

SAFETY WARNINGS



The device must be installed in a place with limited access.

The device must be connected to AC power supply with Protective Earthing. Cable colors and purpose: Phase or Live line (L) - black or brown cable, Neutral line (N) - blue cable, Protective Earth line (PE) - green cable with a vertical yellow stripe. Please use only double isolated cables with a cross-sectional area of no less than 0,75 mm² for the 230V power supply.

The device uses two power supplies: main and back-up.

Main power supply: a power transformer with:

- primary winding: ~230V, 50 Hz;
- secondary winding: ~20V, 1.5A, 50Hz.

Back-up power supply: 12V, 7Ah/20HR capacity, rechargeable hermetically sealed Lead-Acid battery.

SECOLINK intruder alarm system is compliant with EN 62368-1 safety requirements.

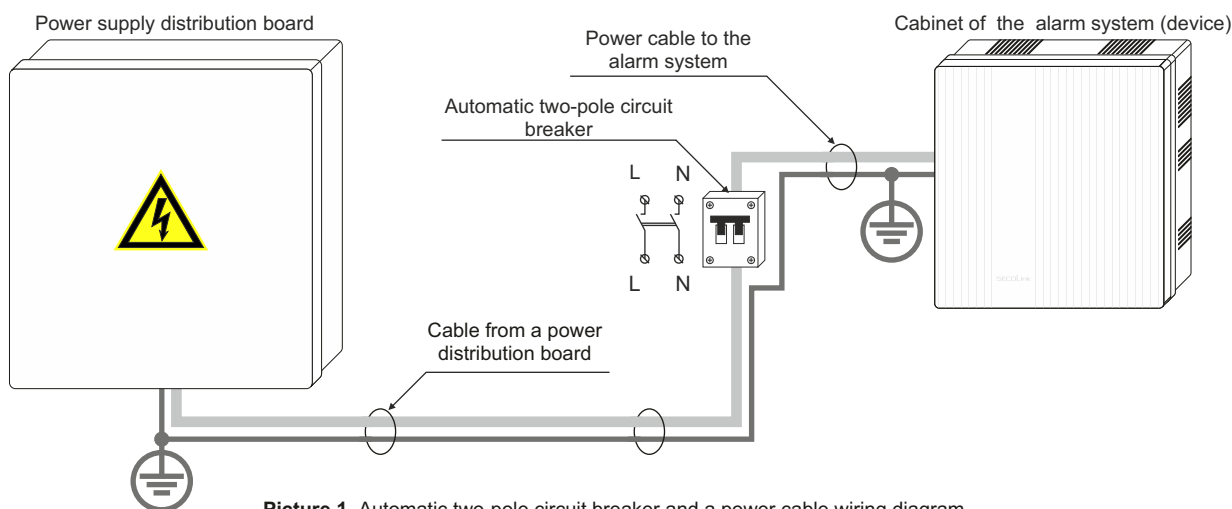
Power supplies described above must comply with the EN 62368-1 safety requirements.

All devices connected to the intruder alarm system (sirens, detectors, computer for programming, and etc.) must comply with EN 62368-1 safety requirements.

Additional **automatic Two-Pole Circuit Breaker** should be installed in AC electric power circuit in order to protect against over-current, short circuits, and earthing faults.

The circuit breaker contact gap should be no less than 3mm, protective circuit breaker current must be in a 0,5A- 2A range.

The circuit breaker should be placed close to the system's housing and should be easily accessed.



Picture 1. Automatic two-pole circuit breaker and a power cable wiring diagram

Device installation and service should be performed by trained personnel with sufficient knowledge about the device and general safety requirements to work with low voltage (up to 1000V) AC power lines. In case of a device malfunction, repair works can only be performed by qualified personnel. If the system is malfunctioning, the end user should inform qualified personnel as soon as possible. The user does not have permission to repair the system.

Before performing any work of installation or service **always** disconnect the device from power supplies in sequence as described below:

- cut off the 230 V AC power line by turning off the automatic Two-pole Circuit Breaker;
- disconnect the 12V back-up battery by removing the female battery plug from male socket BAT.

Two-pole Circuit-Beaker installation on flexible cables is forbidden.

Alarm system modules come with a built-in LED indicator. LED blinks when the module is powered up. Press any key on the keypad to check if the system is powered up or not. If the system was powered up, the keypad backlight will last for 30 seconds.

General safety requirements:

- do not touch any part of the main power supply under voltage such as a transformer, fuse block, or connection wires;
- it is forbidden to perform any device installation or service work during lightning;
- use batteries as per manufacturer's recommendations. The use of improper battery type may cause an explosion;
- battery replacement : make sure that battery terminals are isolated; battery terminals short-wiring may cause an explosion.

It is not recommended to connect the device to a fully discharged battery. To avoid system malfunction use an adequate charger to charge a new or discharged battery before connecting it to the device.

Inoperative or expired batteries should be recycled according to the local rules or EU directives 2006/66/EC and 93/86/EEC.

Collection and separate utilization of waste battery is mandatory!

Connection to the main supply must be made as per local authority rules and regulations.

The end of a stranded conductor shall not be consolidated by soft-soldering and insulated pins should be used instead. Insulated pins need to be connected in a proper manner to remain mechanically efficient.

The PSTN communicator's PSTP terminals TIP, RING, T-1, R-1 should be connected to analog PSTN line. Connection to digital ISDN line may cause device damage.

LAN800 and VIDNET are designed to be used together with a router which is placed in the same room or premises. It's prohibited to connect LAN800 or VIDNET directly to Wide Area Network (MAN, WAN) or building IT infrastructure cables.

Please act according to your local rules and do not dispose of your unusable alarm system or its components with other household waste. This product utilization in EU is covered by European Directive 2012/19/EU.

