

Cautions and Warnings

DO NOT INSTALL ANY SIMPLEX PRODUCT THAT APPEARS DAMAGED. Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify Simplex.



ELECTRICAL HAZARD - Disconnect electrical power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex Representatives.



STATIC HAZARD - Static electricity can damage components. Therefore, handle as follows:

1. Ground yourself before opening or installing components.
2. Keep uninstalled component wrapped in anti-static material at all times (use 553-484 Static Control Kit).



RADIO FREQUENCY ENERGY - This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

4905-9938 SmartSync™ Control Module Operation

The SmartSync Control Module (SCM) is designed to allow TrueAlert™ Non-Addressable Horns, Strobes, A/V, and S/V units to be put on the same Notification Appliance Circuit (NAC). This allows the silencing of the Horns without deactivation of the Strobes. The SCM connects to and derives power from a reverse polarity Notification Appliance Circuit (NAC). It operates the visible appliances when the NAC is in the forward polarity (alarm state), and uses energy from this circuit to power the attached TrueAlert Non-Addressable (or other) notification appliances. When the NAC is in the reverse polarity, or supervision state, the SCM is off, and connects the NAC to the TrueAlert wiring for traditional appliance supervision. The SCM uses a 2nd circuit from the panel to control operation of audible appliances connected to the TrueAlert SCM output. The TrueAlert SCM also supports Class A wiring configurations, and synchronization across multiple TrueAlert Non-Addressable NACs.

Notes:

1. The SCM is also compatible with Simplex old style Strobes, Speaker/Visible, and Horn/Visible when switched for “Synchronous” operation.
2. The SCM is compatible with Simplex old style Audible/Visible appliances, but only the strobe circuit if switched for “Synchronous” operation.
3. The SCM is **not compatible** with addressable TrueAlert appliances.

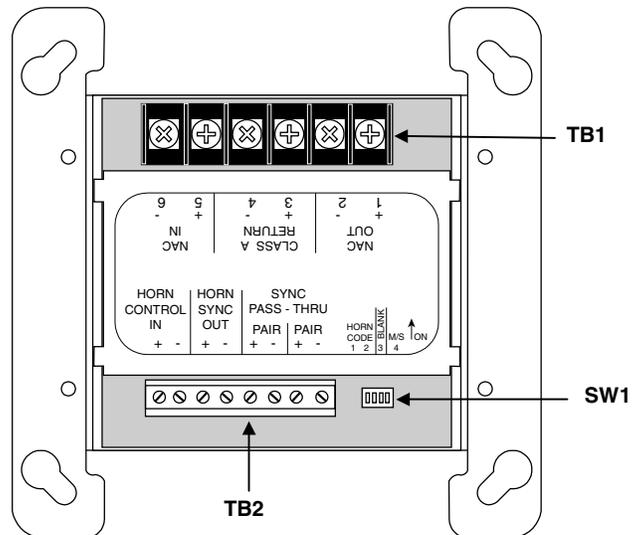


Figure 1. SmartSync Control Module

SCM Operation

The SCM requires two Simplex Fire Alarm Control Panel (FACP) notification appliance circuits to control SmartSync Horns separately from strobes on a TrueAlert Non-Addressable NAC. The SCM uses these circuits to power attached Notification Appliances, and control Horn and Strobe operation. A once-a-second pulse on the SmartSync NAC output synchronizes the flashing of Strobes. The Horn appliances on SmartSync enabled devices are controlled via SmartSync signals transmitted from the TrueAlert SCM output during certain strobe synchronization pulses. Note that the strobe appliances will be operating whenever the SCM is on.

NAC Input

The NAC Input (NAC IN + and - [see Figure 1]) connection on the SCM provides power for this device and attached NAC appliances. This input inherently signals the SCM to operate the visible appliances when the panel NAC is activated. The “NAC IN” input must be driven by a fully functioning reverse polarity non-coded NAC output from the FACP. The module is not powered when this circuit is in the reverse polarity state.

Horn Input

The Horn input (HORN IN + and -) must be driven by a non-coded FACP output. A positive voltage commands the horn appliances attached to the module’s NAC OUT wiring to operate. A reverse polarity voltage, or a zero voltage condition, turns the horn appliances off.

Most applications require that the HORN IN + and - be driven by a reverse polarity NAC output from the host FACP. However, in cases where synchronized SCMs are not desired, an unsupervised panel output may drive this line, provided that the wiring between SCM and FACP is in metal conduit, and the box-to-box wire run length does not to exceed 20 feet.

Supervision

Supervision of SCM wiring is performed by the attached FACP. The NAC output from the panel connected to the NAC IN monitors the wiring through the SCM and out to the EOL resistor after the last appliance on the TrueAlert Non-Addressable NAC. The circuit driving the HORN IN + and - is responsible for supervision of horn, and if used, sync wiring. An EOL resistor is placed across the HORN/SYNC OUT terminals of the last SCM controlled by this circuit, or, if the SCMs are synchronized, across the SYNC PASS-THRU PAIR (7,8) terminals of the last SCM.

Multi-Sync Feature

Groups of SCMs can synchronize appliances across multiple SmartSync NACs (see Figures 2 and 3). This feature is called Multi-Sync. Each SCM has a Multi-Sync port with input and an output connection. These ports are daisy-chained together. The first SCM in the chain is set via DIP switch to be the Multi-Sync “master:” it generates the sync signals. The other SCMs have their DIP switches set for slave operation: they follow the sync signals.

The Multi-Sync feature uses power from the audible control circuit connected at the master SCM. If this feature is desired, then the circuit driving audible input at the master must be a reverse polarity NAC. This means that a short or open on the Multi-Sync wiring connecting the SCMs causes a trouble on the panel driving the audible input of the master SCM.

Notes:

1. No more than 8 SCMs may be connected together for synchronization. Also, other appliances may **NOT** be connected to the Multi-Sync wiring. Maximum wire run length from FACP control output to Multi-Sync EOLR is 1000 feet.
2. When the SCM's are wired in a master/slave configuration, the interconnecting synchronization wiring must adhere to one of the following restrictions:
 - Metal conduit with end-to-end length limited to 20 feet, **OR**
 - Synchronized SCMs and interconnecting wiring must be in a single enclosure, **OR**
 - Strobes being controlled by one SCM shall not be mounted in an area where they could be seen together with a strobe controlled by another SCM.

Class A Operation

The SCM supports Class A wire run configurations extending from the module, through the appliances, and back to the EOL resistor at the SCM Class A terminals. The EOLR at the Class A terminal is internal to the module: do not add one when wiring the SCM for Class A.

The wiring between the SCM and the connected FACP is **NOT** Class A. The wiring between SCM and FACP must be in metal conduit, with the box-to-box wire run length not to exceed 20 feet for Class A NAC applications.

SCM DIP Switch Settings

Configure the TrueAlert SCM operation by setting the 4-position DIP Switch SW1 (see Table 1) as follows:

Table 1. TrueAlert SmartSync Control Module DIP Switch Settings

| DIP Switch SW1 | | Audible Appliances “ON” Sound Code Output | Multi-Sync Master Code |
|----------------|----------|-------------------------------------------------|---------------------------|
| Position 1 | OFF | Temporal | - |
| Position 2 | OFF | | |
| Position 1 | ON | ON Steady | - |
| Position 2 | OFF | | |
| Position 1 | OFF | Reserved | - |
| Position 2 | ON | | |
| Position 1 | ON | March Time | - |
| Position 2 | ON | | |
| Position 3 | Not Used | N/A | N/A |
| Position 4 | ON | - | Slave |
| Position 4 | OFF | - | Master |

Note: The factory setting for each switch is OFF.

SCM Specifications

NAC Input

The NAC circuit from the FACP controls the basic reverse/forward polarity state for the combined TrueAlert NAC output. It must be in the forward polarity state for the operation of the SCM or appliances. This input may **NOT** be driven from a coded circuit. The supply current only applies when the NAC Input is driven to the forward (alarm) polarity.

NAC Input Requirements:

Input Voltage - 16 - 33Vdc, 2Vpeak max. ripple; 24V nominal

Sync Control Module Supply Current - 30mA maximum

Supervision - End-of-line resistor: external EOLR required for Class B NAC, internal 10K ohm provided for Class A NAC

Supervision current - 10 uA maximum (plus NAC load)

Horn Input

The panel output driving the audible input may have a different power source than the NAC output driving the NAC input, but it may **NOT** be a coded circuit.

Horn Input Requirements:

Input Voltage, either polarity - 16 - 33Vdc, 2Vpeak max. ripple; 24V nominal.

