



### DESCRIPTION

The 10-2624, Fiber Optic Network Module provides an intelligent interface between network panels. The network is designed to operate with up to 128 nodes using the Multi-Mode Fiber Optic communication protocol with repeaters in each network module. Each panel to be tied into this network will need a 10-2624 Fiber Optic Network Module installed on it to participate. The module mounts directly to the associated control panel circuit board using the following mounting hardware provided with the module.

Standoff Hardware Kit, P/N 02-12031

02-3794 Standoff, 1.25" F/F, 6/32 hex (qty. 4)  
 02-1589 Screw, 6-32 x 0.375" Phillips (qty. 8)

### COMPATIBILITY

The Fiber Optic Network Module is compatible with the following Fike control panels: CyberCat™ 254, CyberCat™ 1016, and Cheetah Xi™ Systems; however, there are some compatibility issues regarding the firmware revision level of the panel versus the firmware revision level of the network modules being utilized. See "Network Configuration Guidelines" for further details.

### SPECIFICATIONS

Current Consumption: 50mA in standby and alarm

Circuit Cabling (TXA, RXA, TXB, RXB):  
 Multimode Fiber Cable  
 Max Fiber Attenuation  
     50/125µm = 5.70 db  
     62.5/125µm = 12.0 db  
 Max Distance  
     50/125µm = 6,560 ft (2KM)  
     62.5/125µm = 9,840 ft (3KM)

Cable Connectors: ST style within 0.2 db typical loss

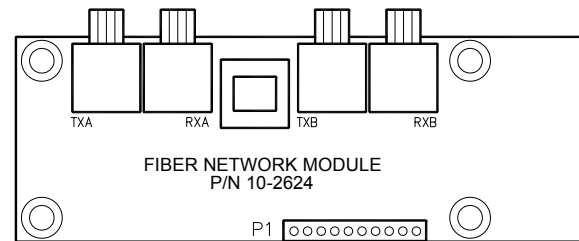
Output Circuit: Power-limited and supervised

Dimensions (LxWxD): 4.15" x 1.5" x 2"  
 (8.9 cm x 3.8 cm x 5.08 cm)

Weight: 0.10 lbs. (45 grams)

Operating Temp: 32°F to 120°F (0°C to 49°C)

Operating Humidity: 93% RH, non-condensing



**Exhibit 1 Fiber Optic Network Module**

### OPERATION

The Network Module will allow a system consisting of more than one CyberCat™ or Cheetah Xi™ panel to be tied together for global operation and monitoring of all points from any panel. Custom messages from each panel will travel across the network to the other panels. All network information is displayed in each panel's history. If the panel is programmed to participate in the active zone, it will also activate its local piezo and programmed outputs.

Each Network Module has a repeater built into it. This allows cable runs between panels of up to 2 KM (6,560 feet) using 50/125µm cable or 3 KM (9,840 feet) using 62.5/125µm cable. The network cabling can be run NFPA Class B, Style 4 or Class A, Style 7. Style 7 network cabling provides the greatest overall system reliability. If a break should occur in the Style 7 network cabling, the network will "mend" itself around the break and continue to operate normally with the network wire trouble noted as "System Trouble". If a break should occur when using Style 4 network cabling, the network will form two stand-alone networks. Any isolated panel will revert to stand-alone operation.

## PROGRAMMING

The Network Module can be programmed in the CyberCat™ and Cheetah Xi™ controller configuration or using C-Linx Software. Each network module must be configured as First, Middle or Last Device and can be given a Custom Message for each panel. Switches on each are configured as Global or Local. The Network Module configuration must also include configuration for the proper cabling method used (Style 4 or Style 7) and the zone(s) the networked panel is selected to participate in.

**Note:** All zone events activate the buzzer and outputs, and are displayed and logged in history, unless the zone is not shared between panels. Then, only the history event is logged and displayed. No buzzer or outputs are activated.

## MOUNTING

Exhibit 2 shows the acceptable mounting location on the main control board for Fiber Optic Network Module for reference purposes. When the network module is used the P13 header is no longer available for use for installing other panel modules.

