



# National Fire Equipment Ltd.

PDRP-2001, PDRP-2001C, and PDRP-2001E Deluge Preaction Control Panels

**Reliable fire detection, signaling, and protection for commercial, industrial, and institutional buildings requiring water-based releasing.**



## Features

- Designed for sprinkler standards NFPA 13, 15, and 16
- Allows connection to 220/240 VAC
- Dual hazard operation
- Adjustable water flow discharge timer and two soak timers
- Cross-zone (double-interlock) capability
- 6 programmable Style B (Class B) IDCs (Initiating Device Circuits)
- System Sensor i3 Series detector compatibility
- 4 programmable Style Y (Class B) output circuits – (special application power)
- Compatible with System Sensor synchronization protocol
- 3 programmable Form C relays
- 7.0 amps total 24 VDC output current
- Resettable and non-resettable output power
- Built-in programmer
- 80-character LCD display (backlit)
- Real-time clock/calendar with daylight saving time control
- History log with 256 event storage
- Piezo sounder for alarm, trouble, and supervisory
- Low AC voltage sense

The PDRP-2001, PDRP-2001C, and PDRP-2001E fire alarm control panels (FACPs) are compatible with the System Sensor i3 Series conventional smoke detectors that transmit signals to the FACP to indicate important status conditions, such as low temperature 45°F (7.22°C) or required maintenance. This control panel is compatible with conventional input devices such as waterflow devices, tamper switches, 2-wire smoke detectors, 4-wire smoke detectors, pull stations, and other normally open contact devices. The PDRP-2001, PDRP-2001C, and PDRP-2001E panels supervise wiring, AC voltage, battery charge, and battery level.

An installed waterflow detector, compatible smoke detector, or any normally open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicator, display alarm information on the panel's LCD, sound the piezo sounder at the FACP, activate the FACP alarm relay, and operate an optional module used to notify a remote station or initiate an auxiliary control function.

Four outputs are programmable as notification appliance circuits (NACs) or releasing circuits. Three programmable Form C relays (factory programmed for alarm, trouble, and supervisory) and 24 VDC special application resettable and non-resettable power outputs are also included on the main circuit board.

Unless otherwise specified, the information in this data sheet applies to both the 110/120 VAC and 220/240 VAC versions of the panels.

## Agency Listings



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TORONTO: (905) 761-6355  
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## PDRP-2001 and PDRP-2001(E) System Specifications

### Architectural/Engineering Specifications

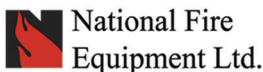
Model shall be an OSYEXP or PIBVEXP as manufactured by System Sensor. The OSYEXP and PIBVEXP shall be installed on each valve as designated on the drawings and/or specified herein. Switches shall be mounted so as not to interfere with the normal operation of the valve and shall be adjusted to operate within two revolutions of the valve control or when the valve flag has moved no more than one-fifth of the distance from its normal position. The mechanism shall be contained in a NEMA 1, 7 and 9 rated metal enclosure, which shall provide a side entrance for 1/2" conduit and incorporate a 1/2"NPT nipple for attachment to the valve body. A grounding provision shall be provided. The switch assembly shall include one SPDT (Form C) switch with a rated capacity of 15 A, 125/250/480 VAC; 1/8 hp, 125 VAC; 1/4 hp, 250 VAC; 1/2 A, 125 VDC; 1/4 A, 250 VDC. The cover shall contain captivated screws. The OSYEXP's and PIBVEXP's switch shall be Underwriters Laboratories listed for indoor use and CSA certified.

