheric electricity, (lightning), the manufacture strongly advices the use of the two varistors (150VRM) included in the package. These varistors must be connected to the earth line 1 and terminals 4 and 5 of the landline (PSTN).

Table 3.1: PSTN connection

[A]	Control panel
[B]	Telephone device
[C]	Land line
[D]	SmartLinkAdv
[E]	Varistors 150Vrms



If you are installing the control panel 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.

SmartLinkAdv

SmartLinkAdv is a telephone dialer manufactured by Inim Electronics and is available in two versions, model G and model GP. Both devices monitor the analogue land line and in the event of 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. Following are several examples:

- 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 SMS text, which is programmable, can be automatically forwarded to ten different contact numbers.

All the functions of the SmartLiving system which use the PSTN line (voice dialer, answerphone, alarm receiving centre and teleservice) can be managed completely over the GSM network by the SmartLinkAdv. Of particular interest is the possibility of carrying out teleservice maintenance also through the GSM network.

Note

If an ADSL line is present, it is necessary to connect the control panel downstream of the ADSL filter on the line dedicated to telephone equipment (this line is clearly indicated on the filters).

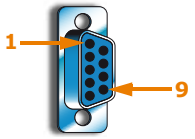
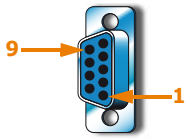
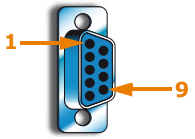
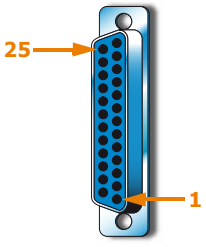
If the control panel is not equipped with a SmartLogos30M voice board, voice calls will produce a continuous beep for 30 seconds.

3.1.8 Connecting to a PC

The control panel can be programmed from a PC by means of the SmartLeague software programme and an RS232 serial cable.

To connect the PC, simply insert the RS232 cable link into the appropriate connector (*Description of parts, [I]*). If your PC is not equipped with an RS232 port, but has a USB instead, you can use Inim Electronics's Approved RS232-USB adapter (accessory item).

Table 3.2: RS232 connector cable

SmartLiving end		PC end
DB9F Connector		**DB9F Connector**
	2	3
	3	2
	4	4
	5	5
	6	6
	7	7
	8	8
		
DB9F Connector		**DB25F Connector**
	2	2
	3	3
	4	20
	5	7
	6	6
	7	4
	8	2
		

3.1.9 Connecting the SmartLogos30M board

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

1. Completely shutdown all power to the control panel by disconnecting the primary power source and the lead battery.
2. Insert the board into the appropriate connector (*Description of parts, [H]*).
3. Power up the system from the mains and reconnect the lead batteries.

3.2 Installation of peripherals

3.2.1 Connecting to the I-BUS line

The peripheral devices of the SmartLiving 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 shielded 4 wire (or more) cable.

Attention!

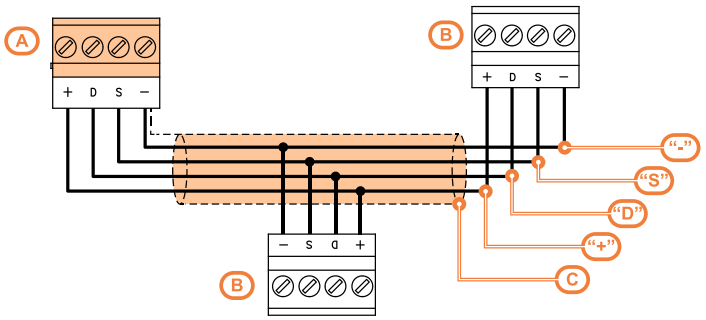
The shield must be connected to one of the terminals "⏚" (Negative or GND) at the control panel end only, and must run along the BUS without being connected to negative or GND at any other point.

The control panel connection is done using terminals "**+ D S -**" on the motherboard (*"Mother board - terminal board"*, *"6-7-8-9"*).