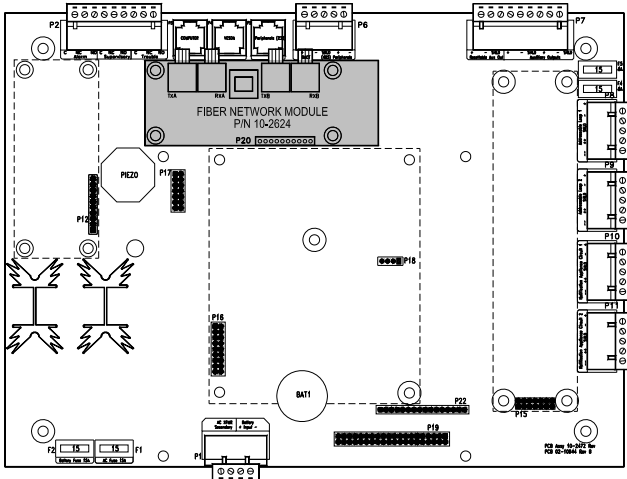


Exhibit 2 Network Module Installation (P20)

### CAUTION

The Network Module circuit board contains static sensitive components. Handle the electronics by the edges only and avoid touching the integrated components. Keep the electronics in the protective static bag it was shipped in until time of installation. Always ground yourself with a proper wrist strap before handling the module(s). If the installer is properly grounded at all times, damage due to static discharge will not occur. If the module requires repair or return to Fike, it must be shipped in an anti-static bag.

## INSTALLATION

1. If the system is already powered, disable critical functions; then power down system.
2. The CyberCat™ and Cheetah Xi™ require removal of the controller to install the Network Module. If the main controller is already installed in the back-box, remove it by disconnecting the field removable terminal blocks and removing the four hex nut/lock washers located in each corner of the board (qty. 4).
3. Secure the F/F standoffs (qty. 4) to the main board by threading the four 6x32 screws through the back of the main board into the standoffs (See Exhibit 3). Make sure that the screws are not making contact with any of the electronic components on the circuit board.

