HOCHIKI DCP-SOM-AI Class A Supervised Output Module Instruction Manual

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HOCHIKI DCP-SOM-AI Class A Supervised Output Module

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    - SOM-AI: 7.5mA
    - SOM-A: 7.3mA
  - Normal Operation:
    - SOM-AI: 520uA
    - SOM-A: 320uA
- Auxiliary Applied Voltage: 24VDC
- Auxiliary Current Consumption: Maximum Output Current (OUT+/OUT-, IN+/IN-): 2A @ 24VDC
- EOL Device for OUT+ & OUTSCI: HOCHIKI AMERICA CORP. EOL Part NO. 0400-03180 10K, 1/4W, 1/4inch
- On Resistance: SCI Fault Detection Threshold
- SCI Isolation Current (Short Circuit Condition): Maximum Quantity Per Loop Visual Indicator (Status LED)
- Operating Temperature Range: Storage Temperature Max. Relative Humidity Environment
- Dimensions: 4.2W X 4.7H X 1.0D
- Weight: Approximately 3.0 ounces

Product Usage Instructions

General Description

The Class A Supervised Output Module (SOM-A and SOM-AI) is designed to be connected to a DCP-compatible Signaling Line Circuit (SLC). It provides supervised 24VDC power for audible and visual fire alarm signaling devices like horns, bells, and strobes, while also offering supervision for open and short circuit conditions.

Status LED

The module features a status LED that indicates the operational status of the output module.

Mounting Requirements

Mount the DCP-SOM-A Supervised Output Module as shown in the provided figures on page 2 of the installation instruction manual.

Wiring Instructions

1. Install module wiring according to job drawings and appropriate wiring diagrams.
2. Secure the module to a U.L.-listed electrical box.
3. Set the address on the module before attaching the cover plate.

Caution

Ensure proper operation by connecting the module only to a compatible fire control panel as per the panel instructions. If installing in an existing system, inform the operator and disconnect power to the control panel before installation.

Note

During installation of fire alarm system devices, avoid placing them near potential Radio Frequency or Electro-Magnetic sources. Do not run SLC circuit in the same conduit as power lines. Utilize twisted pair and shielded wire in noisy environments.

INSTALLATION INSTRUCTIONS FOR DCP-SOM-AI, DCP-SOM-A CLASS A SUPERVISED OUTPUT MODULE

The information contained in this installation instruction is a quick reference guide. For detailed system information refer to the panel manufacturer's installation manual. This instruction will not address specific programming procedure.

GENERAL DESCRIPTION

This instruction applies to the Class A Supervised Output Module (SOM-A and SOM-AI) which is to be connected to a DCP-compatible Signaling Line Circuit (SLC). Typical applications are to provide supervised 24VDC power to operate audible and visual fire alarm signalling devices such as horns, bells, strobes, etc. Notification device output provides supervision for open and short circuit conditions. Uses auxiliary power input for device operation and for powering signaling devices.

MOUNTING REQUIREMENTS

The DCP-SOM-A Supervised Output Module is mounted as shown in Figure 2 on page 2 of this instruction.

WIRING

NOTE: All wiring must conform to local codes, ordinances and regulations

1. Install module wiring in accordance with the job drawings and appropriate wiring diagram (see Fig. 3 and 4).

2. Secure the module to a U.L.-listed electrical box (supplied by the installer), as shown in Figure 2.
3. The address must be set on the module before the cover plate is attached (see Figure 1).

CAUTION

- TO ENSURE PROPER OPERATION CONNECT THIS MODULE TO A COMPATIBLE FIRE CONTROL PANEL ONLY. REFER TO PANEL INSTRUCTIONS FOR PROPER CONNECTION AND COMPATIBILITY.
- IF THIS MODULE WILL BE INSTALLED IN AN EXISTING OPERATIONAL SYSTEM, INFORM THE OPERATOR AND LOCAL AUTHORITY THAT THE SYSTEM WILL BE TEMPORARILY OUT OF SERVICE. DISCONNECT POWER TO THE CONTROL PANEL BEFORE INSTALLING THE MODULE.