For SmartLiving 1050/G3, 1050L/G3 and 10100L/G3 models you must use the "**+ D S -**" terminals on the LIVPWR100 board (*"LIVPWR100 board - terminal board"*).

Table 3.3: I-BUS connection

[A]	SmartLiving control panel
[B]	Peripherals
[C]	Shield



Sizing

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

The factors are:

- The current absorption 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 3.4: Recommended cable

Cable AF CEI 20-22 II	n. wires	Section (mm^2)	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 using the SmartLeague software (38.4, 125 or 250kbs).

Table 3.5: BUS sizing

BUS speed	Maximum admissible length of the BUS
38.4kbps	1000m
125kbps	700m
250kbps	300m

- Number and distribution of IB200 isolators.
  To increase the reliability and the extension of the BUS, it is necessary to use isolators.

ISOLATORS

For proper installation of the isolator, and therefore of the BUS, it is necessary to size the BUS branch in which the isolator is located based on the number of peripherals connected to the

branch and their total current absorption. This absorption is therefore to be compared with the "Maximum absorption from the control panel" data.

Another feature is the length of the line that is downstream of the isolator up to the successive isolator or EOL. Following is a table with indicative values of the length depending on the BUS speed:

Table 3.6: Sizing of IB200 isolators

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

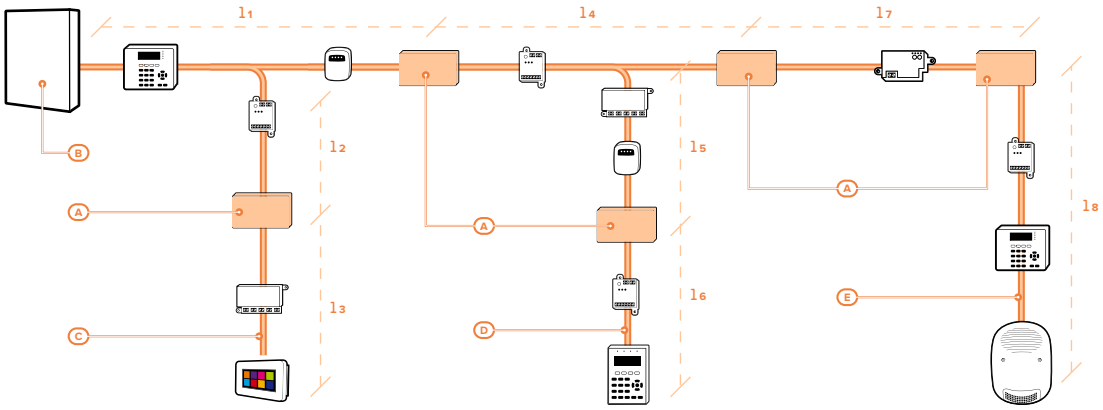
The lengths (L) shown here can be identified with:

the length of the cables between an isolator and the successive peripherals or, in the case of a single line, between two successive isolators.

the sum of the lengths of all the lines that start from an isolator and arrive at successive isolators or, in the case of branched lines, ending with peripherals.

For this purpose, we provide an example for a system with a BUS speed of 125kbps:

[A]	Isolator / power-supply station
[B]	Control panel
[C]	BUS branch: 1 isolator in cascade connection
[D]	BUS branch: 2 isolators in cascade connection
[E]	BUS branch: 3 isolators in cascade connection



Where:

- l1, l2, l3, l4, l5, l6, l7, l8< L
- l1 + l2 < L
- l4 + l5 < L

Note

The distances indicated in the tables are obtained under optimal wiring conditions and in respect of the points indicated above.

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

3.2.2 Addressing the peripherals

In order to allow the control panel to identify the peripherals distinctly, you must assign a different address to each device.

It is possible for two peripherals of different types to have the same address (for example address 3 for a Flex5/SU and also for a Joy keypad), while two peripherals of the same type must never have the same address.

