

## 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 mm<sup>2</sup> 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 60950-1 safety requirements.

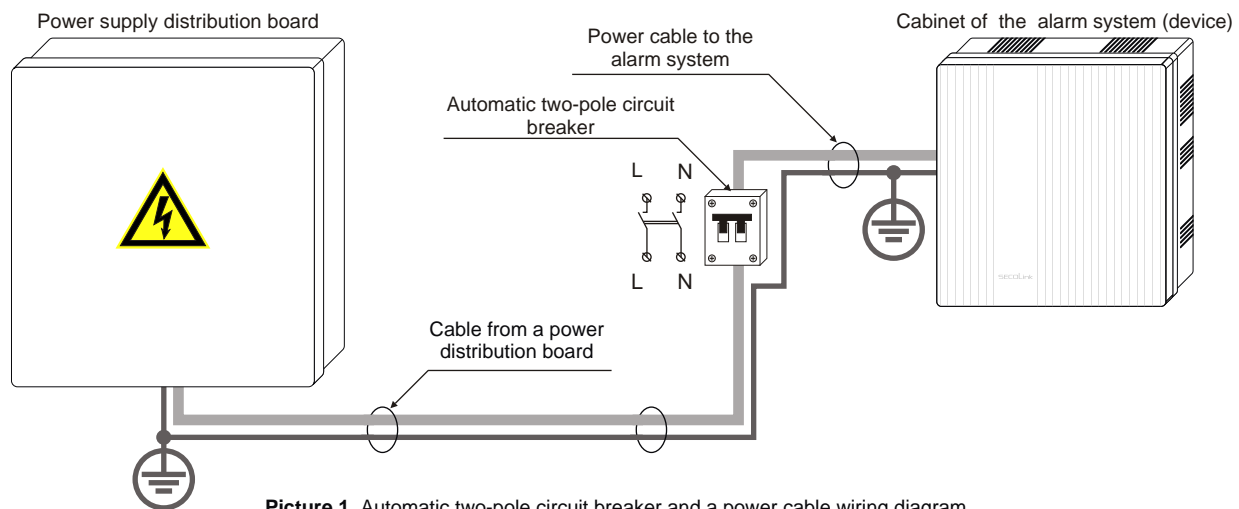
Power supplies described above must comply with the EN 60950-1 safety requirements.

All devices connected to the intruder alarm system (sirens, detectors, computer for programming, and etc.) must comply with EN 60950-1 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-Breaker 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 2002/96/EC.

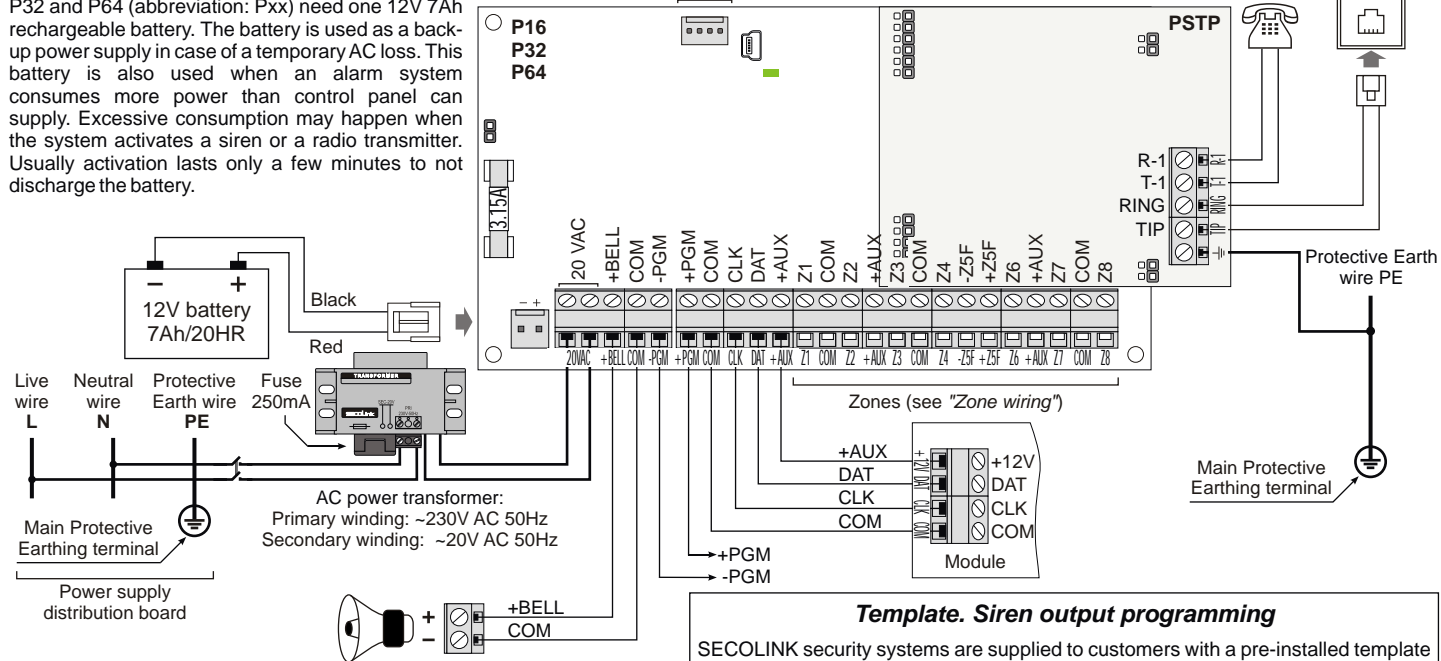
## General information

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 1, Environmental Class II; EN 50131-3, EN 50131-6.