Circuit load - Forward polarity 4mA maximum

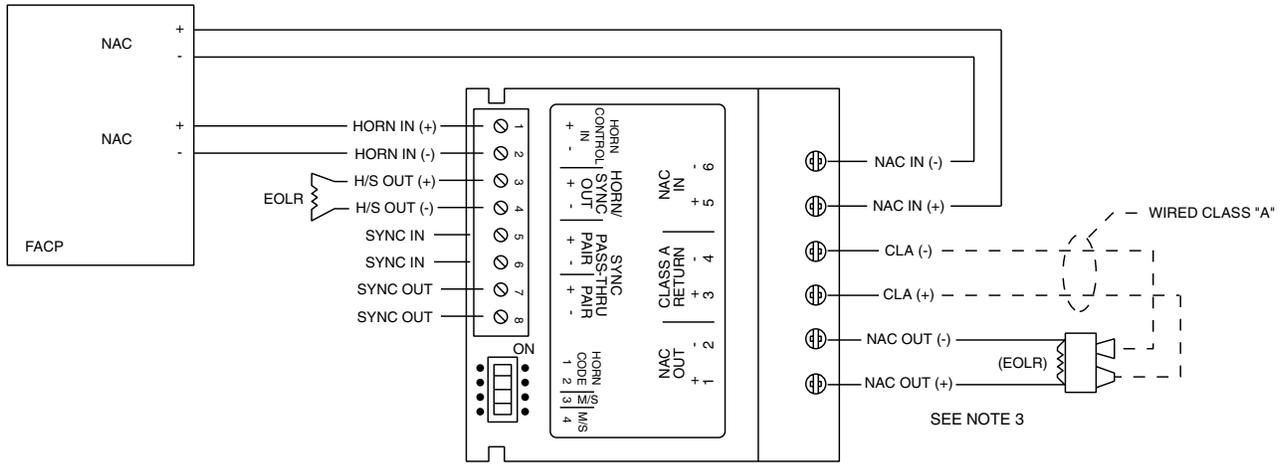
Reverse polarity 0.2mA max. average

SmartSync NAC Output

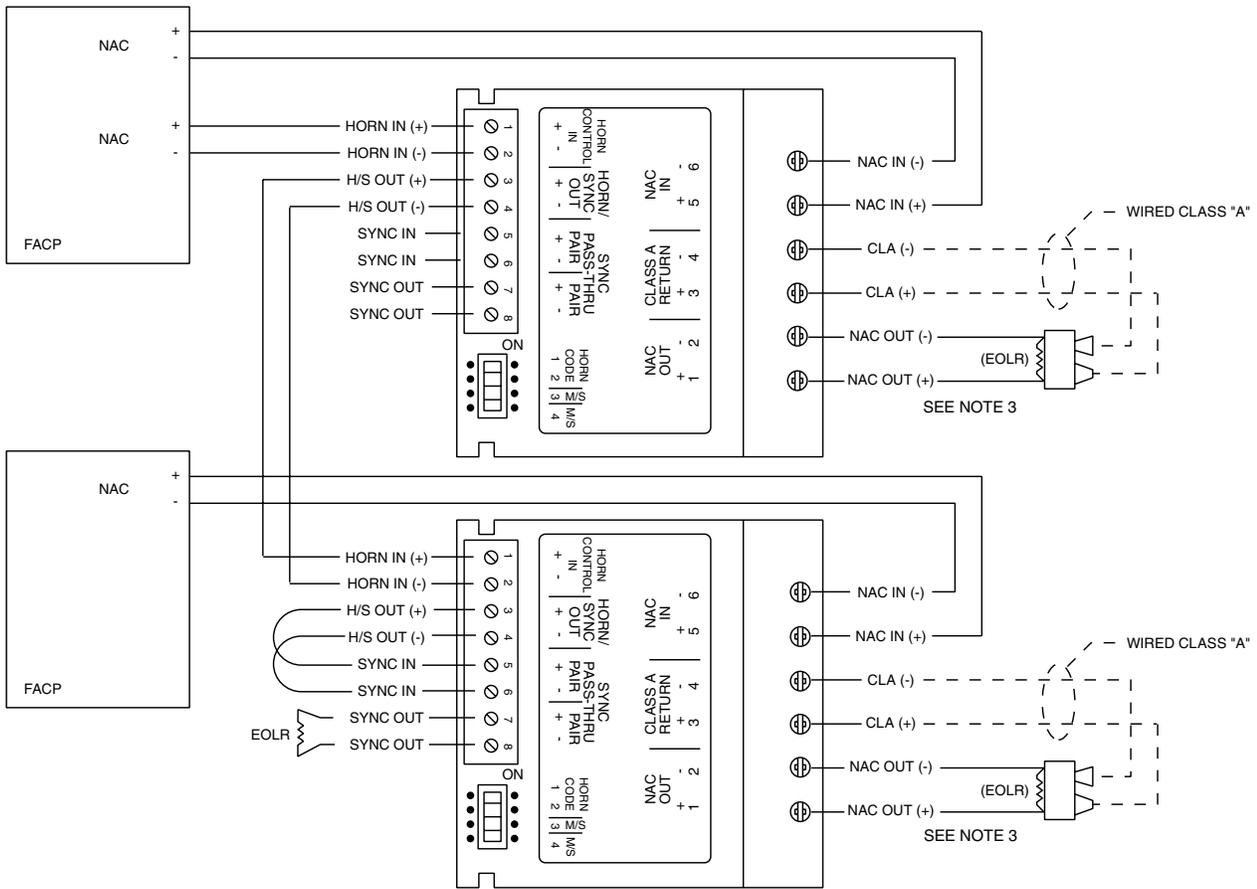
Output Voltage - 16 - 33Vdc

Circuit Load - 2.0 Amp maximum. Maximum 