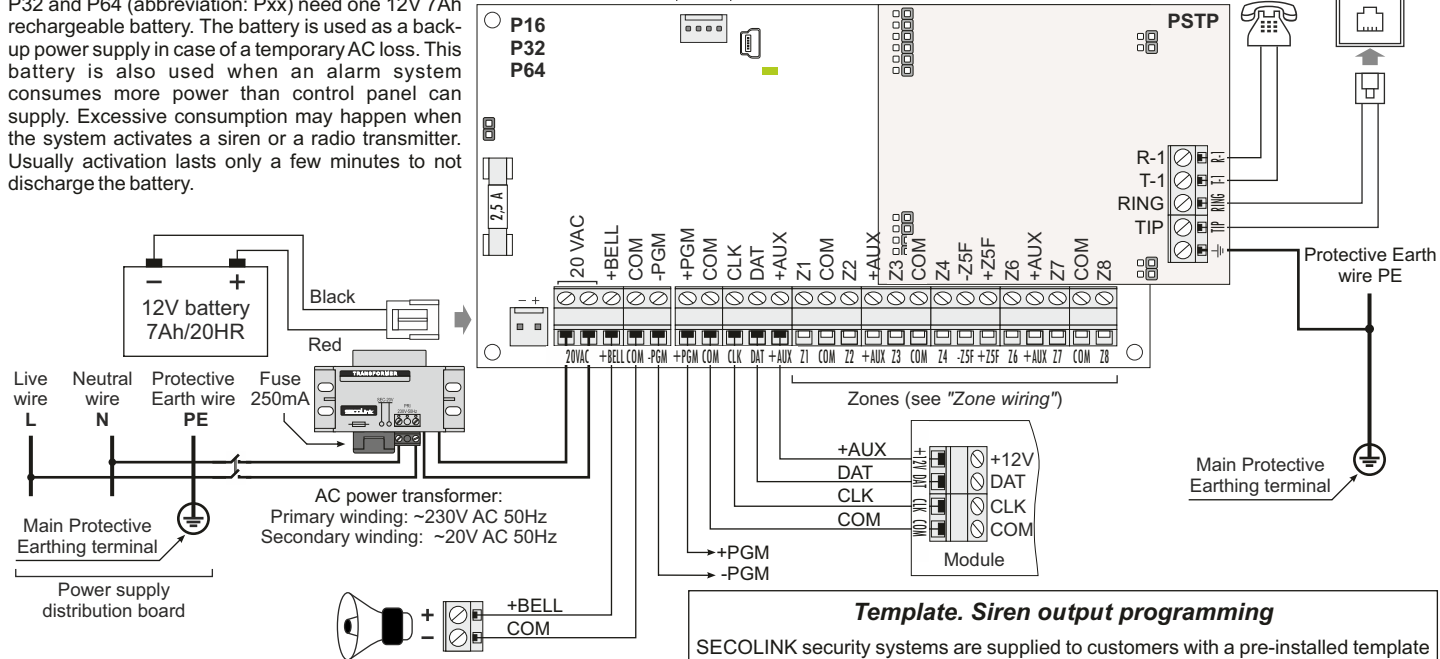
General information

Control panels P16, P32, and P64 perform all necessary functions to protect apartments, offices, homes, or villas. It includes all PAS series capabilities and comes with additional functions. The device is equipped with a reliable pulse-type power supply measurement, powerful siren control, failing battery disconnection, built-in wireless module EXT116SVM, 2 wire smoke detector control circuitry, and an option to securely connect exchangeable communicators. It is designed to be operated by keypads connected with a four-wire cable and is capable of being programmed by means of computer and software MASCAD in MS Window environment. More information can be found at intruder alarm systems manufacturer's, Kodinis Raktas UAB, website <http://www.secolink.eu/en/products/control-panels>. Manufacturer declares that products P16, P32, P64 comply with essential EU directives and EU standards EN 50131-1, Grade 2, Environmental Class II; EN 50131-3, EN 50131-6.

Installation of control panel

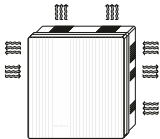
For correct operation P series control panels P16, P32 and P64 (abbreviation: Pxx) need one 12V 7Ah rechargeable battery. The battery is used as a back-up power supply in case of a temporary AC loss. This battery is also used when an alarm system consumes more power than control panel can supply. Excessive consumption may happen when the system activates a siren or a radio transmitter. Usually activation lasts only a few minutes to not discharge the battery.

Serial port SERIAL (see *"Wiring of system modules"*)



Picture 2. Wiring of the power supply, PSTN line, and a siren without the battery

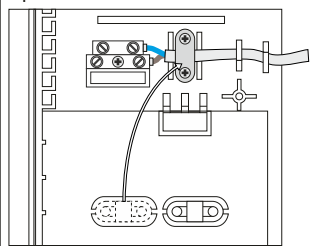
Attention!
Do not cover ventilation
holes of the cabinet!



Leave minimum 10 cm of free space between the ventilation hole and any other surface. Increase in temperature of control panel can reduce the maximum current on +AUX and PGM outputs: +BELL, +PGM.

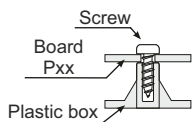
Securing power cable to the cabinet

Use a plastic component to fasten a power cable to the cabinet.



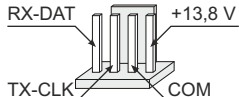
Mounting modules in the cabinet

Boards of control panels and modules have to be fastened in a plastic cabinet by using screws. Module's mounting holes should correspond to cabinet's rear wall holes.



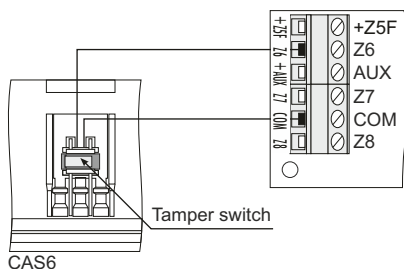
SERIAL port

Attention! Short-time current consumed by radio transmitter should not exceed 3A. Control panel supplies current to this connector with partial electronic short-circuit protection. PCB damage is possible in case of a long-term high current.



Use a tamper switch to protect the control panel

By default control panel zone Z6 is set for detection of alarm system's cabinet opening. Opening the cabinet when the system is disarmed will create a trouble event or will trigger an alarm if the system is armed. When cabinet's tamper is unused, input Z6 can be set as a normal zone. Tamper disabling sequence is described in the picture below on the right.



The screenshot shows a sequence of menu screens on a device. The first screen is 'Service Mode' with '1 System Setup'. The second screen is 'System Setup' with '1 Modules'. The third screen is 'Modules' with '1 Module settings'. The fourth screen is 'M00 Control panel' with '5 Use module tamper' and a 'No' button.

Template. Siren output programming

SECOLINK security systems are supplied to customers with a pre-installed template in the keypad memory. The template is a set of most frequently used system settings. During *First start* procedure keypad sends these settings to other modules. When *First start* is completed the system will be set to 1 partition and 8 zones:

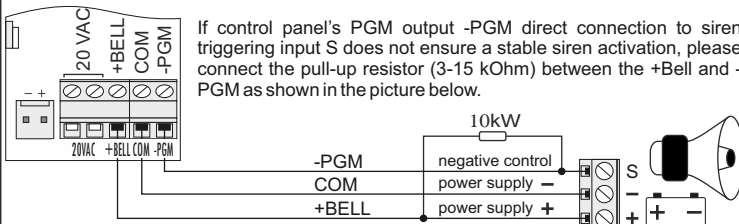
- ◆ Z1 is preset to be used with an entry door magnetic contact;
- ◆ Z2 - with PIR motion detector in entry/exit path;
- ◆ Z3, Z4 - for PIR detectors wiring;
- ◆ Z5 - with a smoke detector;
- ◆ Z6 - for cabinet tamper switch wiring;

PGM outputs:

- ◆ +BELL (O01) is preset in the template to control a siren with no battery;
- ◆ -PGM (O02) is preset to make an activation (makes “minus”) of a siren with a back-up battery;
- ◆ +PGM (O03) is preset to make +12V power supply for smoke detectors.