Expansions address

0	Switch in 'OFF' position
1	Switch in 'ON' position

Address	Switch							
	1	2	3	4	5	6	7	8
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	1	0
4	0	0	0	0	0	0	1	1
5	0	0	0	0	0	1	0	0
6	0	0	0	0	0	1	0	1
7	0	0	0	0	0	1	1	0
8	0	0	0	0	0	1	1	1
9	0	0	0	0	1	0	0	0
10	0	0	0	0	1	0	0	1
11	0	0	0	0	1	0	1	0
12	0	0	0	0	1	0	1	1
13	0	0	0	0	1	1	0	0
14	0	0	0	0	1	1	0	1
15	0	0	0	0	1	1	1	0
16	0	0	0	0	1	1	1	1
17	0	0	0	1	0	0	0	0
18	0	0	0	1	0	0	0	1
19	0	0	0	1	0	0	1	0
20	0	0	0	1	0	0	1	1

Address	Switch							
	1	2	3	4	5	6	7	8
21	0	0	0	1	0	1	0	0
22	0	0	0	1	0	1	0	1
23	0	0	0	1	0	1	1	0
24	0	0	0	1	0	1	1	1
25	0	0	0	1	1	0	0	0
26	0	0	0	1	1	0	0	1
27	0	0	0	1	1	0	1	0
28	0	0	0	1	1	0	1	1
29	0	0	0	1	1	1	0	0
30	0	0	0	1	1	1	0	1
31	0	0	0	1	1	1	1	0
32	0	0	0	1	1	1	1	1
33	0	0	1	0	0	0	0	0
34	0	0	1	0	0	0	0	1
35	0	0	1	0	0	0	1	0
36	0	0	1	0	0	0	1	1
37	0	0	1	0	0	1	0	0
38	0	0	1	0	0	1	0	1
39	0	0	1	0	0	1	1	0
40	0	0	1	0	0	1	1	1

Transceivers address

0	LED Off
1	LED On
L	Flashing LED

Address	LED DL1 - red	LED DL2 - blue	LED DL3 - green	LED DL4 - yellow
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1
16	0	0	0	L
17	0	0	L	0
18	0	0	L	L
19	0	L	0	0
20	0	L	0	L
21	0	L	L	0
22	0	L	L	L
23	L	0	0	0
24	L	0	0	L
25	L	0	L	0
26	L	0	L	L
27	L	L	0	0
28	L	L	0	L
29	L	L	L	0
30	L	L	L	L

Readers address

0	LED Off
1	LED On
L	Flashing LED

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

Depending on the type of control panel installed, each type of peripheral has a maximum number of addresses that must not be exceeded.

In the first table the addresses available for the expansions are shown together with the DIP-switch configuration of the expansion board.

In the second table at each address of the nBy readers and of the transceivers is the combination of the reader LEDs.

For addresses higher than those shown in the tables and for the addressing procedures of individual devices, please refer to the respective manuals.

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

3.2.3 Fast addressing of keypads and readers

On access to the maintenance status ("*Maintenance mode*"), if the anti-tamper button of the control panel is pressed within 4 seconds (*Description of parts, [K]*), the SmartLiving control panel 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 mode.

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

3.2.4 Enroll peripherals

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

Automatic, from control panel in "maintenance" mode

Placing the control panel in "maintenance" mode (refer to "*Maintenance mode*") activates automatic enrolling of peripherals on the BUS at intervals of 10 seconds.

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

Automatic, from keypad

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

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

Automatic, at first startup

The peripherals connected to the BUS are enrolled automatically at first start-up (see "*First startup*").

Manual, via software

Once you have opened the solution of the system to be designed, go to the "Design" section on the right where the icons of the available peripherals are shown.

To add a peripheral to the configuration simply double click on the relevant icon. In the section on the left you can increase the number using the button corresponding to the selected device type.

To remove a device from the structure, right-click on the relevant item in the menu tree on the left, then from the list that appears select "Delete".

Manual, from keypad

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

Type-in Code (Installer), PROGRAMMING Type of peripheral, Enable/Disable

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

Note

The Self-balancing feature is a Registered patent.

