

## 1 | Overview

The B921C keypad is a SDI2 bus compatible device. Each keypad has user adjustable options such as volume and backlight, and an LCD display that shows two-line system messages. The keypad features capacitive keys. The B921C connects to the SDI2 bus on the control panel using terminal wiring. You can connect more than one keypad to the control panel by wiring them in parallel. You can program, diagnose, and troubleshoot the system from the control panel keypad as well as remotely through RPS. You can wire up to 4 inputs to the keypad.

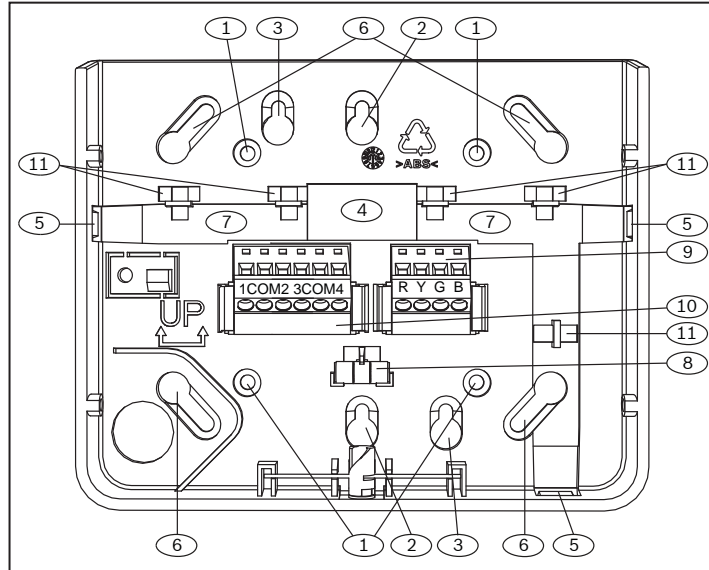


Figure 1.1: Keypad base overview

Callout – Description
1 – 3 in octagon box holes
2 – Single gang box holes
3 – Double gang box holes
4 – Wire opening
5 – Surface mount wire openings
6 – 4 in square box or wall mount holes
7 – Surface mount wire channel
8 – Bubble level
9 – SDI2 wiring terminal block
10 – Inputs wiring terminal block
11 – Wire tie posts

## 2 | SDI2 address switches

Two switches determine the address for the keypad. The control panel uses the address for communications. Use a slotted screwdriver to set the switches.

## 2 | Access the address switches

1. Unlock the keypad by turning the lock counter-clockwise. Refer to *Figure 2.1*.
2. Hold the keypad by the base in one hand. With the other hand, gently push down on the keypad to remove it from the base. Refer to *Figure 2.2*.
3. Look at the back of the keypad, and locate the switches.

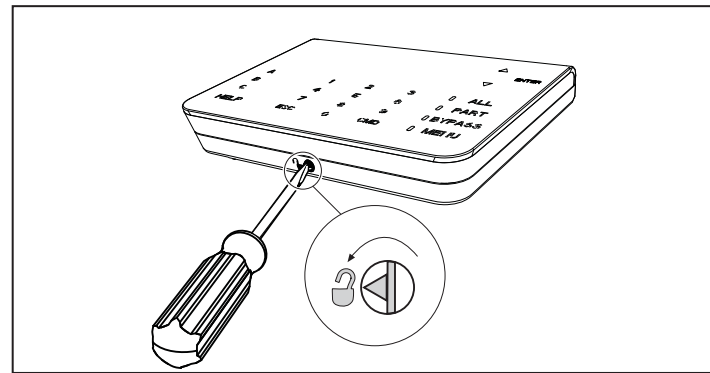


Figure 2.1: Unlocking the keypad

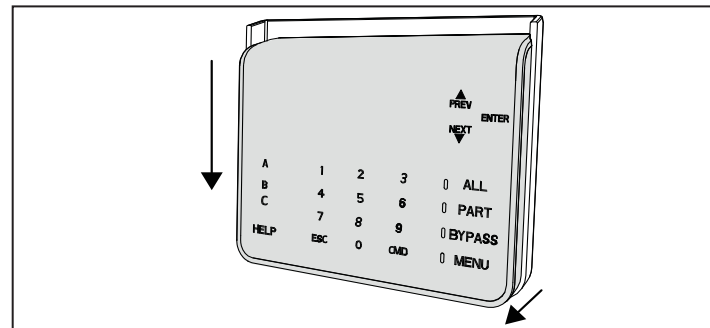


Figure 2.2: Removing the keypad from base

## 2.2 | Set the address switches

Set the address switches per the control panel configuration. If multiple SDI2 keypads reside on the same system, each SDI2 keypad must have a unique address. For single-digit addresses 1 through 9, set the tens switch to 0. *Figure 2.4* shows the address switch setting for address 1.

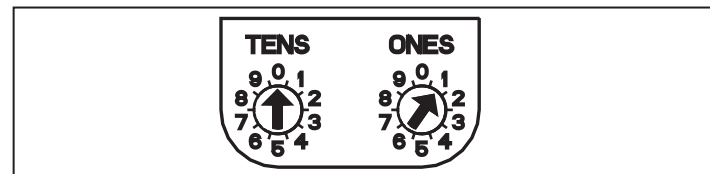


Figure 2.3: Address switches

## 2.3 | Understand addresses and point numbers

To determine the point numbers for each keypad address, multiply the address number by 10 for the base number, and then use numbers 1 through 4 in the ones place for the point numbers.

### Examples

For B921C address **01** the point numbers for the input devices are 11 through 14:

Terminal number	1	2	3	4
Point number	11	12	13	14

For B921C address **11** the point numbers for the input devices are 111 through 114:

Terminal number	1	2	3	4
Point number	111	112	113	114

## 3 | Installation

After you set the address switches for the proper address, mount the keypad base, wire to the control panel, and attach the keypad to the base.

### 3.1 | Mount the keypad

You can surface mount the keypad, or mount it to standard electrical boxes, including single and double gang boxes.

Mounting the keypad:

1. Use the base as a template to mark the desired mounting surface. Refer to *Figure 1.1* for mounting hole and wiring locations.
2. Pull the wiring through the desired wire opening in the base.
3. Use the appropriate mounting hardware (supplied) to mount the base to the desired mounting surface. Refer to *Figure 1.1* for mounting hole and wiring locations.

### 3.2 | Wire to the control panel

When you wire the keypad to a control panel, use the control panel terminals labeled R, Y, G, B (PWR, A, B, COM). Connect them to the keypad terminals labeled R, Y, G, B. Refer to *Figure 3.1*.

You can connect keypads to the SDI2 data bus by parallel wire run from the control panel to each keypad, wire from keypad to keypad, or a combination of the two techniques. Refer to *Figure 3.2*.

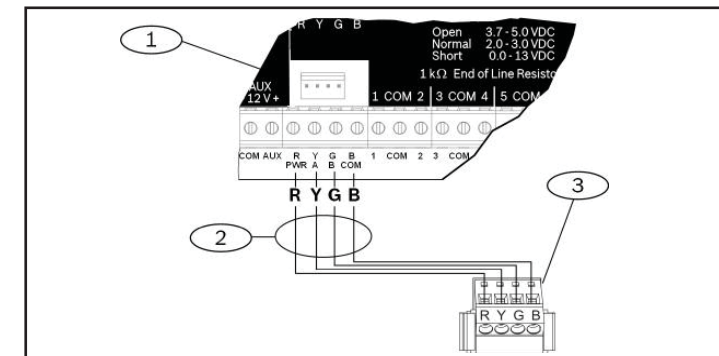


Figure 3.1: Wiring the keypad to the SDI2 bus connection (B5512 shown)

Callout – Description
1 – Control panel
2 – Terminal wiring
3 – Keypad's SDI2 wiring terminal block

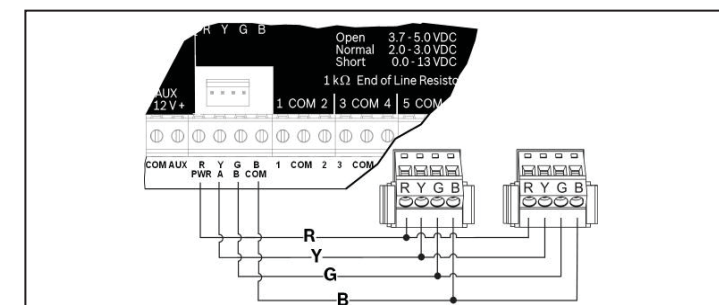


Figure 3.2: Installing multiple keypads using the SDI2 terminals  
Reconnect the keypad to the base by sliding the keypad onto the base (reverse of *Step 2*). The keypad automatically locks onto the base. Apply power to the system.

### 3.3 | Sensor loop wiring

To wire detection devices to the B921C inputs, connect them to the keypad terminals labeled for 1, 2, 3, 4, and COM. Wire resistance on each sensor loop must be less than 100 Ω with the detection devices connected. The terminal strip supports 12 to 22 AWG (0.65 to 2 mm) wires.

The keypad detects open, short, normal, and ground fault circuit conditions on its sensor loops and transmits the conditions to the control panel. Each sensor loop is assigned a point number and transmits to the control panel individually. Run wires away from the premises telephone and AC wiring. Refer to *Figure 3.3*.

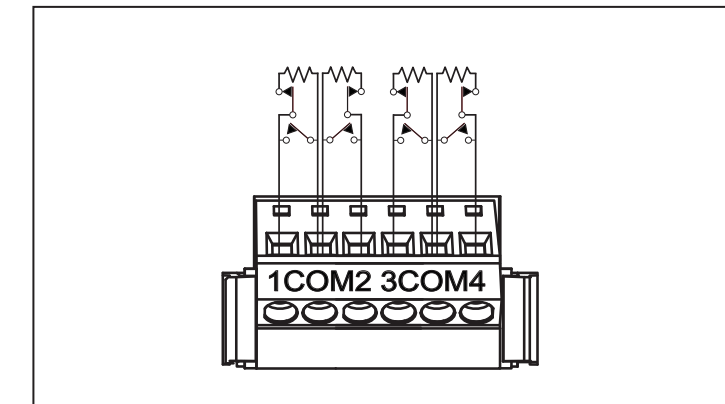


Figure 3.3: Wiring sensor loops

Callout	Description
1	Keypad's COM 1, 2, 3, and 4 terminal strip
2	Keypad sensor loops
3	1 kΩ EOL resistor (ICP-1K22AWG-10)
4	Wiring to additional sensor loops

## 4 | Display

You can adjust the keypad's display brightness level, and you can turn the keypad's nightlight feature on or off.

Adjusting the keypad display brightness:

1. Press [MENU] to open the Main menu.
2. Use [NEXT] to go to the Press 5 for Settings Menu option, or simply press [5].
3. Use [NEXT] to go to the Press 4 for Keypad Config option, or simply press [4].
4. Press [1] to adjust the brightness.
5. Use [PREV] or [NEXT] to adjust the brightness level. The changes apply immediately.
6. Press [ESC] to exit the menu.

Turning the keypad nightlight on or off:

1. Press [MENU] to open the Main menu.
2. Use [NEXT] to go to the Press 5 for Settings Menu option, or simply press [5].
3. Use [NEXT] to go to the Press 4 for Keypad Config option, or simply press [4].
4. Use [NEXT] to go to the Press 4 for Nightlight option, or simply press [4].
5. Press [ENTER] to turn it on or off. The changes apply immediately.
6. Press [ESC] to exit the menu.

## 5 | Status icons

You can diagnose and troubleshoot the system using the keypad's status icons. Refer to *Table 5.1*.

