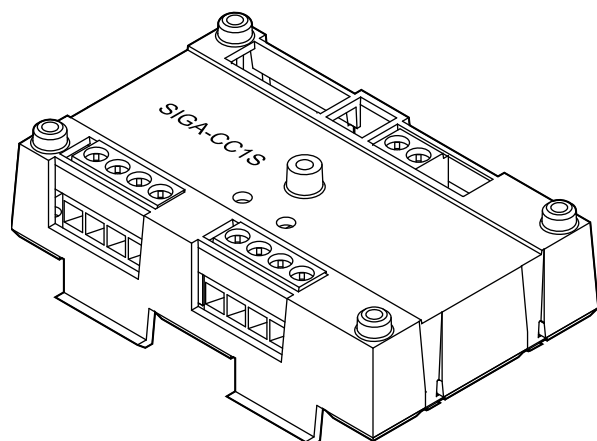


SIGA-CC1S Auto-Sync Output Module Installation Sheet



Description

The SIGA-CC1S Auto-Sync Output Module is an addressable module that is used to connect the following circuits:

- Audible and visible notification appliance circuits (synchronized or unsynchronized)
- Speaker circuits
- Two-way telephone communication circuits (three-state or four-state)

Upon command from the loop controller, the module connects the riser to the output circuit.

The module requires one address on the signaling line circuit (SLC). Addresses are assigned electronically. There are no address switches.

Diagnostic LEDs provide visible indication of the state of the module through the cover plate:

- Normal: Green LED flashes
- Alarm/active: Red LED flashes

Personality codes

Use the personality codes described below to configure the SIGA-CC1S module. See Table 1 for listing information.

Table 1: Personality codes

Code	Description	UL 864	CAN/ULC-S527	EN 54-18
5	Signal - supervised output (Class B)	✓	✓	✓
6	Telephone - three-state (Class B)			
25	Signal – supervised auto sync output (Class B)	✓	✓	
26	Telephone - four-state (Class B)	✓	✓	

Personality code 5: Signal - supervised output (Class B). Configures the SIGA-CC1S module as a riser selector for audible and visible notification appliance circuits or for single-channel audio circuits. The output circuit is monitored for open or shorted wiring. If a short exists, the module will not activate in order to prevent shorting the riser. The module will activate once the short is cleared.

Personality code 6: Telephone - three-state (Class B). Configures the module as a riser selector for a three-state firefighter's telephone. When a telephone handset is plugged into its jack or lifted from its hook, the module generates its own ring-tone signal, making a separate ring-tone riser unnecessary. The module sends this signal to the control panel to indicate the presence of an off-hook condition, and waits for the system operator to respond to the call. When the system operator responds, the ring-tone signal is disabled.

Personality code 25: Signal - supervised auto sync output (Class B). Factory default. Configures the module to provide synchronization of compatible fire alarm signals across multiple zones. Operation is the same as Personality code 5 with the addition that the module provides a sync signal for connecting synchronized temporal horn/strobes.

Note: The use of nonsynchronous fire alarm signals with or instead of compatible synchronized fire alarm signals does not comply with UL 1971.

Personality code 26: Telephone - four-state (Class B). Configures the module as a riser selector for a four-state firefighter telephone. Operation is the same as Personality code 6 except that the module can distinguish when a telephone is off-hook and when the circuit is shorted, which causes a trouble condition.

Installation

Install this device in accordance with applicable national and local codes, ordinances, and regulations.

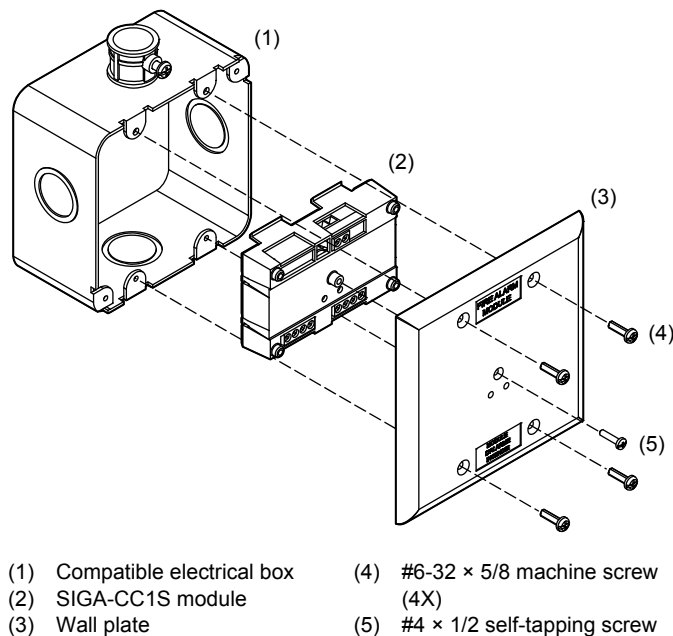
Notes

- The module is shipped from the factory as an assembled unit; it contains no user-serviceable parts and should not be disassembled.
- This module does not operate without electrical power. As fires frequently cause power interruption, discuss further safeguards with the local fire protection specialist.

To install the module:

- Write the address assigned to the module on the label provided, and then apply the label to the module. Remove the serial number label from the module, and then attach it to the project documentation.
- Connect the field wires. See “Wiring” below.
- Using the self-tapping screw, attach the wall plate to the module. See Figure 1.
- Using the four machine screws, attach the wall plate and module to the electrical box.

Figure 1: Installing the SIGA-CC1S module



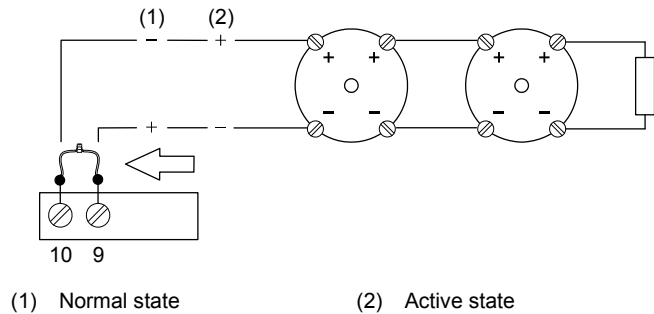
Protection from transient spikes

For installations in which the output circuit connects to electromechanical bells or horns, install a bipolar transient protector (P/N 235196P) to protect the module from transient spikes caused by switching inductive loads. Locate bells and horns at least 6 ft. (1.8 m) from the module.

To install a bipolar transient protector:

- Install the transient protector across the output circuit inside the electrical box with the module. See Figure 2.

Figure 2: Bell circuit showing bipolar transient protector placement



Wiring

Wiring this device in accordance with applicable national and local codes, ordinances, and regulations.

General wiring notes

- Refer to the Signature loop controller installation sheet for SLC wiring specifications. Refer to the firefighter phone installation sheet for additional details.
- Each terminal on the module is limited to a single conductor.
- Test resistors are supplied with the SIGA-CC1S to prevent trouble signals on unused circuits during installation. When connecting field wires, remove the test resistors and install a UL/ULC Listed 47 kΩ EOLR at the end of the circuit.
- The module does not support conventional smoke detectors.

Riser wiring notes

- For maximum line impedance, refer to the installation manual for the fire alarm panel. Maximum circuit capacitance is 0.1 μF.
- If the riser is used for more than one notification zone, install in accordance with the survivability from attack by fire requirements in NFPA 72 *National Fire Alarm and Signaling Code*.
- Circuit and riser wiring is different when four-state firefighter telephones are installed on three-state circuits. Before replacing a SIGA-CC1S module, tag the wires to ensure correct reconnection.
- The SIGA-CC1S module does not supervise the riser; the fire alarm control panel provides this function.