### Physical/Operating Specifications

Dimensions	20.00" (50.80 cm) H x 22.50" (57.15 cm) W x 8.50" (21.59 cm) D
Door Dimensions	19.26" (48.92 cm) H x 16.82" (42.73 cm) W x 0.72" (1.82 cm) D
Backbox Dimensions	19.00" (48.26 cm) H x 16.65" (42.29 cm) W x 5.25" (13.34 cm) D
Trim Ring (TR-CE) Dimensions	22.00" (55.88 cm) H x 19.65" (49.91 cm) W
Temperature and Humidity Ranges	This system meets NFPA requirements for operation at 32°F to 120°F (0°C to 49°C) and at a relative humidity 93% ± 2% RH (non-condensing) at 90°F ± 3°F (32°C ± 2°C). 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 its peripherals be installed in an environment with a normal room temperature of 60°F to 80°F (15°C to 27°C).
System Capacity, Annunciators	8
NFPA Standards	The PDRP-2001E complies with the following NFPA 72 Fire Alarm Systems requirements: – NFPA 13 Installation of Sprinkler Systems – NFPA 15 Water Spray Fixed Systems – NFPA 16 Deluge Foam-Water Sprinkler and Foam-Water Spray Systems – NFPA 72 National Fire Alarm Code for Local Fire Alarm Systems and Remote Station Fire Alarm Systems (requires an optional Remote Station Output Module)
Programming and Software	<ul style="list-style-type: none"> <li>• Custom English labels (per point) may be manually entered or selected from an internal library file</li> <li>• Three programmable Form-C relay outputs</li> <li>• Pre-programmed and custom application templates</li> <li>• Continuous fire protection during online programming at the front panel</li> <li>• Program Check automatically catches common errors not linked to any zone or input point</li> </ul> <p><u>User Interface</u></p> <ul style="list-style-type: none"> <li>• Integral 80-character LCD display with backlighting</li> <li>• Real-time clock/calendar with automatic daylight saving time adjustments</li> <li>• ANN-BUS for connection to remote annunciators</li> <li>• Audible or silent walk test capabilities</li> <li>• Piezo sounder for alarm, trouble, and supervisory</li> </ul>
Controls and Indicators	<p><u>LED Indicators</u></p> <ul style="list-style-type: none"> <li>• Fire Alarm (Red), Supervisory (Yellow), Trouble (Yellow), AC Power (Green), Alarm Silenced (Yellow), Discharge (Red)</li> </ul> <p><u>Control Buttons</u></p> <ul style="list-style-type: none"> <li>• Acknowledge, Alarm Silence, System Reset (Lamp Test), Drill</li> </ul>

### Electrical Specifications

AC Power – TB1	PDRP-2001/C (FLPS-7 Power Supply): 120 VAC, 50/60 Hz, 2.3 amps PDRP-2001E (FLPS-7 Power Supply): 240 VAC, 50 Hz, 1.15 amps <ul style="list-style-type: none"> <li>• Wire size: minimum #14 AWG (2.0 mm<sup>2</sup>) with 600 V insulation</li> <li>• Supervised, nonpower-limited</li> <li>• Battery (sealed lead acid only) – J12</li> <li>• Maximum Charging Circuit - normal flat charge: 27.6 VDC @ 1.4 amp supervised, nonpower-limited</li> <li>• Maximum Charger Capacity: 26-amp-hour battery (Two 18-amp-hour batteries can be housed in the FACP cabinet. Larger batteries require a separate battery box, such as the BB-26.)</li> <li>• Minimum Battery Size: 7-amp-hour</li> </ul>
Initiating Device Circuits – TB4 and TB6	<ul style="list-style-type: none"> <li>• Alarm Zones 1–5 on TB4</li> <li>• Alarm Zone 6 on TB6</li> <li>• Supervised and power-limited circuitry</li> <li>• Style B (Class B) wiring with Style D (Class A) option</li> <li>• Normal Operating Voltage: Nominal 20 VDC</li> <li>• Alarm Current: 15 mA minimum</li> <li>• Short Circuit Current: 40 mA max.</li> <li>• Maximum Loop Resistance: 100 Ohms</li> <li>• End-of-Line Resistor: 4.7 KOhms, 1/2 watt (Part #71252)</li> <li>• Standby Current: 4 mA</li> </ul>
Notification Appliance and Releasing Circuit(s) – TB5 and TB7	NACs programmable for silence inhibit, auto-silence, strobe synchronization, selective silence (horn-strobe mute), temporal or steady signal, silenceable or non-silenceable, release stage sounder <ul style="list-style-type: none"> <li>• Four Output Circuits</li> <li>• Style Y (Class B) or Style Z (Class A) with optional converter module</li> <li>• Special application power</li> <li>• Supervised and power-limited circuitry</li> <li>• Normal Operating Voltage: Nominal 24 VDC</li> <li>• Maximum Signaling Current: 7.0 amps (3.0 amps maximum per NAC)</li> <li>• End-of-Line Resistor: 4.7 KOhms, 1/2 watt (Part #71252)</li> <li>• Max. Wiring Voltage Drop: 2 VDC</li> </ul>