## Installation of control panel

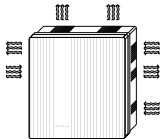
For correct operation P series control panels P16, P32 and P64 (abbreviation: Pxx) need one 12V 7Ah rechargeable battery. The battery is used as a back-up power supply in case of a temporary AC loss. This battery is also used when an alarm system consumes more power than control panel can supply. Excessive 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

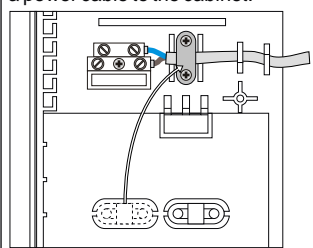
### Attention! Do not cover ventilation holes of the cabinet!



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.

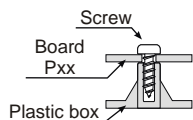
### Securing power cable to the cabinet

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



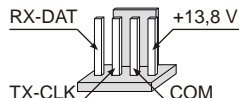
### Mounting modules in the cabinet

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.



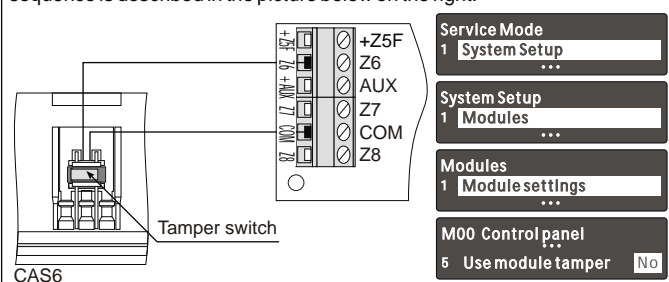
### SERIAL port

**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.



### 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:

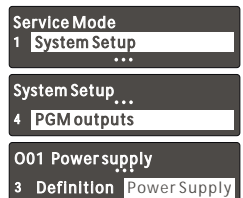
- ◆ Z1 is preset to be used with an entry door magnetic contact;
- ◆ Z2 - with PIR motion detector in entry/exit path;
- ◆ Z3, Z4 - for PIR detectors wiring;
- ◆ Z5 - with a smoke detector;
- ◆ Z6 - for cabinet tamper switch wiring;

PGM outputs:

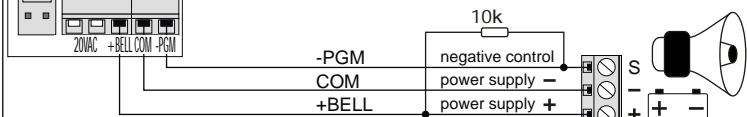
- ◆ +BELL (O01) is preset in the template to control a siren with no battery;
- ◆ -PGM (O02) is preset to make an activation (makes "minus") of a siren with a back-up battery;
- ◆ +PGM (O03) is preset to make +12V power supply for smoke detectors.

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 (O01) definition to *Power supply*. Definition changing sequence is shown on the right.

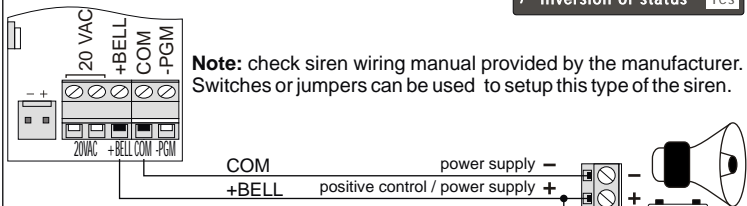
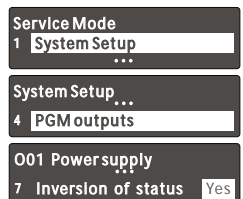


If control panel's PGM output -PGM direct connection to siren triggering input S does not ensure a stable siren activation, please connect the pull-up resistor (3-15 kOhm) between the +Bell and -PGM as shown in the picture below.



**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.



**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

| <b>Maximum load ratings and electrical characteristics of P series control panels</b>  |         |
|--|---------|
| Maximum long term output current of P16 control panel:<br>( $I_{+AUX} + I_{+BELL} + I_{+PGM} + I_{BAT\_CHARGE} \leq 1,5\text{ A}$ )    | 1,5 A   |
| Maximum long term output current of P32, P64 control panel:<br>( $I_{+AUX} + I_{+BELL} + I_{+PGM} + I_{BAT\_CHARGE} \leq 2\text{ A}$ ) | 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:<br><b>Note:</b> 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:<br><b>Note:</b> 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:  | 3,15 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.

| <b>Operating temperature</b>   |                |
|--|----------------|
| Operating temperature range:   | -10°C to +55°C |
| Calculated life expectancy at 40°C ambient temperature:<br>• for P16, P32, P64 control panels: | 12 years       |
| <b>Note:</b> ambient temperature over 40°C may reduce life expectancy.                         |                |
| <b>Note:</b> 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**

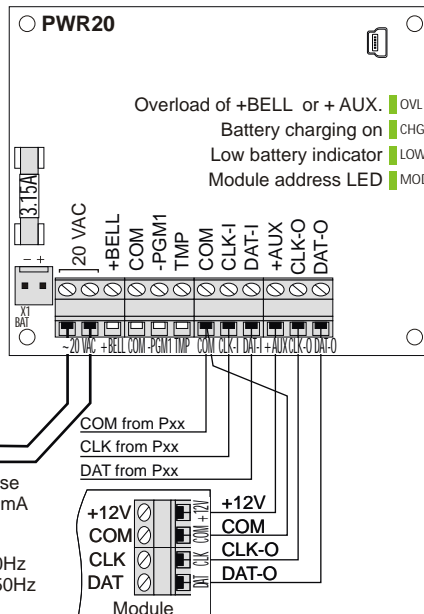
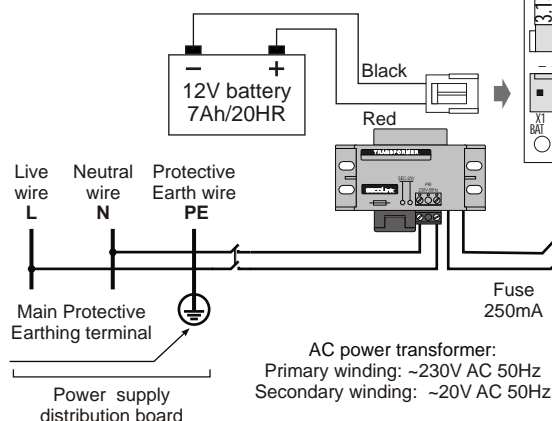
Connect 12V battery to P series control panel by using a BAT connector. Use the jumper to close the shown pins for 1 second. The system will start operating; however, AC loss trouble will be indicated.

