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^2 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 (for S16 series control panels): ~18 - 20V, 1.1A, 50Hz.
- secondary winding (for S32 series control panels): ~20V, 1.5A, 50Hz.
Back-up power supply: 12 V 2,3 - 7Ah 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 must comply with EN 62368-1 safety requirements.
Intruder alarm system is compliant with the essential requirements of Directives 2014/53/EU, 2014/30/EU and 2014/35/EU.
Intruder alarm system contains radio transceiver operating in GSM850/900/1800/1900 bands, LTE Cat-M1 700/800/850/900/1800/1900/2100 bands.
Please read and follow these safety guidelines in order to maintain safety of operators and people around:
DO NOT use the intruder alarm system where it can interfere with other devices and cause any potential danger.
DO NOT use the intruder alarm system with medical devices.
DO NOT use the intruder alarm system in a hazardous environment.
DO NOT expose the intruder alarm system to high humidity, chemical environment, or mechanical impacts.

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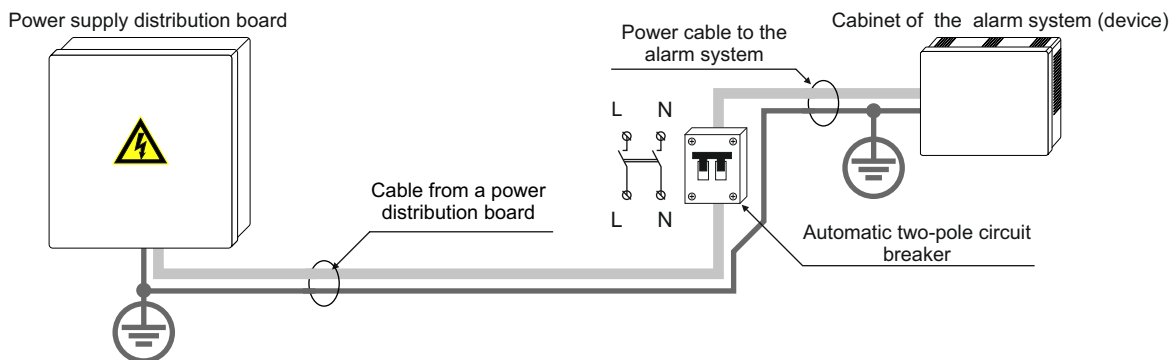
Picture 1. Automatic two-pole circuit breaker and a power cable wiring diagram

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 communicator LAN800 is designed to be used together with a router which is placed in the same room or premises. It's prohibited to connect LAN800 directly to Wide Area Network (MAN, WAN) or building IT infrastructure cables.
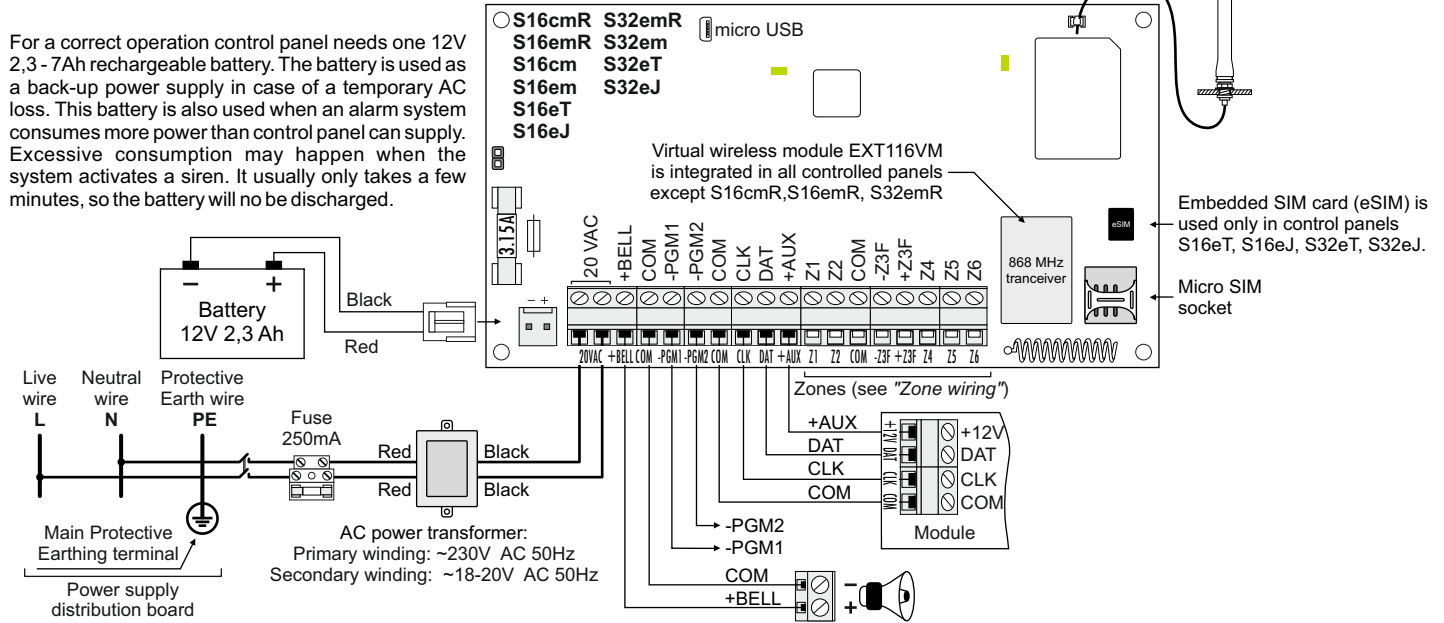
Please act according to your local rules and do not dispose of your unusable alarm system or its components with other household waste. This product utilization in EU is covered by European Directive 2012/19/EU.