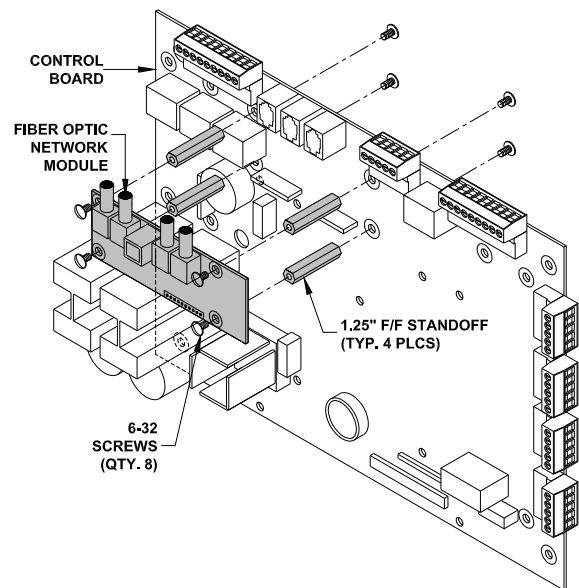
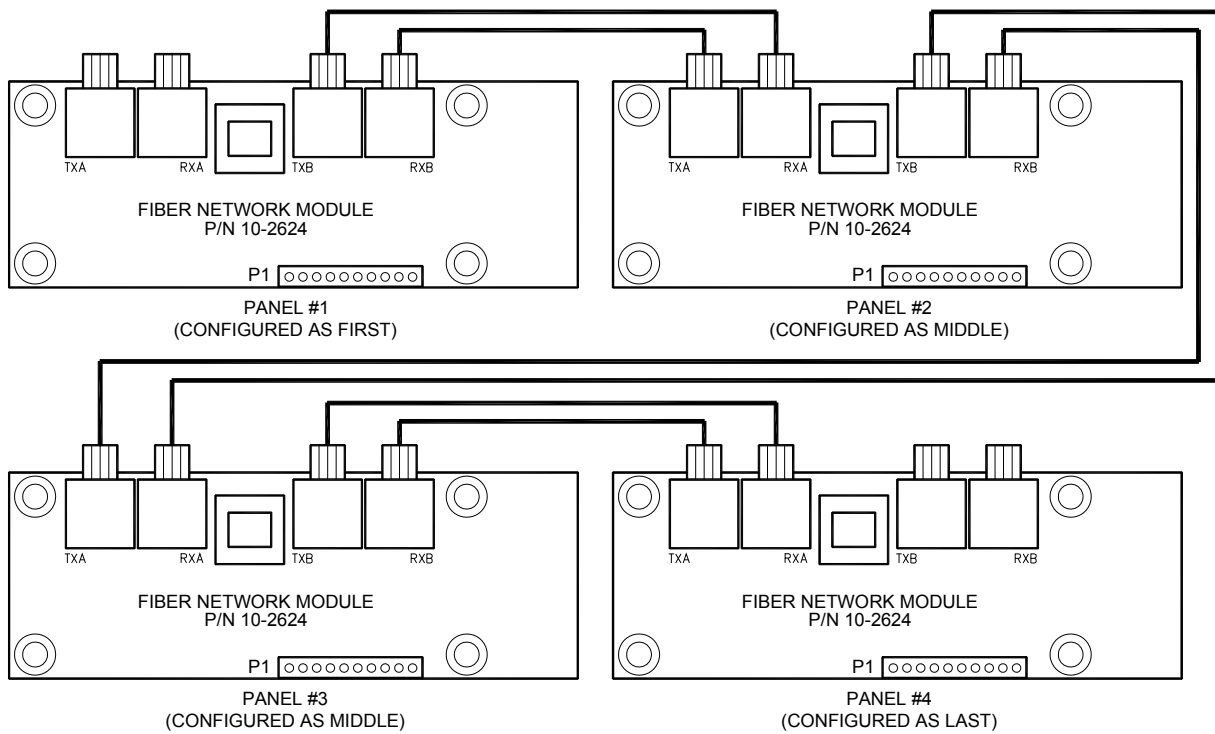
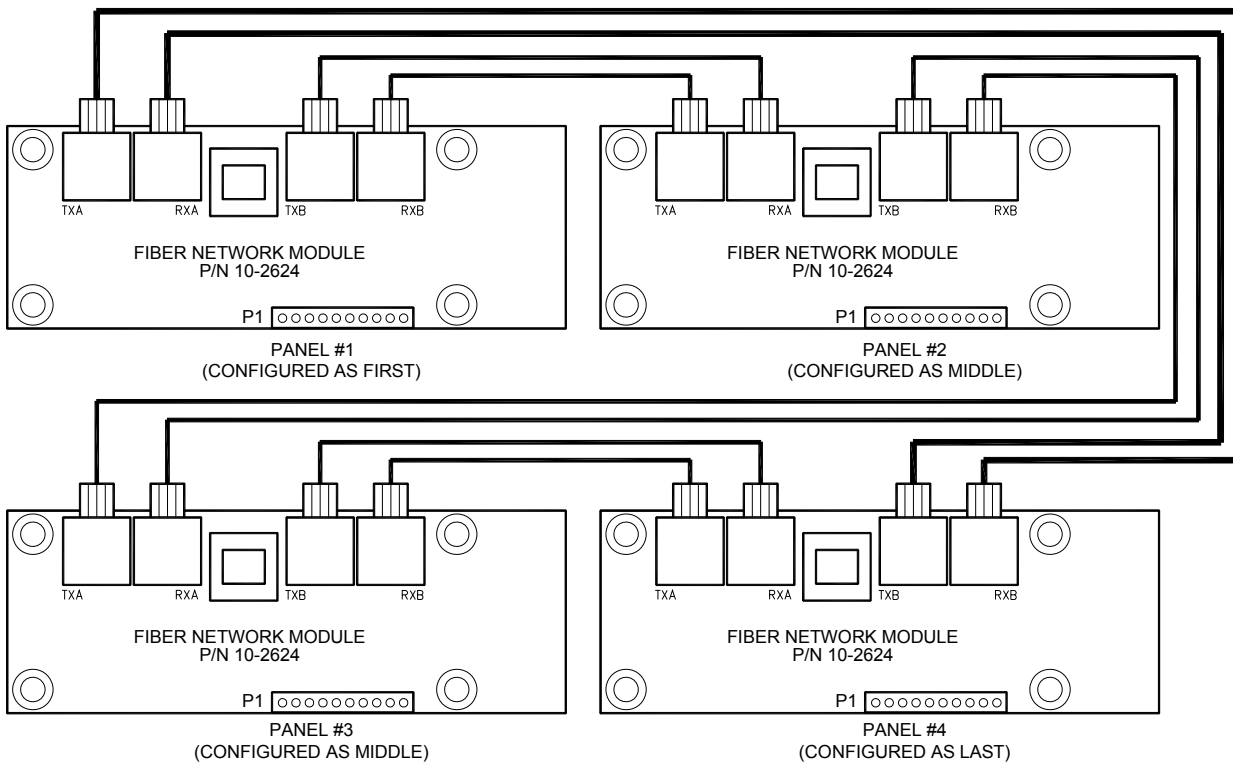