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

Attention!

The resistors used must be connected directly to the detector terminals, never to the terminals of the control panel or peripherals.

The resistors used for balancing are:

- 3K9Ohm 1/4W (orange, white, red, gold)
- 6K8Ohm 1/4W (blue, grey, red, gold)

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

Table 3.7: Protection level of alarm sensors

Balancing	Infrared	Double technology	Magnetic contact
Normally Open (N.O.)	very low	very low	very low
Normally Closed (N.C.)	low	low	low
single	medium	medium	medium
Double zone	high	high	-
double zone	medium	medium	medium
double zone with EOL	high	high	high

Note

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.

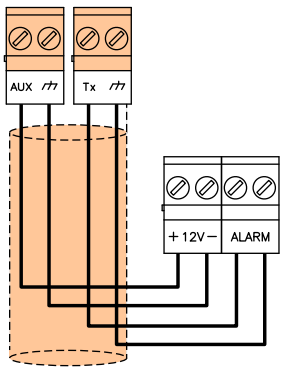
3.3.1 N.C./N.O. Balancing

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

- stand-by
- alarm

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

Ohm	N.C.	N.O.
> 2 x 3900 + 6800	alarm	stand-by
> 2 x 3900 + 6800	alarm	stand-by
3900 + 6800	alarm	alarm
> 2 x 3900	alarm	alarm
3900	stand-by	alarm
0	stand-by	alarm



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

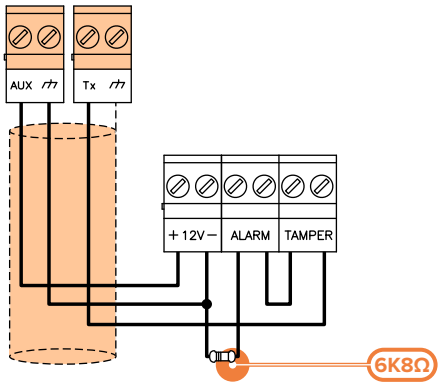
3.3.2 Single balancing

Single zones can discriminate 3 conditions on the entire terminal:

- stand-by
- 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	stand-by
0	tamper



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

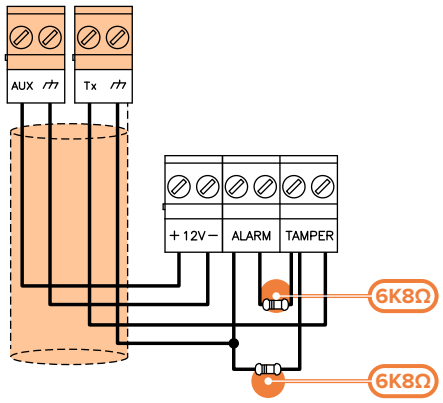
3.3.3 Double balancing

Double balancing discriminates 4 distinct conditions on the zone terminal:

- stand-by
- 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	stand-by
0	tamper (short-circuit)



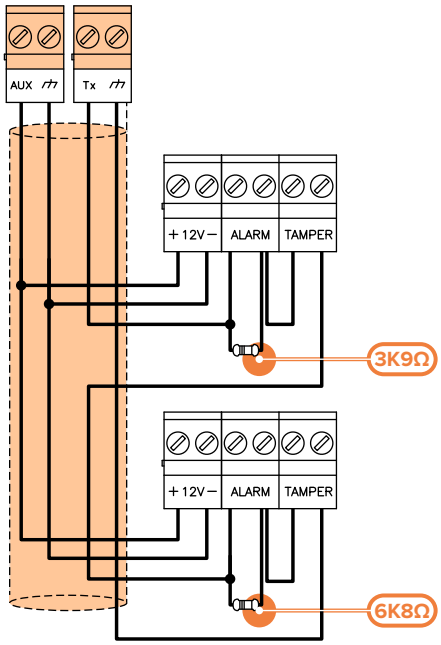
3.3.4 Double zone balancing

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 stand-by 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	Zona1	Zone 2 (double)
> 3900 + 6800	tamper	tamper
3900 + 6800	alarm	alarm
6800	stand-by	alarm
3900	alarm	stand-by
0	stand-by	stand-by