General information

The control panels of S series S16cmR, S16emR, S16cm, S16em, S16eT, S16eJ, S32emR, S32em, S32eT, S32eJ have everything you need to protect an individual apartment, house or homestead. The control panel has 6 zones for connecting wired sensors, one of them is for connecting a 2-wire smoke detector. In the event of an alarm, the control panel can activate a siren, send a message to the user's mobile phone and/or notify the central monitoring station. Depending on the control panel model, up to 16 – 32 wireless sensors can be connected to the control panel. The control panel can work alone, without external modules, by controlling it with a LT5 remote control or the SECOLINK PRO app. Up to 3 modules can also be connected to the control panel. You can find more information about the control panel on the website of the manufacturer UAB "Kodinis Raktas" at http://www.secolink.eu in the "Control panels" section. The manufacturer - UAB "Kodinis Raktas" ensures that the control panel meets the essential requirements of EU directives and standards EN 50131-1, class 2, environmental protection class II; EN 50131-3, EN 50131-6, EN50131-5-3, EN 50131-10, EN 50136-1, EN 50136-2 requirements.
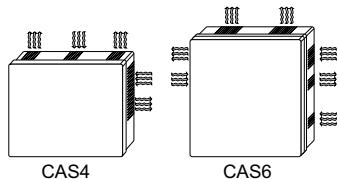
INSTALLATION OF CONTROL PANEL

For a correct operation control panel needs one 12V 2,3 - 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. It usually only takes a few minutes, so the battery will no be discharged.

○ S16cmR S32emR
S16emR S32em
S16cm S32eT
S16em S32eJ
S16eT
S16eJ

micro USB

Virtual wireless module EXT116VM is integrated in all controlled panels except S16cmR,S16emR, S32emR

Embedded SIM card (eSIM) is used only in control panels S16eT, S16eJ, S32eT, S32eJ.

Micro SIM socket

868 MHz tranceiver

Battery 12V 2,3 Ah

Black
Red

Zones (see "Zone wiring")

Live wire **L** — Neutral wire **N** — Protective Earth wire **PE**

Fuse 250mA

Red / Black
Red / Black

Main Protective Earthing terminal

Power supply distribution board

AC power transformer:
Primary winding: ~230V AC 50Hz
Secondary winding: ~18-20V AC 50Hz

+AUX / DAT / CLK / COM → Module (+12V / DAT / CLK / COM)

-PGM2
-PGM1

COM
+BELL

Picture 2. Wiring diagram
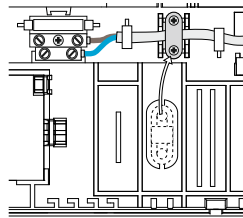

Attention!
Do not cover ventilation holes of the cabinet!

