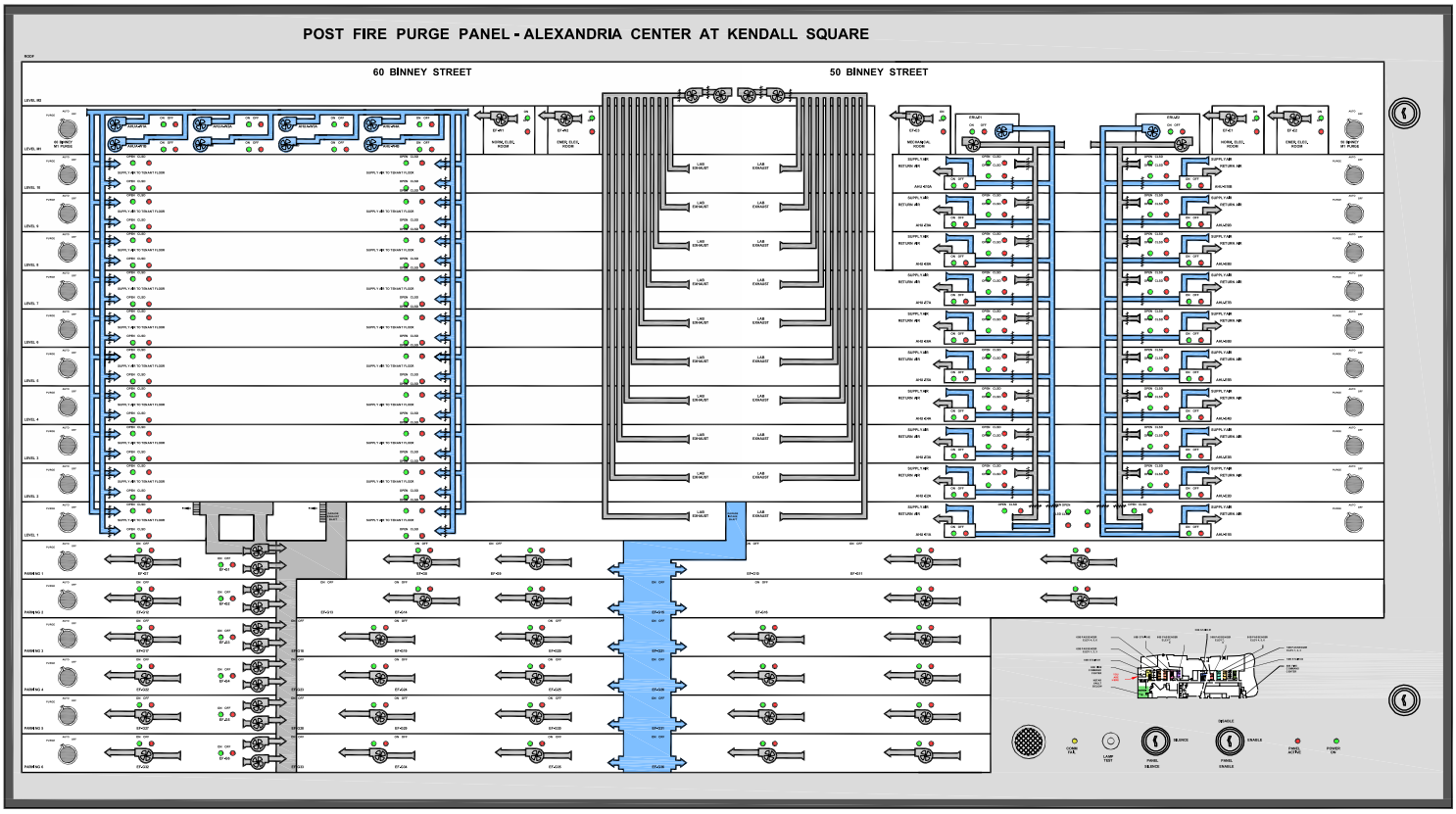
Post Fire Smoke Purge Panel



Engineer/Architect Specification - Post Fire Smoke Purge Panel
Also known as a Cold Smoke Panel, Warehouse Vent Panel, or AHU - Exhaust Control Panel
(This is NOT a Firefighter's Smoke Control Panel)

The Post Fire Smoke Purge Panel intended to be a tool for Firefighter's to provide Mechanical Ventilation of Smoke, Toxic fumes and other airborne elements from a building. This panel is used in conjunction with a Building Automation System or can be direct wired to Air Handling Units, fans and dampers. The Post Fire Smoke Purge control panel will have control switches and LED status indicators.