SECOLINK security systems may have different templates for different countries. Check keypad's sticker for a country prefix or the pre-installed template code. Example: KM24 MY

Note: in most templates +BELL is set for sirens with no battery (picture 2). To use a siren with a back-up battery (picture 3) you need to change +BELL (001) definition to *Power supply*. Definition changing sequence is shown on the right.



Picture 3. Installation of a siren with a back-up battery using 3 wires

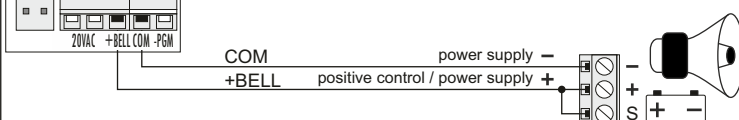
If an installation of a siren with back-up battery is done using 2 wires (picture 4), then an installer needs to make changes as shown to the right. This type of a siren uses a back-up battery to sound an alarm when power supply line (+BELL) does not provide power from the control panel. Use *Inversion of Status* PGM attribute to program the system for this operation. Programming sequence is described on the right.

Service Mode
1 System Setup ...

System Setup ...
4 PGM outputs

O01 Power supply
7 Inversion of status Yes

Note: check siren wiring manual provided by the manufacturer. Switches or jumpers can be used to setup this type of the siren.



Picture 4. Installation of a siren with a back-up battery using 2 wires.

Electrical characteristics and additional information

Maximum load ratings and electrical characteristics of P series control panels	
Maximum long term output current of P16 control panel: ($I_{+AUX} + I_{+BELL} + I_{+PGM} + I_{BAT_CHARGE} \leq 1,5\text{ A}$)	1,5 A
Maximum long term output current of P32, P64 control panel: ($I_{+AUX} + I_{+BELL} + I_{+PGM} + I_{BAT_CHARGE} \leq 2\text{ A}$)	2 A
Maximum current out of +AUX:	+1 A
Maximum current out of +BELL:	+2,0 A
Maximum current into -PGM:	-0,3A
Maximum current out of +PGM for P16:	+0,5 A
Maximum current out of +PGM for P32, P64:	+0,9 A
Maximum battery charging current:	+0,35 A
Low battery voltage threshold:	10,5 V
Control panel disconnect battery when it's voltage is less than:	9,5 V
Minimum AC voltage on 20 VAC: Note: with ~16 V on 20 VAC max DC current generated by control panel power supply is 0,7A.	~16 V
Maximum AC voltage on 20 VAC: Note: higher than ~22 V voltage can damage control panel.	~22 V
Maximum voltage on +AUX, +BELL, +PGM outputs:	+13,9 V
Minimum voltage on +AUX, +BELL, +PGM outputs:	+12,0 V
Maximum current of a fast blowing fuse used in battery circuit:	2,5 A
Max current of a slow blowing fuse used in primary AC circuit:	250 mA
Maximum AC power consumption:	240 mA

Keypad mounting

Use only self-tapping screws with a flat (countersunk) head (3x30 PH) to mount keypad's plastic on the wall. Make sure the screw is fastened completely and its head is hidden in the plastic. Other shapes of screws that are not completely screwed in, may touch keypad electronics and cause damage of keypad.

Operating temperature	
Operating temperature range:	-10°C to +55°C
Calculated life expectancy at 40°C ambient temperature: • for P16, P32, P64 control panels:	12 years
Note: ambient temperature over 40°C may reduce life expectancy.	
Note: poor ventilation of the cabinet increases ambient temperature.	

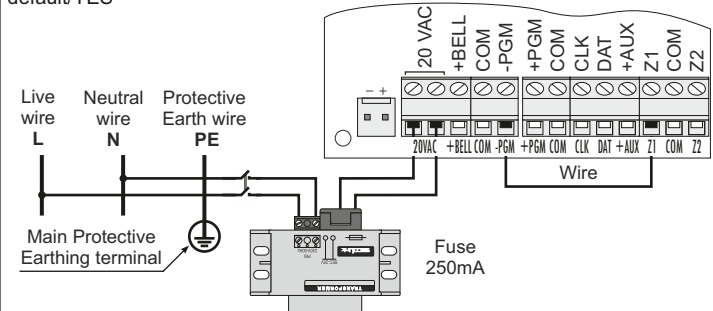
Restoring service PIN to default value

To restore default value (0000) for service PIN, follow these steps:

- disconnect control panel from 20 V AC power supply;
- disconnect control panel from back-up battery;
- use a wire to short-circuit the -PGM and zone Z1;
- connect control panel to 20 V AC power supply.

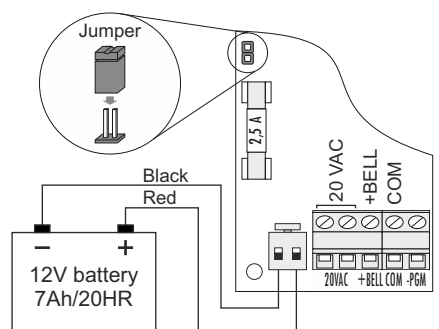
Service mode is now enabled and service PIN is restored to 0000. To reset user PIN follow the steps:

- do not block service by pressing ENT;
- press arrow key to navigate in the menu;
- go to: Main Menu/Settings/Users/Edit Users/ enter **0000** /Reset PIN to default/YES



System start-up with no 230V AC power

Connect 12V battery to P series control panel by using a BAT connector. Use the jumper to close the shown pins for 1 second. The system will start operating; however, AC loss trouble will be indicated.

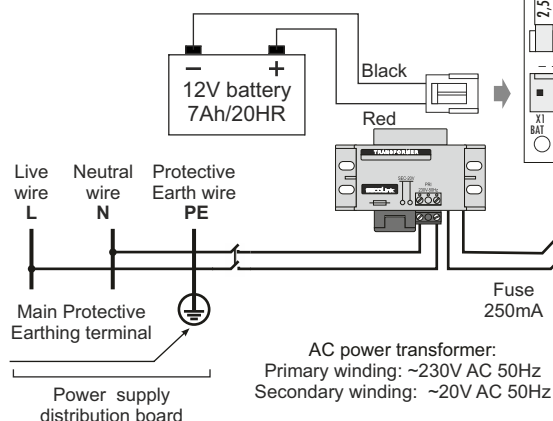


Non-volatile memory

Control panel has non-volatile memory to store all parameters, event log, and the last control panel status. System status returns to the same status as it was before the power supply was disconnected.