**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

| <b>Maximum load ratings and electrical characteristics of PWR20</b>                                     |        |
|---|--------|
| Maximum long term current out of PWR20:<br>( $I_{+AUX} + I_{+BELL} + I_{BAT\_CHARGE} \leq 2\text{ A}$ ) | 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**

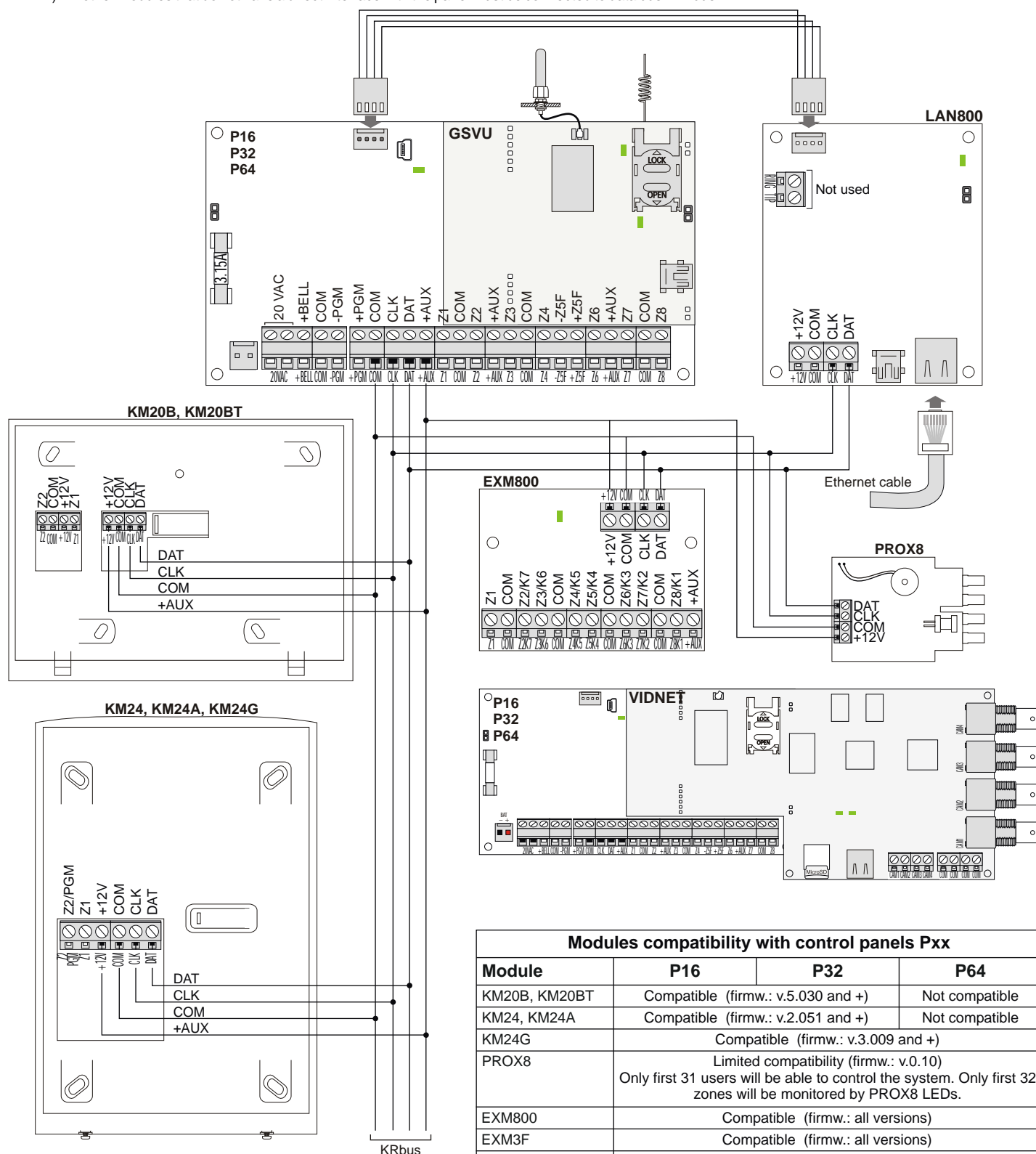
Use a transformer, other than a control panel, and a rechargeable 12V 7Ah battery to power up PWR20. If an alarm system includes PWR20, it is recommended to wire an outdoor siren to the PWR20 terminals +BELL, -PGM1, (-PGM2), and COM same as shown on page 2. Failure of siren's internal battery or the siren itself will not affect the performance of an alarm system.

**PWR20 – power supply module with a bus repeater**

Repetition of the system bus (KRbus) is a perfect solution when some system modules (PROX8, EXTx16) are placed outside the premises or in an area that is not protected by detectors. It is recommended to wire all outside proximity readers or keypads located near the entry door to the repeated (by PWR20) bus. 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 repeated 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 outputs of the repeated bus. To supply power to modules, PWR20 output +AUX must be used.

