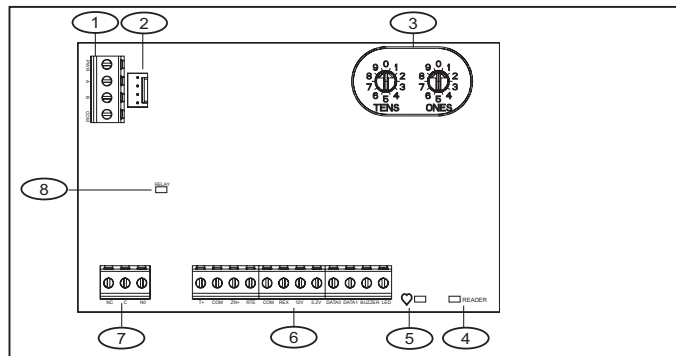


1 | Overview

This module is a fully supervised SDI2/SDI device that allows access control integration for compatible control panels.

Compatible Credential Formats

37-bit	HID H10302 (No Site Code)
37-bit	HID H10304th (With Site Code)
35-bit	HID H5xxxx (Corporate 1000)
32-bit	MIFARE Classic (No Site Code)
26-bit	HID H10301
EM	EM4200 (5-byte or 3-byte)



Callout – Description

- 1 – Terminal connector
- 2 – Interconnect wiring connectors
- 3 – Address switch
- 4 – Reader LED
- 5 – Heartbeat LED (blue)
- 6 – Reader and door terminals
- 7 – Relay terminals
- 8 – Relay LED

2 | Address settings

Two switches set the address for the module. The control panel uses the address for communications. The address also sets the output numbers. Use a screwdriver to set the switches.



NOTICE!

The module reads the address switch setting only during power up. If you change the switches after you apply power, cycle the power to the module to enable the new setting.

Set the switches per the control panel configuration. If multiple B901 modules reside on the same system, each B901 module must have a unique address. The following illustration shows the switch settings for address 01.



2.1 | Valid addresses for SDI2

Control panel	Valid B901 addresses	Designation
B9512G/B9512G-E	01 - 32	Devices 1 - 32
B8512G/B8512G-E	01 - 08	Devices 1 - 8
B6512	01 - 04	Devices 1 - 4

2.2 | Valid addresses for SDI

Valid B901 addresses are dependant on the number of modules allowed and the desired failure mode (Fail Safe, Fail Secure) by a particular control panel.

Control panel	Valid B901 addresses	Designation
B9512G/B9512G-E/ B8512G/B8512G-E D9412GV4/D7412GV4 D9412GV3/D7412GV3	81 - 88	Devices 1 - 8 Fail Safe mode = door unlocked
D9412GV2/D7412GV2, D9000	91-98	Devices 1 - 8 Fail Se- cure = door locked

3 | Installation



CAUTION!

To prevent personal injury and equipment damage, remove all power (AC and battery) before making any connections.

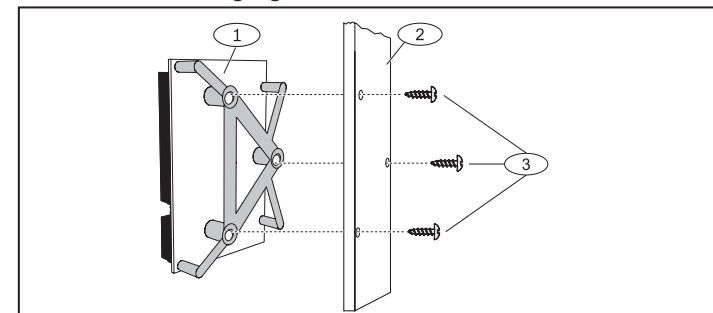


NOTICE!

B901 tamper generates an SDI - "Missing Door" or an SDI2 - "Module Tamper" message (if Enclosure Tamper parameter is set to Yes).