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## PDRP-2001 and PDRP-2001(E) System Specifications

### Electrical Specifications (Cont)

Form C Relays – Programmable – TB8	<ul style="list-style-type: none"> <li>• Relay 1 (factory default programmed as Alarm Relay)</li> <li>• Relay 2 (factory default programmed as fail-safe Trouble Relay)</li> <li>• Relay 3 (factory default programmed as Supervisory Relay)</li> <li>• Relay Contact Ratings: – 2 amps @ 30 VDC (resistive) – 2 amps @ 30 VAC (resistive)</li> </ul>
Auxiliary Trouble Input – J6	The Auxiliary Trouble Input is an open collector circuit that can be used to monitor external devices for trouble conditions. It can be connected to the trouble bus of a peripheral, such as a power supply, that is compatible with open collector circuits.
Special Application Resettable Power – TB9	<ul style="list-style-type: none"> <li>• Operating Voltage: Nominal 24 VDC</li> <li>• Maximum Available Current: 500 mA – appropriate for powering 4-wire smoke detectors NOTE: Total current for resettable power, non-resettable power and Output Circuits must not exceed 7.0 amps.</li> <li>• Power-Limited Circuitry</li> </ul>
Special Application Resettable or Nonresettable Power – TB9	<ul style="list-style-type: none"> <li>• Operating Voltage: Nominal 24 VDC</li> <li>• Maximum Available Current: 500 mA NOTE: Total current for resettable power, nonresettable power and Output Circuits must not exceed 7.0 amps.</li> <li>• Power-Limited Circuitry</li> <li>• Jumper selectable by JP31 for resettable or non-resettable power</li> <li>• Optional CAC-5X Class A Converter Module for Outputs and IDCs</li> <li>• Optional 4XTM Municipal Box Transmitter Module</li> <li>• Optional Digital Alarm Communicators</li> </ul>

### Ordering Information

PDRP-2001	Six zone, 24-volt deluge-preaction control panel (includes backbox, power supply, technical manual, and a frame-and-post operating instruction sheet) for single- and dual-hazard deluge and preaction applications.
PDRP-2001C	Same as PDRP-2001 but includes modified dress panel and ANN-LED Annunciator module.
PDRP-2001E	Same as PDRP-2001 but allows connection to 220/240 VAC.
CAC-5X	Class A converter module can be used to convert the Style B (Class B) initiating device circuits to Style D (Class A) and Style Y (Class B) output circuits to Style Z (Class A). NOTE: Two Class A converter modules are required to convert all four output circuits and six initiating device circuits.
4XTM	Transmitter module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. It includes a disable switch and disable trouble LED.
ANN-80	Remote LCD annunciator that mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded.
ANN-SB80KIT-R	Red surface-mount back box for use with an ANN-80.
ANN-S/PG	Serial/parallel printer gateway module provides a connection for a serial or parallel printer.
ANN-I/O	LED driver module provides connections to a user-supplied graphic annunciator.
ANN-LED	Annunciator module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with enclosure.
ANN-RLY	Relay module can be mounted inside or outside the cabinet, provides 10 programmable Form C relays.
DP-51050	Dress panel (red) is available as an option. The dress panel restricts access to the system wiring while allowing access to the membrane switch panel.
TR-CE	Trim ring (red) is available as an option. The trim ring allows semi-flush mounting of the cabinet.
BB-26	Battery box, holds up to two 26-amp-hour batteries.
BAT-1270	12 V, 7 AH battery
BAT-12120	12 V, 12 AH battery
PRN-6F	UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.



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