## 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 GSVU, video module VIDNET). All other modules that do not have a direct interface with the panel must be connected to data bus - KRbus.

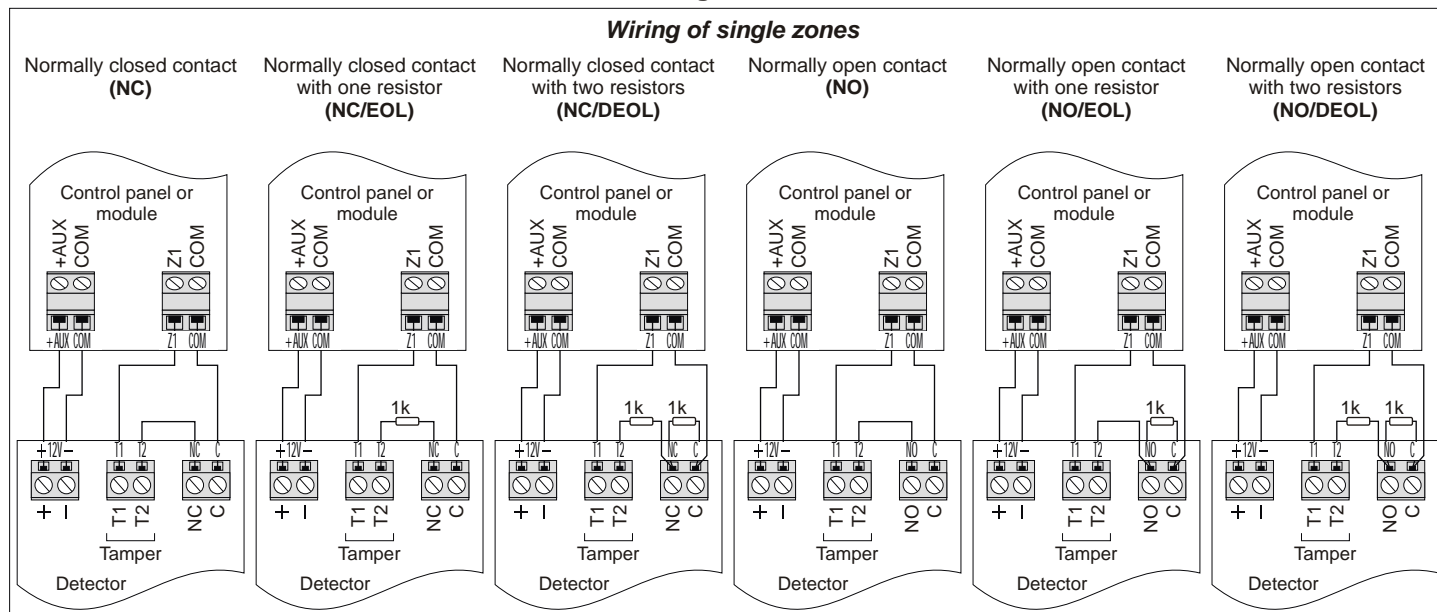


**Modules compatibility with control panels Pxx**

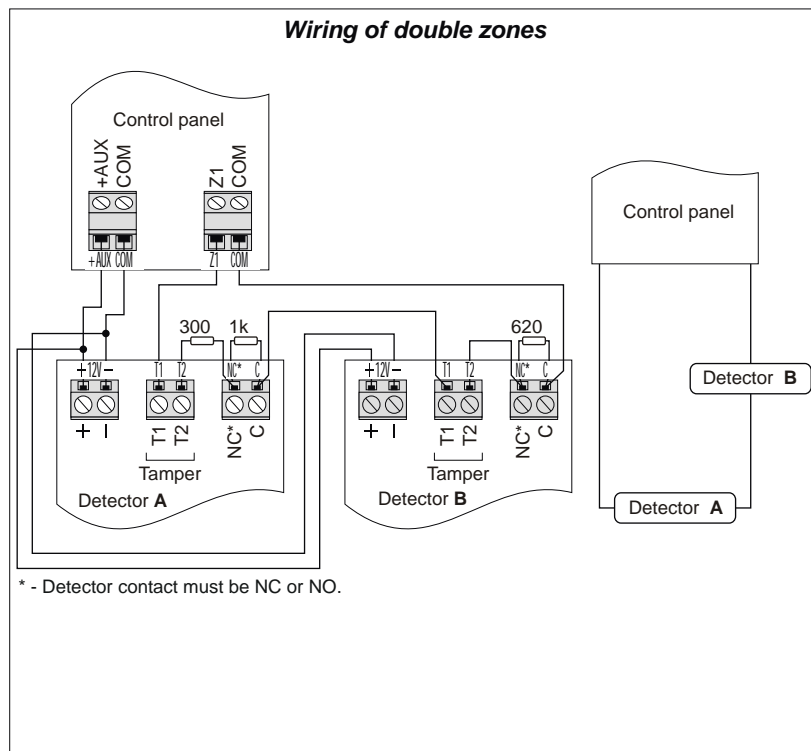
| Module             | P16   | P32 | P64            |
|--------------------|---|-----|----------------|
| KM20B, KM20BT      | Compatible (firmw.: v.5.030 and +)  |     | Not compatible |
| KM24, KM24A        | Compatible (firmw.: v.2.051 and +)  |     | Not compatible |
| KM24G              | Compatible (firmw.: v.3.009 and +)  |     |                |
| PROX8              | Limited compatibility (firmw.: v.0.10)<br>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)   |     |                |
| EXM3F              | Compatible (firmw.: all versions)   |     |                |
| RCM800WL           | Compatible (firmw.: all versions)   |     |                |
| EXT016, EXT216     | Compatible (firmw.: all versions)   |     |                |
| EXT116S            | Compatible (firmw.: all versions)   |     |                |
| PWR20              | Compatible (firmw.: all versions)   |     |                |
| GSVU               | Compatible (firmw.: all versions)   |     |                |
| GSV6, GSV6T, GSV6U | Compatible (firmw.: from v.1.025)<br>It is recommended to use GSVU module with P series control panels. GSV6x module is only useful when it is necessary to install module outside the cabinet. |     |                |
| LAN800             | Compatible (firmw.: from v.1.42)  |     |                |
| VIDNET             | Compatible (firmw.: all versions)   |     |                |