Wiring of modules in large or high security level system

Maximum load ratings and electrical characteristics of PWR20	
Maximum long term current out of PWR20: ($I_{+AUX} + I_{+BELL} + I_{BAT_CHARGE} \leq 2\text{ A}$)	2,0A
Maximum current out of +AUX:	+1A
Maximum current out of +BELL:	+2A
Maximum current into -PGM1:	-0,05A
Maximum battery charging current:	0,35A
Module disconnect battery when its voltage is less than:	9,5V



Outdoor siren's safe wiring

Use a transformer, other than a control panel, and a rechargeable 12V 7Ah battery to power up PWR20. If an alarm system includes PWR20, it is recommended to wire an outdoor siren to the PWR20 terminals +BELL, -PGM1, and COM same as shown on page 2. Failure of siren's internal battery or the siren itself will not affect the performance of an alarm system.

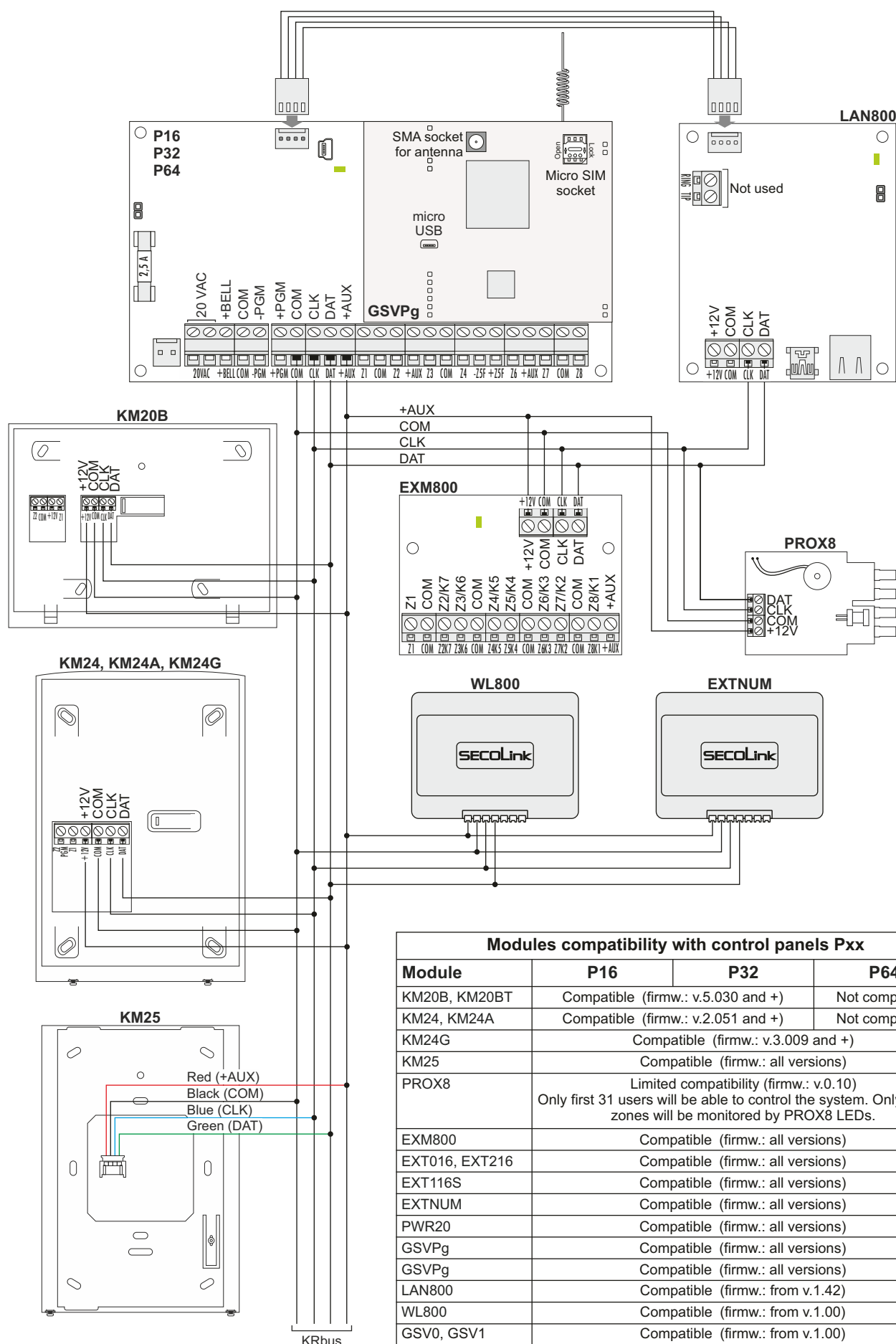
PWR20 – power supply module with a bus supervision

It is recommended to wire all outside proximity readers or keypads to the CLK-O and DAT-O. An attempt to make a short circuit on the outside module will make no affect to system's performance. PWR20 will detect the short circuit on bus and will disconnect it from the main bus. Terminals CLK-I and DAT-I are inputs for the main bus, terminals CLK-O and DAT-O are used for outside modules. To supply power to modules, PWR20 output +AUX must be used.

Note: the use of PWR20 does not extend the total bus length.

Wiring of system modules

Control panels Pxx are designed in the way, that most commonly used modules can be directly plugged-on to the panel board (GSM module GSVPg). All other modules that do not have a direct interface with the panel must be connected to data bus - KRbus.