CAS4   CAS6

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 +BELL.

Securing power cable to the cabinet

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

Default template

SECOLINK security systems are supplied to customers with a pre-installed template in the keypad or control panel memory. If the default template is suitable for the installation, then programming can be simplified. Below is an example of a default template pre-installed on the keypad KM24G.
Zone terminals:
 ◆ Zone 1 is preset to be used with an entry door magnetic contact;
 ◆ Zone 2 - with PIR motion detector in entry/exit path;
 ◆ Zone 3 - with a 2-wire smoke detector;
 ◆ Zones 4, 5 - for PIR detectors wiring;
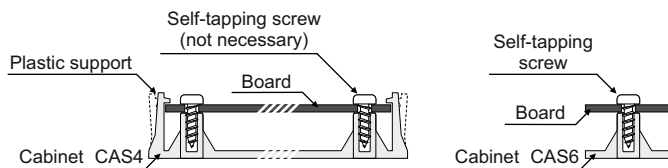 ◆ Zone 6 - for cabinet tamper switch wiring;
PGM output terminals:
 ◆ +BELL (O01) is preset in the template to control a siren with no battery;
 ◆ –PGM1 (O02) is preset to make an activation (makes "minus") of a siren with a back-up battery;
 ◆ –PGM2 (O03) is not used.
If the template is not suitable, it can be easily changed using the program *MASCAD PRO* (the program can be downloaded from the website: www.secolink.eu).
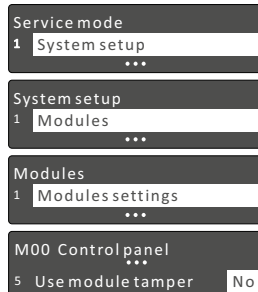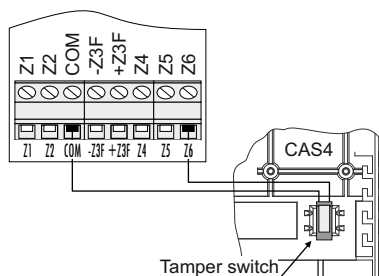

Mounting control panel in the cabinet

The control panel board must be fixed in the cabinet. Depending on the cabinet model, this can be done using self-tapping screws or using plastic supports, or both. The cabinet mounting holes must match the holes drilled in the control panel board.

Self-tapping screw (not necessary)
Plastic support
Board
Cabinet CAS4

Self-tapping screw
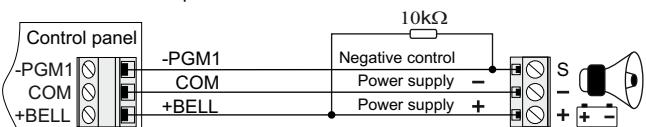Board
Cabinet CAS6

Siren wiring and programming

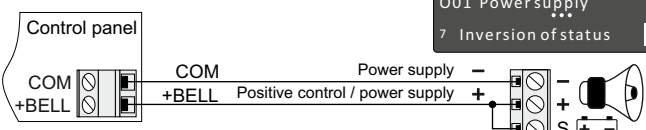In most templates +BELL is set for sirens with no battery (Picture 2).
In order to use a siren with a back-up battery (Picture 3) you need to change +BELL (O01) definition to *Power supply*. Definition changing sequence is shown on the right.
If control panel's PGM output -PGM1 direct connection to siren triggering input S does not ensure a stable siren activation, please connect the pull-up resistor (3-15 kOhm) between the +BELL and -PGM1 as shown in the picture below.
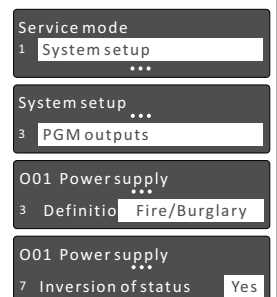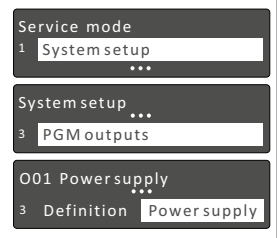
Service mode
1 System setup
•••

System setup
3 PGM outputs
•••

O01 Power supply
3 Definition   Power supply

Control panel
-PGM1 / COM / +BELL

10kΩ
-PGM1 — Negative control
COM — Power supply –
+BELL — Power supply +

S

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
3 PGM outputs
•••

O01 Power supply
3 Definitio   Fire/Burglary

O01 Power supply
•••
7 Inversion of status   Yes

Control panel
COM / +BELL

COM — Power supply –
+BELL — Positive control / power supply +

S

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

---

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.

