

## ANSUL® Restaurant Electric Detection (RED) Technology

### Features

- 16 different hazard zones monitored by one single display
- Fully supervised electronic detection
- Expandable for added hazard areas, reconfigurable renovations, and added Pollution Control Units (PCUs)
- Complete UL and ULC Listing with both ANSUL® R-102 and PIRANHA systems
- Hood cleaning mode
- 4000+ event history log
- Multiple temperature detectors can be used in single hazard area
- Password protection for Authorized ANSUL® Distributor access

### Application

ANSUL® Restaurant Electric Detection (RED) Technology is an electric, fully supervised and monitored technology designed to work with the ANSUL® R-102 and PIRANHA Fire Suppression Systems. The technology is designed to detect fires in the following areas associated with cooking equipment; ventilating equipment including hoods, ducts, plenums, and filters; fryers; griddles and range tops; upright, natural charcoal, or chain-type broilers; electric, lava rock, mesquite or gas-radiant char-broilers and woks.

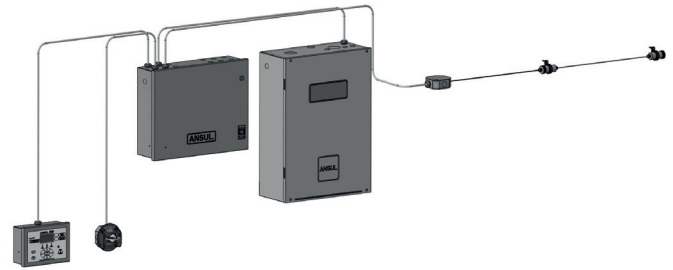
The system is ideally suited for use in restaurants, hospitals, nursing homes, hotels, schools, airports, and similar facilities. In addition, the system is expandable for some of the most complex cooking environments including food courts and large multi-kitchen facilities.

The controller and display components must be mounted in an area where the air temperature will not fall below 32 °F (0 °C) or exceed 122 °F (50 °C). The system must be designed and installed within the guidelines of the UL and ULC Listed Design, Installation, Recharge, and Maintenance Manual (Part No. 447416, latest revision).

ANSUL® RED Technology is fully UL and ULC Listed with both the ANSUL® R-102 and PIRANHA Fire Suppression Systems.

### Description

ANSUL® RED Technology provides supervised input/output circuits to activate either the R-102 or PIRANHA Restaurant Fire Suppression Systems. Upon detecting a fire condition, the controller activates the assigned releasing circuit(s), resulting in the discharge of an expellant gas cartridge(s), initiating fire suppression system operation while also alerting at the display which zone has gone into alarm and actuated. The system also has optional relays for shut-down of electrical equipment and electric gas valves.



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Green, amber, and/or red pulsing LEDs and the internal sounder alerts at the display for real-time system status. The sounder only activates for alarm, trouble, or supervisory signals.

Operating components include the display, controllers, spot thermal detectors, linear detection wire, electric manual pull stations, protracting actuation devices (PAD), electric releases, electric gas valves, and wire for power, communication, detection and release circuits.

A system owner's guide is available which contains basic information pertaining to system operation and maintenance. A detailed technical manual including system description, design, installation, recharge and resetting instructions, and maintenance procedures is available to qualified individuals.

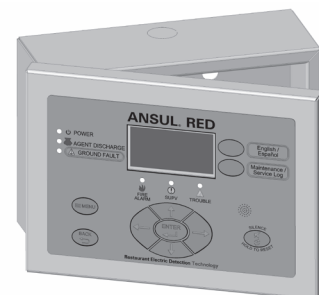
The system is installed and serviced by Authorized Distributors that are trained by the manufacturer.

### Component Description

**Display** – The display module is the system's user interface (UI) for configuration, status monitoring, and normal operation.