## Wiring of zones

### Wiring of single zones

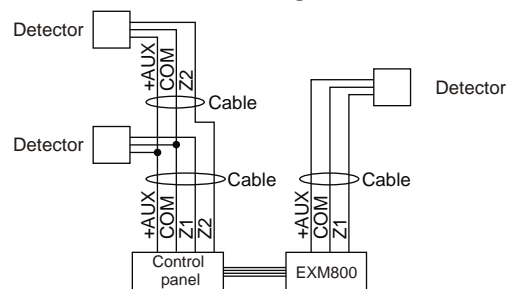


### Wiring of double zones

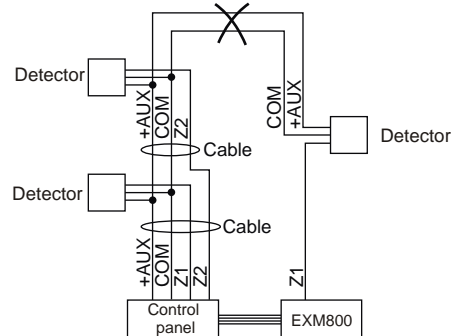


### ATTENTION! Avoid power supply loops

#### Correct wiring

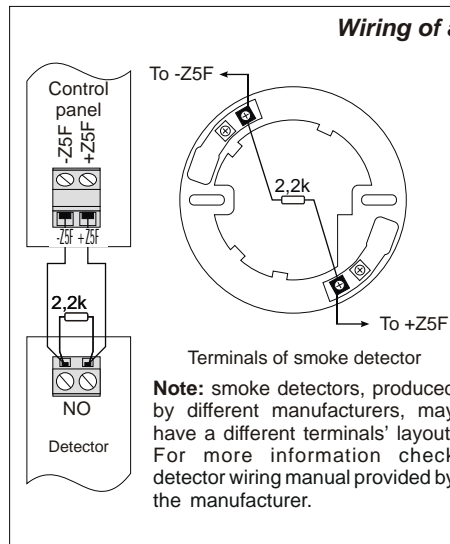


#### Wrong wiring



## 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:

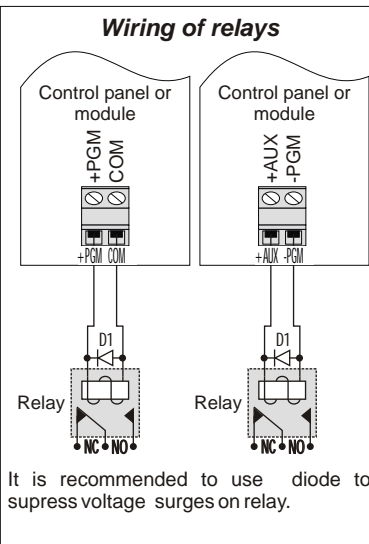
- ◆ Zone address: 00\_5 (control panel zone terminals -Z5F, +Z5F);
- ◆ Zone loop type: NO/EOL;
- ◆ Zone definition: 24h smoke;
- ◆ Attribute assigned to a zone: Fire verification;
- ◆ Reset time must be set;

