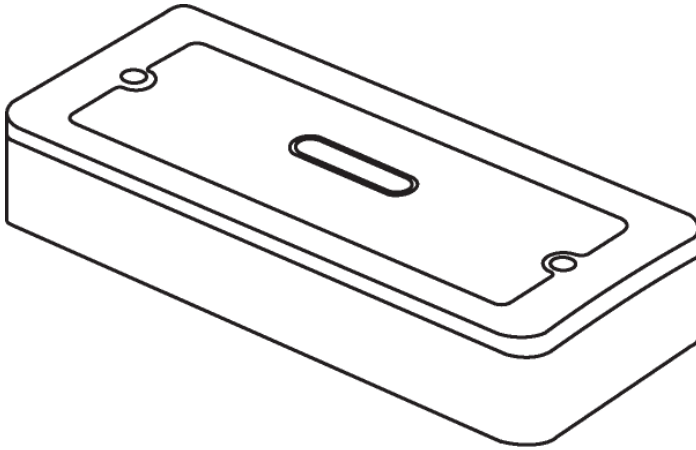


# C-Bus™ 8 Channel Low Voltage Relay

## SLC5108RELVP

Instruction Bulletin  
Retain for future use.



## HAZARD CATEGORIES AND SPECIAL SYMBOLS

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### DANGER

Danger indicates an immediately hazardous situation which, if not avoided, will result in death or serious injury.

### WARNING

Warning indicates a potentially hazardous situation which, if not avoided, can result in death or serious injury.

### CAUTION

Caution indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.

### CAUTION

Caution, used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, can result in property damage or improper operation.

*NOTE: Provides additional information to clarify or simplify a procedure.*

## PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. This document is not intended as an instruction manual for untrained persons. No responsibility is assumed by Square D for any consequences arising out of the use of this manual.

## FCC CLASS B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications to this device that are not expressly approved by Schneider Electric could void the user's authority to operate this equipment.

## INTRODUCTION

The C-Bus 8 Channel Low Voltage Relay is used for switching loads such as irrigation solenoids, and LV air conditioning dampers. The Relay may also be used for switching LV pulse signal control loads into third party products.

The C-Bus 8 Channel Low Voltage Relay is a C-Bus output device that controls eight low voltage relay channels. The unit is powered from the C-Bus network and requires no other power source. The unit can be daisy chained or placed at the end of a C-Bus network.

### Before You Begin

Before you begin to set up a unit, verify that your order is complete by comparing the contents of the package with the appropriate items in the table below. Also verify that the catalog number on the box label matches your order.

**Table 1: Contents of the Box**

Part Number	Description	Quantity
SLC5108RELV	C-Bus 8 Channel Low Voltage Relay	1
-	Face plate screws	2
-	Face plate screw covers	2

## SAFETY PRECAUTIONS

This section contains important safety precautions that must be followed before attempting to install or maintain electrical equipment. Carefully read and follow the safety precautions below.

### DANGER

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must be installed and serviced by qualified electrical personnel.
- Turn off all electrical power supplying this equipment before working on or inside the equipment.
- Always use a properly rated voltage sensing device to confirm that power is off.
- Replace all devices, doors, and covers before turning on power to this equipment.

**Failure to follow these instructions will result in death or serious injury.**

## INSTALLATION

Follow the procedures in this section to properly install the C-Bus 8 Channel Low Voltage Relay.

### Selecting a Location

Follow these guidelines when selecting a location:

- Provide easy access to the unit.
- Avoid water, humidity, direct sunlight, and heavy dust.
- Leave the unit uncovered to allow adequate ventilation.
- Only use the C-Bus 8 Channel Low Voltage Relay indoors.
- Adhere to all specifications in this manual.

## Mounting the Unit

There are two mounting methods for the C-Bus 8 Channel Low Voltage Relay:

*NOTE: Do not remove the printed circuit board(PCB). This may damage the unit.*

- Use four screws to attach the base unit to the mounting surface. Interior mounting holes are provided. Refer to the "Front of the Relay Unit" figure.

