

## ANN-RLY Relay Module (542R/542D)

### Features

- ANN-RLY connects to the ANN-BUS terminal on the AUTOPULSE 542R/542D Control Panel and requires minimal programming.
- Provides ten (10) programmable Form-C relays.
- Ten (10) Form-C relays can be programmed for various functions; Alarm, Trouble, Supervisory, AC Loss, Waterflow Delay, Input Zones and Silenceable Alarm.
- May be powered by 24 VDC from the host AUTOPULSE 542R/542D Control Panel or by remote power supply (requires 24 VDC).
- Up to eight (8) ANN-BUS devices may be connected to the ANN-BUS of the AUTOPULSE 542R/542D Control Panel.
- Listed to UL Standard 864, 9th Edition.

### Description

The ANN-RLY relay module provides ten (10) programmable Form-C relays when used with a compatible AUTOPULSE 542R/542D Control Panel. The ANN-RLY module may be mounted inside the AUTOPULSE 542R/542D Control Panel main circuit board chassis or in the battery area of the enclosure using optional mounting bracket Part No. 435897. Reference Installation Instructions in the AUTOPULSE 542R/542D manual.

The ANN-RLY and the AUTOPULSE 542R/542D Control Panel communicate over a two-wire serial interface employing the ANN-BUS communication format. An additional two wires are used for 24-volt DC power. A single four-conductor unshielded cable may be used for both power and data communications.

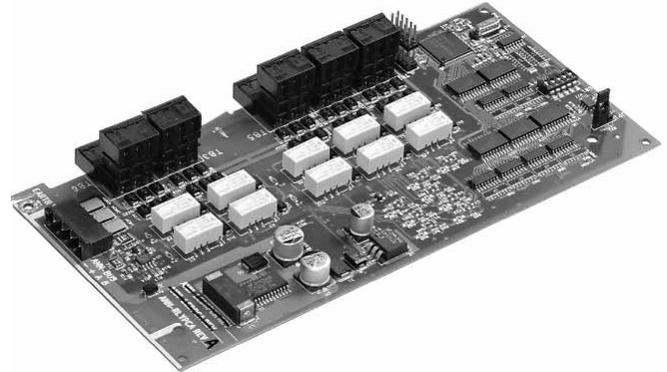
Up to eight (8) ANN-BUS devices may be connected to the ANN-BUS of the AUTOPULSE 542R/542D Control Panel.

ANN-BUS devices can be powered by an auxiliary power supply when available panel power is exceeded. See the AUTOPULSE 542R/542D manual for information.

Each ANN-BUS device requires a unique address (ID Number) in order to communicate with the AUTOPULSE 542R/542D Control Panel. A maximum of eight (8) devices can be connected to the AUTOPULSE 542R/542D Control Panel ANN-BUS communication circuit. See the AUTOPULSE 542R/542D manual for more information.

### Specifications

- Maximum ANN-BUS Voltage: 24 VDC
- Maximum Current: – Alarm: 75 mA Standby: 15 mA
- Ambient Temperature: 32 °F to 120 °F (0 °C to 49 °C)
- Relative Humidity: 93% ± 2% RH (non-condensing) at 90 °F ± 3 °F (32 °C ± 2 °C)
- For use indoors in a dry location



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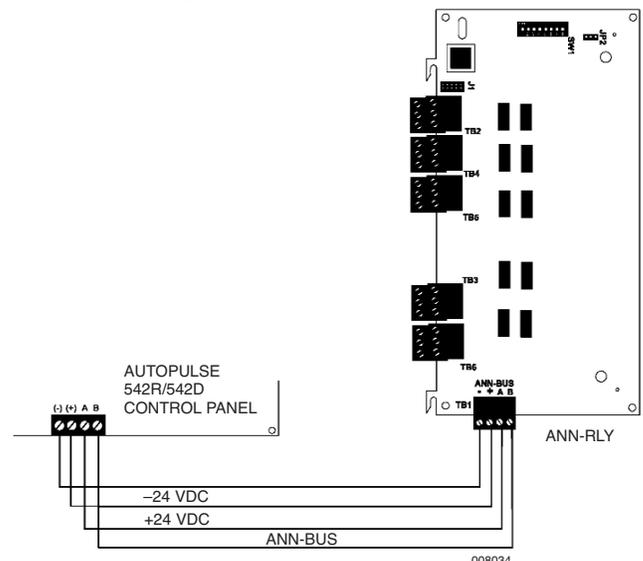
- Connections to AUTOPULSE 542R/542D Control Panel are power-limited and supervised.
- Relay Contact Ratings: 2 Amps @ 30VDC (Resistive) 0.5 Amps @ 30VAC (Resistive)

### Wire Requirements

The ANN-RLY connects to the AUTOPULSE 542R/542D Control Panel ANN-BUS communications circuit. To determine the type of wire and the maximum wiring distance, calculate the total worst case current draw for all modules on a single 4-conductor bus. Use the table on the following page to determine the maximum distance the modules can be located from the AUTOPULSE 542R/542D Control Panel. In general, the wire length is limited by resistance, but for heavier wire gauges, capacitance is the limiting factor. These cases are marked in the chart with an asterisk (\*). Maximum length can never be more than 6,000 ft (1,800 m), regardless of gauge used.

**Note:** Refer to the AUTOPULSE 542R/542D manual for wiring details.

### ANN-RLY Wiring to AUTOPULSE 542R/542D Control Panel



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**Agency Listings and Approvals**

UL . . . . . S635  
 CSFM . . . . . 7165-0595:118  
 MEA . . . . . 333-07-E

**Ordering Information**

- ANN-RLY Relay Module provides ten (10) programmable Form C relays.
- ANN-MBRLY Optional mounting bracket.

| Part No. | Description                | Shipping Weight |       |
|----------|----------------------------|-----------------|-------|
|          |                            | lb              | (kg)  |
| 435358   | ANN-RLY Relay Module       | 1               | (0.5) |
| 437021   | ANN-RLY Relay Module (ULC) | 1               | (0.5) |
| 435897   | ANN-MBRLY Mounting Bracket | 1               | (0.5) |

| Communication Pair Wiring Distance: AUTOPULSE 542R/542D Control Panel to Last ANN-BUS Module |                  |                    |                     |                     |
|--|------------------|--------------------|---------------------|---------------------|
| Total Worst Case Current Draw (amps)   | 22 Gauge         | 18 Gauge           | 16 Gauge            | 14 Gauge            |
| 0.100  | 1,852 ft (565 m) | 4,688 ft (1,429 m) | *6,000 ft (1,829 m) | *6,000 ft (1.829 m) |
| 0.200  | 926 ft (282 m)   | 2,344 ft (715 m)   | 3,731 ft (1,137 m)  | 5,906 ft (1,800 m)  |
| 0.300  | 617 ft (188 m)   | 1,563 ft (476 m)   | 2,488 ft (758 m)    | 3,937 ft (1200 m)   |
| 0.400  | 463 ft (141 m)   | 1,172 ft (357 m)   | 1,866 ft (569 m)    | 2,953 ft (900 m)    |
| 0.500  | 370 ft (113 m)   | 938 ft (286 m)     | 1,493 ft (455 m)    | 2,362 ft (720 m)    |
| 0.600  | 309 ft (94 m)    | 781 ft (238 m)     | 1,244 ft (379 m)    | 1,969 ft (600 m)    |
| 0.700  | 265 ft (81 m)    | 670 ft (204 m)     | 1,066 ft (325 m)    | 1,687 ft (514 m)    |
| 0.800  | 231 ft (70 m)    | 586 ft (179 m)     | 933 ft (284 m)      | 1,476 ft (450 m)    |
| 0.900  | 206 ft (63 m)    | 521 ft (159 m)     | 829 ft (253 m)      | 1,312 ft (400 m)    |
| 1.000 (max.)   | 185 ft (56 m)    | 469 ft (143 m)     | 746 ft (227 m)      | 1,181 ft (360 m)    |