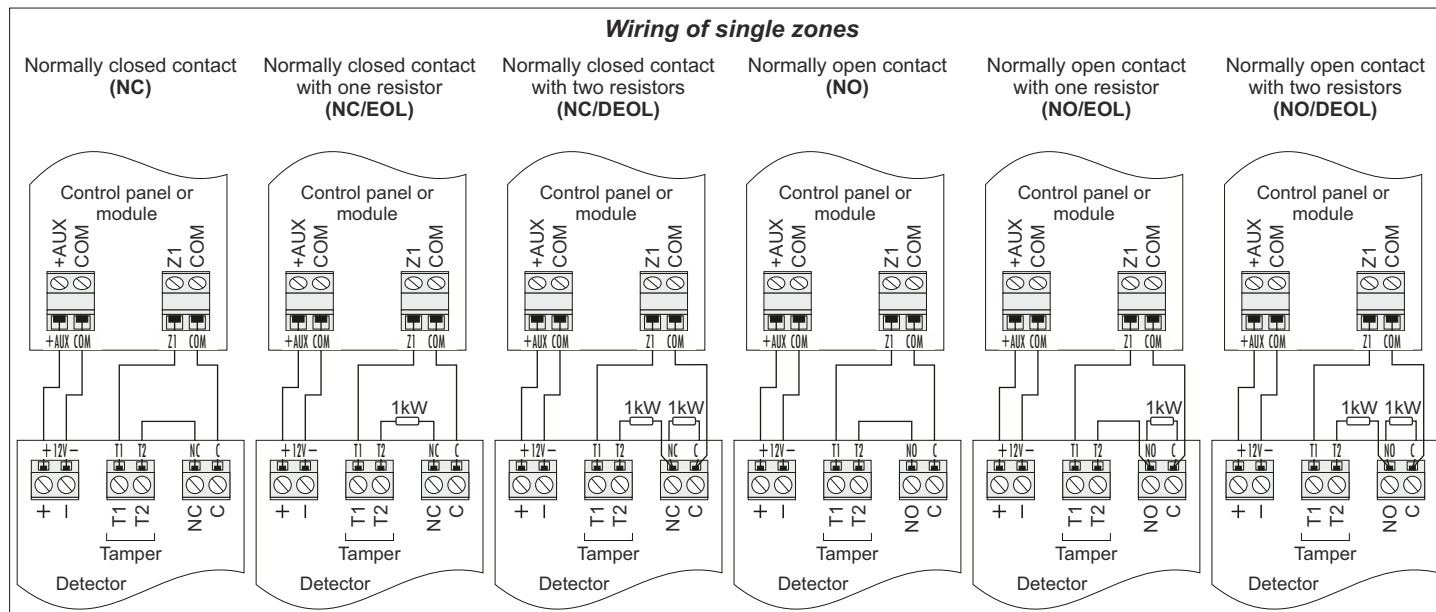


Modules compatibility with control panels Pxx

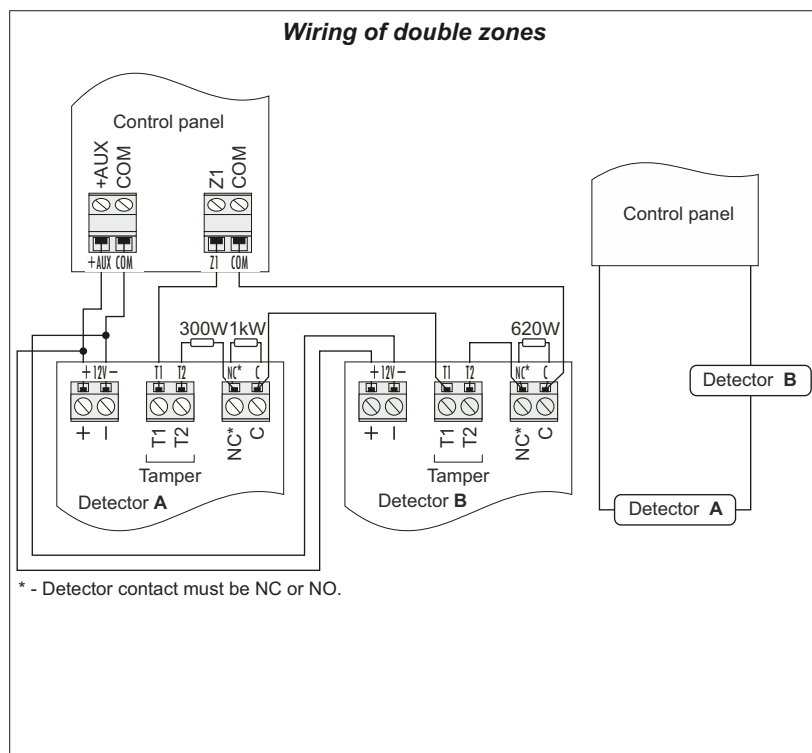
Module	P16	P32	P64
KM20B, KM20BT	Compatible (firmw.: v.5.030 and +)		Not compatible
KM24, KM24A	Compatible (firmw.: v.2.051 and +)		Not compatible
KM24G	Compatible (firmw.: v.3.009 and +)		
KM25	Compatible (firmw.: all versions)		
PROX8	Limited compatibility (firmw.: v.0.10) Only first 31 users will be able to control the system. Only first 32 zones will be monitored by PROX8 LEDs.		
EXM800	Compatible (firmw.: all versions)		
EXT016, EXT216	Compatible (firmw.: all versions)		
EXT116S	Compatible (firmw.: all versions)		
EXTNUM	Compatible (firmw.: all versions)		
PWR20	Compatible (firmw.: all versions)		
GSVPg	Compatible (firmw.: all versions)		
GSVPg	Compatible (firmw.: all versions)		
LAN800	Compatible (firmw.: from v.1.42)		
WL800	Compatible (firmw.: from v.1.00)		
GSV0, GSV1	Compatible (firmw.: from v.1.00)		

Wiring of zones

Wiring of single zones

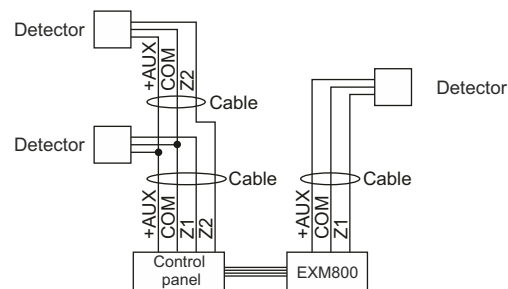


Wiring of double zones

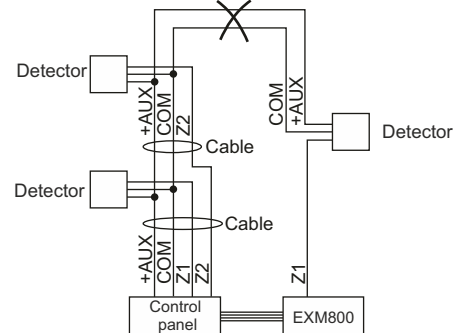


ATTENTION! Avoid power supply loops

Correct wiring

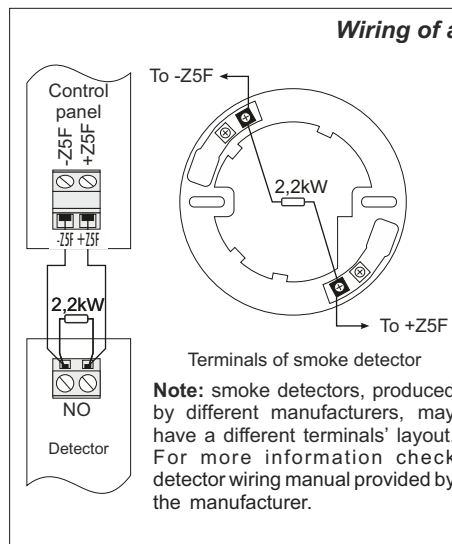


Wrong wiring



Wiring samples

Wiring of a 2-wire smoke detector



Smoke detectors can be triggered by dust. Therefore, to prevent false alarms, it is recommended to verify the fire alarm. For verification, the user must activate system settings listed below.

