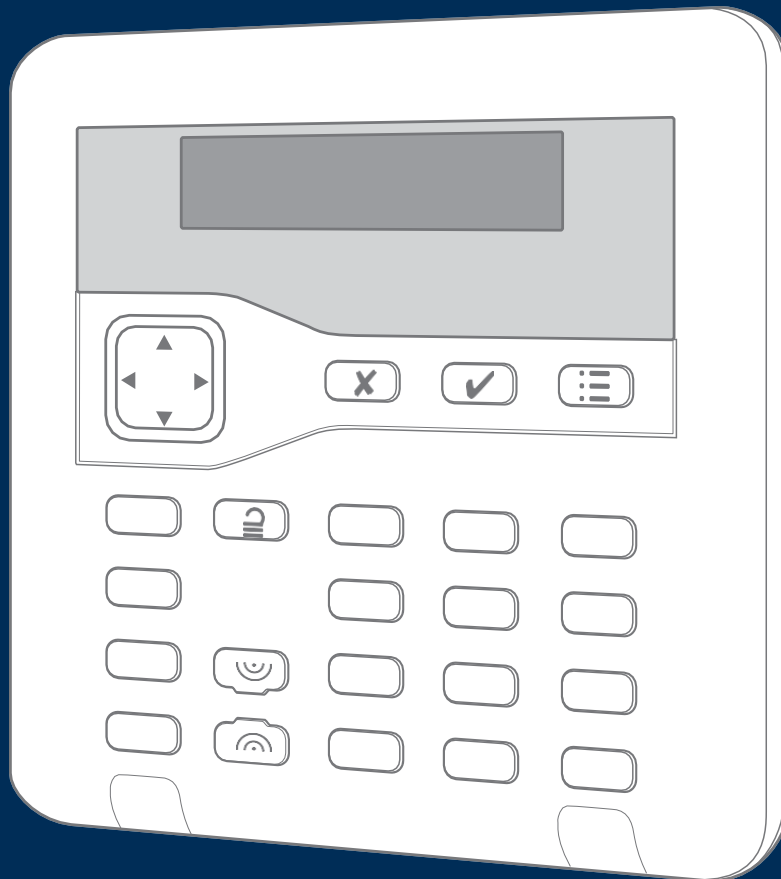


AZBE10000

INSTALLATION GUIDE

Terxon SX Bus Key Pad



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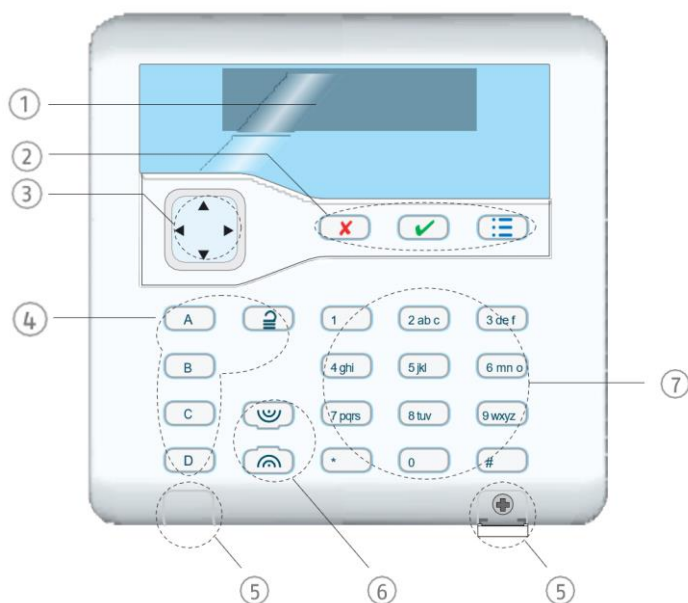


Figure 1: Front view

- | | |
|---|---|
| ① | LCD display |
| ② | Programming keys |
| ③ | Navigation keys. This key has built-in alert LEDs. |
| ④ | Setting and un-setting keys. The ABCD keys have built-in status LEDs that can show the setting status of the partition. These LEDs can be disabled. |
| ⑤ | Cover screws (under plastic caps) |
| ⑥ | hold-up alarm (HUA) keys |
| ⑦ | Numeric/text keys |

