

ONYX® Series

DPI-232 Direct Panel Interface



Peripheral Devices

General

The **DPI-232 Direct Panel Interface** is a specialized modem for extending EIA-232 serial data links to remotely located control panels and/or peripherals.

The DPI-232 is used with ONYX® Series NFS-320, NFS2-3030, and NFS2-640 intelligent Fire Alarm Control Panels (FACPs), and NCA-2 Network Control Annunciator.

NOTE: Please refer to the *DPI-232 Manual (PN 51499)* for supported legacy products.

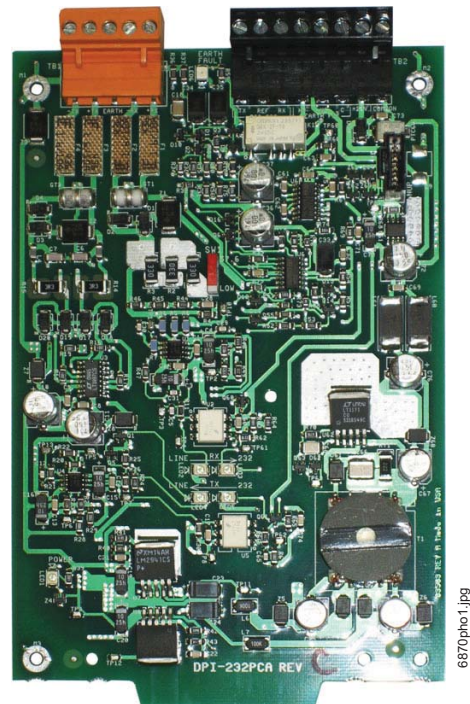
Applications include extending distance between:

- FACP and peripheral device (CRT, printer).
- FACP and NOTI•FIRE•NET™ connection module.
- Network annunciator and NOTI•FIRE•NET™ connection module.

Block diagrams of applications and connections charts are available in the *DPI-232 Manual*.

Features

- Utilizes two “dry copper” unshielded twisted-pairs of 16 to 26 AWG (1.3 to 0.13 mm²) wire.
- Capable of carrying full duplex transmission with data rates of up to 57.6 Kbaud in each direction over a distance of up to 10,000 feet (3048 m).
- Each full duplex transmission link requires one DPI-232 on each end of the two pairs.
- Each wire pair is connected to transmitter terminals (+TX, –TX) of the DPI-232 on one end and to the receiver terminals (+RX, –RX) of the DPI-232 on the other end.
- Each DPI-232 supervises for ground faults on the wire pair connected to +TX and –TX terminals. The ground fault detector has an LED indicator as well as Form-C trouble contacts.
- Panel/peripheral terminals are electrically isolated from the twisted pair terminals.
- Equipped with a power-saving switch that allows power conservation at the lower data rates of up to 9,600 baud. Higher data rates than 9,600 baud require setting switch position to “57.6”.
- Plugs into a 120 VAC wall outlet and supplies +24 VDC to power the DPI-232 modem. This power supply must be used when the modem is **not** being powered directly from a FACP or other UL-Listed power-limited power supply. Listed for fire protective signaling.



Specifications

- **Physical dimensions:** approximately 4.375" (11.11 cm) wide by 6.875" (17.30 cm) high. Mounts onto any panel module location.
- **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).
- **Input voltage range:** 18.0 to 31.0 VDC, 24 V nominal.
- **Power requirements:** 245 mA with SW1 set to “57.6”, 148 mA with SW1 set to “LOW”.
- **Performance and capacity** (per NFPA SLC classification):
 - Style 4 for data rates up to 9600 baud.
 - Style 3.5 for data rates up to 57.6 Kbaud.
- **Distance limitations:**
 - Up to 10,000 feet (3,048 m) on 16 to 24 AWG (1.3 to 0.2 mm²) unshielded twisted-pair wire.
 - OR** (whichever the above comes first)
 - Up to 580 ohm total (290 ohm each wire) of wire resistance.
- **Wiring from the DPI-232 that is installed outside the building:**
 - *Cannot* exceed 1,000 meters (3,280 feet).

- Must be in conduit.
- Cannot cross any power lines.
- **Mounting:** The DPI-232 is designed to mount in CHS-M2, CHS-4N, or CHS-4L chassis; or on the ADP-4B annunciator dress panel. Refer to the *DPI-232 Manual* for further information and diagrams.

Operation Highlights

DIAGNOSTIC LEDS

- **Power** (green LED 1) illuminates to indicate presence of DC power.
- **RX Line** (green LED 2) illuminates when the RX line is connected to the receiver with proper polarities.
- **RX 232** (LED 3) when RX Line (LED 2, above), is illuminated, RX 232 (LED 3) illumination indicates data is being received.
- **TX 232** (LED 4) when TX Line (LED 5, below), is illuminated, TX 232 (LED 4) illumination indicates data is being transmitted.
- **TX Line** (green LED 5) illuminates when the TX line is connected to the receiver with proper polarities.
- **Earth Fault** (yellow LED 6) illuminates when a ground fault is detected on the twisted-pair connected to the transmitter.

SWITCHES AND CONNECTIONS

- **SW1:** Power-Save switch has two settings, “57.6” and “Low”. Data rates above 9,600 baud require setting the switch to “57.6” position. Set the switch to “Low” to conserve energy for data rates up to 9,600 baud.
- **TB1:**
 - **-TX, +TX** “Transmit” connections to remote device for use with 16 – 26 AWG (1.3 to 0.13 mm²) twisted-pair unshielded wire.
 - **Earth** – connect to ground of cabinet/chassis.
 - **-RX, +RX** “Receive” connections to remote device for use with 16 – 26 AWG (1.3 to 0.13 mm²) twisted-pair unshielded wire.
- **TB2:**
 - **EIA-232 TX** – “Transmit” connection to EIA-232 TX connection of panel/peripheral.
 - **EIA-232 REF** – “Reference” connection to EIA-232 REF connection of panel/peripheral.
 - **EIA-232 RX** – “Receive” connection to EIA-232 TX connection of panel/peripheral.
 - **Earth Fit (NO, NC, C)** – normally open (NO), normally closed (NC), and common (C) earth fault trouble contacts.
 - **+24V** – connection to listed +24 VDC power source.
 - **Common** – connection to 24 VDC common.
- **NUP:** EIA-232 cable connection for NUP (network) cable from NUP-compatible equipment.

Agency Listings and Approvals

These listings and approvals apply to the DPI-232. 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 (Listed for Canadian and non-Canadian applications).
- **MEA:** 253-02-E.
- **CSFM:** 7300-0028:0222; 7165-0028:0224 (NFS-3030, NFS2-3030); 7170-0028:0243 (NFS2-640, NFS-320SYS, NFS-320).
- **City of Chicago** approved; Class 1, Class 2.
- **City of Denver** approved.
- **FDNY:** COA #6085, #6098. #

Product Line Information

DPI-232: Direct Panel Interface modem for extending EIA-232 serial data links.

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