Zone settings:

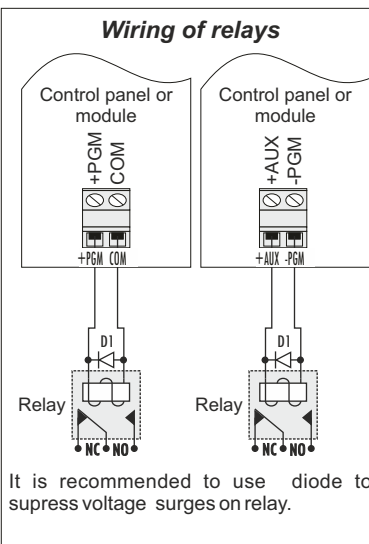
- ◆ Zone address: 00_5 (control panel zone terminals -Z5F, +Z5F);
- ◆ Zone loop type: NO/EOL;
- ◆ Zone definition: 24h smoke;
- ◆ Attribute assigned to a zone: Fire verification;
- ◆ Reset time must be set;

System times settings:

- ◆ Detector settling time must be set;
- ◆ Fire verification time must be set;

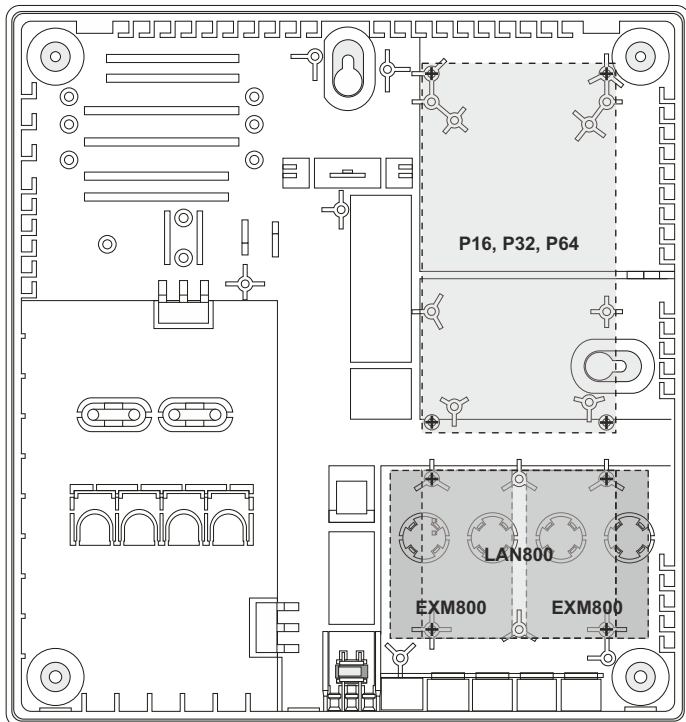
Operation: In order to check a triggered fire detector, detector's power supply has to be turned off and turned on again. The system turns the -Z5F off for a Reset time. When the reset time expires, the system turns the -Z5F on again and waits for the detector to settle (Detector settling time). After that, the system checks the detector again for a time period set in the menu under the Fire verification time setting. If the detector is triggered again, then this means that the alarm really occurred.

Wiring of relays



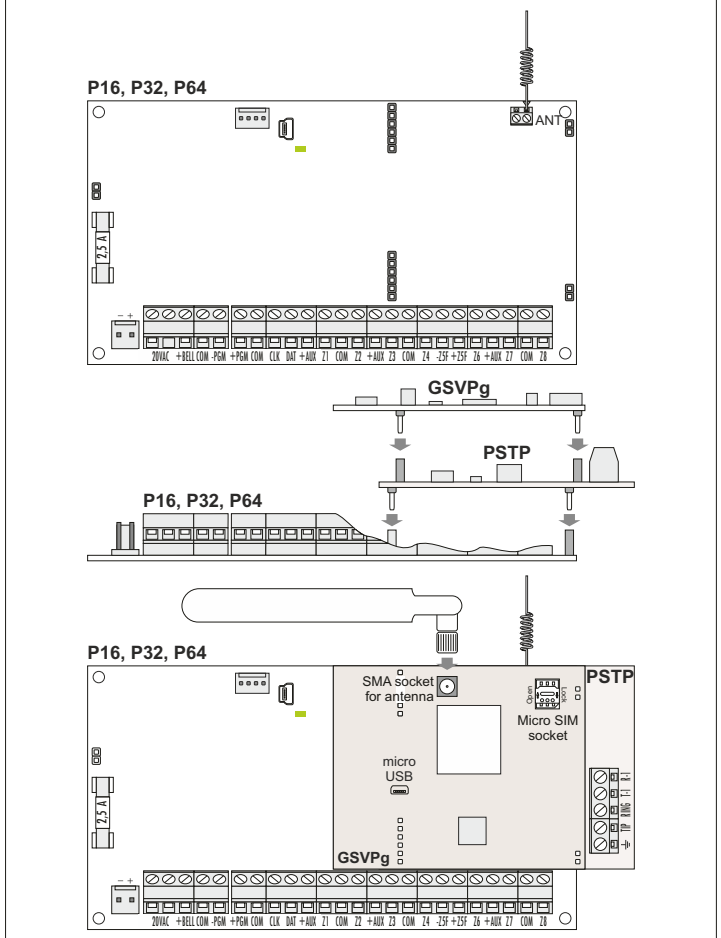
Installation of modules in CAS6 plastic cabinet

If the system must be expanded with other modules, that do not have a direct connection with the control panel (for example LAN800) then it could be installed next to the panel board. Crosses and a dashed line present commonly used locations of modules. Module's mounting holes should correspond to cabinet's rear wall holes.