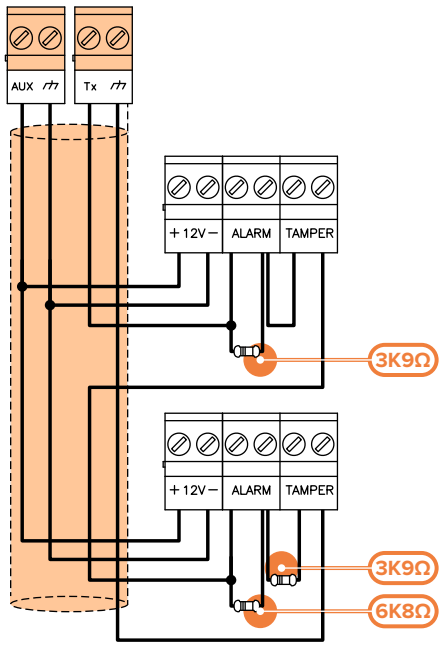
3.3.5 Double zone balancing with EOL

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 stand-by 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	Zona1	Zone 2 (double)
> 2 x 3900 + 6800	tamper (wire cutting)	tamper (wire cutting)
> 2 x 3900 + 6800	alarm	alarm
3900 + 6800	stand-by	alarm
2 x 3900	alarm	stand-by
3900	stand-by	stand-by
0	tamper (short-circuit)	tamper (short-circuit)



3.4 Connecting and balancing roller blind/shock sensors

It is possible to choose between two types of balancing for roller-blind and shock sensors:

- normally closed (N.C.)
- single balancing (NC with EOL)

The following table compares the protection level of roller-blind/shock sensors using the two balancing options provided by the control panel:

Table 3.8: Protection level of roller blind sensors

Balancing	Level
Normally Closed (N.C.)	very low
single balancing (N.C. with EOL)	high

If the roller-blind 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.

3.4.1 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:

- stand-by
- alarm

The alarm condition is detected exclusively by the pulse count and sensitivity, in accordance with the programmed parameters.

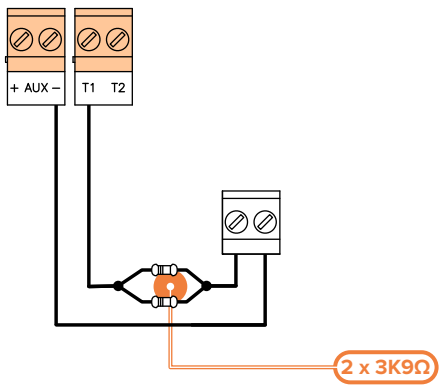
3.4.2 Single balancing (N.C. with EOL)

In the case of balancing with a single termination resistor, it is possible to detect 3 distinct conditions on the zone:

- stand-by
- 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	stand-by
0	tamper (short-circuit)



The alarm condition is detected exclusively by the pulse count and sensitivity, in accordance with the programmed parameters.

3.5 Learn zone balancing

After connecting and balancing all the zones, the installer can start the auto-enrolling phase of balancing value, thus avoiding the manual setting of each individual balancing value (refer to the Programming manual).

Note

The Self-balancing feature is a Registered patent.

3.6 Connecting the outputs

In correspondence with any event recognized by the control panel it is possible to activate one or more outputs.

3.6.1 Connection of open-collector outputs

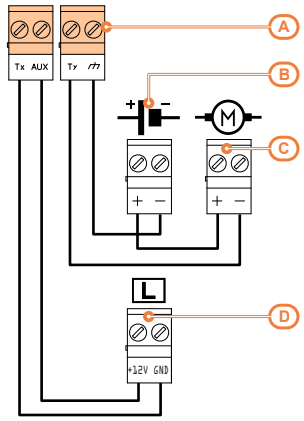
With the exception of the relay output, all the control panel and Flex5/SP and Flex5/SU outputs are "open collector" outputs:

- **OC1** and **OC2** are open collector outputs capable of driving maximum currents in accordance with the "*Technical features*".
- All the terminals configurable as outputs are open-collector outputs that sink a maximum current of 150mA.