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

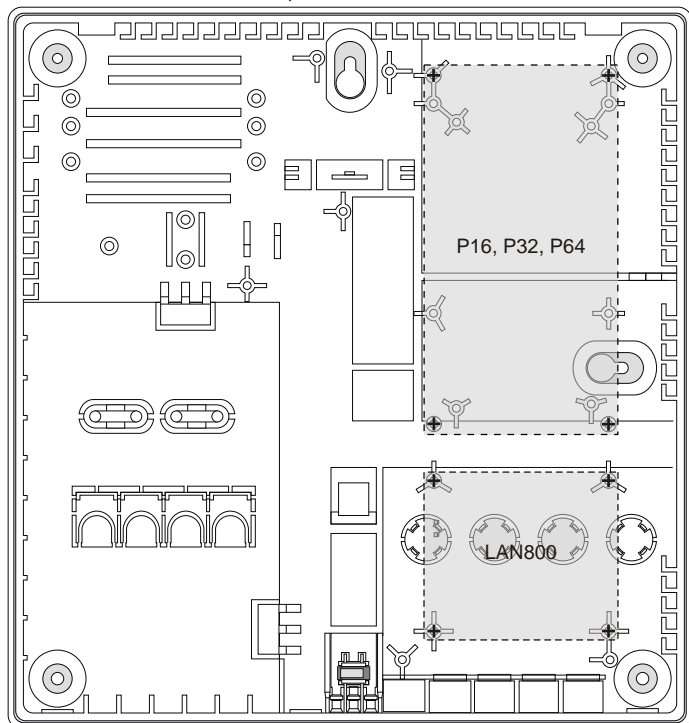




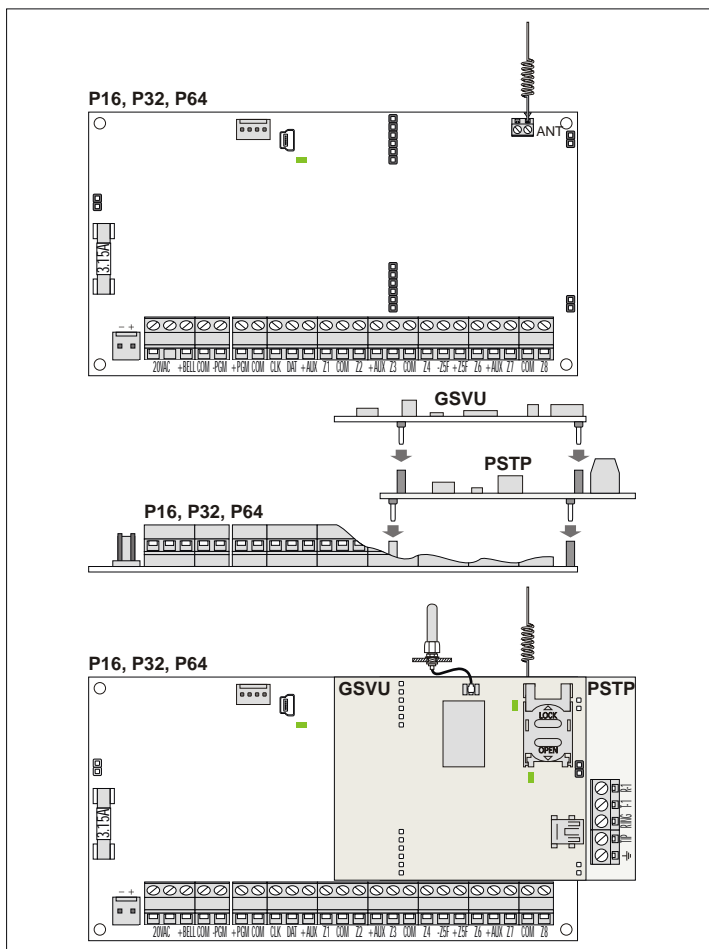
### Installation of modules in CAS6 plastic cabinet

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.

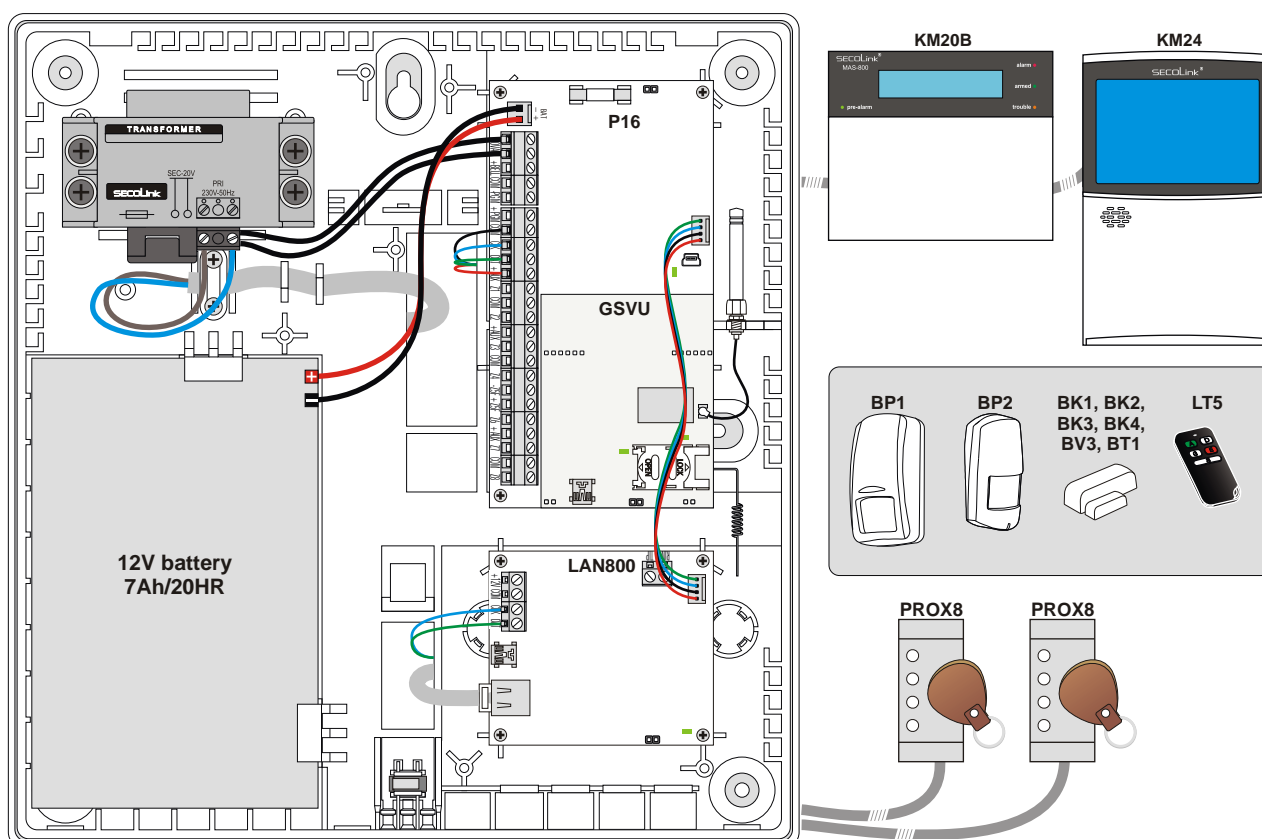
Installation of the control panel and GSM/GPRS or LAN module