Z1 Z2 COM -Z3F +Z3F Z4 Z5 Z6

CAS4

Tamper switch

Service mode
1 System setup
•••

System setup
1 Modules
•••

Modules
1 Modules settings
•••

M00 Control panel
•••
5 Use module tamper   No

ELECTRICAL CHARACTERISTICS AND ADDITIONAL INFORMATION

Maximum load ratings and electrical characteristics

Maximum long term output current of S16 series control panel: ($I_{+AUX} + I_{+BELL} + I_{BAT.\ CHARGE} \leqslant 0,7\ A$)	0,7 A
Maximum long term output current of S32 series control panel: ($I_{+AUX} + I_{+BELL} + I_{BAT.\ CHARGE} \leqslant 1\ A$)	1 A
Maximum current out of +AUX (for S16 series control panels):	+0,5 A
Maximum current out of +AUX (for S32 series control panels):	+0,8 A
Maximum short time current out of +BELL (battery is used):	+2,0 A
Maximum current into -PGM1:	-0,15A
Maximum current into -PGM2:	-0,15A
Maximum battery charging current:	+0,2 A
Low battery voltage threshold:	10,5 V
Deep discharge protection - control panel disconnects 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 outputs:	+13,9 V
Minimum voltage on +AUX, +BELL 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:	150 mA
Recommended battery capacity:	2,3-2,4Ah
Operating time with 2.3Ah battery at 0.4A current from +AUX:	4h

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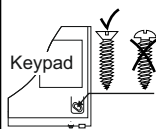
Use only self-tapping screws with a flat (countersunk) head (3x30 PH) to mount keypad's plastic on the wall. Make sure the screw is fastened completely and its head is hidden in the plastic. Other shapes of screws that are not completely screwed in, may touch keypad electronics and cause damage of keypad.

Temperature

Operating temperature range:	-10°C to +55°C
Calculated life expectancy at 40°C ambient temperature for control panel:	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 AC power transformer;
- disconnect control panel from back-up battery;
- use a wire to short-circuit the -PGM1 and zone Z1;
- connect control panel to AC power transformer.

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
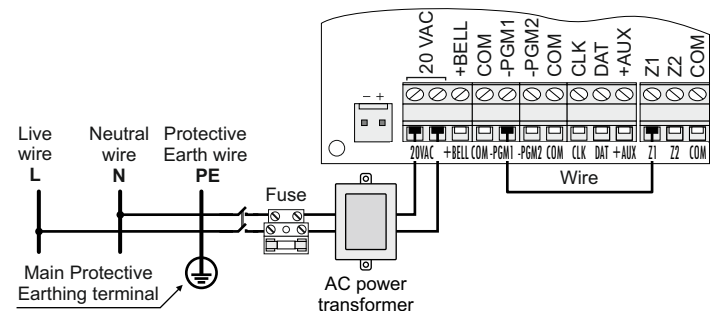
System start-up with no 230V AC power

Connect 12V battery 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.
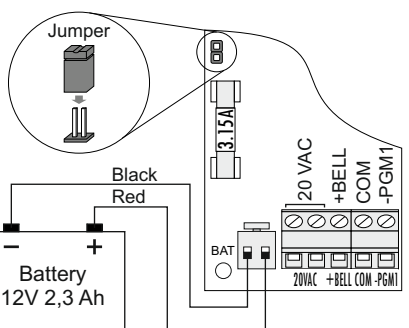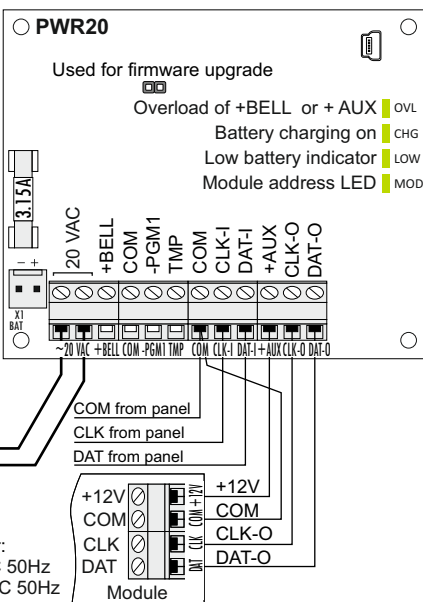
Non-volatile memory