OR

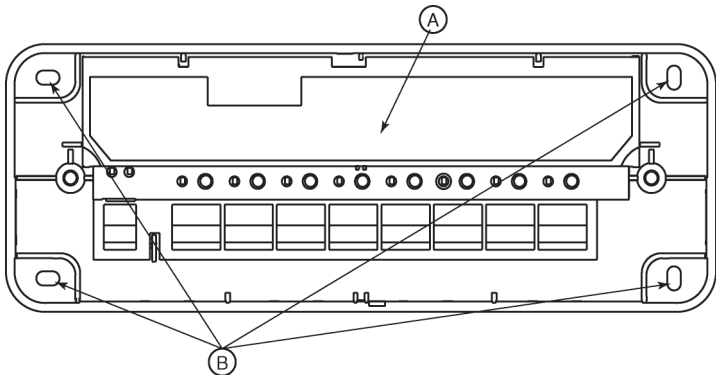
- Screw two screws into the mounting surface. Attach the unit using the keyhole mounting holes in the back of the C-Bus 8 Channel Low Voltage Relay. Refer to the "Back of the Relay Unit" figure.

**Figure 1: Front of the Relay Unit**

KEY:

A. Printed Circuit Board (PCB) - Do not remove.

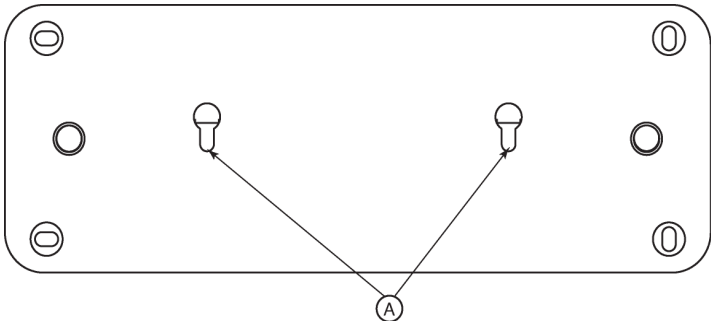
B. Interior mounting holes



**Figure 2: Back of the Relay Unit**

KEY:

A. Keyhole mounting holes



When installation is complete, attach the face plate with screws provide and insert screw covers.

## Network Considerations

The C-Bus 8 Channel Low Voltage Relay can draw 32 mA from the C-Bus network. Determine the total network current load and verify that there will be enough C-Bus power to support all connected devices. Also verify that the amount of available power per C-Bus network is no more than 2A.

### C-Bus System Clock

The C-Bus 8 Channel Low Voltage Relay has a software-selectable C-Bus system clock with the capability to synchronize data communication on the C-Bus network. Typically the clock is disabled: Successful C-Bus network communications require only one active clock. A maximum of three C-Bus units per network can have the clock enabled. Refer to the C-Bus Toolkit software for additional information and to enable the C-Bus 8 Channel Low Voltage Relay system clock.

### Network Burden

One network burden is required for proper C-Bus operation, network termination, and biasing.

## CAUTION

### HAZARD OF IMPROPER OR UNSTABLE OPERATION

C-Bus networks require only one burden.

**Failure to follow this instruction can result in improper C-Bus network operation.**

The C-Bus system clock must be enabled in order to apply the network burden.

## Wiring Guidelines

Follow the guidelines below when working with the C-Bus 8 Channel Low Voltage Relay.

- Verify that the power supplying the system is turned OFF before handling electrical power conductors.
- Observe national and local electrical codes.
- Isolate the C-Bus 8 Channel Low Voltage Relay from the Class 1 wiring. Consult your national and local electrical codes for requirements about isolating Class 1 wiring and Class 2 wiring terminals.
- Consult the "Electrical Wiring Connections" figure for all electrical connections.
- Prevent wire cuttings and debris from entering the unit.
- Use suitably rated copper wire, 14 –22 AWG (1.3 – 0.33 mm<sup>2</sup>).

## Megger® Testing Guidelines

Do not Megger® test C-Bus data cabling or terminals. Megger testing of data cabling or terminals can degrade the performance of the C-Bus network.

It will not harm the units if electrical power terminals only are Megger tested. But because units contain electronic components, the Megger readings will not be correct. To obtain valid readings, disconnect the power lines from the units.

# CAUTION

## HAZARD OF EQUIPMENT DAMAGE

Do not Megger® test C-Bus data cabling or terminals as it can degrade the performance of the C-Bus network.

**Failure to follow this instruction will result in damage to the C-Bus network.**



### Connection to the C-Bus Network

The C-Bus 8 Channel Low Voltage Relay is connected to the C-Bus network through a C-Bus network cable that uses unshielded twisted pair (UTP) Category 5 data cable.