Features include:

- LED Display and UI controls
- LED indicators for Alarm, Trouble, and Power on
- Local sounder for abnormal system indicators
- A USB port for:
  - Uploading system configuration
  - Extraction of history log
  - Language upload
  - System updates
- 4000+ event history log with time stamp
- Maintenance schedule/calendar
- Separate access levels for Owner and Distributor

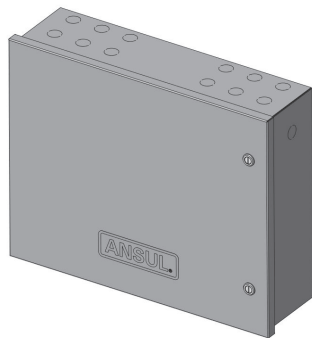


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**Controller** – The ANSUL® RED controller provides the inputs and outputs (I/Os) used to protect up to two hazard areas and activate the release outputs as required. It also provides connections for two additional optional relay modules. All circuits are monitored for open or short conditions. Features include:

- Six configurable inputs\*
  - 3.3 VDC, 0.5 mA – 2.2 mA
  - Pull station is current limited to 1.5 mA in alarm.
- Two releasing circuits\* (one PAD each)
  - Polarity reversal circuit
  - 1 A, 10 msec pulse
- Two cartridge monitoring circuits\*
  - Current limited to 1.5 mA – 2.2 mA depending on number of missing cartridges.
- Provides 12 VDC Power\*, 100 mA max, for a display module
- AC primary power (120/240 VAC, 50/60 Hz, 270 mA)
- Rechargeable backup battery
- Two relays to provide Alarm and Trouble status to a Building Fire Alarm Control Panel
  - 0.5 A, 120 VAC or 2 A, 30 VDC
  - Relay 1 is configurable using a jumper located on the board. Default is NC.
  - Relay 2 is only NO contact
- Up to two (2) relay modules (expandable)
  - 3 relays per module
- Removable board for ease of controller box and conduit installation.

\*The wiring for these circuits are monitored for ground faults. The sensitivity is 10 K ohms to ground.



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**Linear Detector Wire** – The linear detection wire provides fire detection in the protected area. Linear detection wire is available in the following four color-coded temperature offerings:

Temperature Rating	Color of Wire
155 °F (68 °C)	Gray
280 °F (137 °C)	Blue
356 °F (180 °C)	Red
500 °F (260 °C)	Orange

**Thermal Detectors** – Rate compensating temperature thermal detectors are normally open (NO) mechanical contact closure switches designed to operate at a factory preset temperature.

They are available in five preset temperatures which meet NFPA standards and are UL Listed and FM Approved.

Temperature Rating

- 225 °F (107 °C)
- 325 °F (162 °C)
- 450 °F (232 °C)
- 600 °F (315 °C)
- 725 °F (385 °C)

**Relay Board** – The relays are intended for use with electric gas valves, alarms, contactors, lights, contractor supplied electric power shut-off devices and other electrical devices that are designed to shut off or turn on when the system is actuated.

The relay board is used to add three high-power relays to the controller. Up to two relay boards may be added to a controller. Each relay contains three terminals which can be used to wire the circuit for normally open (NO) or normally closed (NC).

UL Rating - 277 VAC, 16A Resistive

VDE Rating - 250 VAC, 16A Resistive

**Regulated PAD Release** – The regulated PAD release assembly contains the regulated release, expellant gas hose for agent tank hookup, and enclosure knockouts to facilitate installing actuation piping, expellant piping, release wiring, and additional equipment. This regulated release assembly is used in single, double, and multiple-tank systems and must be mounted to a rigid surface. The release can be used to interconnect both the actuation and expellant gas lines as required per system design. The regulator is designed to allow a constant flow of gas into the tank at 110 psi (7.6 bar) for R-102 or 150 psi (10.3 bar) for PIRANHA when the system is actuated. The agent tank must be ordered separately.

**Electric Remote Manual Pull Station** – The electric remote manual pull station is made out of a molded red composite material. The red color makes the pull station more readily identifiable as the manual means for fire suppression system operation.

**Battery** – A 12 V 5.0 Ah sealed lead acid (SLA) battery is used to provide backup power for the system in the event there is an AC power failure. The battery provides 24 hours of backup power.

**High Temperature Connector Assembly** – The high temperature connector assembly is used to connect two linear detection wires of different temperature ratings within a hood. This is useful when different appliances require different linear wire temperature ratings within a hazard area.

## Approvals

- UL and ULC Listed (UL300)
- Meets requirements of NFPA 96 (Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment)
- Meets requirements of NFPA 17A (Standard on Wet Chemical Extinguishing Systems)

**Note:** The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement. ANSUL® and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited.