

## DETECTION AND CONTROL EQUIPMENT DATA SHEET

## AUTOPULSE® 442R AGENT RELEASING CONTROL UNIT

### FEATURES

- Complies with:
  - NFPA 71 Central Station Signaling Systems
  - NFPA 72 Local, Auxiliary, Remote Station, and Proprietary Protective Signaling Systems
  - NFPA 12 CO<sub>2</sub> (High pressure only) Extinguishing Systems
  - NFPA 12A Halon 1301 Extinguishing Systems
  - NFPA 12B Halon 1211 Extinguishing Systems
  - NFPA 2001 Clean Agent Fire Extinguishing Systems
- Microprocessor-Controlled
- Power-limited on All Circuits Except Municipal Box output
- Alarm And Trouble Resound
- 2 Initiating Circuits (Style B/D)
- Abort Switch Input Circuit (Style B/D)
- Manual Release Input Circuit (Style B/D)
- Supervisory Input Option (Style B)
- 2 Indicating Appliance Circuits (Style Y/Z)
- 2 Release Circuits (Style Y)
- Cross-zone Option
- Delay Timer: 0, 10, 20, or 30 Seconds.
- Special Abort Options For IRI, New York City, And Other Local Jurisdictions
- Distinct Audible Indications For: 1 Zone in Alarm; 2 Zones in Alarm; Release

- General Alarm And Trouble Relays
- Optional Module For 4 Zone/Function Relays (4XZM)
- Optional Transmitter Module (4XTM)
- Optional Volt/Amp Meter Module (4XMM)
- Optional Supervised Remote Annunciator (RZA-4X). Requires LED Interface Module (4XLM)
- Optional digital communicator (NOTI•FIRE 911)
- Disable/Enable Controls Per Initiating Zone
- Battery/Earth Fault Supervision
- Last Event Recall Feature to Identify Intermittent Trouble Conditions
- RMS Regulated 24 VDC Output Power, 2.25 Amperes
- 7.0 AH to 15 AH Battery Options, Up To 90 Hours Standby
- 230 VAC, 50 Hz International Option
- 4-Wire Detector Resettable Power Output
- Non-Resettable Regulated 24 VDC Power Output
- Extensive Transient Protection
- Watchdog Timer to Supervise Microprocessor
- Output Circuits Protected Against False Activations By 2-Step Command Sequence
- Slide-In Labels For Zone Identification

- Steel Cabinet 14 in. (36 cm) Wide x 16 in. (41 cm) High x 5 in. (13 cm) Deep
- Dead-Front Dress Panel Option
- Trim Ring For Flush Mount Between 16 in. (41 cm) Center Studs (TR-4XR)

### DESCRIPTION

The AUTOPULSE 442R is a cost effective detection and releasing control unit utilizing conventional wiring methods for protection of a single hazard area. Cross zone detection with programmable time delays and abort capability, immediate manual actuation, two alarm circuits, two release circuits, alarm and trouble relays, and auxiliary 24 VDC make this a very flexible control unit capable of releasing INERGEN, Carbon Dioxide, and Dry Chemical fire suppression systems.

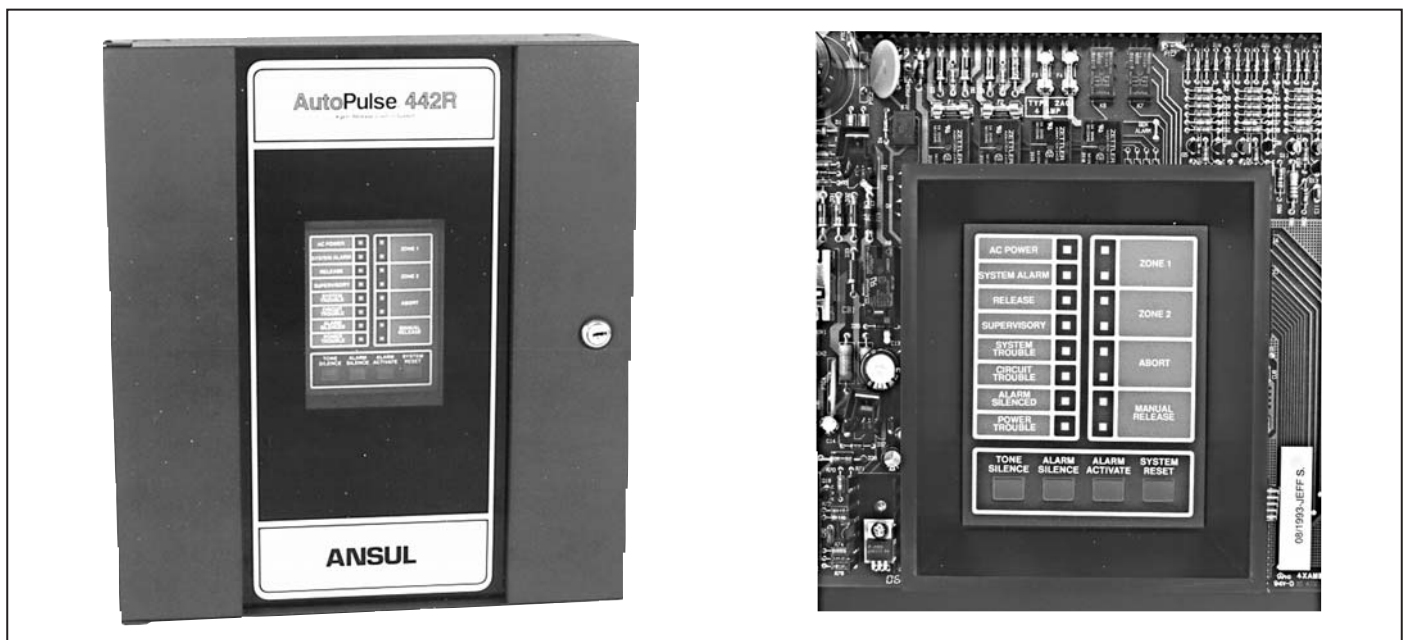
### Circuits

#### INPUT CIRCUITS:

- Detector Zone 1 (Style B/D)
- Detector Zone 2 (Style B/D)
- Abort (Style B/D)
- Manual Release (Style B/D)
- Supervisory (Style B)

#### OUTPUT CIRCUITS:

- Indicating Circuit 1 (One Zone In Alarm)
- Indicating Circuit 2 (Pulse With 2 Zones In Alarm And Sound Steady On Release)
- Releasing Circuit 1
- Releasing Circuit 2



**FRONT PANEL CONTROL SWITCHES:**

- 1. Switch 1      Tone Silence
- 2. Switch 2      Alarm Silence
- 3. Switch 3      Alarm Activate
- 4. Switch 4      System Reset

**Optional Boards**

The Ansul AUTOPULSE 442R Control Unit has mounting slots for two option boards. Any two of the three option modules may be installed:

**TRANSMITTER MODULE (4XTM):**

The Transmitter option provides a supervised output for local energy municipal box transmitter (for NFPA-72 Auxiliary Protective Signaling System) and alarm and trouble reverse polarity (for NFPA-72 Remote Station Protective Signaling System). Also included is a DISABLE switch and disable trouble LED. A jumper option allows the reverse polarity circuit to open with a System Trouble condition if no alarm condition exists.

**LED INTERFACE MODULE (4XLM):**

The module supports the RZA-4X Remote Annunciator module. The module mounts to the main board occupying one of the two option connectors. LED wiring is supervised for opens. Faults will activate System Trouble condition.

**ZONE RELAY MODULE (4XZM):**

The Zone Relay module provides Form-C general alarm and trouble contacts and the following Form-C relays:

- One detector in alarm
- Two detectors in alarm
- Releasing Circuit 1 Activated
- Releasing Circuit 2 Activated

**NOTE:** Relays can be silenceable/non-silenceable by jumper option.

**REMOTE ANNUNCIATOR (RZA-4X):**

The Remote Annunciator mounts on a standard single-gang box and provides the following:

- System Trouble LED (yellow)
- Local Piezo Sounder
- Silence Switch (for local sounder)
- Indicating Circuit 1 LED (red)
- Indicating Circuit 2 LED (red)
- Releasing Circuit 1 LED (red)
- Releasing Circuit 2 LED (red)

**NOTE:** The Remote Annunciator requires the use of an LED Interface module

**Optional Meters**

**VOLTAGE AND CURRENT METER (4XMM):**

The 4XMM provides a voltmeter to measure the voltage across the batteries and an ammeter to measure the charging current to the batteries. The meters are provided as an assembly that mounts to the lower left-hand corner of the cabinet.