For optimal performance, use the connections recommended below for each end of the cable. Attach the bootlace terminals to the twisted pairs of the C-Bus network cable.

*NOTE: The C-Bus network connection is polarity sensitive. The polarity is marked on the unit beside the terminals.*

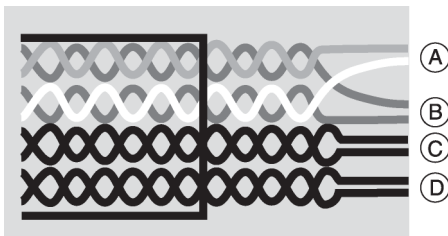
*NOTE: Do not solder wires used to connect the unit to the C-Bus network through the terminal block connections.*

<b>⚠ WARNING</b>
<b>HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH</b>
Do not connect line voltage to any C-Bus terminal.
<b>Failure to follow this instruction can result in personal injury or equipment or property damage.</b>

**Figure 3: C-Bus Wiring Connections**

KEY:

- A. C-Bus positive (+)
- B. C-Bus negative (-)
- C. Remote OFF: brown + brown-white\*
- D. Remote ON: green + green-white\*



**Table 2: C-Bus Cable Conductor Assignments**

Terminal	C-Bus Network Connection	Cable Color
Not connected	Remote ON*	Green-White
Not connected	Remote ON*	Green
C-Bus Neg (-)	C-Bus Neg (-)	Orange-White
C-Bus Neg (-)	C-Bus Neg (-)	Blue-White
C-Bus Pos (+)	C-Bus Pos (+)	Blue
C-Bus Pos (+)	C-Bus Pos (+)	Orange
Not connected	Remote OFF*	Brown-White
Not connected	Remote OFF*	Brown

\*Not internally connected.

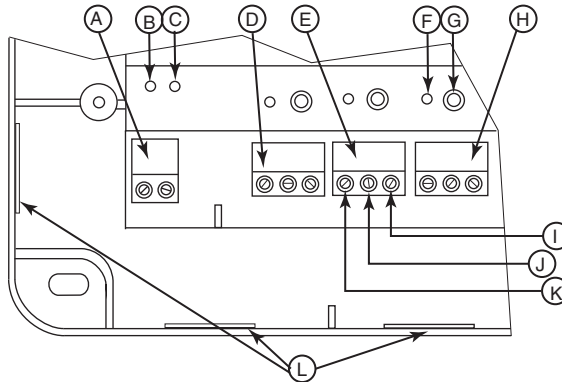
### Connecting the Wiring

Units are capable of handling up to eight channels of 2A switched loads. Consider the load current when selecting cables.

**Figure 4: Electrical Wiring Connections**

KEY:

- A. C-Bus connector
- B. Unit indicator
- C. C-Bus indicator
- D. Channel 1
- E. Channel 2
- F. Channel status indicator
- G. Local toggle button
- H. Channel 3
- I. N/O normally open
- J. N/C normally closed
- K. C common
- L. Knockouts



## Status Indicators

The C-Bus 8 Channel Low Voltage Relay has 2 status indicator lights. The figure and tables in this section show the location of the indicators and explain the meaning of each indicator's LED activity status.

### C-Bus Status Indicators

This indicator shows the status of the C-Bus network at the unit. The table explains the meaning of each type of LED activity.

**Table 3: Meaning of C-Bus Indicator Status**

LED Activity	Meaning
On (continuous light)	Power on and C-Bus network functional and C-Bus network clock on network
Flashing	Insufficient power to support network
Off	No C-Bus network connection or no C-Bus network clock on the network

### Unit Status Indicator

This indicator shows the following information about the status of the unit:

- if line voltage is connected
- if Local Override or Remote Override has been activated
- if the unit is in Learn mode

The table explains the meaning of each type of LED activity.

**Table 4: Meaning of Unit Indicator Status**

LED Activity	Meaning
On (continuous light)	Normal operation Connected to functioning C-Bus network and external power source
Flashing (Unit indicator only)	One or more channels has been overridden, at a Local Override button or with a Remote Override.
Flashing (Unit alternately flashing with C-Bus indicator)	The unit is in Learn mode when the flashing alternates regularly between the Unit and C-Bus indicators.
Flashing	If both indicators flash but do not alternate regularly, the network voltage is marginal and the unit's output is in override. See the section C-Bus Status Indicator.
Off	No external power source connected. E.g., during configuration, when unit is powered only by C-Bus network.