NOTE: When installing fire alarm system devices, avoid placing devices or wiring close to potential Radio Frequency or Electro-Magnetic sources. Avoid running SLC circuit in the same conduit as power lines. Utilize twisted pair and shielded wire in environments where excessive noise is expected.

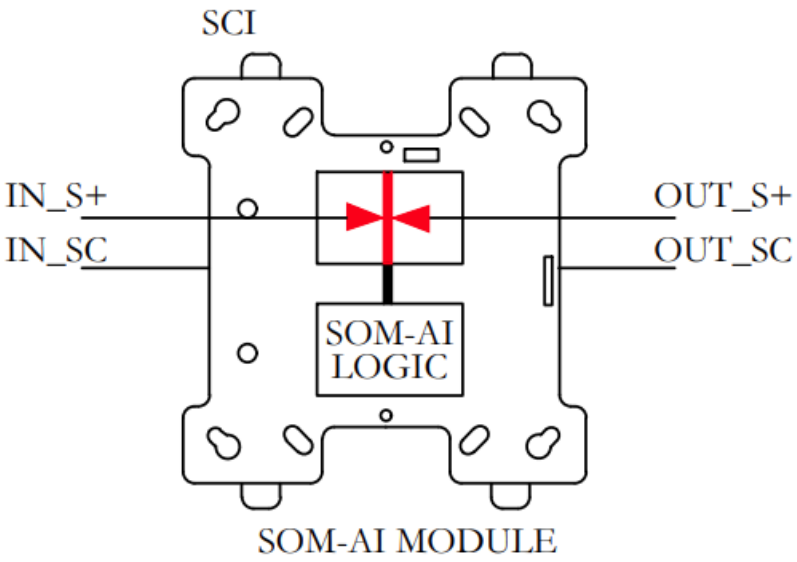
SPECIFICATIONS	
SLC Applied Voltage	Rated Range 25.3 ~ 39 VDC
SLC Current Consumption	Alarm Operation Alarm LED On: SOM-AI: 7.5mA, SOM-A: 7.3 mA Normal Operation SOM-AI: 520uA, SOM-A: 320uA
Auxiliary Applied Voltage	Rated 24VDC
24VDC Auxiliary Current Consumption	50 A (Typical)
Maximum Output Current (OUT+/OUT-, IN+/IN-)	2A @ 24VDC
EOL Device for OUT+ & OUT-	HOCHIKI AMERICA CORP. EOL Part NO. 0400-03180 10KΩ, 1/4W, 1/4inch
SCI On Resistance	60mΩ Maximum (Normal Condition)
SCI Fault Detection Threshold	12 Volts (Typical)
SCI Isolation Current (Short Circuit Condition)	10mA (Typical)
Maximum Quantity Per Loop	127
Visual Indicator (Status LED)	bi-color LED – Green & Red Color & Mode – Selected and Programmed by Control Panel's software
Operating Temperature Range	0°C (32°F) ~ 49°C (120°F)
Storage Temperature	-30°C (-22°F) ~ 70°C (158°F)
Max. Relative Humidity	Up to 90% RH Non-condensing
Environment	Indoor dry use only
Dimensions	4.2″W X 4.7″H X 1.0″D
Weight	Aproximately 3.0 ounces

MODELS

DCP-SOM-AI has a built-in SCI Short Circuit Isolator circuitry.DCP-SOM-A excludes SCI Short Circuit Isolator circuitry.

INTEGRATED SCI SHORT CIRCUIT ISOLATOR OPERATION

The DCP-SOM-AI has a built-in integrated SCI circuitry. In the event of a short on the S-SC line, the SCI circuit will activate its Yellow LED indicator will be turned on steadily and the SOM-AI module will report the short circuit condition to the Fire Control Panel.
The SCI has a fast response time but the Control Panel will detect a momentarily short before the SCI circuit breaks open if the short occurs during normal operation. However, if the S-SC line is short before power-on, the Control Panel will only detect an open loop because the SCI switch circuit never closes. In that case, it will rely on the SOM-AI to report a short.
The SCI circuit will prevent entire loop failure in case of a short. Upon removal of the short condition, the SCI will automatically restore the entire loop to a normal operating state.