Status icon	Function status icon – on
	Green LED - Ready to turn All or Part On
	Red LED - Turned On
	Yellow LED - System trouble
	Blue LED - Gas alarm
	Blue LED - AC power present

Table 5.1: Keypad status LEDs

## 6 | Audible tones

The keypad has a built-in speaker that produces several distinct warning tones. The keypad backlight illuminates when it emits an audible tone.

Tone	Description
Fire signal	When an area is in fire alarm, the keypad emits a pulsed, high-pitched bell tone.
Gas signal	When a gas point activates, the keypad emits a unique high pitched tone.
User alarm	When a user alarm (such as panic and medical alarms) occurs, the tone sounds for the programmed amount of time.
Burglary signal	When an area is in alarm, the keypad emits a steady, high pitched bell tone.
Entrance warning	The keypad emits an intermittent beep tone during entry delay periods to remind the user to disarm the area.
Exit warning	The keypad emits an intermittent beep tone during exit delay.
Invalid button buzz	When an invalid button, or sequence of buttons, is pressed, the keypad emits a flat buzz tone.
Keypad encoding tone	The keypad emits a muted beep tone as each button is pressed to indicate that the entry was accepted.
Trouble buzzer	When a trouble event occurs, such as a service alert, the keypad emits a two-tone warble until you enter a programmed passcode with the appropriate authority.
Watch tone	A single clean tweedle tone alerts the user anytime a watch point is faulted.

Table 6.1: Keypad audible tones

## 7 | Supervision

The control panel supervises all keypads on the SDI2 bus. If a supervised keypad fails to respond to the control panel, the control panel declares a Missing Keypad Trouble. When the control panel can again communicate with the keypad, it restores the Missing Keypad Trouble. During a Missing Keypad Trouble, any connected keypad that maintained contact with the control panel shows the Missing Keypad Trouble as its idle text, and shows the missing keypad's address. The communicating keypads also sound a trouble tone. Users can silence the trouble tone. If no other troubles exist, the tone silences when the missing keypad restores.

## 8 | Show the firmware version

Showing the keypad firmware version:

1. Remove the keypad from the base to remove power to the keypad. Refer to *Figures 2.1* and *2.2*.
2. Return the keypad to the base to restore power. The keypad shows the model number, keypad address, and firmware version for 10 sec.



### NOTICE!

You can also view a keypad's firmware version in RPS.

## 9 | Cleaning the keypad

Use a soft cloth and non-abrasive cleaning solution to clean your keypad (for example, microfiber cloth and eyeglass cleaner). Spray the cleaner onto the cloth. Do not spray cleaners directly onto the keypad.

## 10 | Certifications

Region	Certification
US	UL 365 - Police Station Connected Burglar Alarm Units and Systems
	UL 609 - Local Burglar Alarm Units and Systems
	UL 985 - Household Fire Warning System Units
	UL 1023 - Household Burglar-Alarm System Units
	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL 1610 - Central Station Burglar Alarm Units
	CSFM - California Office of The State Fire Marshal
	FCC Part 15 Class B
Canada	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	ICES-003 - Digital Apparatus
	ULC S545 - Residential Fire Warning System Control Units

## 11 | Specifications

Dimensions	6.2 in x 4.7 in x 1 in (158 mm x 120 mm x 26 mm)
Voltage (input)	12 VDC nominal
Current	45 mA in standby mode 85 mA in alarm mode
Operating temperature	0°C to +50°C (+32°F to +122°F)
Relative humidity	5% to 93% at +32°C (+90°F) non-condensing
Terminal wire size	12 AWG to 22 AWG (2 mm to 0.65 mm)
SDI2 wiring	Maximum distance - wire size (unshielded wire only): 700 ft (213 m) - 22 AWG (0.65 mm) 1000 ft (305 m) - 18 AWG (1.02 mm)
Compatibility	B5512 v2.02 or higher B4512 v2.02 or higher B3512 v2.02 or higher D9412GV4 v2.02 or higher D7412GV4 v2.02 or higher

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## Two-line Capactive Keypad B921C



en Installation Guide

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