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# FIK-FML/FIK-FSL Fiber-Option Modules Product Installation Document

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## 1 Description

The Fike Series, Emergency Communication System uses the FIK-NVCM (Network Voice Control Module) and the Fike Series Fire, Alarm Control Panels use the FIK-NIC (Network Interface Card). The network modules support the following fiber-option modules that convert wire to fire.

- FIK-FML (Fiber-Optic Multi-Mode, Receiver)
- FIK-FSL (Fiber-Optic Single-Mode Transmitter)

### 1.1 FIK-FML (Fiber-Optic Multi-Mode, Receiver)

The FIK-FML is a fiber module that is used as one channel to transmit or receive communications with the FIK-NVCM (Network Voice Control Module) or FIK-NIC (Network Interface Card). It allows the multi-mode fiber to network between the FIK-FML module boards. Figure 1 shows the FIK-FML fiber module.

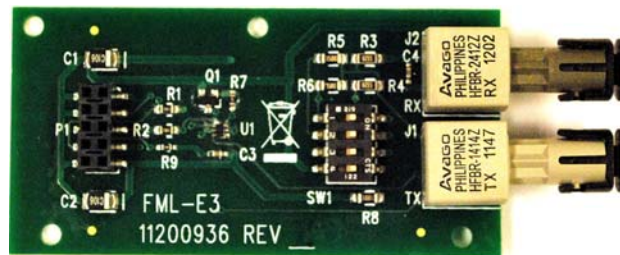


Figure 1 FIK-FML Fiber Module

### 1.2 FIK-FSL (Fiber-Optic Single-Mode, Transmitter)

The FIK-FSL is a fiber module that is used as one channel to transmit or receive communications with the FIK-NVCM (Network Voice Control Module) or FIK-NIC (Network Interface Card). It allows the single-mode fiber to network between the FIK-FSL module boards. Figure 2 shows the FIK-FSL fiber module.

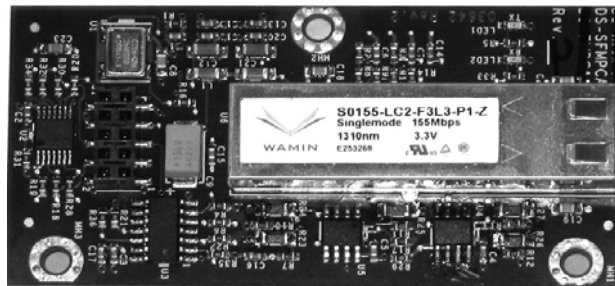


Figure 2 FIK-FSL Fiber Module

Table 1 lists the models that are assigned to the FIK-NVCM and FIK-NIC.

FIK-NVCM	FIK-NIC	
FCP-2100ECS	FCP-2100	FCP-75
FCP-300ECS	FCP-300	

Table 1 Network Voice and Interface Card Modules

## 2 FIK-FML/FIK-FSL Specifications

Table 2 lists the FIK-FML multi-mode fiber-optic and the FIK-FSL single-mode fiber-optic modules, digital audio ports specifications.

Specifications	FIK-FML	FIK-FSL
Type of Connector:	Type ST	Type LC
Maximum Attenuation:	8 dB for multi-mode with 62.5/125 micrometer cable @ 200 μ.	30 dB for multi-mode with 9/125 micrometer cable @ 1310 nm.
Current Draw:		
Standby Current:	0.053 A	0.079 A
Alarm Current:	0.053 A	0.079 A
Environment Rating:	32° to 120°F (0° to 49°C), 0% to 93%	32° to 120°F (0° to 49°C), 0% to 93%
Relative Humidity:	Non-condensing at 90°F (30°C)	Non-condensing at 90°F (30°C)

Table 2 FIK-FML Specifications



**CAUTION: STATIC SENSITIVE EQUIPMENT:**

THIS EQUIPMENT IS SENSITIVE TO STATIC ELECTRICITY. IT MAY BE DAMAGED IF NOT PROPERLY HANDLED. TRANSPORT AND STORE THIS UNIT IN A STATIC-SHIELDING BAG.

FAILURE TO OBSERVE THIS REQUIREMENT COULD CAUSE LATENT DAMAGE TO THE EQUIPMENT WHICH MIGHT NOT MANIFEST ITSELF UNTIL AFTER THE EQUIPMENT IS PLACED IN SERVICE.

**DISCONNECT ALL POWER:**

REMOVE ALL SOURCES OF POWER BEFORE YOU SERVICE, REMOVE OR INSTALL ANY UNITS.

All components should be located per the following requirements:

- Installations are to be indoors only, in dry locations, protected from rain, water, and rapid changes in temperature that could cause condensation.
- Equipment must be securely mounted on rigid, permanent walls.
- Operating temperature shall not exceed the range of 32° to 120° F (0 to 49° C).
- Operating humidity not to exceed 93% non-condensing at 90° F (32° C).
- All sub-assemblies and components are to be located in compliance with the local, the national codes and the manufacturer’s recommendations.
- All installation field wiring shall be in compliance with the local code, the national code and the manufacturer’s recommendations.
- Use the Architects and Engineering Specifications for detailed information on your Facility’s Configuration.

**3.1 FIK-FML/FIK-FSL Installation**

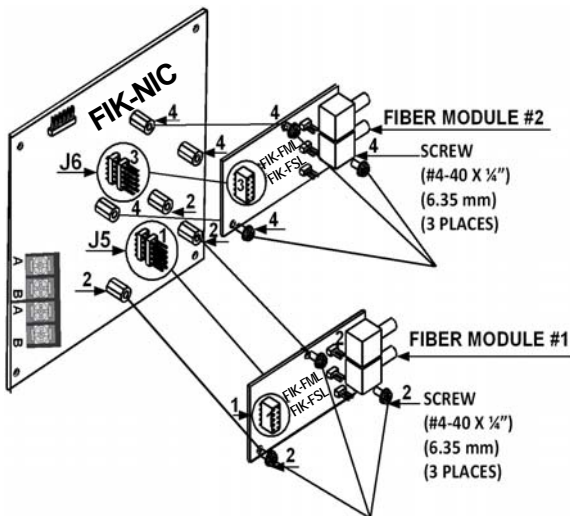
1. Remove the unit from its static-shield bag, observing proper static protection measures.
2. Visually inspect the unit for damage.  
If any components are damaged, notify the shipping carrier immediately. Report missing components to the Silent Knight Customer Service.
3. Use the Hardware Kit provided with the unit.
4. Plug the Fiber Module #1 into P6 of the FIK-NVCM or FIK-NIC circuit as shown in Location 1 in Figure 3 and Figure 4.
5. To connect the Fiber Module # 1 to the FIK-NVCM or FIK-NIC, insert and secure three screws (#4-40 x 1/4”) as shown in Location 2 in Figure 3 and Figure 4.
6. Plug the Fiber Module #1 into P5 of the FIK-NVCM or FIK-NIC circuit as shown in Location 3 in Figure 3 and Figure 4.
7. To connect the Fiber Module #1 to the FIK-NVCM or FIK-NIC, insert and secure three screws (#4-40 x 1/4”) as shown in Location 4 in Figure 3 and Figure 4.



**NOTE 1: FIBER MODULES:FIK-FSL AND FIK-FML**

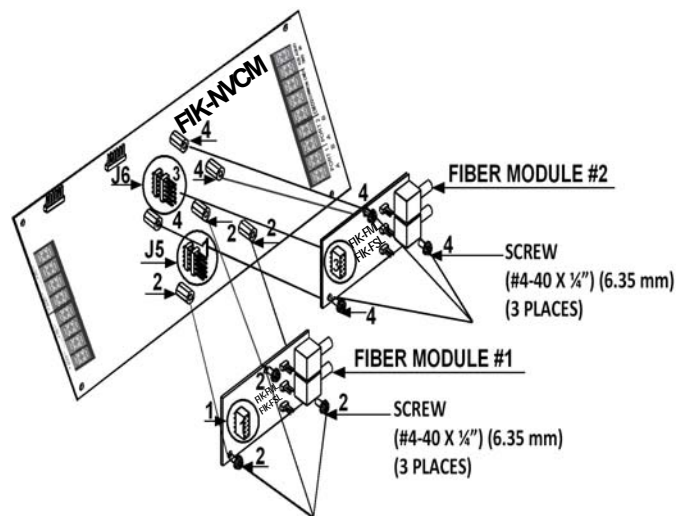
INSTALL A MAXIMUM OF TWO BOARDS PER INSTALLATION.THE FIBER MODULES CAN BE COMBINED.

Figure 3 illustrates the FIK-FML/FIK-FSL installed to the FIK-NIC.