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 HIGHER SECURITY LEVEL SYSTEM

Maximum load ratings and electrical characteristics of PWR20

Maximum long term current out of PWR20: ($I_{+AUX} + I_{+BELL} + I_{BAT.\ CHARGE} \leqslant 2\ A$)	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

PWR20

Used for firmware upgrade

Overload of +BELL or + AUX — OVL
Battery charging on — CHG
Low battery indicator — LOW
Module address LED — MOD

Outdoor siren's safe wiring

Locate the PWR20U module in a separate cabinet, 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 outside proximity reader 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

Attention! Up to 3 external control panels/modules can be connected to the control panel.

LAN800

S16cmR S32emR
S16emR S32em
S16cm   S32eT
S16em   S32eJ
S16eT
S16eJ

micro USB

Not used

3.15A

20 VAC +BELL COM -PGM1 -PGM2 COM CLK DAT +AUX Z1 Z2 COM -Z3F +Z3F Z4 Z5 Z6

868 MHz tranceiver

eSIM

20VAC +BELL COM -PGM1 -PGM2 COM CLK DAT +AUX Z1 Z2 COM -Z3F +Z3F Z4 Z5 Z6

+12V COM CLK DAT

+12V COM CLK DAT

KM20B

+12V COM CLK DAT

Z2 COM +12V Z1   +12V COM CLK DAT

+AUX
COM
CLK
DAT

EXM800

+12V COM CLK DAT

+12V COM CLK DAT

Z1 COM Z2/K7 Z3/K6 COM Z4/K5 Z5/K4 COM Z6/K3 Z7/K2 COM Z8/K1 +AUX

Z1 COM Z2K7 Z3K6 COM Z4K5 Z5K4 COM Z6K3 Z7K2 COM Z8K1 +AUX

PROX8

DAT
CLK
COM
+12V

KM24, KM24A, KM24G

+12V COM CLK DAT

Z2 PGM COM Z1   +12V COM CLK DAT

WL800

SECOLink

+12V COM CLK DAT IN1 IN2 OUT

KM25

Red (+AUX)
Black (COM)
Blue (CLK)
Green (DAT)

KRbus

SECOLink
S16, S32 series control panels
Intruder alarm system   Wiring manual

WIRING OF ZONES

Wiring of single zones

Normally closed contact (NC)	Normally closed contact with one resistor (NC/EOL)	Normally closed contact with two resistors (NC/DEOL)	Normally open contact (NO)	Normally open contact with one resistor (NO/EOL)	Normally open contact with two resistors (NO/DEOL)

Control panel or module — Detector (Tamper) diagrams for the six zone wiring types above. Resistor values shown: $1k\Omega$ for NC/EOL; $1k\Omega$ and $1k\Omega$ for NC/DEOL; $1k\Omega$ for NO/EOL; $1k\Omega$ and $1k\Omega$ for NO/DEOL.

Wiring of double zones

Control panel connected to Detector A and Detector B. Resistor values: 300Ω, $1k\Omega$, 620Ω.

* - Detector contact must be NC or NO.