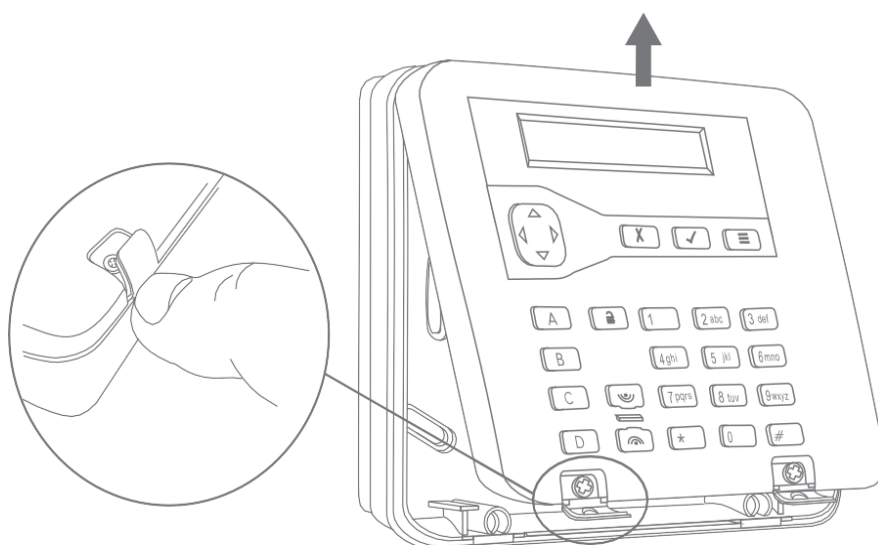


Figure 2: Removing the front cover

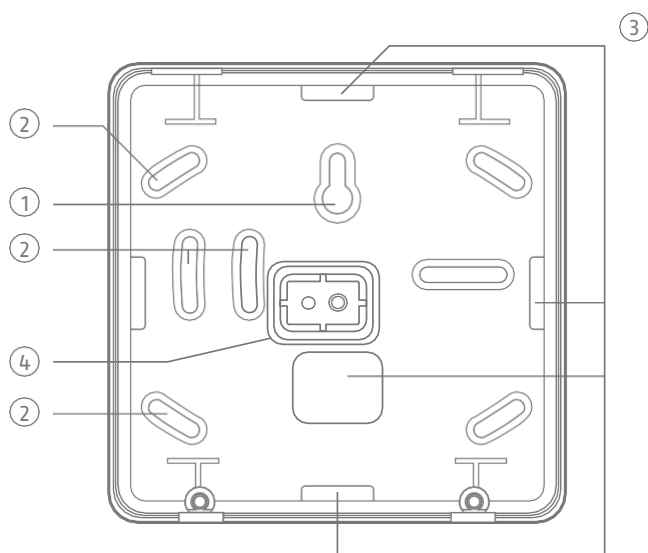


Figure 3: Rear panel

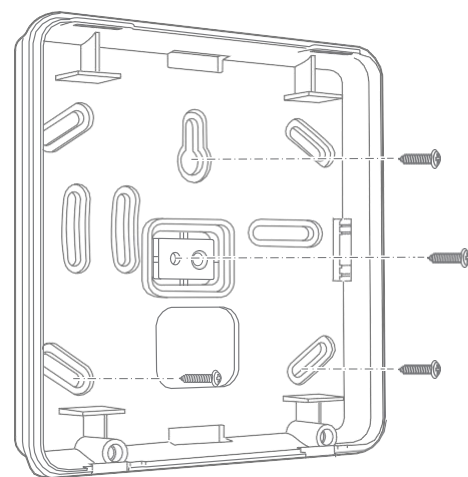


Figure 4: Fixing rear panel

① Central keyhole

② Fixing holes

③ Cable entry

④ Tamper block

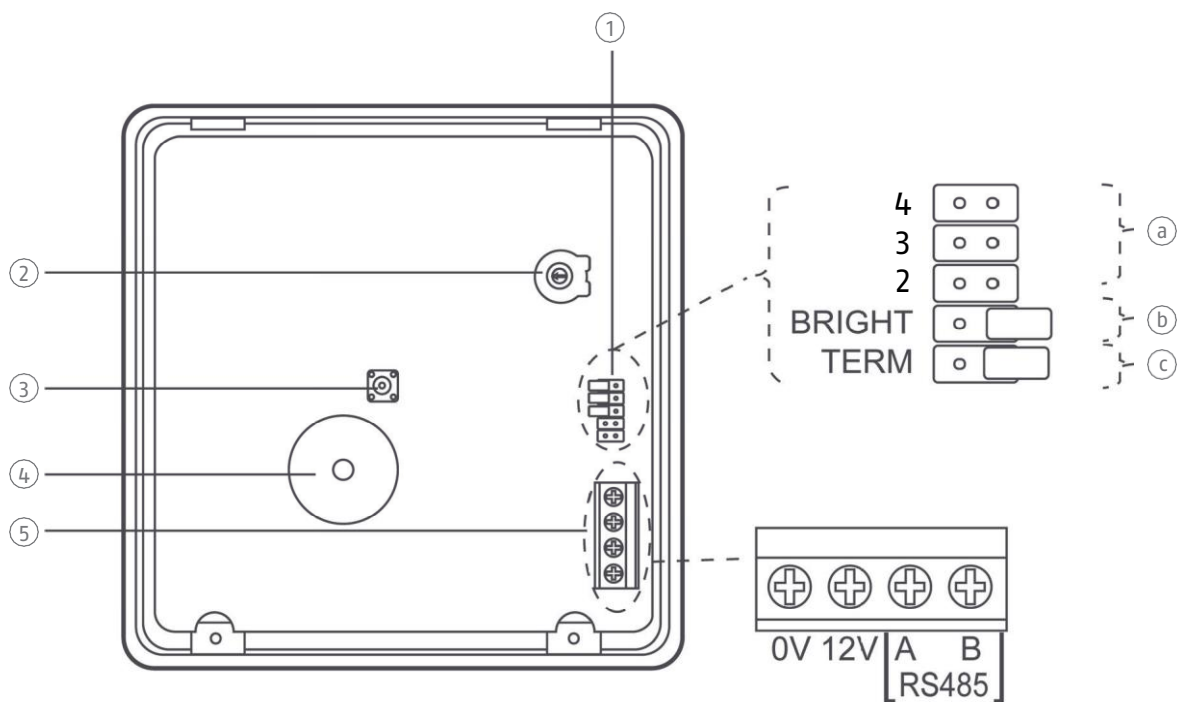


Figure 5: Front plastic housing with circuit board

① Jumpers for addressing and LED function:

(a) Addressing

(b) LED functions

(c) Termination link

② Sounder volume control

③ Tamper switch

④ Sounder

⑤ Connection for control unit

