NOTIFIER AFL Series Audio Fiber Link Modules Owner's Manual

NOTIFIER® by Honeywell

AFL-RM, AFL-TM,
AFL-RS, AFL-TS
Audio Fiber Link Modules
Owner's Manual

Contents

General

The AFL-TS/AFL-TM (single- or multi-mode transmitters) and AFL-RS/AFL-RM (single- or multi-mode receivers) are Audio Fiber Link Modules that distribute low-level audio signals via fiber-optic media.
The AFL-TS/-TM transmitter accepts low-level audio signals from the DVC-AO. The AFL-TS/-TM then converts the lowlevel audio signals to modulated light, which is transmitted through fiber-optic cable. The AFL-RS/-RM receiver accepts that modulated light at the other end of the fiber-optic cable, then converts the modulated light to low-level audio to feed AA-30, AA-100, AA-120, or XPIQ amplifiers, or (if required) the next daisy-chained AFL-TS/-TM.
Audio Fiber Link (AFL) modules are powered from nonresettable 24 DVC output from power supplies that are listed for fire protective signaling service.

Applications

Audio Fiber Link modules may be used in systems where:

- The use of wire media is not possible due to security requirements.
- Fiber-optic cable is already installed and available for lowlevel audio distribution.
- Significant distances between DVC-AO and remote amplifier cabinets dictate the use of fiber.
- High-intensity electromagnetic fields of audible frequencies could be coupled to low-level audio over wire.
- Both distance and physical location of remote cabinets require the use of star topology.

Up to 50 AFL transmitters maybe be connected to the output of a DVC-AO.
A maximum of ten amplifiers may be fed from AFL receiver output; and a maximum of ten AFL transmitters may be fed by a single AFL receiver.
The maximum series connection of audio fiber links is two AFL transmitters/receiver pairs deep.

APPLICATION NOTES:

- A system requiring many fiber links may also require larger batteries and external chargers. Please refer to the POWER REQUIREMENTS section on page 2.
- AFL transmitters should be powered by the 24 VDC ULlisted power supply connected to the same reference (batterynegative) as the audio signal source (DVC-AO, AFL receiver).
- Class A low-level audio riser cannot be implemented when using AFL modules.
- Any combination of up to 50 AFL transmitters and AA-30, AA-100, and AA-120 series amplifiers may be connected to the output of any one DVC-AO. All of the AFL- transmitters must remain in the same cabinet as the DVC-AO.

- Once audio system installation is complete, the audio gain level must be adjusted. See Installation Document 52230 for instructions.

Installation

The AFL transmitters or receivers may be mounted in a CHS-4 or CHS-4L chassis, which in turn mounts into a CAB-3 or CAB-4 Series cabinet. When mounting AFL modules on the CHS-4 and CHS-4L, adequate clearance above the board is required. Mounting AFL modules onto the outer position of the CHS-4 is possible only if the AFL board is mounted with components facing inward. AFL modules attach to CHS-4 and CHS-4L chassis via screws to PEM standoffs orstuds.

Fiber Optic Link

The attenuation of fiber-optic cablins between the AFL transmitter of receiver must not exceed a 10 dB limit. See Installation Document 52230 for formulas to establish limits in the system design stage. The actual attenuation can be measured end-to-end with standard fiber-optic test equipment, using a signal wavelength of 850 nanometers.
The following are supported by Audio Fiber Link:

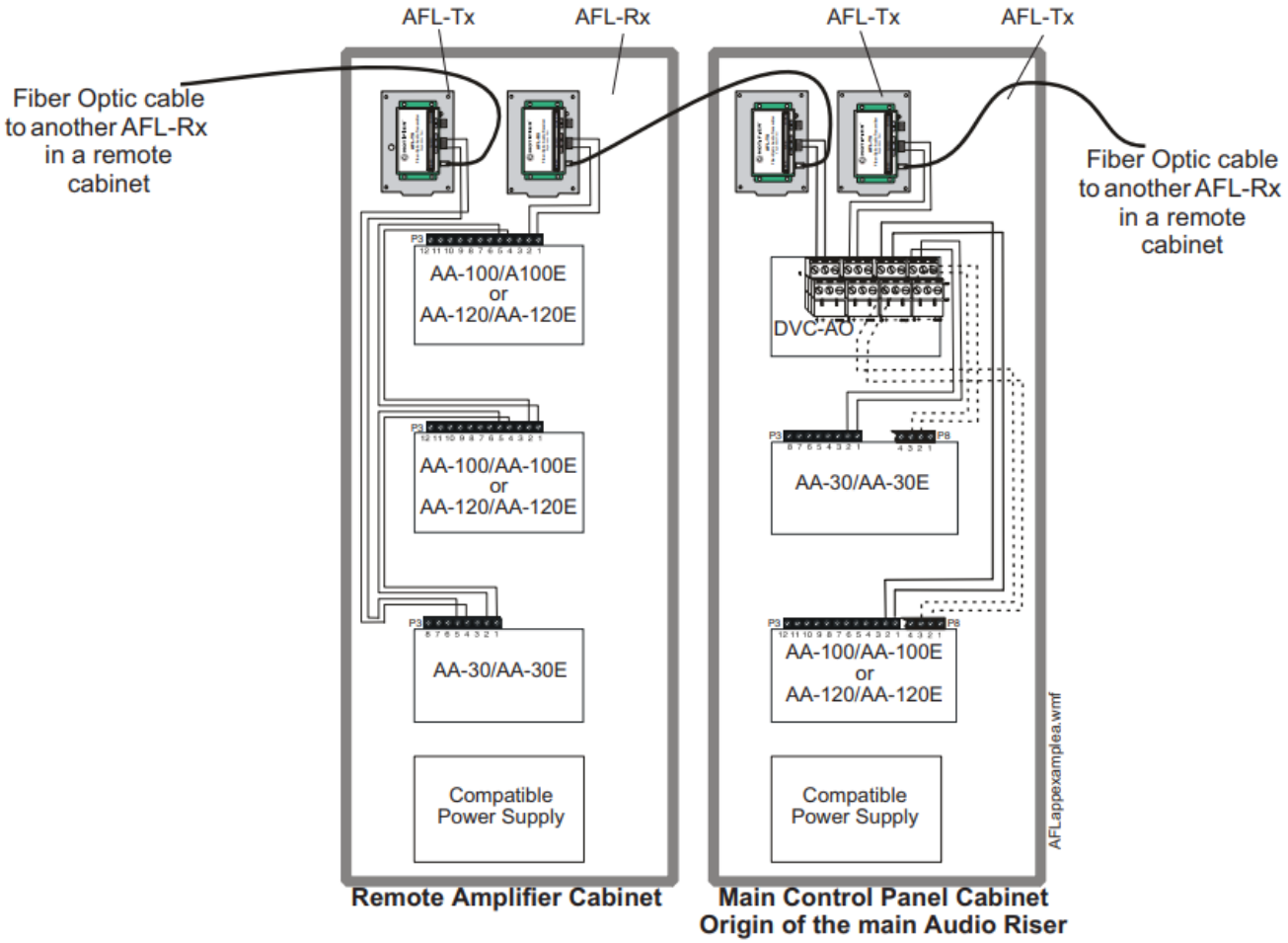
- Connectors: ST®-style
- Fiber type: multi-mode for AFL-TM and AFL-RM; singlemode for AFL-TS and AFL-RS.
- Core size: 62.5/125 micrometers for multi-mode; or 9/125 micrometers for single-mode.
- Wavelength: 850 nanometers for multi-mode; or 1300 nanometers for single-mode.
- Maximum attenuation of fiber-optic link between AFL-TS/TM and AFL-RS/-RM cannot exceed 10 dB.

Power Requirements

Operating Voltage: 20.4 to 26.4 VDC
Current for AFL-TS/-TM: 130 mA
Current for AFL-RS/-RM: 120 mA
Battery calculations: Refer to fire panel instructions.

Product Line Information
AFL-TS: Audio fiber link single-mode transmitter. Includes transmitter, mounting bracket and hardware, and instruction manual.
AFL-RS: Audio fiber link single-mode receiver. Includes receiver, mounting bracket and hardware, and instruction manual.
AFL-TM: Audio fiber link multi-mode transmitter. Includes transmitter, mounting bracket and hardware, and instruction manual.
AFL-RM: Audio fiber link multi-mode receiver. Includes receiver, mounting bracket and hardware, and instruction manual.

Application Example



NOTE:

- This drawing is not intended to accurately represent a proper fiber bend radius.
  Refer to the specifications from the fiber manufacturer for the correct bend radius.
- The Compatible Power Supply should be a Regulated, Power-Limited Power Supply UL/ULC-listed for Fire Protective Signal Use.

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ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.
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Documents / Resources

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References

- Fire Alarm Resources | Download fire alarm documents
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