**Figure 3 FIK-FML Installation**

Figure 4 illustrates the FIK-FML/FIK-FSL installed to the FIK-NVCM.



**Figure 4 FIK-FSL Installation**

## 4 Wiring

Section 4.2 and Section 4.4 list the wiring for the following fiber-optic modules.

- Fiber-Optic Multi-Mode Module (FIK-FML)
- Fiber-Optic Single-Mode Module (FIK-FSL)

### 4.1 FIK-FML Circuit Board Diagram

Figure 5 illustrates the FIK-FML PCB circuit board diagram.

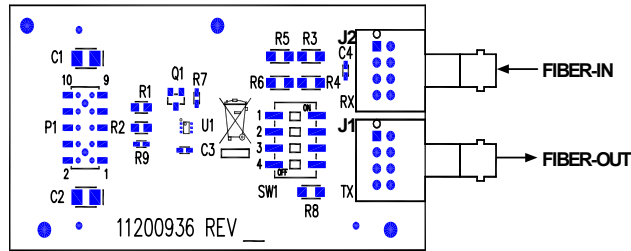


Figure 5 FIK-FML Circuit Board Diagram

### 4.2 FIK-FML Installation Wiring Terminals

Table 3 lists the FIK-FML installation wiring terminals.

Designation	Description
J1	Connects to the transmitting fiber. (See Note)
J2	Connect to the receiving fiber. (See Note)
SW1-1	Sets the optical output power for the transmitting fiber. (See Table 4)
SW1-2	Sets the optical output power for the transmitting fiber. (See Table 4)
SW1-3	Sets the optical output power for the transmitting fiber. (See Table 4)
SW1-4	Not used.
P1	Plugs onto P5 (Port 1) or P6 (Port 2) of the FIK-NVCM or FIK-NIC.
<b>Note 1:</b> Use standard ST connector fiber-optic cable, multi-mode, up to 200 $\mu$ (optimized for 62.5/125 $\mu$ ).	
<b>Note 2:</b> Signal loss up to 8dB maximum between nodes.	

Table 3 FIK-FML Terminal Wiring Designations

Table 4 lists the FIK-FML switch settings and drive currents.

SW1-1	SW1-2	SW1-3	Drive Current
OFF	OFF	OFF	10 mA
OFF	OFF	ON	20 mA
OFF	ON	OFF	32 mA
OFF	ON	ON	42 mA
ON	OFF	OFF	54 mA
ON	OFF	ON	64 mA
ON	ON	OFF	76 mA
ON	ON	ON	86 mA

**Note:** SW1-4 is not used.

Table 4 FIK-FML Switch Settings/Drive Currents

### 4.3 FIK-FSL Circuit Board Diagram

Figure 6 illustrates the FIK-FSL, PCB circuit board diagram.

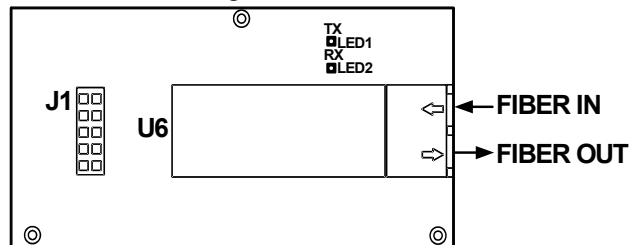


Figure 6 FIK-FSL Circuit Board Diagram

## 4.4 FIK-FSL Installation Wiring Terminals

Table 5 lists the FIK-FML installation wiring terminals.

Designation	Description
J1	Plugs on to P5 (Port 1) or P6 (Port 2) of the FIK-NVCM or FIK-NIC.
U6	Top connection connects to the receiving fiber (IN). Bottom connection onnects to the transmitting fiber (OUT).

**Note:** Use LC connector fiber-optic cable, single mode, up to 1310 nm (optimized for 9/125  $\mu$ ). Signal loss up to 30 dB maximum between nodes.

**Table 5 FIK-FML Terminal Wiring Designations**

Table 6 lists the FIK-FSL LED Indicators.

LED #	Name	Color	Description
1	TX	Green	Lights while data is transmitted on the Repeater. When activity is detected, the TX light flickers and turns ON. If no activity is detected, the TX light turns OFF.
2	RX	Green	Lights while data is received on the Repeater. When activity is detected, the RX light flickers and turns ON. When no activity is detected, the RX light turns OFF.

**Table 6 FIK-FSL LED Indicators**