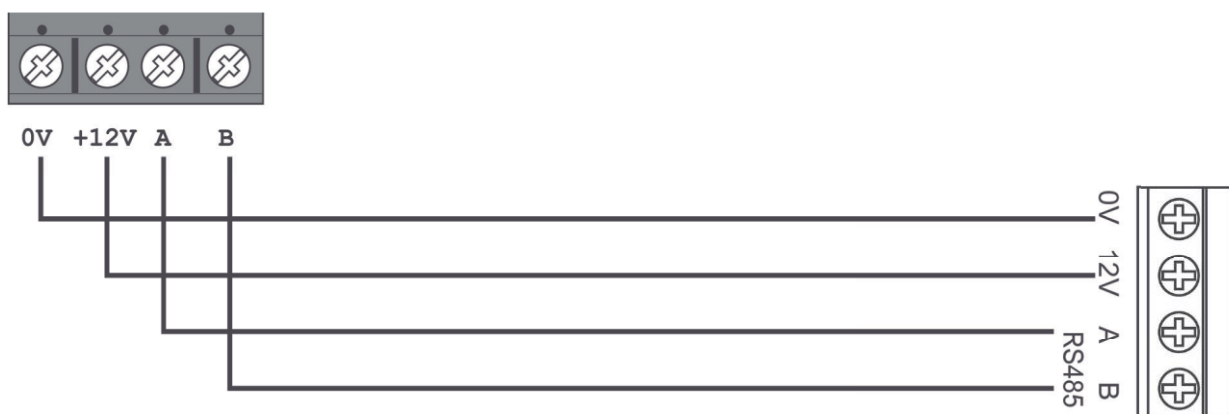


Figure 6: Bus cabling

1. INTRODUCTION



This product may only be installed and maintained only by qualified service personnel.

This **BUS Key Pad** is designed for the **Terxon SX Alarm Panel** and allows users to set and unset the alarm system and installers to program the system. The **BUS Key Pad** has backlighting for the buttons and the display. In addition, the A, B, C and D buttons and navigation buttons are equipped with status LEDs that are built into the buttons themselves.

1.1 Explanation of the symbols

The following symbols are in this manual:

Symbol	Signal word	Meaning
	Caution	Indicates a risk of injury or health hazard due to electrical voltage
	Important	Indicates possible damage to the device/accessories or a risk of injury or health hazards
	Note	Indicates important information

1.2 Intended use

Only use the device for the purpose for which it was built and designed! Any other use is considered unintended!

1.3 Limitation of liability

Every effort has been made to ensure that the contents of this manual are correct. However, neither the author nor ABUS Security Center GmbH & Co. KG can be liable for damage caused by incorrect or improper installation and operation or failure to observe the safety instructions and warnings. No liability can be accepted for any resulting damage. No part of the product may be changed or modified in any way. Your warranty will be invalidated if you do not these instructions. We the right to make changes to this manual without prior notice.

1.4 Important safety information

Power supply



Caution: All electrical connections must be carried out by a qualified electrician and comply with the applicable local regulations.

Children



Important: electrical appliances out of the reach of children. Never allow children to use electrical appliances unsupervised. Children may not always be able to recognise potential dangers correctly. Small parts can be fatal if swallowed. There is a risk of suffocation. This appliance is not suitable for children. If used incorrectly, parts under spring tension can fly out and injure children (e.g. to the eyes).

Cleaning

Only clean the housing of the device with a damp cloth. Do not use solvents, white spirit, thinners or other corrosive substances. Carefully wipe the surface dry with a cotton cloth.

Disposal



Important: EU Directive 2012/19/EU regulates the proper return, treatment and recycling waste electronic equipment. This symbol means that the device must be disposed of separately from household or industrial waste at the end of its service life in accordance with the applicable local legal regulations in the interests of environmental protection. Used devices can be disposed of at the official recycling centres in your country. Observe the local regulations when disposing of the materials. For more information on return (also for non-EU countries), please contact your local authority. Separate collection and recycling conserve natural resources and ensure that all regulations for the protection of health and the environment are complied with when recycling the product.

1.5 Declaration of Conformity

ABUS Security Centre hereby declares that the enclosed product complies with the requirements of the following guidelines:

- EMC Directive (2014/30/EU)
- RoHS Directive (2011/65/EU)

The full text of the EU Declaration of Conformity can be found at the following address ABUS Security

Center GmbH & Co. KG
Linker Kreuthweg 5
86444 Affing, Germany

1.6 Control elements and displays on the key pad

Figure 1 shows the operating elements and displays available on the key pads.

To open the appliance, loosen the screw caps on the front (point 5 in Figure 1). (To loosen them, you may need to carefully slide the tip of a screwdriver under the cap). Remove the two screws hidden underneath (see Figure 2). Carefully swivel the front side out of the rear housing by about 10 mm at the bottom and the front back upwards to release the upper locks. (Be careful not to pull the lower side of the front more than about 25 mm away from the back while the top catches are engaged, or you may break the catches.)

Figure 3 shows the rear housing and the mounting holes.

The front plastic housing contains the printed circuit board (PCB); see Figure 5.

2. INSTALLATION

2.1 Setting up the key pad

Select a mounting location for the key pad:

- Within the area protected by the alarm system.
- At a comfortable height and position for the user.
- Out of sight of potential intruders.

Do NOT select a mounting location for the key pad:

- Next to electronic devices, especially computers, photocopiers or other devices with high-frequency radiation, CAT5 data cables or industrial network systems.

2.2 Installation

Use countersunk screws (4 x 25 mm) with a thread suitable for the wall material. Drill at least three fixing holes when attaching the back of the key pad to the wall. (See Figure 4.) A screw for the tamper lock is supplied.

ABUS Security Center GmbH & Co. KG recommends that you install the key pad as follows:

1. Select which cable entry you would like to use and break out the corresponding plastic parts.
2. For installation with security level 3:
 - a) Press the back against the wall and mark the position of the hole in the tamper lock (see Figure 3).
 - b) Drill a hole in the wall, insert a plug and screw the back to the wall through the tamper lock using the screw supplied. Do not screw the screw in as far as it will go.
3. Make sure that the back is level mark, drill and plug at least three other fixing holes. Push the M4 screws through the fixing holes and secure the back panel to the wall.
4. When installing security level 3, the plastic bars that connect the tamper lock to the rest of the base plate must be cut off.



Note: If you do not cut the webs then the tamper switch will not operate if the complete keypad is forced off the wall. The keypad will not comply with Grade 3 requirements.

5. Mount the front of the key pad (with the key pad circuit board) on the mounting bracket and ensure that the tamper switch is working.

2.3 Connecting the key pad to the alarm panel



CAUTION: Disconnect the alarm panel from the power supply (mains as well as battery) before connecting the key pad. Figure 6 connection details.

2.4 Cable type

In general, the Terxon SX requires an unshielded 4/0.2 standard alarm cable for wiring with the control units.

Shielded cables may necessary if there are devices at the installation site that generate strong radio frequency (RF) radiation, for example welding equipment. Observe the following guidelines if a shielded cable is required:

1. Avoid earth loops by connecting the shielding of the cable to the earthing on the alarm control unit, but not on the key pad.
2. The continuity of the cable shielding is very important, and the shielding **MUST** be free of interruptions over entire length of the cable.
3. Ensure that the shielding is insulated from the housing at the points where the cable enters a metal housing.

2.5 Cable Segregation

Separate the key pad cabling from other cables, such as mains cables, telephone cables, computer network cables and high-frequency cables. Use cable ties to keep cables separate.

Keep the key pad cable away from cables that supply signalling devices or additional loudspeakers.

2.6 Connection

You can connect the key pad either in series or in parallel to the connection of the terminating station. With a parallel connection, the cable must not be longer than 100 m and a star connection may have a maximum of four branches. In a series connection, the distance to the furthest key pad must not exceed 1000 metres.

2.7 Bus termination on the key pad

Information on terminating the RS485 bus in the key pad can be found in the corresponding installation instructions for the key pad.




In some cases, the ends of the bus must be terminated to improve performance in electrically noisy environments or with long cable runs. The control unit and the bus devices have a terminating jumper on their circuit board. The cable is terminated by inserting a shorting pin into the jumper. The following cases occur:

- In a serial configuration, insert the terminating jumpers into the devices located at both ends of the series connection.
(For example, place a jumper over the bus termination in the control unit and in the last device on the bus).
- In a parallel configuration, terminate the two devices at the end of the longest cables.

2.8 Key pad addressing

Each key pad that is connected to a terminating station must have a unique address - see the installation manual. There are two ways to ensure this:

1. Once the key pad has been physically wired to the bus, the control unit assigns a bus address to each added device. For more details on the address format, please refer to the installation manual. For example, a key pad would have the following address: K1-51.
2. Via the menu of the installation programme and the option for assigning addresses to bus devices.

	Action
1.	Connect the key pad to a system and open the "Installer" menu on the control unit.
2.	In the "Installer" menu, select the option "Detectors/components" -> "Address bus comp" and then press  when "Re-scan bus?" is displayed.
3.	When the message "Press the Addr button(s) on the bus devices" displayed, the control unit is ready to assign an address to each additional bus device with an undefined address.
4.	Press and hold "A" and "  " at the same time. Release the buttons when you hear a tone. The control unit assigns the next free address and displays it.
5.	Press  after you addressed all devices.

For further details on addressing the bus devices, please refer to the installation manual.

2.9 Brightness of the backlight

You can adjust the brightness of the key pad lighting by setting the jumpers on the key pad board at BRIGHT accordingly.

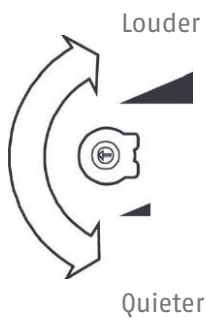
Bridge off the backlight of the key pad lights up with normal brightness.

Bridge on the backlight of the key pad lights up particularly brightly.

Information on how to switch the backlighting on or off programmatically can be found here: Page 15.

2.10 Volume of the signal tones

To set the volume of the signal tones using the key pad:





Note: This control changes the volume of non-alarm tones (for example Exit/Entry tone). The volume of alarm tones is fixed.

3. PROGRAMMING THE BACKLIGHT AND THE LEDS OF BUTTONS A, B, C, AND D







You can activate or deactivate the backlighting and set the function of the LEDs under buttons A, B, C and D. To do this, activate the local programming mode for the key pad (this can be used to The setting of short-circuit pins on the key pad board is not necessary). It is possible to activate the programming mode of the key pad as long as the key pad is not connected to a control unit but is simply supplied with 12 VDC via the bus terminal of the key pad (see Figure 6). If the key pad is connected to a control unit, you must ensure that the control unit is in installer mode before activating the local programming mode of the key pad.