**SPECIFICATIONS**

**AC Power**

- 120 VAC, 60 Hz, 1.2 amps
- Wire size: 14 AWG with 600 V insulation

**Initiating Circuits**

- Power-limited circuitry
- Operation: Style B (Class B)/Style D (Class A)
- Standby voltage: 24 VDC (ripple = 10 mV peak-to-peak)
- Alarm current: 15 mA minimum

- Short circuit current: 40 mA maximum
- Maximum detector current in standby: 2 milliamps (peak) per zone
- Maximum loop resistance = 200 ohms
- End-of-line resistor: 4.7 K, 1/2 watt
- Detector loop current is sufficient to ensure operation of one alarmed detector per zone
- Supervisory current: 5 mA.

**Indicating/Releasing Circuits**

- Power-limited circuitry
- Maximum voltage drop due to wiring: 2 VDC
- Voltage: 24 VDC RMS regulated (not filtered)
- Total current to all external devices: 2.25 amps max
- Maximum signaling current per circuit: 1.5 amps
- End-of-Line Resistor = 4.7 K, 1/2 watt

**Alarm and Trouble Relays**

- Dry Form-C contacts rated for:
  - 2.0 amps @ 30 VDC (resistive)
  - 0.5 amps @ 30 VAC (resistive)

**Digital Communicator NOTI•FIRE 911:**

For Central Station service: (NFPA 71 Central Station Protective Signaling System) or Remote Station Service (NFPA 72 Remote Station Protective Signaling System)

**Transmitter Module (4XTM)**

For Local Energy Municipal Box service (NFPA-72 Auxiliary Protective Signaling System):

- Supervisory current: 5.0 mA
- Trip current: 0.35 amps. (Subtracted from Indicating Appliance power)
- Coil Voltage: 3.65 VDC
- Coil resistance: 14.6 ohms
- Total wire resistance between panel and trip coil = 3 ohms

For Remote Station service (NFPA-72 Remote Station Protective Signaling System):

- Maximum current allowed for both circuits shall not exceed 10 mA per circuit.
- Reverse polarity output voltage = 24 VDC.

**Zone Relay Module (4XZM):**

Dry, Form-C contacts rated for: 2.0 amps @ 30 VDC (resistive) 0.5 amps @ 30 VAC (resistive)

**Four-wire Smoke Detector Power Output Terminals:**

Up to 200 mA of current is available for 4-wire smoke detectors.

**RMS Regulated 24 VDC Power Output Terminals:**

Total DC current available for powering external devices is 0.5 amp (subtracted from indicating appliance power dedicated to all output circuits).

**Non-resettable 24 VDC Power Output Terminals:**

Total DC current available from this output is up to 200 mA (subtracted from four-wire smoke power).

**Field Program Selections:**

6-position dip switch to select:

- Cross Zone Operation
- Supervisory Input
- Delay Time: 0, 10, 20, or 30 seconds
- Abort Mode

**Cabinet Dimensions**

Door: 16.125 in. High x 14.625 in. Wide (40.9 cm x 37.2 cm)

Backbox: 16.0 in. High x 14.5 in. Wide x 4.75 in. Deep (40.6 cm x 36.8 cm x 12.1 cm)

Cabinet: 5.375 in. Deep (13.7 cm)

**LISTINGS AND APPROVALS**

UL ..... S4935  
(Listed for Manual and Automatic Fire Alarm Service. Suitable as Releasing Service Control System)

ULC ..... CS412

FMRC ..... Approved

CSFM ..... Approved

MEA ..... Approved  
(City of New York)

European Community  
Conformity ..... Approved  
(220VAC Model)

**ORDERING INFORMATION**

Part No.	Description	Approximate Shipping Weight	
		lb.	(kg)
417696	AUTOPULSE 442R, Agent Releasing Control Unit, Red, 120 VAC	25	(11.3)
417697	AUTOPULSE 442R, Agent Releasing Control Unit, Red, 230 VAC	25	(11.3)
417692	Battery Pack, 7 AH, 24 VDC	15	(6.8)
417693	Battery Pack, 12 AH, 24 VDC	22	(9.9)
417475	TR-4XR, Trim Ring for Semi-Flush Mounting, Red	2	(0.9)
417472	4XMM, Ammeter – Voltmeter Module	2	(0.9)
417881	4XZM, Zone Relay Module	2	(0.9)
417882	4XLM, LED Interface Module	2	(0.9)
417883	RZA-4X, Remote Annunciator	2	(0.9)
417470	4XTM, Plug In Transmitter Module, Municipal Box and Remote Station Connection	2	(0.9)
417890	Dress Plate, Full Length Dead Front (ULC and FM)	2	(0.9)

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