

TM-8

Transmitter Modules



Annunciator Input Output (AIO) Bus Device

General

The **TM-8 Transmitter Module** provides NOTIFIER's **CPU-N16LD**, **CPU-N16LND**, **CPU-16-RTO**, **N16e/r**, Fire Alarm Control Panels, and **NCD** Network Control Annunciators with 8 programmable Form-C relays and either remote station service with three *reverse-polarity outputs* (alarm, trouble, and supervisory) *OR* one *fire municipal box trip* on a single PC board. The TM-8 is designed to meet NFPA 72 requirements for Auxiliary Protective Signaling Systems and Remote Station Protective Signaling Systems.

Features

- Customizable 80-character Primary label per module.
- On each TM-8 module, **either** the three reverse-polarity outputs (alarm, trouble, and supervisory) **or** the fire municipal box trip can be used.
- Mounts on CHS Series chassis and in panel module locations in CAB 4, CAB 5, and in the annunciator boxes.
- Connects to the Internal AIO bus when mounted within FACP enclosure and to the External AIO Bus when mounted outside FACP enclosure.
- The power run to the module does not need to contain a power supervision relay since loss of power or communication is inherently supervised through AIO communication bus.
- Diagnostic LEDs: green for Power, AIO bus Data Reception and AIO Data Transmission status; yellow for Trouble.
- Can be configured as Router or Peripheral using VFT.
- Out of the three reverse polarity outputs, Remote Station Supervisory circuit can be reprogrammed for other functions using the panel programming tool.
- Remote Station Alarm circuit provides the option to combine trouble indication on the Alarm contact.
- Programmable participation in Trouble Delay for AC fail condition when using Remote Station Service.
- Programmable participation in Alarm Delay for PAS for the Remote Station Service and Master box Trip.
- Programmable option to cancel Alarm indication when signals are silenced for remote station and municipal box trip.
- Total of 8 programmable Form-C Relays:
 - Four low-current
 - Four higher current relays
- The higher current relays can also be used to switch inductive loads (0.35PF).
- The Relay 1 is predispositioned to be a fail safe trouble indication but can be reprogrammed.
- Each of the 8 relays can be mapped to activate with a local or network:
 - Event condition (i.e. fire, CO, supervisory, etc.)
 - Activation of a point (i.e. detector, module, PAM, Speaker, BELL)
 - Activation of a zone (general zone, logic zone, releasing zone states, special function zone)
- Isolated 24 V for the Remote Station reverse-polarity outputs.



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- Remote Station Disconnect mechanism can be initiated from the panel display. It provides a means for inhibiting alarm status changes, which cause trouble indication for unit at the FACP. Operation of the disconnect mechanism will also create a trouble condition on the reverse-polarity output circuits or the master box trip.

Specifications

PHYSICAL

- Approximately 4.375" (11.11cm) wide by 7" (17.78cm) high.
- **Temperature and humidity ranges:** This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (noncondensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

ELECTRICAL

The power source must be filtered, non-resettable, 24 VDC listed for fire-protective signaling use. Sources include FACP power supplies, auxiliary power supplies, and on-board power supplies integral to FACP.

- **Standby Current: 78mA @ 24VDC**
- **Relays:** Eight (8) programmable relays
 - **Low-current Relays 1-4 (TB3-TB6)**
Maximum switched current (resistive): 2A @ 30 VDC

– **High-current Relays 5-8 (TB7-TB10)**

Maximum switched current (resistive):

- 10A @ 28V DC
- 12A @ 125 VAC
- 6A @ 250 VAC
- 5A @ 277 VAC

Maximum switched current (Inductive, 0.35 PF):

- 2A @ 28V DC
- 4A @ 125 VAC
- 2A @ 250 VAC

- **Remote Station:** Three (3) isolated reverse polarity outputs
 - Maximum current per output: 15mA
 - Voltage: 24 VDC nominal
- **Fire Municipal Box trip (Local Energy):**
 - Supervisory current: 250 µA
 - Trip current: 0.35 A

MOUNTING

TM-8 is designed to mount in standard option module positions on a variety of chassis compatible with cabinet series CAB-5 and CAB-4, or on the back wall of ABB-1, ABB-2, and NBB-2 behind door-mounted equipment. Due to the configuration and height of terminal blocks, the TM-8 must be the upper-most module installed in a stack, or the only one.

Cabinets and backboxes must be mounted and grounded; AIO circuit must be shielded and termination resistor set. Wiring options are up to 8 relays, and either remote station connections or municipal box connections.

WIRING CONNECTIONS

Refer to the *TM-8 Transmitter Module Product Installation Document*, LS10388-000GE, for diagrams and wiring information.

Operation Highlights

DIAGNOSTIC LEDS

- **POWER (green)** illuminates when power is present on the TM-8 board.
- **TROUBLE (yellow)** illuminates when AIO Trouble occurs.
- **RX AIO (green)** blinks when AIO data is received.
- **TX AIO (green)** blinks when AIO data is transmitted.

AIO RS485 INTERFACE

Communication between the FACP or NCD and these panel modules is accomplished over a power-limited, two-wire serial interface called the AIO Bus and can be connected to either the main or local bus.

OPTION TO COMBINE ALARM AND TROUBLE

Programming tool allows to the user to combine Alarm and Trouble conditions on Alarm Reverse-Polarity output.

DISCONNECT CAPABILITY

Panel display allows the user to disconnect the TM-8 remote station outputs inhibiting the transmission of signals to the remote monitoring station or the Master box trip except for trouble conditions.

Agency Listings and Approvals

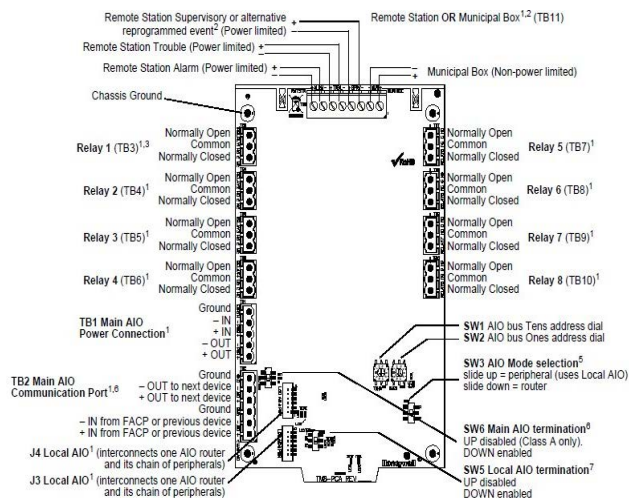
These listings and approvals apply to the TM-8. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** file S635.
- **FM Approved:** FM23FPUS0095.
- **CSFM:** 7165-0028:0516.
- **Fire Dept. of New York:** COA#001761.
- **City of Chicago.**

Product Line Information

TM-8: Panel module offers 8 programmable Form-C relays (4 low current 2A, 4 higher current 10A) and also provides either a remote station service with three reverse polarity outputs that communicate Alarm trouble supervisory messages from the FACP or a municipal box connection that would trip a local energy municipal box. Can be located up to 6000ft from panel on RS485 bus.

AIO-CBL: Cable kit that includes a 48" preconfigured cable that can be used to connect AIO bus devices (ACM-30, LDM2-32, LDM2-60, TM-8) set as peripherals from one row to an adjacent row. It also includes four 6" interconnect cables for connecting AIO bus devices in a row.



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