35 devices with strobe appliances attached; 40 devices with horn only appliances.

SCM Wiring Diagrams



Basic SCM Interconnections



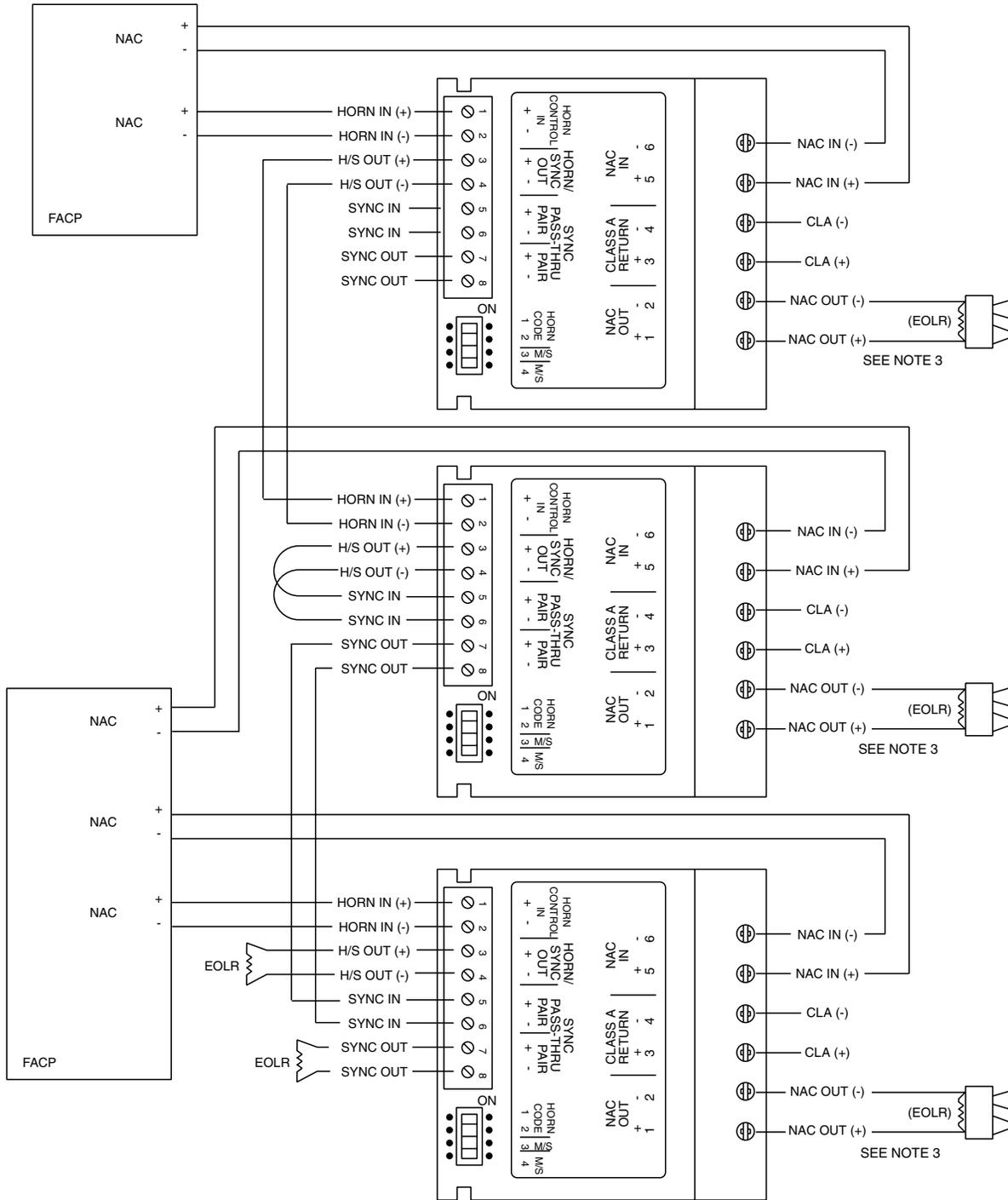
**Multiple Synchronized Module Interconnection
(with common horn input)**