Following you will find examples of typical connections for the activation of a load when closing to ground (⏚) a Normally Open output.

Table 3.9: Output connection

[A]	Control panel
[B]	External power supply 13.8V
[C]	Generic device
[D]	Generic load 12V



3.6.2 Connecting the sounders

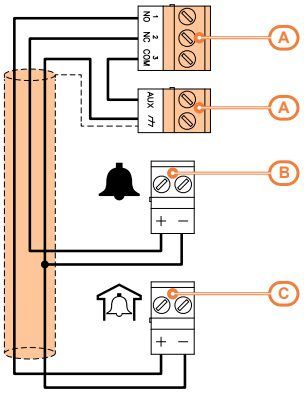
In the event of an intrusion alarm, the control panel will activate the output which is connected to the audible/visual signalling devices.

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 and an indoor sounder.

Table 3.10: Connection of sounders

[A]	Control panel
[B]	Self-powered sounderflasher
[C]	Indoor sounderflasher



3.7 Installation of add-on boards

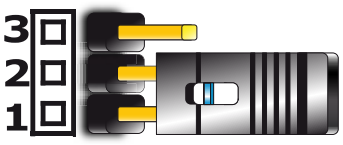
3.7.1 Installing the SmartLAN board

The SmartLAN board allows SmartLiving control panels to extend their connectivity to Ethernet and Internet networks.

The operating capacity of the SmartLAN depends on the proper configuration of the networks it is connected to. It is therefore recommended that you contact the network administrator regarding the procedures for correct installation and configuration.

Shown here is the SmartLAN/SI board mounted inside the box. If you intend installing this board, work carefully through the following steps.

1. Disconnect the primary power supply to the control (230V~) and the backup battery.
2. Remove the earth connection screw *[A]* (*Description of parts, [P]*) from its location and replace it with the metal spacer (included).
3. Align the screw location on the board with the support and serial connector on the backplate *[B]*, with the connector on the SmartLiving board (*Description of parts, [I]*).
4. Fasten the screw *[A]* on the support.



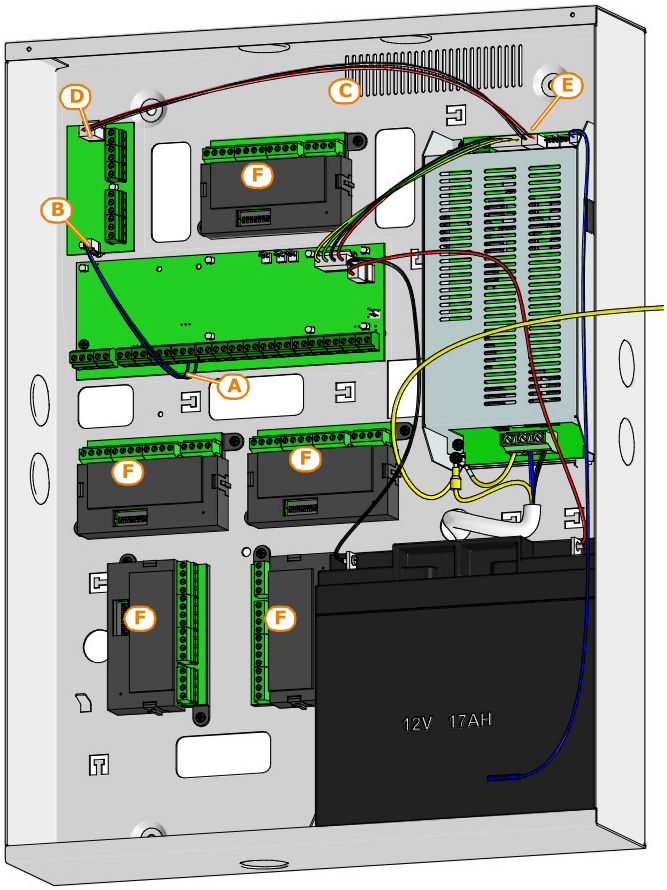
5. Insert the board power jumper between pins 1 and 2 of the connector (*Description of parts, [E]*).
6. Power up the control panel by reconnecting the mains power (230V~) and backup battery.