3.1 | Install the module in the enclosure

Refer to the following Figure.



Callout – Description

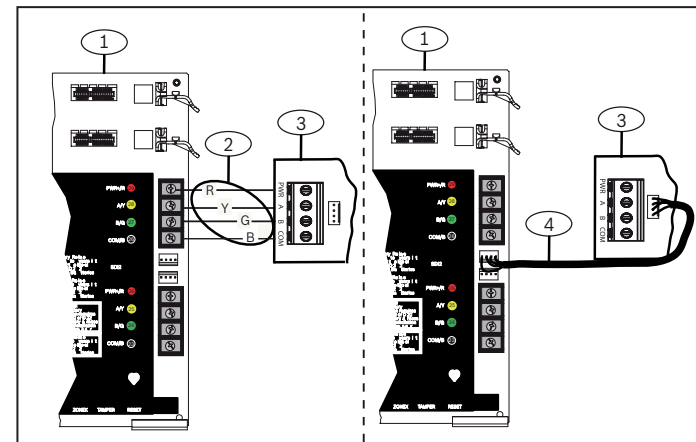
- 1 – Module with mounting bracket installed
- 2 – Enclosure
- 3 – Mounting screws (3)

3.2 | Install the access card reader

Refer to the instructions for your access card reader for installation and maintenance procedures.

3.3 | Wire to the SDI2 control panel

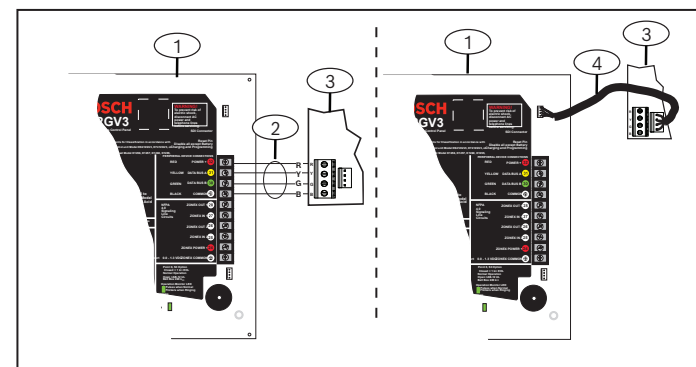
Use the control panel terminals R, Y, G, B (PWR, A, B, COM). Connect them to the module terminals R, Y, G, B (PWR, A, B, COM). Use terminal strip wiring or interconnect wiring connector. Do not use both. Refer to the following illustrations.



Callout – Description

- 1 – Bosch control panel (B9512G shown)
- 2 – Terminal wiring
- 3 – B901 Access Control Module
- 4 – Interconnect cable (P/N: F01U79745) (included)

3.4 | Wire to the SDI control panel

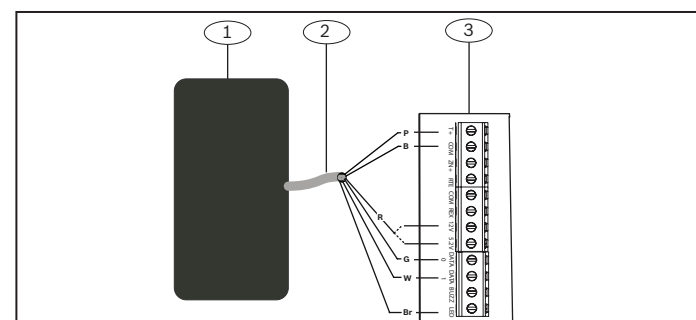


Callout – Description

- 1 – Bosch control panel (GV3 shown)
- 2 – Terminal wiring
- 3 – B901 Access Control Module
- 4 – Interconnect cable (P/N: F01U79745) (included)

3.5 | Wire to the card reader

Use the terminals LED, DATA1, DATA0, 5.2V or 12V, COM, and T+. Refer to the following illustration.