Notes:

1. Maintain correct polarity on terminal connections.
2. Maximum 8-SCMs connect together for multiple synchronized operation.
3. If last appliance on circuit, connect EOLR. Consult Simplex FACP Field Wiring Diagrams for correct EOLR. Class A outputs have internal 10K EOLR.
4. These appliances were only tested to the operating voltage limits of 16VDC and 33VDC. Do not operate these appliances outside these limits: doing so may cause appliance to fail to operate, and/or cause permanent damage to this equipment.

Figure 2. SCM Wiring

SCM Wiring Diagrams – continued



Multiple Synchronized Module Interconnection (with multiple horn input)

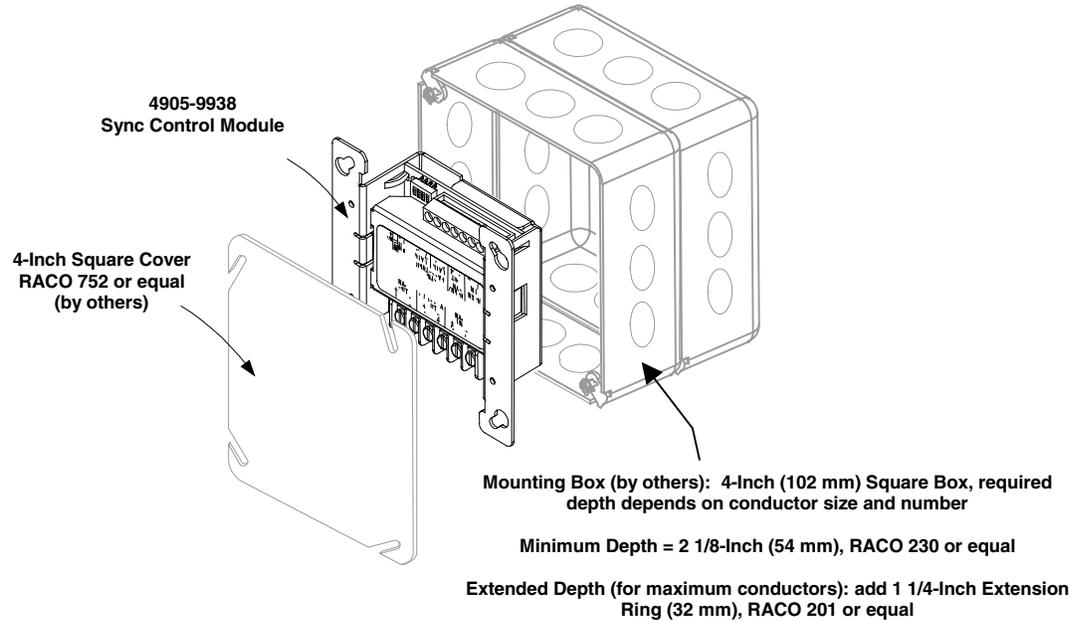
Notes:

1. Maintain correct polarity on terminal connections.
2. Maximum 8-SCMs connected together for multiple synchronized operation.
3. If last appliance on circuit, connect EOLR resistor. Consult Simplex FACP Field Wiring Diagrams for correct EOLR. Class A outputs have internal 10K EOLR.
4. These appliances were only tested to the operating voltage limits of 16VDC and 33VDC. Do not operate these appliances outside these limits: doing so may cause appliance to fail to operate, and/or cause permanent damage to this equipment.

Figure 3. SCM Wiring – continued

Mounting the TrueAlert SCM

The TrueAlert SCM assembly mounts to the 4-inch square electrical box via 2 screws. Box depth is dependent on the number and size of conductors used in a particular application; the range extends from a minimum 2 1/8" deep box to a 2 1/8" deep box with a minimum 1 1/4" extension ring.



Note: A cover plate (not supplied) is required to complete installation.

Figure 4. TrueAlert SCM Mounting

The SCM uses terminals to connect to each wire point. Each shall accept 1 wire of gauges #12 thru #18 AWG. AWG #18 is recommended for the Horn and Sync terminals. The terminal screws at TB1 accommodate both slotted and Philips drive.

Refer to the FACP Field Wiring Diagrams for detailed information on maximum wire run distances.