ATTENTION! Avoid power supply loops

Correct wiring

Wrong wiring
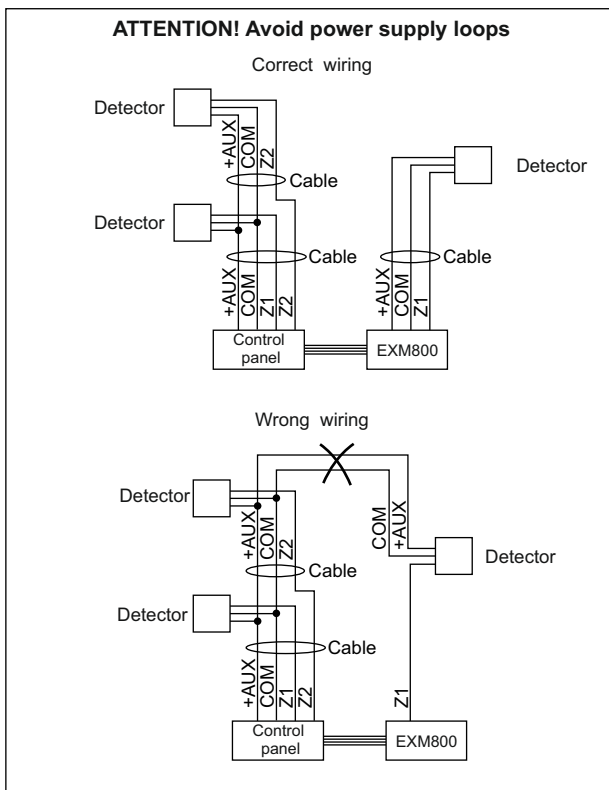
Wiring of a 2-wire smoke detector

Terminals of smoke detector

Resistor value: $2,2k\Omega$

Note: smoke detectors, produced by different manufacturers, may have a different terminals' layout. For more information check detector wiring manual provided by the manufacturer.

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_3* (control panel zone terminals -Z3F, +Z3F);
- 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 -Z3F off for a *Reset time*. When the reset time expires, the system turns the -Z3F 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 occured.

Wiring of relay

It is recommended to use diode to supress voltage surges on relay.

SYSTEM INSTALLATION EXAMPLE WITHOUT KEYPAD

GSM antenna

CAS4

Wireless detectors

Control using the **SECOLINK PRO** app

BP2   BP2-p

🐾 PET Friendly

BK1, BK2, BK3, BK4, BT1

BF1

SECOLINK PRO app on the App Store

SECOLINK PRO app on Play Store

Control by remote control **LT5**

Attention: S32 series control panels are intended for installation in a CAS6 plastic casing. These control panels cannot be installed in the CAS4 plastic casing due to the low power AC transformer used in it.

SYSTEM INSTALLATION EXAMPLE WITH KEYPAD

GSM antenna

CAS4

Wireless detectors

Control using the **SECOLINK PRO** app

Control by remote control **LT5**

BP2   BP2-p

🐾 PET Friendly

BK1, BK2, BK3, BK4, BT1

BF1

KM20B

KM24, KM24A, KM24G

KM25

Attention: S32 series control panels are intended for installation in a CAS6 plastic casing. These control panels cannot be installed in the CAS4 plastic casing due to the low power AC transformer used in it.

ENROLLING THE LT5 REMOTE CONTROL TO THE USER

1. LT5 remote control template

The remote controls in the system operate according to the settings set in the factory default template. Factory LT5 remote control template:
- [A] button - used to select the arming mode. To prevent accidental arming, an additional [S] key must be pressed to execute the arming command. The modes are listed in order of preference:
  1. Off (corresponds to LED color: red);
  2. Night (corresponds to LED color: blue);
  3. At home (corresponds to LED color: green);
  4. When away for a long time (corresponds to LED color: white).
- [D] button - used only to disarm the system. If the system signals an alarm, disarming the system with the remote control simultaneously silences the siren. In order to avoid accidental disarming, the [S] key will need to be pressed in order to execute the disarm command.
- [G] button - programmed to clear the alarm with one push of the button. You don't need to press the [S] button to send a command.
- [E] button - programmed to call for help in case of panic. To avoid false panic alarms, the [S] key must also be pressed when sending this command.

If the template is not suitable, it can be easily changed using the program MASCAD PRO (the program can be downloaded from the website: www.secolink.eu).