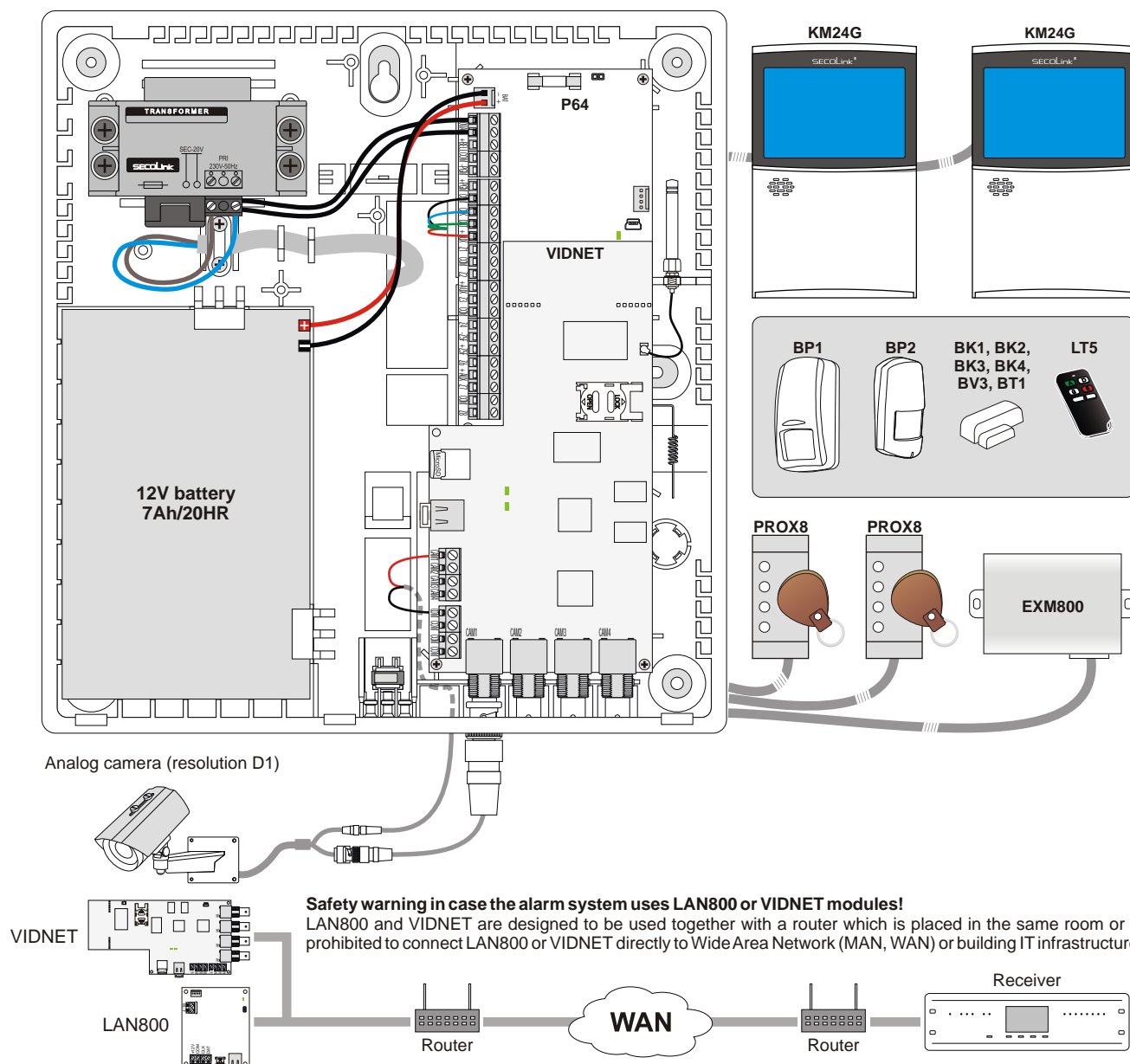
### Installation of GSVU module and PSTP communicator



### Typical system installation example - SECOLINK P16, P32

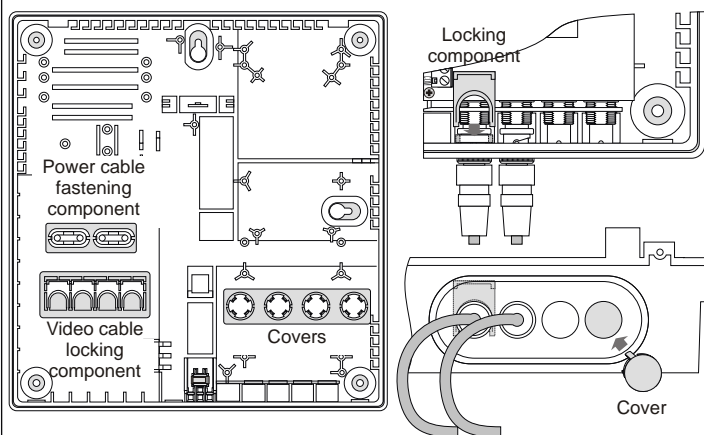


### Typical system installation example - SECOLINK P64



#### Plastic components

Plastic cabinet CAS6 has few plastic components for power cable fastening, video cable locking, and bottom covers, when video module VIDNET is not being used. Locate plastic components in the bottom of the plastic cabinet 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

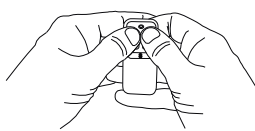
U01 User 01 ...  
6 Controls ... New RCU

Waiting ...

Advance to the next user with keypad keys **⬅** or **➡**.

Choose **New RCU** and press **⏏**.

Simultaneously hold down the buttons **⬆** and **⬇**.



Done

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

## SECOLINK wireless detectors

### Enrolling the wireless detector to the system zone

Service mode  
1 System setup  
...

System setup  
3 Zones

Z01 Door  
1 Name ... Door

Z01 Door ...  
3 Loop type NO/DEOL

Z01 Door ...  
3 Address ... 06\_1

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

Enable wireless zone by changing *Not used* loop type to any other loop type. If the system uses a keypad produced before 2014, an installer is obliged to change the loop type to *NO/DEOL* or *Vibration*.