## Power Outages and Restoration

All C-Bus units have onboard non-volatile memory that stores the operating state of the unit in the event of a power outage. When power is restored, the units carry out a diagnostic that lasts a few seconds.

## Local Toggle Buttons and Indicators

Using the local toggle buttons located on the PCB overrides the normal C-Bus commands such as those issued by input units.

When a channel is in local override mode, any other C-Bus commands issued by input and control units override the local override state. This feature can be disabled in the software so that the unit ignores all relevant C-Bus commands when in local override mode.

The following table shows the function for each operation. Note that double quick press and long press operations only apply when the unit is in local override mode.

Operation	Function
Quick press	A single quick press toggles the state of a channel
Double quick press	Two quick presses in succession returns the channel to the C-Bus network level
Long press	Pressing any of the local toggle buttons for 1 second or more to returns all channels to the C-Bus network level

## Two Options for Programming

There are two options for programming units before adding them to the C-Bus network. The method used depends upon the number of units and complexity of the system.

- **Learn Mode:** A simple, manual method of programming units. Learn Mode is used for small networks with basic functionality, or a quick start-up of a network.

OR

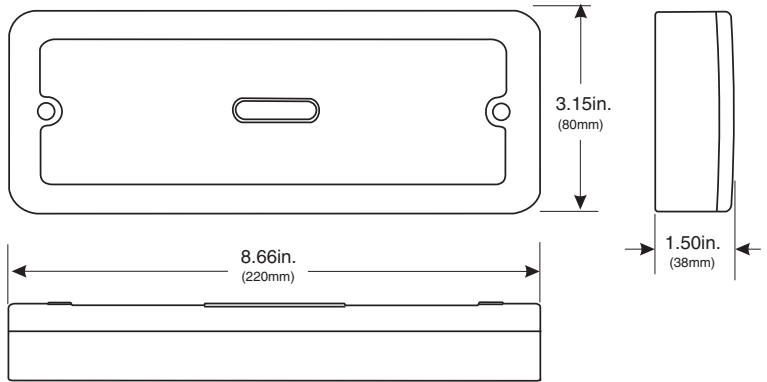
- **Toolkit Software:** C-Bus Toolkit is a software program that allows an installer to configure the network with greater functionality, and enables the configuration to be saved as a project file.

**Electrical Specifications**

<b>C-Bus 8 Channel Low Voltage Relay</b>	<b>SLC5108RELVP</b>
C-Bus network supply voltage	15 to 36Vdc @ 32mA required for programming and operation
Maximum units per C-Bus network	50
C-Bus connections	2 wire, twisted pair
Warm up time	5 seconds
Load rating per relay channel	2A at 30Vdc maximum, or 30Vac RMS suitable for resistive and inductive loads
Contact type	Voltage free, SPDT (changeover)
Relay terminal connections	C common N/O normally open N/C normally closed
Types of electrical connection	Fixed load terminal for: 1 x 1.0mm <sup>2</sup> wire per tunnel (13AWG) Fixed aux (C-Bus) connectors for: 2 x 1.5mm <sup>2</sup>

**Mechanical and Environmental Specifications**




Dimensions (W x H x D)	8.66 x 3.15 x 1.50in. (220 x 80 x 38mm)
Weight	11.64oz (330g)
Mounting mode	Surface: 4 mounting screw holes and keyhole mount
EMC environment	Environment A
Operating ambient temperature	32 to 122°F (0 to 50°C)
Storage temperature	32 to 140°F (0 to 60°C)
Operating humidity	10 to 90% non condensing



## Standards

The C-Bus 8 Channel Low Voltage Relay complies with the following Standards:

**Table 5: U.S. and Canadian Product Safety Standards and U.S. FCC Regulations**

Standards/Regulations	Title
 CSA C22.2 No. 205	Signal Equipment
 UL916	Energy Management Equipment
 FCC Part 15	Class B Digital Device for Home or Office Use




## **SUPPORT AND SERVICE**

Contact the Customer Information Center for technical support by phone at 1-888-778-2733 or e-mail at [lightingcontrol.support@us.schneider-electric.com](mailto:lightingcontrol.support@us.schneider-electric.com).

Contact your local Schneider Electric service representative or C-Bus™ certified installer for repairs or service to your network.

You may also find helpful information on our web site at [www.squaredlightingcontrol.com](http://www.squaredlightingcontrol.com).

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