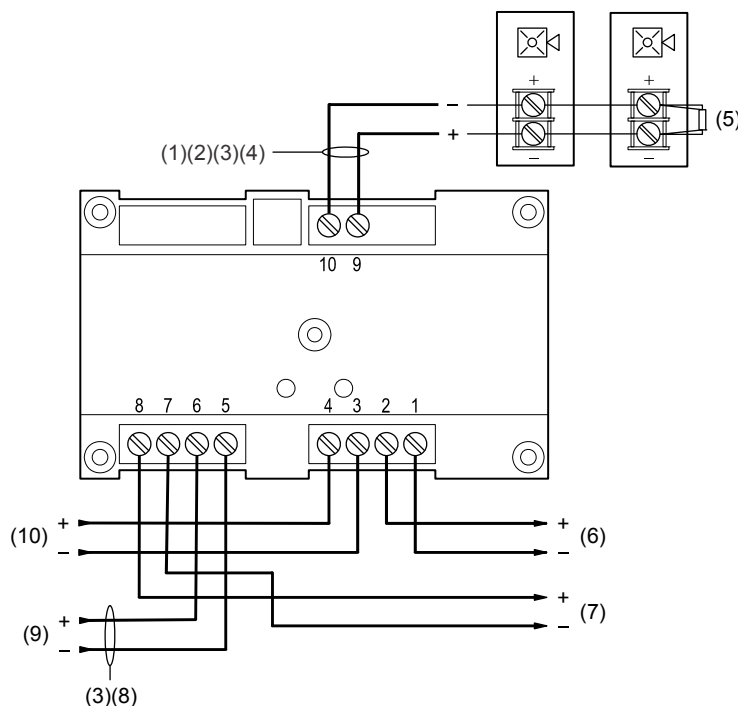
To wire the module:

- Verify that all field wiring is free of opens, shorts, and ground faults.
- Strip 1/4 in. (about 6 mm) from the ends of all wires that connect to the terminal block of the module.

When stripping wire ends, exposing more wire may cause a ground fault; exposing less wire may result in a faulty connection.

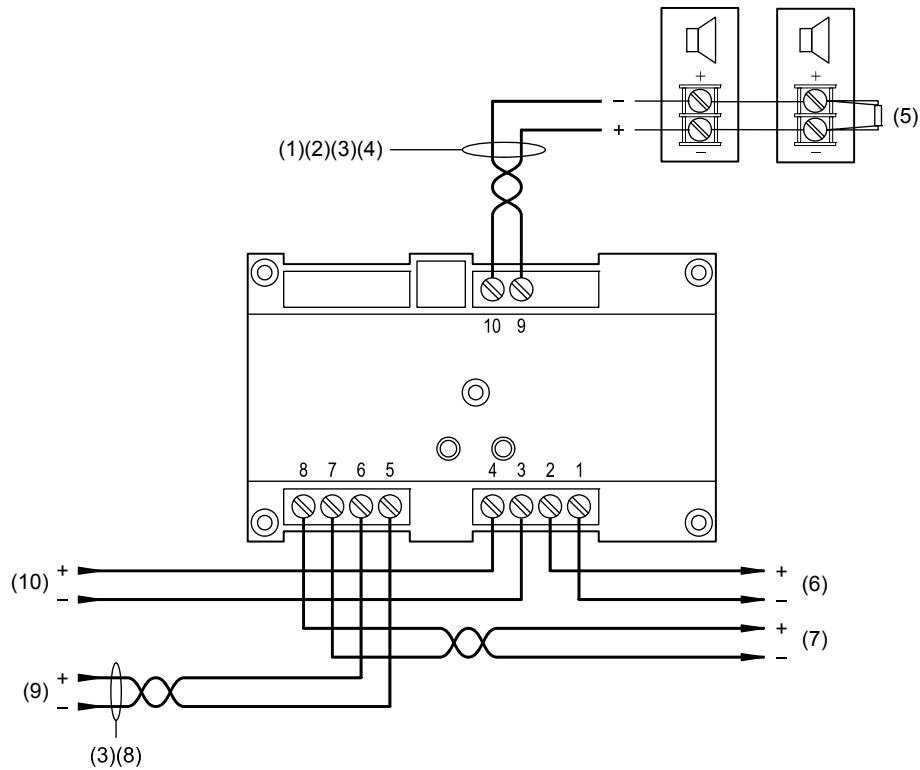
- Connect the field wires. See Figure 3 through Figure 5.

Figure 3: Wiring diagram for NAC (personality code 5 and 25)



- (1) Signal polarity is shown when the circuit in supervisory state. Polarity reverses when the circuit is active.
- (2) Supervised.
- (3) Power-limited, unless connected to a nonpower-limited source. If the source is nonpower-limited, eliminate the power-limited mark and maintain a minimum of 0.25 in. (6.4 mm) space from power-limited wiring. For other mounting methods, see enclosure and bracket installation sheets to maintain separation of power-limited and nonpower-limited wiring. The wire size must be capable of handling fault current from nonpower-limited source.
— or —
Use type FPL, FPLR, FPLP, or permitted substitute cables, provided these power-limited cable conductors extending beyond the jacket are separated by a minimum of 0.25 in. (6.4 mm) space or by a nonconductive sleeve or nonconductive barrier from all other conductors. Refer to the NFPA 70 *National Electrical Code* for more details.
- (4) For synchronized signals you must use synchronized temporal horn/strobes and personality code 25. Any other combination will not produce synchronized signals.
- (5) 47 kΩ EOLR.
- (6) Signaling line circuit (SLC) to next device.
- (7) AUX riser (to next module or riser supervisory device).
- (8) Power-limited regulated, power supply UL/ULC listed for fire protective signaling systems.
- (9) AUX riser (from previous device).
- (10) Signaling line circuit (SLC) from previous device. Supervised and power-limited.

Figure 4: Wiring diagram for audio (personality code 5)



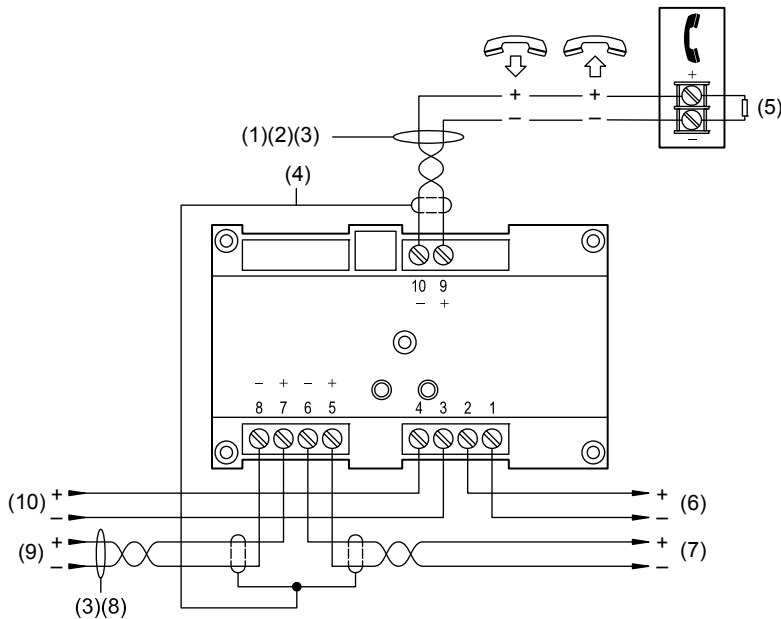
- (1) Signal polarity is shown when the circuit in supervisory state. Polarity reverses when the circuit is active.
- (2) Supervised.
- (3) Power-limited unless connected to a nonpower-limited source. If the source is nonpower-limited, eliminate the power-limited mark and maintain a minimum of 0.25 in. (6.4 mm) space from power-limited wiring. For other mounting methods, see enclosure and bracket installation sheets to maintain separation of power-limited and nonpower-limited wiring. The wire size must be capable of handling fault current from nonpower-limited source.
— or —

Use type FPL, FPLR, FPLP, or permitted substitute cables, provided these power-limited cable conductors extending beyond the jacket are separated by a minimum of 0.25 in. (6.4 mm) space or by a nonconductive sleeve or nonconductive barrier from all other conductors. Refer to the NFPA 70 *National Electrical Code* for more details.