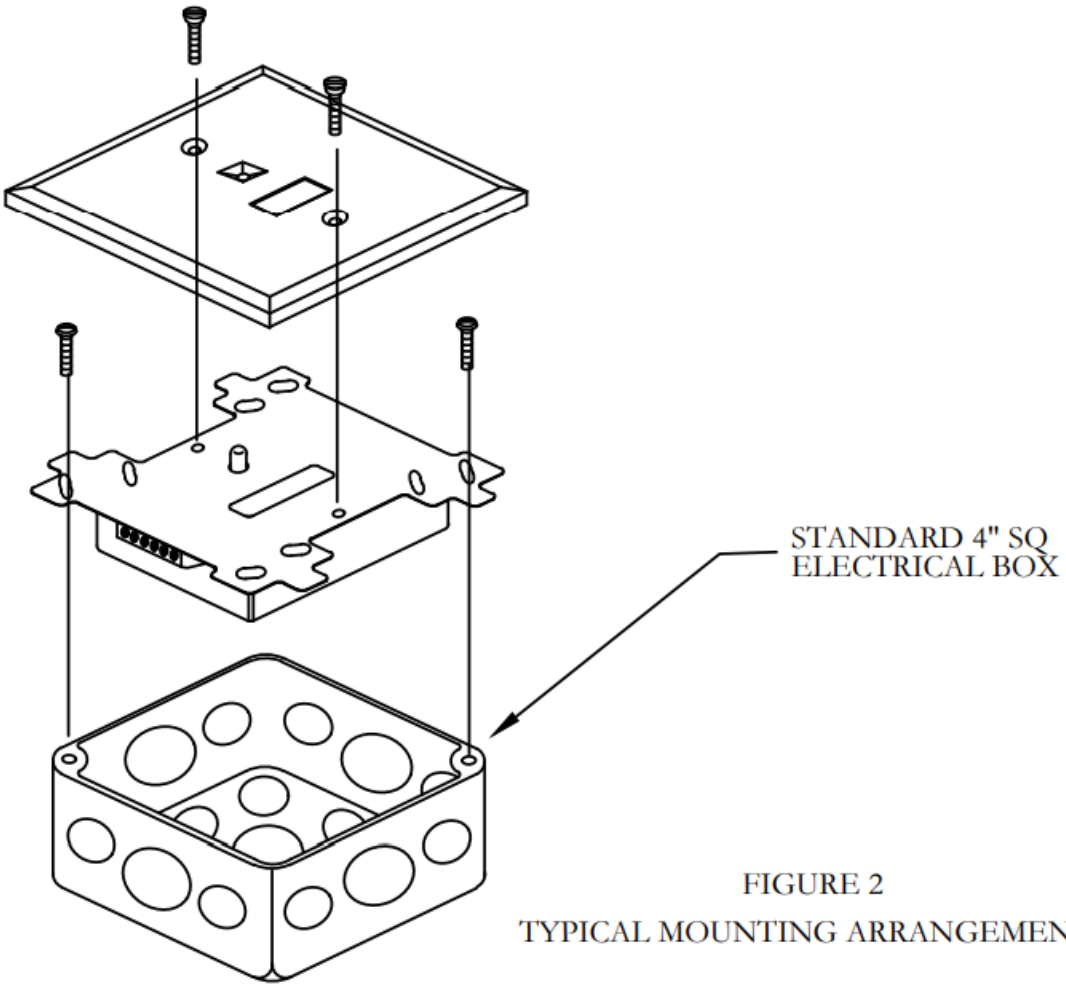