2. Enrolling

Go to the user edit menu (default PIN codes: first user - **0001**, service PIN - **0000**):

🐾 *Main menu ▸ Settings ▸ Users ▸ Edit User*

1. Advance to the next user with keypad keys [7] or [★].
2. In the *Control* select *New RCU* and press [ENT].

> U01 User 01
> ...
> ⁶ Control   New RCU
> ...
> Waiting ...
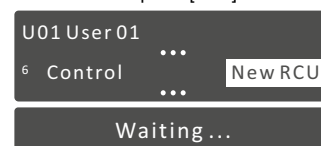
3. Simultaneously hold down the buttons [A] and [D].

> Done

4. Message *Done* should appear on keypad's LCD screen when remote control unit is enrolled succesfully. Release buttons [A] and [D].

WIRELESS ZONE PROGRAMMING

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

✎ *Main menu ▸ Service Mode ▸ System Setup ▸ Zones*

1. Configuring zone address

1. Press [7] or [★] for the next zone.
2. Give an appropriate name to the zone **1**.
3. 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.
4. Enable zone using loop type *Wireless* **3**

```
Z01 Doors
¹ Name              Doors  ← 1
² Address            12_1  ← 2
³ Loop type      Wireless  ← 3
        ...
```

Default module address:
- EXT116S – **06**;
- S16-EXT116VM – **12**;
- S32-EXT116VM – **12**, **13**.

2. Enrolment

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.

```
Z01 Door
¹ Name               Door
² Address            12_1
³ Loop type      Wireless
⁴ Serial No.      2097152  ← 6
  Model               BK1  ← 7
  Zone (loop)      Magnet  ⎫ 8
  Detect tamper       Yes  ⎭
  Battery         ER14250
⁵ Operation code      201
        ...
```

2.1. Enrolment using serial number

Enrolment using serial number is a two step process:
- **1 step.** Enter detector serial number **6**. 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.*

✎ ⑦ ▸ *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.

2.2. 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 (BK1, BK4)

 010
Flood detector (BF1)

 181
Motion (BP2, BP2-p)

 180
Temperature (BP2, BP2-p)

 102 – 105
Wireless PGM output (BS100)

---

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

2 1 0

NC type detector (BK2, BK3, BK4)

input terminal 1, 2 or 3.

2 1 1

Roller type detector (BK2, BK3, BK4)

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

3. Temperature zone

Temperature field **13** is visible when the detector (BT1, BP2 or BP2-p) 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).

```
Z02 Temperature
        ...
⁴ Serial No.     1048576
  Model              BT1  ⎫ 14
  Loop (zone)  Temperature ⎭
  Detect tamper      Yes
  Battery        ER14250
⁵ Operation code     200  ← 14
        ...
⁹ Definition 24h high temper  ← 15
¹¹ Temperature      +30C  ← 13
¹³ No alarm          Yes  ← 16
        ...
```

ℹ **Note:** 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).

4. Battery

Wireless detector, starting with the v.2.000 version wireless detectors can be supplied with 1/2 AA (ER14250) or CR2 type Lithium battery. Battery type should be selected for each detector **17** .

```
Z02 Temperature
        ...
⁴ Serial No.     1048576
  Model              BT1
  Zone (loop)  Temperature
  Detect tamper      Yes
  Battery        ER14250  ← 17
        ...
```

5. 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** .

```
Z02 Temperature
        ...
⁸ Supervisory window    1h  ← 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*

```
Wireless Subsystem
¹ Security grade    Grade 2  ← 19
        ...
```

Table 1. Security grade

Lygis	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 *Supervisory window* 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.

6. Communication mode selection

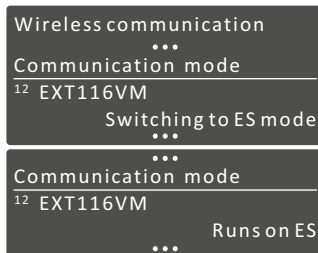Wireless devices, starting from version 2.000 support new communication mode, that can be selected in menu *Mode* [20] :

```
Wireless Subsystem
    • • •
 2  Mode      ES(Energy Save)   ◄─── [20]
    • • •
```
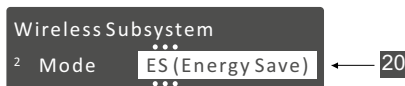
Table 2. Mode comparison (more "●" = better)

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*:
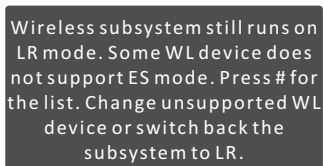
🐌 ⑦ ▶ *Technical information* ▶ *Wireless communication*