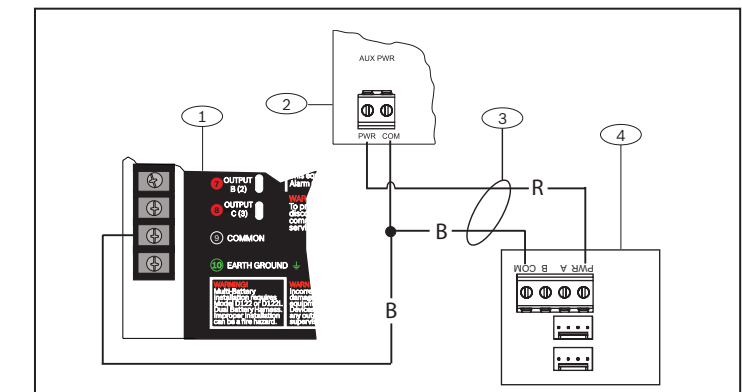


Callout – Description

- 1 – Card reader (ARD-AYK12 shown)
- 2 – Terminal wiring
- 3 – B901 Access Control Module

3.6 | Wire to 12VDC power supply (optional)

Refer to the following illustration to wire additional power to a regulated UL864 Class B type power-limited power supply.



Callout – Description

- 1 – Control panel COM terminal (B9512G shown)
- 2 – 12 VDC regulated power-limited power supply (B520 shown)
- 3 – Terminal wiring (PWR and COM terminal wiring)
- 4 – B901 Access Control Module



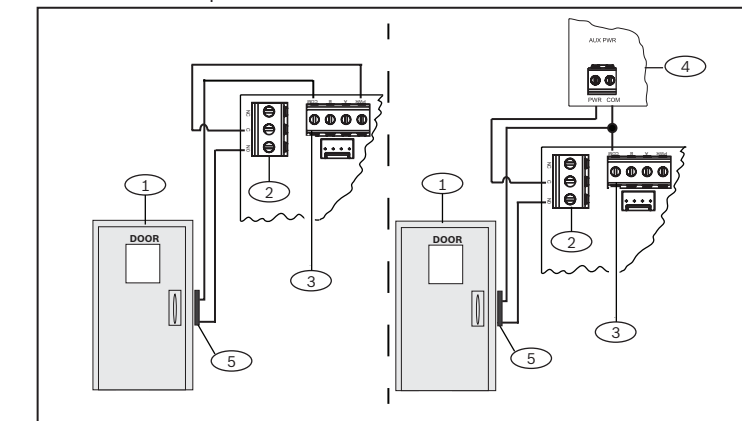
NOTICE!

Use only Access Control listed power supplies to supply power to the door strikes.

3.7 | Wire to the door strike

A relay provides a dry contact single pull double throw output. Some strikes require a closed circuit to unlock the door, while others require an open circuit to unlock the door. Refer to the following illustration.

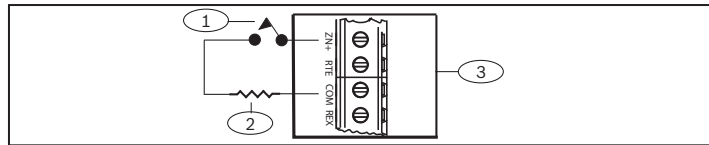
- Common (C). For 12/24 VDC strikes, provide input power here from the power supply.
- Normally closed (NC). For door strikes that require an interruption of power to open. Connect the positive side of the door strike to the NC terminal.
- Normally open (NO). For door strikes that require power to open. Connect the positive side of the door strike to the NO terminal.