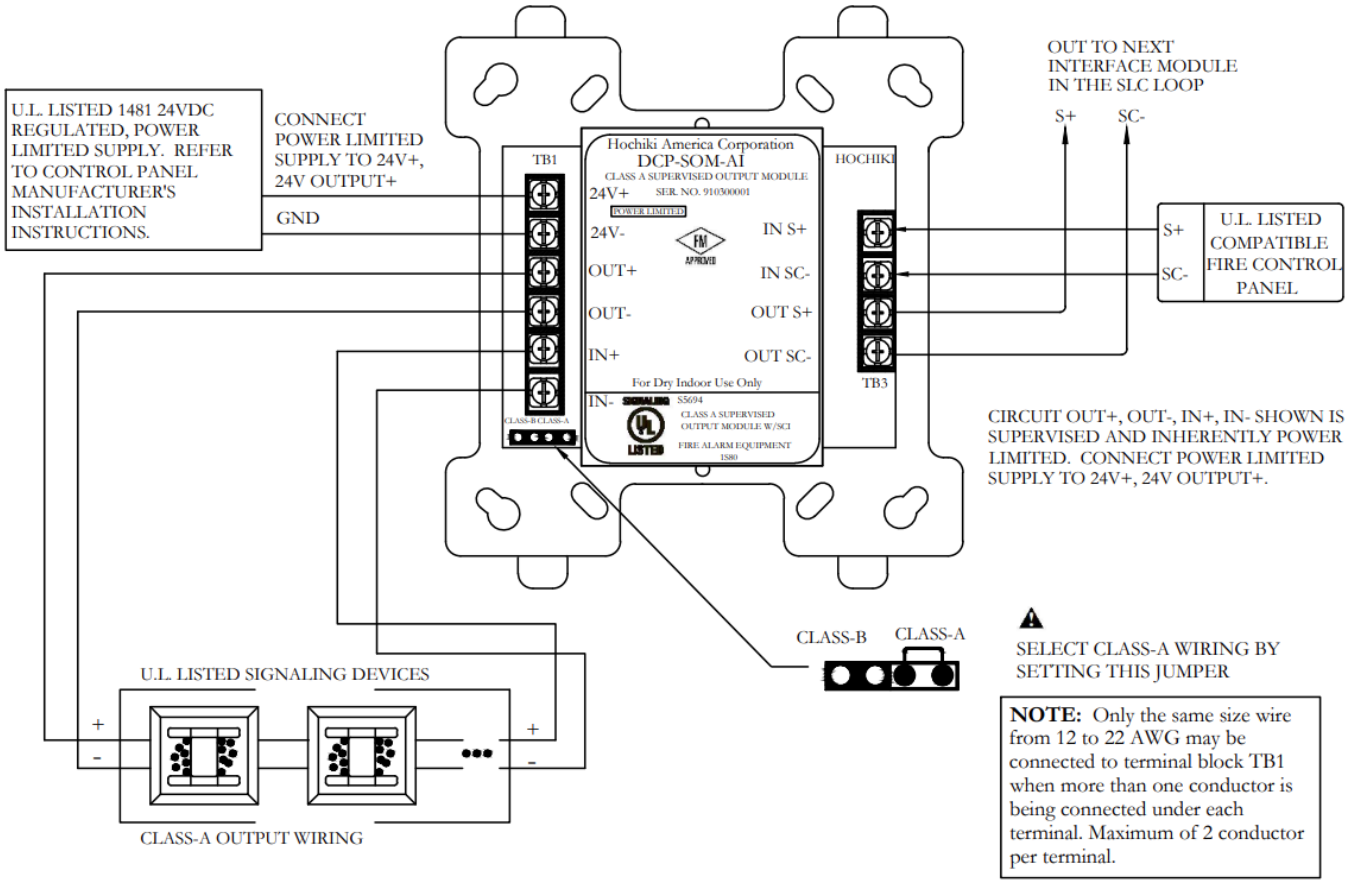