```
Wireless communication
        • • •
Communication mode
12 EXT116VM
          Switching to ES mode
        • • •
```

```
Communication mode
12 EXT116VM
              Runs on ES
        • • •
```
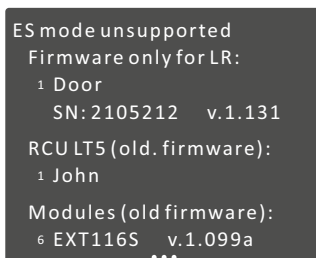
The conflict can occur when the mode *ES* [20] is chosen in the system with the older wireless devices that supports only the *LR* mode. The new setting will not be applicable and an error will be displayed on screen upon changing the mode [21] :

```
Wireless Subsytem
       • • •
 2  Mode     ES(Energy Save)
    Conflict with WL device!   ◄─── [21]
       • • •
```

on main screen:

```
Wireless subsystem still runs on
 LR mode. Some WL device does
 not support ES mode. Press # for
 the list. Change unsupported WL
  device or switch back the
    subsystem to LR.
```

after pressing key [#]:

```
ES mode unsupported
 Firmware only for LR:
  1 Door
    SN:2105212   v.1.131

 RCU LT5 (old. firmware):
  1 John

 Modules (old firmware):
   6 EXT116S   v.1.099a
        • • •
```
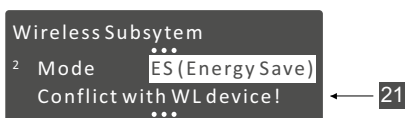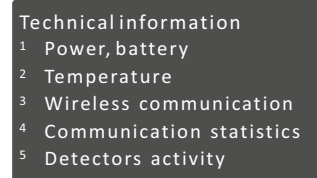
The error message that *ES* is not supported is also displayed in the corresponding user (LT5), wireless zone or module editing menu. All errors will be displayed until all older wireless devices will be replaced (upgraded) OR when *Mode* [19] will be changed back to the *LR* .

7. Technical information

To evaluate wireless detector work get into technical information menu:

🐌 ⑦ ▶ *Technical information*

```
Technical information
 1  Power, battery
 2  Temperature
 3  Wireless communication
 4  Communication statistics
 5  Detectors activity
```

8. Immunity to attenuation

Due to the fact that there may be changes in the passive environment after installation, it is possible to *temporarily* attenuate [21] the radio frequency connection by 3dB during installation or maintenance. If the system continues receiving signal from the detector with an attenuated radio frequency link, then it will for sure work under normal conditions.

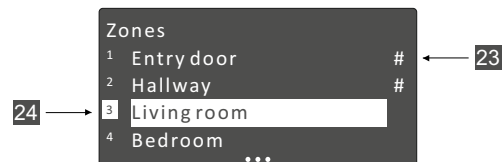🐌 *Service mode* ▶ *System setup* ▶ *Wireless settings*

```
Wireless settings
       • • •
 3  Attenuation      3 dB   ◄─── [21]
```

```
Wireless settings
       • • •
 3  Attenuation      0 dB   ◄─── [22]
```
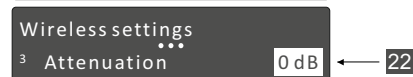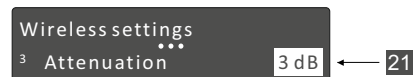
⚠ **DO NOT FORGET** to change the *Attenuation* setting's value to *0dB* when installation or maintenance works are finished [22] .

9. Test

Enter test mode menu:

🐌 *Main menu* ▶ *Test* ▶ *Burglary zone test*

When a signal from the detector is received the zone is marked with # [23] . To end testing press [ENT].

```
Zones
 1  Entry door           #   ◄─── [23]
 2  Hallway              #
[24] ─►  3  Living room
 4  Bedroom
        • • •
```

Keypad KM24G or KM25 has a feature that allows you to choose one or more zones that need to be tested [24] . To select the zone(s) use the keypad key [#]