Callout – Description

- 1 – Door
- 2 – B901 door lock relay terminal
- 3 – B901 terminal
- 4 – AUX PWR terminal (12 VDC) (B520 shown)
- 5 – Door strike (12 VDC)

3.8 | Wire to door contact

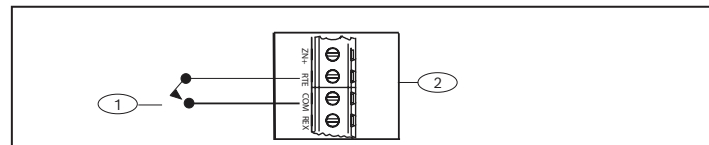


Callout – Description

- 1 – Door Contact
- 2 – 1k EOL
- 3 – B901 Access Control Module

3.8.1 | Request to Enter (RTE)

Wire the RTE device. The strike is activated, and the door point is shunted when RTE is momentarily shorted to COM. The *Shunt only* option shunts the point when this input is momentarily shorted. To engage the shunt but not the strike, program RTE Shunt Only? as [YES].

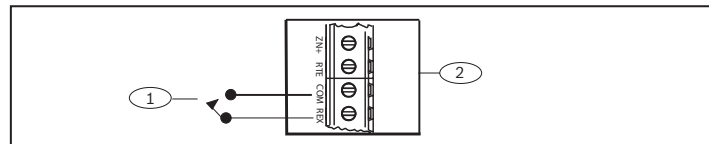


Callout – Description

- 1 – RTE device
- 2 – B901 Access Control Module

3.8.2 | Request to Exit (REX)

Wire the REX device.



Callout – Description

- 1 – REX device
- 2 – B901 Access Control Module

The strike is activated, and the door point is shunted when REX is momentarily shorted to COM. The *Shunt only* option shunts the point when this input is momentarily shorted. To engage the shunt but not the strike, program REX Shunt Only? as [YES].



NOTICE!

Do not use a Request to Exit device (REX) for emergency exit applications. NFPA 101 requires that a UL Listed panic device be used to provide direct power from the standby power source. Check with your local Authority Having Jurisdiction (AHJ) prior to installing your system.

4 | Configuration

1. Power up the system.
2. Use Remote Programming Software to configure the module to an assigned area. Be consistent when numbering doors, areas, and keypads. For example, assign Door 1 to Area 1 and keypad 1. Test for proper operation.
3. Test for operation.

5 | LED descriptions

The heartbeat LED shows the current state and the power going to the module. The reader LED shows the data transmission. Refer to the table.

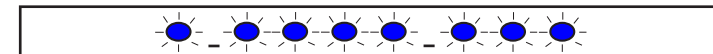
Flash Pattern	Function
Flashes once every 1 sec 	Normal operation state. (blue)
ON Steady 	Module is powered.
OFF Steady 	LED trouble state: Module is not powered (for OFF Steady only), or some other trouble condition.
Flashes rapidly 	Card data is executing (yellow)
OFF Steady 	No card data is being received

6 | Show the firmware version

To show the firmware version using an LED flash pattern:

- If the optional tamper switch is installed:
With the enclosure door open, activate the tamper switch (push and release the switch).
- If the optional tamper switch is NOT installed: Momentarily short the T+ terminal.

Refer to the following illustration for an example of flash patterns.



When the tamper switch is on, the heartbeat LED stays OFF for 3 sec before indicating the firmware version. The LED pulses the major, minor, and micro digits of the firmware version, with a 1 sec pause after each digit.

In the following example, the version 1.4.3 shows as LED flashes: [3 sec pause] * _****_*** [3 sec pause, then normal operation].



NOTICE!

The B901 supports firmware reprogramming only through the SD12 connection, and not through the SDI bus.

7 | Certifications

Approved For	Level	Comment
Destructive Attack	I	
Line Security*	IV	IP or cellular with encryption
Line Security*	II	IP or cellular without encryption
Line Security*	I	B430/PSTN
Endurance	IV	
Send by Power	IV	

* From control panel to card/token receiver.