FIGURE 2
TYPICAL MOUNTING ARRANGEMENT

NOTE

- An average of 6.75mA (communication current) per loop of SLC devices, must be factored into the panel battery backup calculations.
- NAC Installation wiring shall not exceed 2 ohms (14-18 AWG)
- SLC circuit is in reference to S, and SC



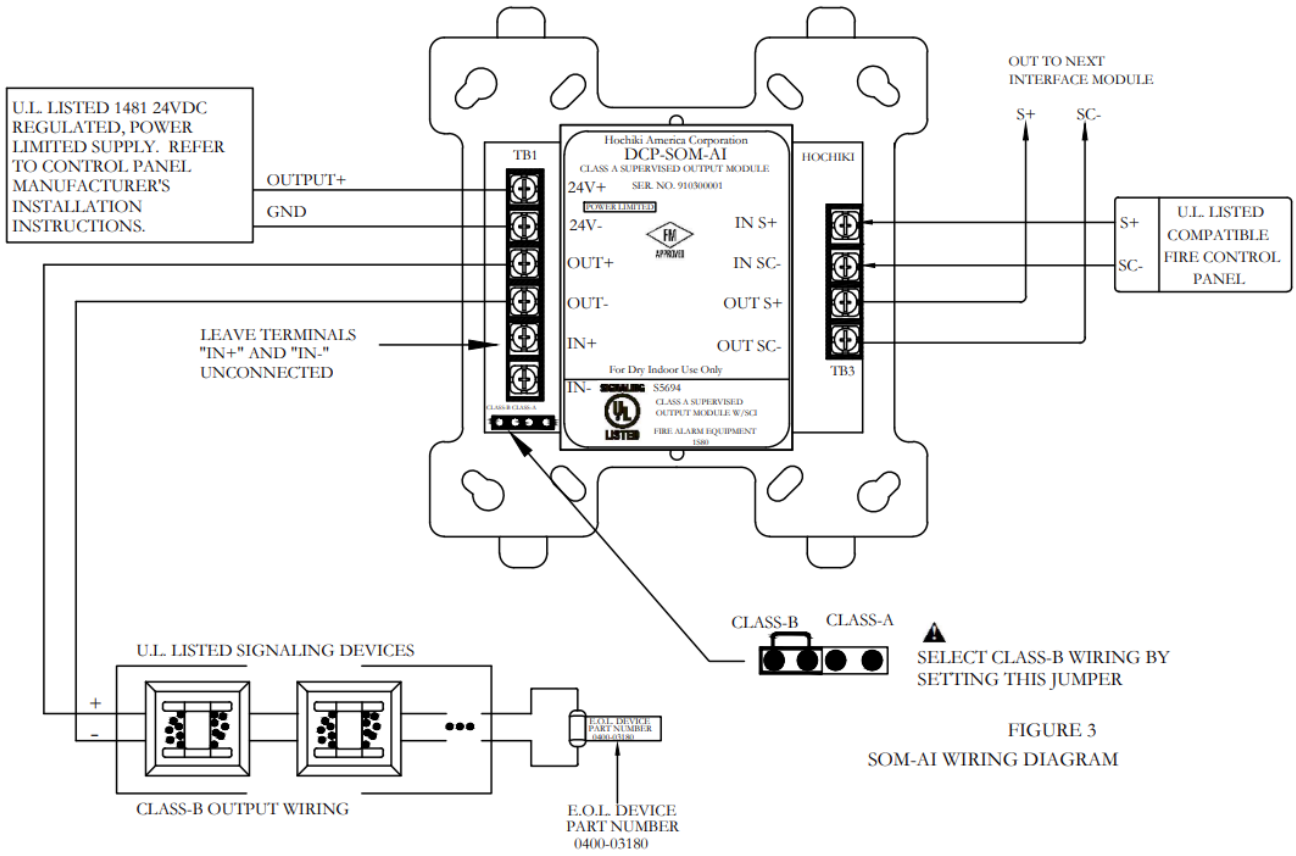


FIGURE 3
SOM-AI WIRING DIAGRAM

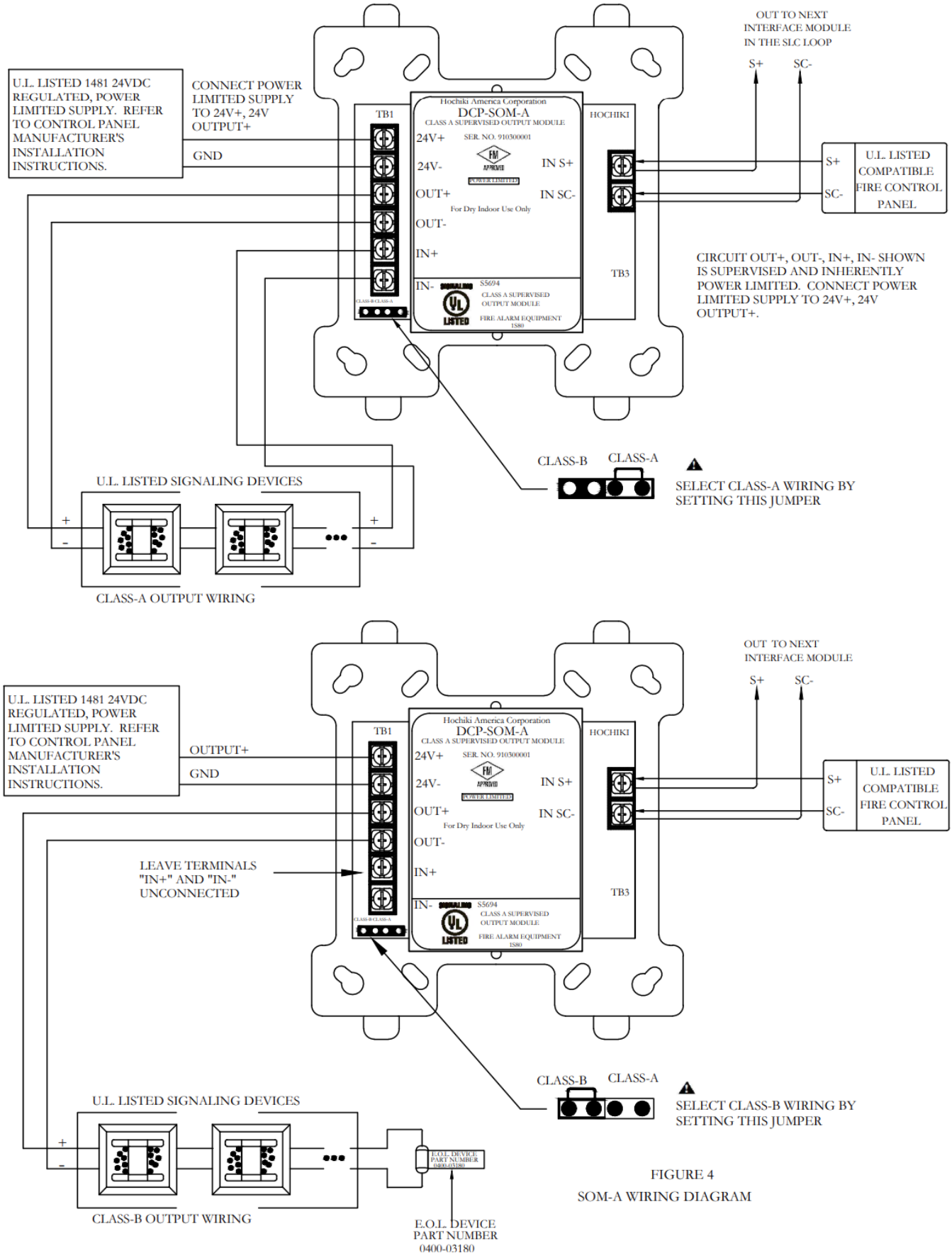


FIGURE 4
SOM-A WIRING DIAGRAM

One Year Limited Warranty

Hochiki America (HA) warrants its digital communication modules to be in conformance with it's own plans and specifications and to be free from defects in materials and workmanship under normal use and service for a period of one (1) year from date of delivery. All warranties are void and HA is not obligated to repair or replace equipment which has been repaired by others, abused, improperly installed, altered or otherwise misused or damaged or

exposed to conditions outside the products specifications in any way. HA will not be responsible for any dismantling, reassembling or re-installation charges. Please contact HA's Sales department for proper procedure for claims and return of merchandise. This warranty is in lieu of all other warranties expressed or implied.

FAQ

Q: Can I install the DCP-SOM-A module in any fire control panel?

A: No, ensure you connect this module only to a compatible fire control panel as mentioned in the instructions for proper operation.

Q: How do I set the address on the module?

A: The address must be set on the module before attaching the cover plate. Refer to Figure 1 for an exploded view of address programming plug and connector.

Documents / Resources

	HOCHIKI DCP-SOM-AI Class A Supervised Output Module [pdf] Instruction Manual DCP-SOM-AI, DCP-SOM-A, DCP-SOM-AI Class A Supervised Output Module, DCP-SOM-AI, Class A Supervised Output Module, Supervised Output Module, Output Module, Module

References

- User Manual