

RPT-485

Wire/Fiber EIA-485 Driver



Annunciator Control Systems

GENERAL

The RPT-485W repeater is designed to boost the EIA-485 annunciator signal from the Fire Alarm Control Panel (FACP) and to electrically isolate the two EIA-485 loops from each other. This eliminates the need for a common negative connection between separate power sources. All NOTIFIER FACP's that include an EIA-485 data loop can employ RPTs. The boosted branch can have a maximum of 32 EIA-485 devices on it. These devices include AMG-1, AMG-E, UZC-256, NIB-96, ACS and AFM Series annunciators and other RPTs.

The RPT-485WF acts as a fiber-optic modem for any NOTIFIER FACP using the standard ACS EIA-485 loop. One RPT-485WF is placed near the FACP and connects by fiber to a remote RPT-485WF. The remote RPT-485WF connects by wire to additional EIA-485 devices, such as a NIB-96 in a master FACP. The RPT-485WF is not intended for use with any terminal-mode devices, such as the LCD-80 and LCD-80TM.

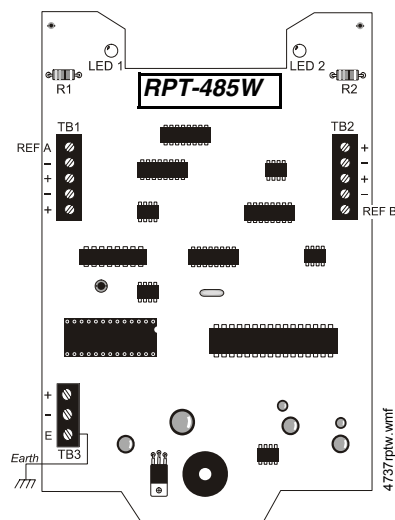
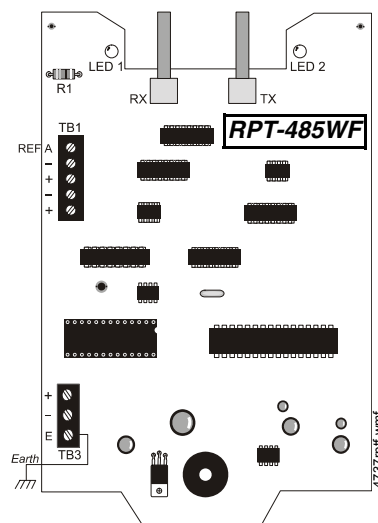
The source and boosted EIA-485 loops are isolated from each other, as well as from the RPT power supply terminals. This important feature eliminates the need for a single common between FACP and power supplies powering ACS Series annunciators. This feature also provides an easier method of locating ground fault conditions since it allows for separate ground fault zones.

RPT-485W FEATURES

- Extends EIA-485 twisted pair distances in 4,000 ft. (1219.2 m) increments.
- Allows additional boosted EIA-485 loops.
- Each boosted loop increases EIA-485 data signal by 32 devices.
- EIA-485 branch connections are electrically isolated to prevent ground fault detection problems.
- Two LEDs indicate data reception.
- Removable terminal blocks.
- A variety of mounting options.

RPT-485WF FEATURES

- Extends the EIA-485 loop.
 - Wire (TB1) extends the EIA-485 loop in 4000 ft. increments.
 - Fiber Optic Cable Dual Fiber with ST1 Bayonett style connectors
62.5/125µm cable: 8 dB limit or 50/125µm cable: 4.2 dB limit
- Allows additional boosted EIA-485 loops.
- Each boosted loop increases EIA-485 data signal by 32 devices.
- Optically coupled, electrically isolated.
- Two LEDs indicate data reception.
- Removable terminal block.
- A variety of mounting options.
- Fiber optic communication offers security as well as immunity from EMI and RFI.



INSTALLATION

The RPT-485W/RPT-485WF board can be mounted on a listed CHS-4L, CHS-M2, CHS-M3, or CHS2-M2 chassis or in an ABS-8RB cabinet for remote installation. The RPT-485W may also be mounted on a CHS-4 or CHS-4N chassis or on a BMP-1 for dress panel mounting;. When the RPT-485WF is mounted on a chassis, adequate clearance above the board is required. The RPT-485W/WF comes with four standoffs (two 6-32 and two 4-40) and six screws (two 6-32 and four 4-40) for mounting.

SPECIFICATIONS

A listed regulated power supply (may be located remotely) with both Primary and Secondary power, must be used for Fire Protective Signaling Applications.

Operating voltage range: 18 – 28 VDC.

Maximum current draw (all states): RPT-485W: 0.047 A.
RPT-485WF: 0.049 A.

The standard NOTIFIER EIA-485 interface is capable of communicating with up to a maximum of 32 receive/transmit devices (see EIA-485 device manuals for specifics on receive/transmit capabilities). Each RPT-485 increases the EIA-485 data signal by 32 devices. Although this device increases the node capacity, it does not increase the number of receive/transmit addresses the control panel supports.

Using receive-only EIA-485 devices (devices which receive data, but do not send data back to the control) and RPTs, system capacity is virtually unlimited. Each RPT-485 increases the signal by 32 devices (see NOTE 1 below).