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.

3.7.2 Installing the AUXREL32 board

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



1. Disconnect the primary power supply to the control (230V~) and the backup battery.
2. Insert the plastic supports into their respective locations (*Description of parts, [P]*) on the back of the metal enclosure.
3. Position the board holes on the supports and push the board towards the back of the enclosure until it locks into position.
4. Insert the cable *[A]* into the connector *[B]*.
5. Connect the two free wires of the cable *[A]* to terminals 14 ("OC1") and 15 ("OC2") on the control panel motherboard. Ensure that "OC1" and "OC2" on the control panel are appropriately connected (*AUXREL32 board, [C]*).
6. Connect the wire *[C]* to the connector *[D]* and to the 2 free pins *[E]* of the connector on the switching power-supply, as shown in the figure.

3.7.3 Installation of boards in large cabinet

Inside the enclosures of the SmartLiving 1050L, 10100L, 1050L/G3 and 10100L/G3 control panels it is possible to house peripherals, depending on their size, such as Flex5/S or Nexus *[F]*.

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 backup battery.
2. Secure the plastic enclosure of the peripheral via the threaded holes on the back plate (*Description of parts, [N]*).
3. Connect it to BUS line.
4. Address the device.
5. Power up the control panel by reconnecting the mains power (230V~) and backup battery.

Chapter 4 First startup

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

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

At the factory, all peripherals are configured at address 1, if a system is equipped with more than one peripheral of each type, it is evident that on first power-up auto-enrolling will not be successful.

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 Internet:
   - LAN connection, via SmartLAN
   - GSM connection, by means of Nexus appropriately programmed with a valid APN associated with the SIM card in use
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.
12. The control panel starts up.
    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 *"Maintenance mode"*).

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.

13. Address the peripherals (refer to *"Addressing the peripherals"*). At least one keypad must be assigned to address 1. Using keypad 1, initialize the addressing phase for proximity readers.
14. If useful, from the Installer menu, start the step-by-step guided "Wizard programming" procedure which allows the programming of all the main parameters of the system (refer to "Fast programming from the keypad (Wizard)").
    This point allows you to jump successive points and go to the last point, otherwise continue with the following point.

15. From the installer menu, start the self-enrolling process of zone balancing (refer to the Programming manual, *"Factory settings"*," *Learn zone bal.*").

Attention!

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

16. If present, specify the expansion terminals simulated by the Air2-BS200Air2-BS200X transceiver as "Wireless" terminals (refer to the Programming manual, *"Programming terminals"*).
17. Edit the voice and/or digital dialer contact numbers.
18. Remove the jumper from the "SERV" position and place it in the "RUN" position.

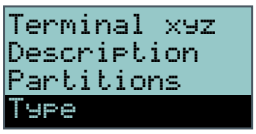
Chapter 5 First operational test

A procedure is provided for an operational test on the SmartLiving 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 SmartLiving 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 *"First startup"*.

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 when the latter is ON solid .
2. Enter the control panel programming phase and program the partition you intend to violate.

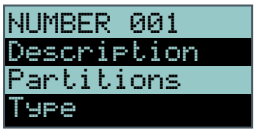
Via keypad



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".

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

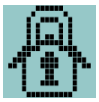
Via keypad



Type in code (Installer), PROGRAMMING Telephone, Select number, "NUMBER 001".
Once in this section it is necessary to enter the number to call and set the "Type" as "Voice".

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:

Via keypad



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

Via Alien

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

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.

Entry time

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 alarm signalling

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 will blink rapidly

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" command.

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.