Enter zone address *MA\_Z*, where *MA* is a module address in the system and *Z* is a zone number in the module.

**Note:** for wireless zones *MA\_1* – *MA\_8*, the system will automatically assign *NO/DEOL* loop type and for wireless zones *MA\_9* – *MA\_16* the *Vibration* loop type. Don't change the loop type of the zone!

Module address:

EXT116S - address is **06** (default) or one that is given during the registration.

Virtual module EXT116S address depends on control panel's type:

P16 - address **12**;

P32 - address **12** and **13**;

P64 - address **12, 13, 14** and **15**.

Z01 Door ...  
4 WL det. loop (zone) ID 201

Enter wireless detector loop (zone) ID number and press **⏮** key to start enrolling. This field can also be used to delete the sensor from the module.

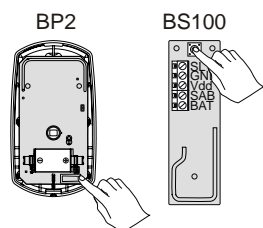
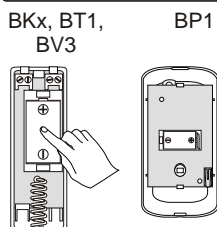
Waiting for  
WL detector

Immediately after the enrollment has started press the tamper switch for a short period of time (~ 1 sec).

BKx, BT1, BV3: press the detector battery as shown in the picture until you will feel a click. This action activates the tamper switch on the back side of the detector.

BP1, BP2: press the tamper switch as shown in the picture until you will feel a click.

BS100: press the tamper button as shown in the picture until you will feel a click.



Done

If the wireless detector has successfully enrolled, message *Done* will appear on a screen. No additional transmissions are needed for confirmation.

### PIR sensitivity settings

Z01 Door ...  
15 PIR mode 1 pulse

Used for *Interior*, *Interior Night Armed*, *Follower*, *Follower Night Armed* zones. Use **▲** or **▼** to change wireless PIR BP2 sensitivity: *1 pulse* (the most sensitive mode), *2 pulses*, or *Adaptive* (the less sensitive mode).

### Wireless detector loop (zone) enrolling ID numbers

| Use  | Supports   | Wireless detector loop (zone) ID number  |            |            |
|--|------------|--|------------|------------|
| Built-in reed switch<br>(used in conjunction<br>with a magnet)                               | BK1<br>BK4 | 201  |            |            |
| Built-in<br>temperature<br>sensor  | BT1        | 200  |            |            |
| Normally closed<br>circuit contact loop<br>wired to ...                                      | BK2**      | Input 1  | Input 2    | Input 3    |
|  | BK3        | 210  | 220        | 230        |
|  | BV3        | Zone response (speed) time of 0,4 sec.   |            |            |
| Roller detector<br>loop wired to ...   | BK2**      | Input 1  | Input 2    | Input 3    |
|  |            | <u>211</u>   | <u>221</u> | <u>231</u> |
|  |            | <u>212</u>   | <u>222</u> | <u>232</u> |
|  |            | <u>213</u>   | <u>223</u> | <u>233</u> |
|  |            | <u>215</u>   | <u>225</u> | <u>235</u> |
|  |            | <u>217</u>   | <u>227</u> | <u>237</u> |
|  |            | <u>219</u>   | <u>229</u> | <u>239</u> |
|  |            | 211 - last digit defines the number of Roller pulses.  |            |            |
| Vibration detector<br>loop wired to ...  | BV3        | Input 1  | Input 2    | Input 3    |
|  |            | <u>111</u>   | <u>121</u> | <u>131</u> |
|  |            | ...  | ...        | ...        |
|  |            | <u>119</u>   | <u>129</u> | <u>139</u> |
| 111 - last digit x 10 defines the zone response (speed)<br>time (example: 1 x 10 = 10 msec). |            |  |            |            |
| Passive infrared<br>sensor<br>(PIR sensor)   | BP1<br>BP2 | 181  |            |            |
| Built-in<br>temperature<br>sensor  | BP1<br>BP2 | 180  |            |            |
| Wireless<br>input/output device  | BS100      | <u>102</u><br>Any not used in<br>the module<br><u>103</u><br><u>104</u><br><u>105</u>  |            |            |
|  |            | 102 - last digit defines the PGM output number in the<br>module. Use this digit to program PGM output<br>address <i>MA_P</i> , where <i>MA</i> is a module address in the<br>system and <i>P</i> is a PGM output number in the module. |            |            |
| Delete detector<br>in particular zone  | All        | 255  |            |            |
| Delete all<br>detectors<br>in particular<br>wireless module                                  | All        | 254  |            |            |

\*\* wireless detector loop (zone) ID number for input 3 is not used.

### Immunity to attenuation

Service mode  
1 System setup  
...

System setup  
7 Wireless settings

Wireless settings  
1 Attenuation 0dB

Wireless settings  
1 Attenuation 3dB

Due to the fact that there may be changes in the passive environment after installation, it is possible to temporarily attenuate the radio frequency link during installation or maintenance. In order to temporarily attenuate the radio frequency change the setting *Attenuation*.

Change setting's *Attenuation* value to *3dB*. Save changes by pressing the **⏮** key.

**Caution:** Each wireless detector is supervised by a check-in signal that is sent to the receiver at 60 minutes interval. During this check-in communication the detector will receive new settings and will start to work according to them. DO NOT FORGET to change the *Attenuation* setting's value to 0dB when installation or maintenance works are finished.

## 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 1, Environmental Class II; EN 50131-3, EN 50131-6. For more information visit manufacturer's website at [www.kodinis.lt](http://www.kodinis.lt) or [www.secolink.eu](http://www.secolink.eu) for a complete text of declaration. SECOLINK Intruder Alarm System is designed and manufactured in Lithuania.