PRODUCT LINE INFORMATION

RPT-485W: EIA-485 repeater board. Twisted-pair connection.

RPT-485WF: EIA-485 repeater board. Allows a twisted pair in and fiber optics out. RPT-485WFs must be used in pairs.

ABS-8RB: Surface-mount box. Mounts one RPT-485 board.

BMP-1: single-space blank plate. Use with an ADP-4B, ADP2-640, DP-DISP, or DP-DISP2 Dress Panel for mounting in a compatible cabinet. Mounts one RPT-485W board. (*RPT-485W only*).

CHS-4L: Standard CAB-3/-4 chassis. Mounts up to four RPT-485 repeaters.

CHS-M2: Low-profile CAB-3/-4 chassis. Mounts up to four RPT-485 repeaters.

CHS-M3: Standard CAB-3/-4 chassis. Mounts up to four RPT-485 repeaters.

CHS2-M2: Standard CAB-3/-4 chassis. Mounts up to four RPT-485 repeaters.

CHS-4: Low-profile CAB-3/-4 chassis. Mounts up to four RPT-485W repeaters. (*RPT-485W only*)

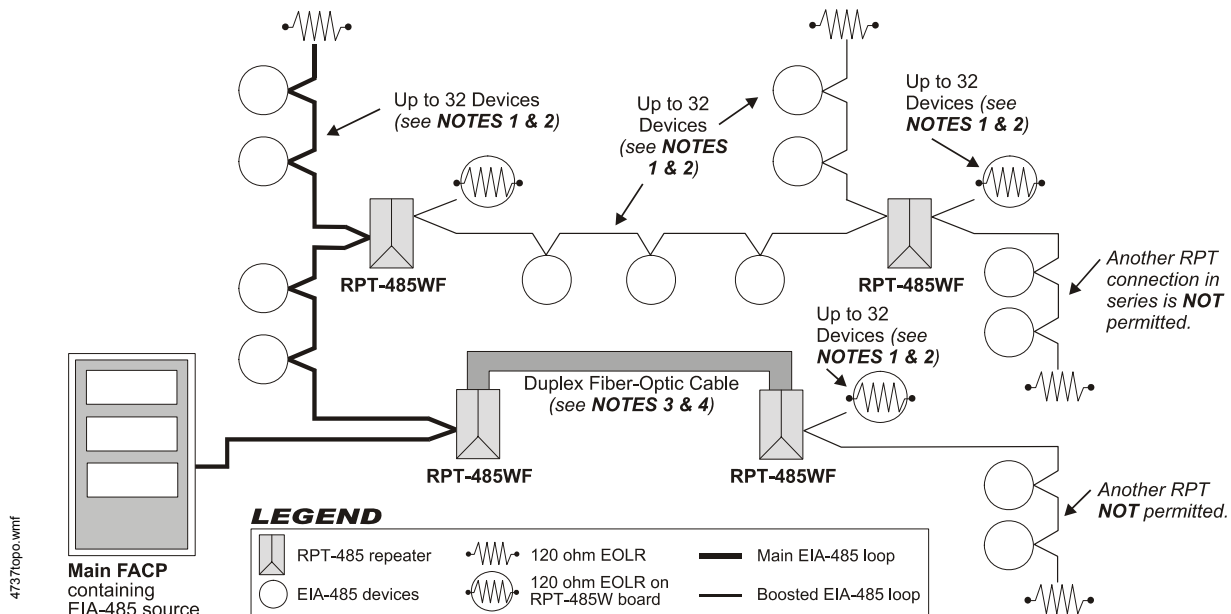
CHS-4N: Low-profile CAB-3/-4 chassis. Mounts up to four RPT-485W repeaters. (*RPT-485W only*)

Agency Listings and Approvals

These listings and approvals apply to the RPT-485. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** CS100 Vol. XI
- **MEA:** 17-94-E (RPT-485W only), 17-96-E (AFP-400), 232-06-E (NFS2-3030), 317-01-E (NFS-640), 345-02-E (NFS-3030), 447-99-E (AFC-600)
- **CSFM:** 7300-0028:169, 7165-0028:214 and 7170-0028:216 (NFS-640); 7170-0028:223 and 7165-0028:224 (NFS-3030/NFS2-3030)

TYPICAL RPT-485 TOPOLOGY



NOTES for TOPOLOGY DIAGRAM

WIRING NOTE: Twisted-pair copper and a reference wire must be run between RPT-485Ws (see installation manual for specific wiring concerns).

NOTE 1: Although each RPT-485 increases the node capacity to 32, it does not increase the annunciator addressing capability of the control panel.

NOTE 2: Each twisted-pair output may be up to 4,000 ft. (1219.2 m) @ 18 AWG (0.75 mm²) to 12 AWG (3.25 mm²).

NOTE 3: The attenuation of cabling between two nodes/repeaters for 62.5/125 μm duplex fiber is 8 dB maximum. For 50/125 μm duplex fiber, the attenuation is 4.2 dB max.

NOTE 4: EIA-485 devices may **NOT** be connected directly to the fiber. A fiber transmitter/receiver type of configuration **MUST** be employed.

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