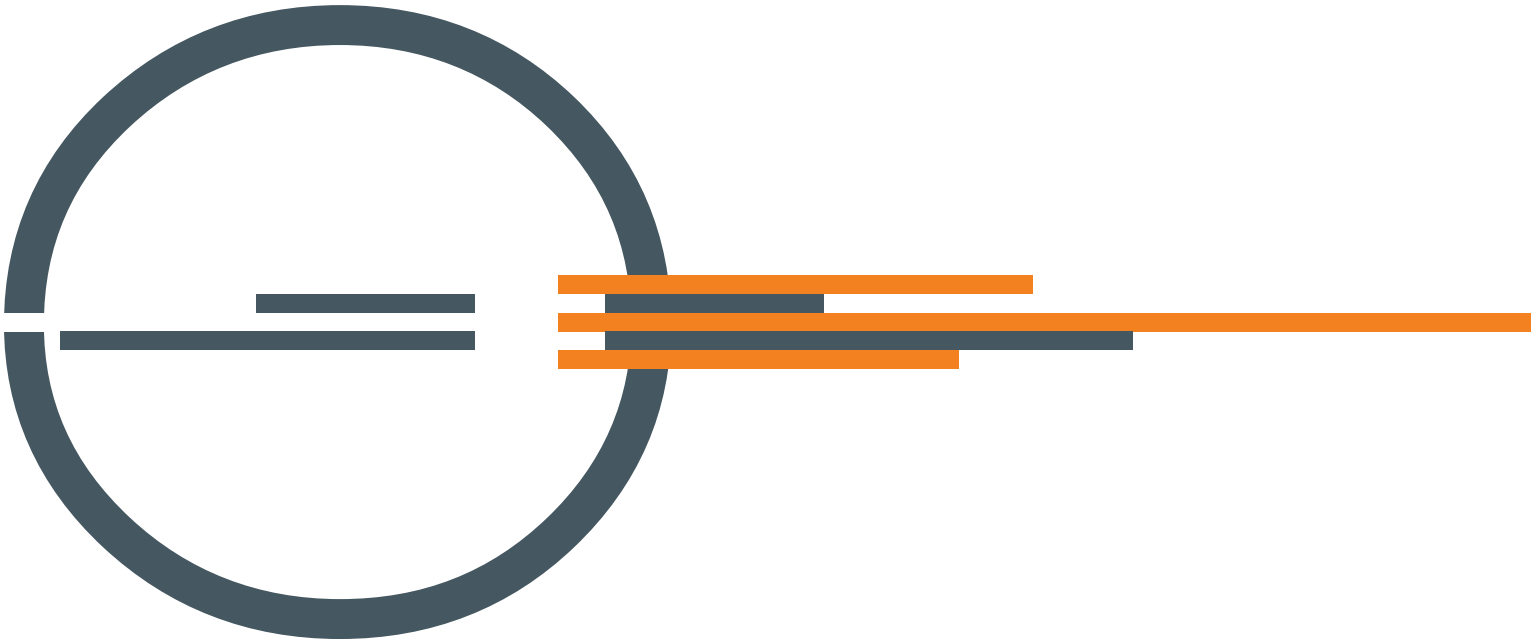
Disposal of the product

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

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

Information about disposal of batteries and accumulators (applicable in Countries with separate collection systems)

This marking on batteries and/or their manual and/or their packaging, indicates that batteries of this products, at the end of their working life, should not be disposed of as unsorted municipal waste, but must be object of a separate collection. Where marked, the chemical symbols Hg, Cd o Pb indicate that the battery contains mercury, cadmium or lead above the reference levels of the directive 2006/66/EC. If batteries are not properly disposed of, these substances, together with other ones contained, can cause harm to human health and to the environment. To protect human health and the environment, to facilitate treatment and recycling of materials, separate batteries from other kind of waste and use the collection scheme stated in your area, in accordance to current laws. Before disposing of the above, it's appropriate to remove them from their holders avoiding to damage them or causing short circuits.



Evolving Protection

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DCMIINE0SLIVINGE-710-20250127