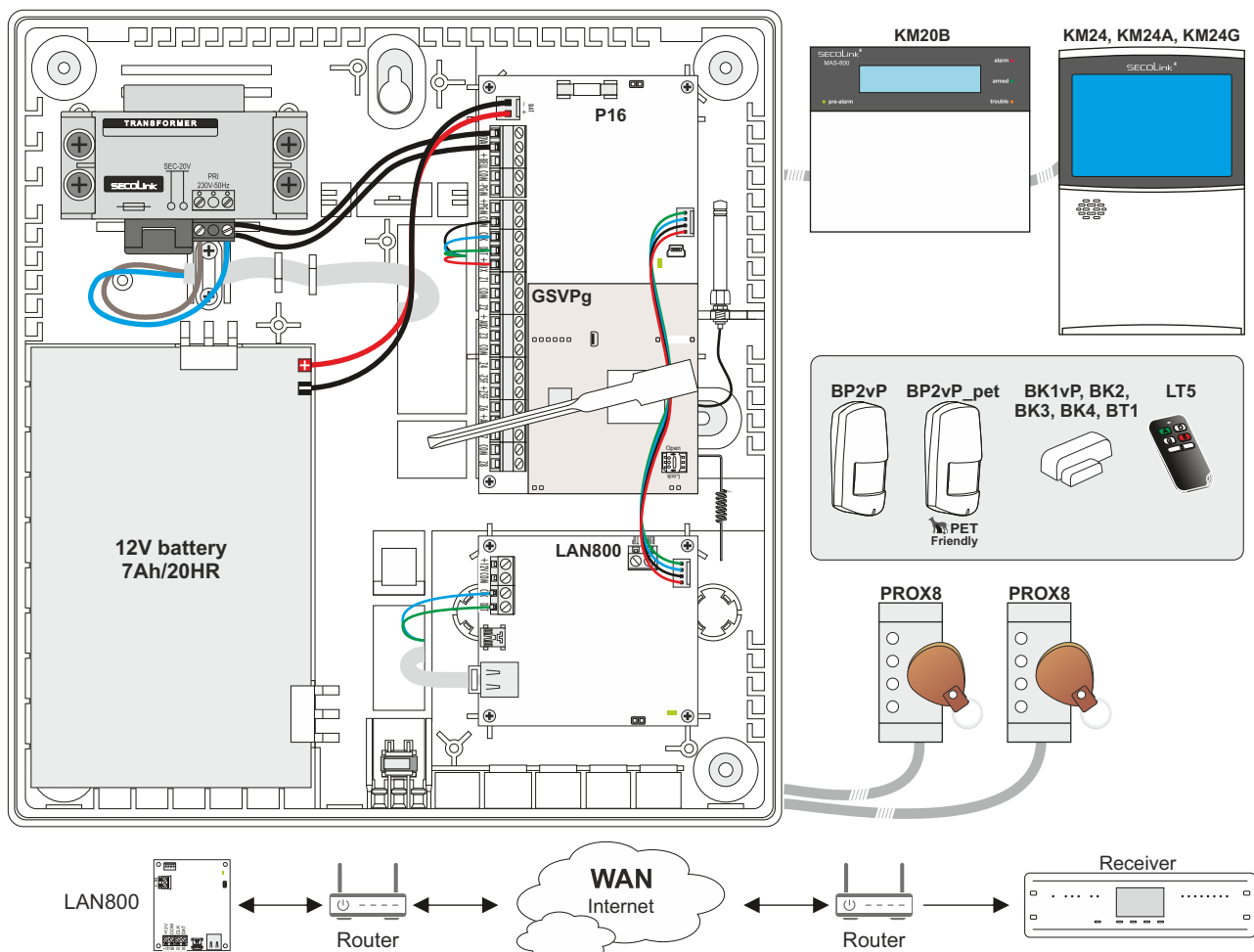


Important: the PSTN dialer PSTP can't be installed in plastic cabinet along with a LAN communicator due to the height of components used in LAN800 board.

Installation of GSVPg module and PSTP communicator

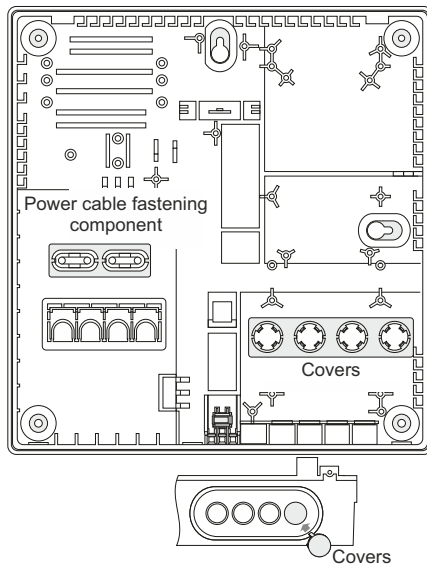


Typical system installation example



Plastic components

Plastic cabinet CAS6 has few plastic component at the bottom of the plastic cabinet being used for power cable fastening, covering the holes. Locate plastic components and cut them with a cutter.



Assigning a remote control unit to the user

Main Menu
1 Settings ...

Settings ...
2 Users ...

Users ...
2 Edit users ...

U01 User 01
1 Name ... User 01

U01 User 01 ...
6 Controls ... New RCU

Waiting ...

Done

Advance to the next user with keypad keys **⏮** or **⏭**.

Choose *New RCU* and press **⏮**.

Simultaneously hold down the buttons **⏮** and **⏭**.

Message *Done* should appear on keypad's LCD when remote control unit is enrolled successfully. Release buttons **⏮** and **⏭**.

Zone programming / enrollment of wireless detector

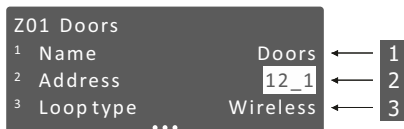
1. Programing

Enter service mode (default PIN codes: first user – **0001**, service – **0000**):

🔑 Main menu ▶ Service Mode ▶ System Setup ▶ Zones

1.1 Configuring zone address

- Press [7] or [*] for the next zone.
- Give an appropriate name to the zone **1**.
- Enter the correct zone address in **MA_Z** format **2**, where **MA** is a module address in the system and **Z** is a zone number in the module.
- Enable zone using loop type **Wireless** **3**.

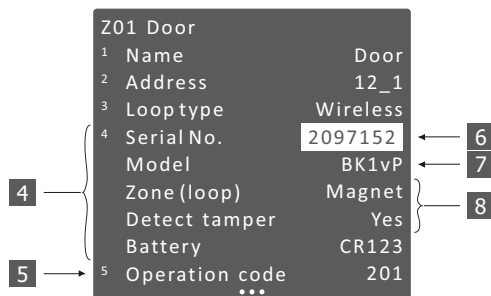


Default module address:

- ♦ EXT116S – **06**
- ♦ P16-EXT116VM – **12**
- ♦ P32-EXT116VM – **12** and **13**
- ♦ P64-EXT116VM – **12, 13, 14** and **15**

1.2 Enrolment

Starting with the v.5.xxx version (for P-series control panels, the EXT116S module or the KM24x keypad), wireless detector can be enrolled by entering the serial number and specifying the settings specific to each detector **4**. The wireless detector can also be registered in the old way, by entering the *Operation code* **5** for a specific detector zone (loop) and pressing the tamper switch.



1.3 Enrolment using serial number

Enrolment using serial number is a two step process:

- ♦ **1 step.** Enter detector serial number **4**. The keypad will identify the detector's type **7** and will show all other related settings that are required for enrolment **8**.
- ♦ **2 step.** SERVICE MODE DOES NOT HAVE TO BE ENTERED AT THIS STEP! To complete enrolment, the detector must be activated to send a signal to the receiver. It could be done by triggering the detector's loop (zone) OR by pressing the tamper switch. All wireless detector zones that are still not activated, therefore not enrolled, are marked with a phrase *Not activ.* **9** in menu *Wireless communication*.

🔑 📖 ▶ Technical information ▶ Wireless communication

Wireless communication		
Detector status		
1 Door	Not activ.	9
2 Window	LR	10
3 Living room	No SN.	11
4 Kitchen	only LR	12

When the detector is successfully enrolled, the mode *LR* or *ES* will be displayed in the row **10**. Phrase *No SN.* will be displayed when wireless zone is enabled, but serial number of the detector is not entered **11**. Phrase *only LR* **12** will be displayed when the detector supports only the *LR* mode.

1.4 Enrolment using operation code

Enter wireless detector's *Operation code* **5** and press the [ENT] key. When enrolment has started, immediately press the detector's tamper switch for a short period of time (~1 sec).