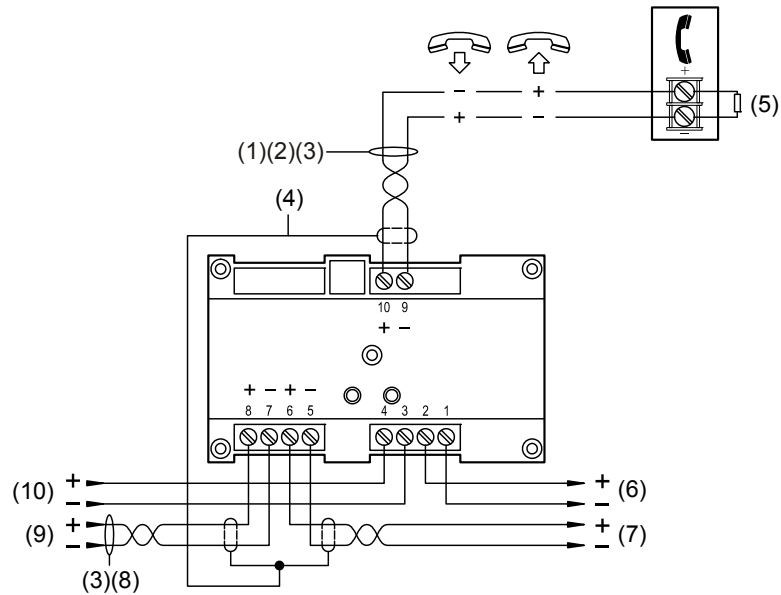
- (4) Unshielded twisted pair.
- (5) 47 kΩ EOLR (P/N EOL-47).
- (6) Signaling line circuit (SLC) to next device.
- (7) Audio riser (to next module or supervisory end of line device).
- (8) Unshielded twisted pair. Use shielded twisted pair when installed in the same conduit as with a telephone riser.
- (9) Audio riser (from previous device).
- (10) Signaling line circuit (SLC) from previous device. Supervised and power-limited.

Figure 5: Class B telephone (personality codes 6 and 26)

Three-state telephone circuit (personality code 6)



Four-state telephone circuit (personality code 26)





- (1) Telephone circuit. The plus and minus symbols indicate signal polarity.
- (2) Supervised.
- (3) Power-limited unless connected to a nonpower-limited source. If the source is nonpower-limited, eliminate the power-limited mark and maintain a minimum of 0.25 in. (6.4 mm) space from power-limited wiring. For other mounting methods, see enclosure and bracket installation sheets to maintain separation of power-limited and nonpower-limited wiring. The wire size must be capable of handling fault current from nonpower-limited source.
— or —
Use type FPL, FPLR, FPLP, or permitted substitute cables, provided these power-limited cable conductors extending beyond the jacket are separated by a minimum of 0.25 in. (6.4 mm) space or by a nonconductive sleeve or nonconductive barrier from all other conductors. Refer to the NFPA 70 *National Electrical Code* for more details.
- (4) Required if distance from the SIGA-CC1S to the phone is greater than 5 ft. Shield must be continuous, insulated, and isolated from ground, except for the connection to chassis ground in the control panel.
- (5) 47 kΩ EOLR.
- (6) Signaling line circuit (SLC) to next device.
- (7) Telephone riser (to next module or end-of-line supervisory device).
- (8) Use shielded twisted pair. Shields must be continuous and grounded at the panel end.
- (9) Telephone riser (from previous device).
- (10) Signaling line circuit (SLC) from previous device. Supervised and power-limited.

Specifications

Operating voltage range	15.20 to 19.95 VDC
Current	
Standby	310 μ A
Activated	150 μ A
Maximum line impedance	Refer to the control panel installation manual
Ground fault impedance	10 k Ω
Output ratings (special applications)	
24 VDC	2 A
25 VRMS audio	50 W
70 VRMS audio	35 W
EOL resistor value	47 k Ω
Circuit resistance	Refer to the control panel installation manual
Circuit capacitance	0.1 μ F max.
EOLR	47 k Ω (P/N EOL-47)
Circuit designation	
Signaling line circuits	Class A, Style 6 or Class B, Style 4
Telephone riser circuits	Class B, Style 4
Notification line circuits	Class B, Style Y
LPCB/CPR electrical box	
Requirements	Plastic box with cover plate, no gaps or unused holes
Minimum size W \times H \times D	3.5 \times 3.5 \times 1.5 in. (85 \times 85 \times 38 mm)
Compatible electrical boxes	2-1/2 in. (64 mm) deep dual-gang box; 4 in. square box 1-1/2 in. (38 mm) deep box with a dual-gang cover
Wire size	12 to 18 AWG (1.0 to 4.0 mm ²)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93%, noncondensing
Storage temperature range	-4 to 140°F (-20 to 60°C)

Regulatory information

FCC compliance	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.
North American standards	CAN/ULC-S527, UL 864
EN 54	EN 54-18: 2005 Input/output devices
EU compliance	
CPR certificates	0832-CPR-F0841
	2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information, see: www.recyclethis.info .

Contact information

For contact information, see www.edwardsfiresafety.com.