3.1 Activating the local programming mode

Action	Key pad display
1. Connect 12 VDC to the key pad.	
2. Open the "Installer" menu on the control unit if the key pad is connected to a system.	
3. Open the tamper protection on the key pad.	
4. Press and hold the B and  buttons simultaneously for at least two seconds.	MENU ABCD 

The key pad is now in local programming mode and the display shows the current status.

3.2 To switch the LEDs on buttons A, B, C and D on or off

Action	Key pad display
1. Switch to local programming mode (see above).	MENU ABCD 
2. Press  or  to activate or deactivate the LEDs on buttons A, B, C and D. A  is shown on the right-hand side of the display when the LEDs are deactivated and a  when the LEDs activated. For example:	MENU ABCD 
3. Exit local programming mode and save your changes (see below).	

3.3 To change the settings for the backlight

Action	Key pad display
1. Activate local programming mode (see above).	MENU ABCD ✓
2. Press ▼. The current status of the LEDs for the backlighting is shown on the display, e.g:	MENU BACKGROUND LIGHTING ✓
3. Press ► several times to select one of the following options: Backlight LEDs ON (4). Time-controlled backlighting (8). The backlighting remains lit for 10 seconds after the last button is pressed. The effect of the backlighting depends on the programming of the control unit (on which software release 3 must be installed).	BACKGROUND LIGHTING MENU ✓ BACKGROUND LIGHTING MENU ✕
4. Exit local programming mode and save your changes (see page 13).	

3.4 To Disable/Enable the Status OK LED

Action	Key pad display
1. Activate local programming mode (see page 11).	MENU ABCD ✓
2. Press ▼ repeatedly until the following appears on the display:	MENU STATUS OK LED ✓
3. Press ► several times to select one of the following options: Status OK LED ON (✓). Status OK LED OFF (✕). The green status LED under the navigation key will glow for 20 seconds after the last press (this may be useful when the keypad is placed in bedrooms that should be completely dark at night).	MENU STATUS OK LED ✓ MENU STATUS OK LED ✕
4. Exit local programming mode and save your changes (see page 13).	

3.5 To Disable/Enable the Status Fault LED

Action	Key pad display
1. Activate local programming mode (see page 11).	MENU ABCD ✓
2. Press ▼ repeatedly until the following appears on the display:	MENU STATUS FLT LED ✓
3. Press ► several times to select one of the following options: Error status LED ON (✓). Error status LED OFF (✕). The red error LED under the navigation button is deactivated and lights up if there is no error message.	MENU STATUS FLT LED ✓ MENU STATUS FLT LED ✕
4. Exit local programming mode and save your changes (see page 13).	

3.6 To exit local programming mode and save changes

EITHER:

Press ✓

OR

Close the tamper protection of the key pad.

The key pad saves the changes you have made in its local memory.

If required, you can now disconnect the 12 VDC power supply or leave the alarm panel in installer mode.

4. TESTING THE KEY PAD

The only maintenance work you need to carry out is an annual check and cleaning of the buttons on the key pad.

4.1 Testing the buttons

To start testing, make sure the system is idle then:

1. Open the "Installer" menu and select "Test". The "Test" menu on the display.
2. Select control units.
3. Press each button once. A character appears the display as a reaction. To test, press both ÜA buttons simultaneously. Press 8 to end the test.

5. TECHNICAL DATA

Operating temperature	-10 to +55 °C
Air humidity	0 to 93 % relative humidity, non-condensing
Dimensions	128 x 128 x 29 mm (H x W x D)
Weight of the key pad	0.19 kg
Material of the housing	ABS
Power consumption	Maximum 58 mA.
Sabotage protection	Type B (EN50131-3 §8.7)
Signals	Integrated piezo siren
Power supply	RS485 / 12 VDC
Type of power supply	Type A (50131-1 §9 and 50131-6 §4.1) External power supply via the power supply unit of the alarm centre and a rechargeable battery. Alternative power supply at the alarm centre

For further assistance please contact our support team: support@abus-sc.com
If you have any further questions, our support team will be happy to : support@abus-sc.com

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