Operation codes:

200

Temperature (BT1)

201

Magnet (BK1vP, BK4)

010

Flood detector (BF1)

181

Motion (BP2vP, BP2vP_pet)

180

Temperature (BP2vP, BP2vP_pet)

102 – 105

Wireless PGM output (BS100)

2 1 0

NC type detector (BK2, BK3, BK4)

input terminal 1, 2 or 3. Zone response (speed) time of 0,4 sec.

2 1 1

Roller type detector (BK2, BK3, BK4)

input terminal 1, 2 or 3.

last digit defines the number of Roller pulses (1, 2, 3, 4, 5, 7, 9).

The same *Operation code* **5** field is used to delete the particular detector or all detectors from the particular module:

255

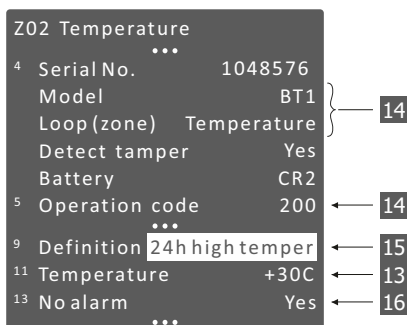
Delete single

254

Delete all

1.5 Temperature zone

Temperature field **14** is visible when the detector (BT1, BP2vP, BP2vP_pet) is enrolled as a temperature sensor **14** AND the definition *24h High temperature* or *24h Low temperature* **15** is programmed. The system will generate the *technical alarm* when the programmed temperature threshold is reached. Temperature zone violation can trigger a PGM output. Use the zone attribute *No alarm* **16** to avoid loud technical alarm (for example: to silently trigger the PGM output).

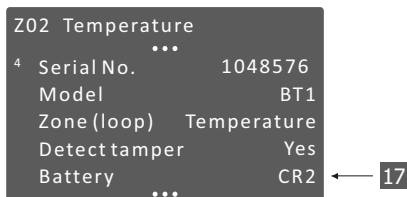


Information about the present temperature is sent during polling time or when temperature changes more than 2°C.

The temperature will be displayed at the bottom bar of the system's keypad screen (KM24G, KM25) or in technical information menu, as well as in the service platform ALARMSERVER.NET and in the application SECOLINK PRO (extra services required).

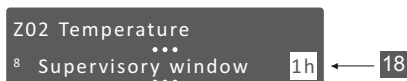
1.6 Battery

SECOLINK wireless detectors were equipped with different types of batteries depending on the year of manufacture. BK1vP is supplied with a CR123A battery. If you are trying to add a detector to an older system and you don't see a CR123A battery, choose a CR2 battery instead. Battery type should be selected for each detector **17**.



1.7 Supervisory window

The wireless detector periodically sends a supervision signal to a receiver. If the system does not receive supervision (or alarm signal) signal from a specific detector, the detector is regarded as inactive. The amount of time after which a detector is considered inactive is called the *Supervisory window* **18**.



Supervisory window and periodic supervision signal sending are directly related to selected *Security grade* **19** in the system (see Table 1).

🔍 Main menu ▶ Service Mode ▶ System Setup ▶ Wireless Subsystem

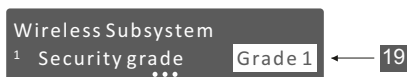


Table 1. Security grade

Grade	Periodic supervision signal	Supervisory window	Application
Grade 1	every 1h	1h	♦ minimal risk of planned robbery.
Custom	every 1h	0 - 24h (0 = disabled)	♦ due to repetitive supervisory loss, the <i>Supervisory window</i> can be expanded from 1 to 24 hours 18 ; ♦ it is not necessary to meet requirements of Grade 1.
Grade 2	every 20 min	20 min	♦ low to medium risk of planned robbery.

⚠ **Important!** wireless detector supervision is postponed for 3h after changing the *Security grade* **19** from *Grade 1/Custom* to *Grade 2* or after restart of the system/module.

1.8 Communication mode selection

Wireless devices, starting from version 2.000 support new communication mode, that can be selected in menu *Mode* **20**:

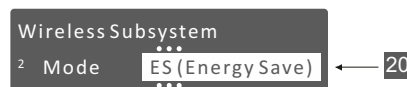
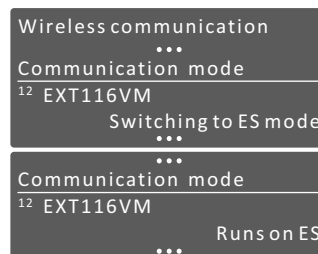


Table 2. Mode comparison

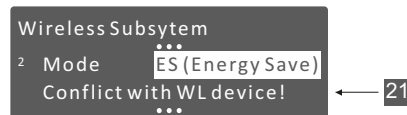
Mode	Distance	Battery	Application
LR	●●●●●	●●●○●	♦ harsh environment for a signal to travel (ex. concrete walls and ceilings); ♦ long range; ♦ less than 32 wireless devices in the system.
ES	●●●○●	●●●●●	♦ suitable environment for a radio signal to travel (ex. wooden walls); ♦ middle range; ♦ more than 32 wireless devices in the system;

The newly set communication mode will be applied in the system when all enrolled wireless devices will communicate with a receiver. The actual system status is displayed at the menu *Wireless communication*:

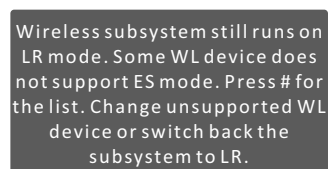
🔍 ② ▶ Technical information ▶ Wireless communication



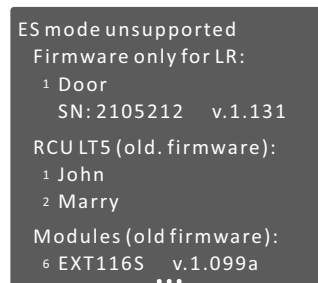
The conflict can occur when the mode *ES* **20** is chosen in the system with the older wireless devices that supports only the *LR* mode. The new setting will not be applicable and an error will be displayed on screen upon changing the mode **21**:



on main screen:



after pressing key [#]:



The error message that *ES* is not supported is also displayed in the corresponding user (LT5), wireless zone or module editing menu. All errors will be displayed until all older wireless devices will be replaced (upgraded) OR when *Mode* **19** will be changed back to the *LR*.

System compliance and warranty



Kodinis Raktas UAB, manufacturer of SECOLINK Intruder Alarm System, offers a Warranty for a term of twenty-four months. It declares, that products P16, P32, and P64 comply with essential EU directives and EU standards EN 50131-1, Grade 2, Environmental Class II; EN 50131-3, EN 50131-6. For more information visit manufacturer's website at www.kodinis.lt or www.secolink.eu for a complete text of declaration. SECOLINK Intruder Alarm System is designed and manufactured in Lithuania.