Exhibit 3 Network Module Mounting

4. Re-install the main board by aligning the four mounting holes with standoffs in the enclosure back-box. Secure in place with the four #6 hex nuts and lock washers.
5. Carefully unpack the module and check for shipping damage.
6. Insert the module into the P20 header making sure that header pins are properly aligned. Secure the module to the F/F standoffs using four 6/32 screws (See Exhibit 3).
7. Prior to connecting the fiber optic cable, power up the controller. Once each board has been successfully powered up with no troubles; power down and connect the field cabling.
8. Run and connect fiber cabling between network nodes (See Exhibit 4 or 5). Verify that the fiber run between each network device does not exceed the circuit cable specifications for the network module.
9. Power the panel back up and complete the installation and checkout procedures for the system.



**Exhibit 4 Network Cabling Diagram – Style 4**



**Exhibit 5 Network Cabling Diagram – Style 7**

## NETWORK CONFIGURATION GUIDELINES

The following guidelines should be adhered to when configuring the panel network to insure proper operation:

1. The panel network should be built incrementally. This can be done by starting with a 2-panel, Style 4 network. After ensuring that the 2-panel network is operating correctly, add panels one at a time to the network, ensuring that each panel operates correctly prior to adding the next. If Style 7 cabling is required, it can be included/excluded at any point during the network installation.
2. **All panels in the network must have the same firmware version for proper operation.**
3. **All panels must use network cards with the same firmware revision level for proper operation.**
4. For network panels with firmware **Version 3.0 or lower**.
  - For Style 4 networks consisting of 5 or fewer panels, any revision network module can be used.
  - For Style 7 networks or networks consisting of 6 or more panels, the 10-2624 network module with Revision D hardware and firmware Version 1.10 or higher must be used.
5. For network panels with firmware **Version 3.1 or higher**.
  - For Style 4 networks consisting of 5 or fewer panels, any revision network module can be used.
  - For Style 7 networks or networks consisting of 6 or more panels, the 10-2624 network module with Revision D hardware and firmware Version 1.10 or higher must be used.
6. The FIRST panel should be used to do system-wide resets of other network panels. Set the network switch operation for Panel 001 to LOCAL. The network switch operation for all other panels should be set to LOCAL with ID 001 checked on the network switch ID.
7. The FIRST panel should be used to perform system wide supervision of the network. Set the panel supervision for panel ID 001 to include all panels on the network.
8. The FIRST panel (Network address 1, panel 001) should have its Network Module Type set to FIRST.

9. If the Digital Alarm Communicator Transmitter (DACT) is used in the system, it should be connected to the FIRST panel for complete network supervision.
10. All panels should be addressed in ascending order with the FIRST panel assigned to network address 001.
11. If you are configuring a network using Revision D network modules with firmware Version 1.10, the panel programmed as FIRST should be the last panel powered up.
12. If you are configuring a Style 7 network using network modules with firmware Version 1.10, the FIRST and LAST panels should be configured as Style 7, but all MIDDLE panels should be configured as Style 4.

## TROUBLESHOOTING

If you are experiencing network problems, verify first that the Tx and Rx fiber cables are not swapped between panels; then verify that the attenuation along each fiber run falls within the maximum attenuation specifications for the cable type used.

Panel network troubles indicated on the CyberCat™ or Cheetah Xi™ Controller display include:

### NETWORK WIRE TROUBLE

Press F1 to obtain the location of the cable fault. Line 1 will indicate the REPORTING network connection (Isolated, First Dev, Middle, Last Dev). Line 2 will indicate the CONFIGURED network connection. Go to each networked panel and determine location for cabling trouble.

### NETWORK NO RESPONSE

Some cable faults, or failure of the network micro will cause the micro on the network card to stop communicating with the main board. Repair cabling or replace network card.

### NETWORK CLASS-A TRBL

A network card configured for Style 7 cabling has sensed an open in the cable back to main panel.

### PANEL MISSING

The main panel detects no communication from a panel it has been configured to supervise.

**Note:** The FIRST panel may be reset twice after a cable break is repaired to ensure that all network panel event histories are cleared.

**Note:** Control panels with firmware Version 4.0 and higher have a diagnostic menu for troubleshooting the cabling.