Region	Certification
US	UL 294 - Access Control System Units
	UL 365 - Police Station Connected Burglar Alarm Units and Systems
	UL 609 - Local Burglar Alarm Units and Systems
	UL 864 - Control Units and Accessories for Fire Alarm 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
CA	Canada CAN/ULC S303 - Local Burglar Alarm Units and Systems
	CAN/ULC S304 - Signal Receiving Centre and Premise Alarm Control Units
	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	ICES-003 - Digital Apparatus

8 | Specifications

Dimensions	2.9 in x 5.0 in x 0.6 in (73.5 mm x 127 mm x 15.25 mm)
Voltage (input)	12 VDC nominal
Current	Standby: 110 mA + reader current Alarm: 110 mA + reader current
Alarm output	Form C relay (NC, COM, NO) at 12/24 V @ 2.0 A
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	18 AWG to 22 AWG (1.02 mm to 0.65 mm)
SDI2/SDI wiring to B901 + Reader with external power supply	Maximum distance - wire size (unshielded wire only): 1000 ft (305 m) - 22 AWG (0.65 mm), 2500 ft (762 m) - 18 AWG (1.02 mm)
SDI2/SDI wiring to B901 + Reader from control panel	175 ft (53 m) - 22 AWG (0.65 mm), 450 ft (137 m) - 18 AWG (1.02 mm)
Wiring distance from B901 to Reader	200 ft (61 m) - 22 AWG (0.65 mm), 500 ft (152 m) - 18 AWG (1.02 mm) Reader dependant
Bosch compatible control panels	B9512G/B9512G-E/B8512G/B8512G-E/D9412GV4/D7412GV4/D9412GV3/D7412GV3/D9412GV2/D7412GV2/D9412G/D7412G (Refer to the control panel installation document for the number of supported devices.)
Bosch compatible readers and accessories	ARD-AYH12 EM Prox Wall Mount ARD-AYJ12 EM Prox Mullion ARD-AYK12 EM Prox Mini Mullion ARD-AYQ12 EM Prox Wall Mount Vandal Resistant ARD-AYCE65B EM Prox or PIN Mullion ARD-R10 HID iClass Mini Mullion ARD-R40 HID iClass Wall Mount D8223 HID Prox Wall Mount D8224 HID Prox Mullion D8224-SP HID Prox Switch Plate Mount D8225 HID Prox Mini Mullion D8229 PIN Reader
Bosch compatible credentials	ACA-ATR13 EM Tokens* ACD-ATR11ISO EM Cards* ACD-ATR14CS EM Clamshell Cards ACD-IC2K26-50 iClass Cards** ACT-IC2K26-10 iClass Tokens** D8236-10 HID Prox Cards*** D8236KF-10 HID Prox Tokens***

* EM cards work with EM readers, ** iClass cards work with iClass readers, *** Prox cards work with Prox readers

Copyright

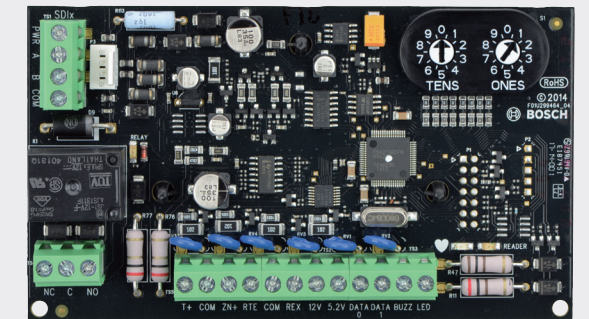
This document is the intellectual property of Bosch Security Systems B.V. and is protected by copyright. All rights reserved.

Trademarks

All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

Bosch Security Systems B.V. product manufacturing dates

Use the serial number located on the product label and refer to the Bosch Security Systems B.V. website at <http://www.boschsecurity.com/datecodes/>.



Access Control Interface Module B901



en Quick installation guide

Bosch Security Systems B.V.

Torenallee 49
5617 BA Eindhoven
Netherlands
www.boschsecurity.com