Typical controls are a 3 position toggle or rotary switch for Fans or Air Handling Units with On-Auto-Off operation that includes two LEDs for On and Off Status. Lamp Test push button and Panel power LED are typical. The panel and may include a graphic representation for the controlled system equipment. The panel may provide a means to automatically or manually activate system purge control functions in a building after a fire incident or other emergency condition. Purge Control Systems should be reviewed and approved by the local Authority Having Jurisdiction (AHJ) prior to installation.

Automation Displays inc.

Custom Design & Manufacture

Automation Displays, Inc.
3533 N. White Avenue, Eau Claire, WI 54703
Telephone: (715) 834-9595 Fax: (715)834-9596 Email:adi@adipanel.com www.adipanel.com

Engineer / Architect Specifications

1.0 General
This specification defines the basic construction and components for a Post Fire Smoke Purge Panel. The control panel may have a graphic display showing the equipment controlled and areas served or a directory style list of the controlled equipment. The panel shall clearly define the purpose of all control switches and LED indicators for status. The control panel shall be mounted on a flush or surface mounted enclosure.

2.0 Construction
The control panel shall be constructed with a .125 inch aluminum substrate and a Graphic film overlay. The over-lay shall be protected by a non-glare laminate coating, which is non-yellowing, durable, and scratch resistant.

LEDs, resistors, diodes, etc. shall be mounted on printed circuit boards (PCBs). All wiring to the PCBs shall be made on solder type terminal turrets or multi-pin connectors. All panel devices shall be securely mounted to the control panel.

3.0 Graphic
3.1 Graphic Colors

3.2 Graphic Surface
The working surface (Laminated, vinyl, plotted film) shall be bonded to the aluminum substrate with an adhesive that has been proven not to delaminate in similar applica-tions. The adhesive shall achieve 100% bonding without any creases, bumps, or blemishes in the working surface (face) of the graphic. The working surface of the graphic shall be a UL Approved laminate that is non-glare. Trans-lucent areas shall be made in the overlay for backlighted indicators. Backlit areas shall be subdued until the LED is illuminated. The illumination of any indicator shall be clearly visible from any viewing angle in front of the work-ing surface of the graphic.

4.0 Substrate
The .125" aluminum substrate shall have holes for LEDs and switches. The substrate shall have holes that are punched, drilled and tapped for mounting the panel devices. The aluminum substrate shall have a clear irri-dited finish to prevent oxidation.

5.0 Indicators
The indicators shall be high intensity LEDs, 5mm in size, and rated for normal operating current of 20mA. The LEDs shall have an operating life of a minimum of 170,000 hours of continuous or pulsed operation. The LED lens body shall be constructed of high impact plastic. All LEDs shall be socket mounted on .062" printed circuit boards constructed of epoxy glass material, NEMA Type FR-4, Grade 10. Resistors and diodes for current limiting and LED test shall also be mounted on the printed circuit boards. Solder type, pressed in turrets shall be provided for electrical connections to the LEDs. All field wiring shall terminate on modular screw clamp type terminals or to electronics mounted in the enclosure.

The graphic film overlay shall be a graphic representa-tion of the building as shown in the architect's drawings. The graphic shall be made of a UL94 Approved poly-meric material having all accent colors applied to the film. Important areas such as Zones, elevator shafts, stairwells, and main air ducts shall be highlighted with colors for easy identification. The panel supplier shall furnish a color chart with a minimum of 22 accent colors for architect selection.

6.0 Switches

Rotary or toggle switches shall be used for panel control operations unless other switch types are specified. A key operated switch may be used for panel enable to prevent unauthorized access to the panel controls. Switches shall be rated for the load served. A momentary pushbutton shall be provided for simultaneous testing of all LEDs. All field wiring shall terminate on modular screw clamp type terminals or to electronics mounted in the enclosure.

7.0 Enclosure

The enclosure shall be made from cold rolled steel and be assembled using all welded and formed steel construc-tion. The enclosure shall have a power coat textured finish. Optional security door with polycarbonate viewing window and key lock may be supplied to prevent unauthorized operation of the control panel switches. All enclosures shall be constructed according to UL Enclosure Guidelines.

8.0 UL508 Listing

UL 508 Listing as an Industrial Control panel is optional. Purge Control Systems requirement for UL508 Listing should be reviewed and approved by the local Authority Having Jurisdiction (AHJ) prior to manufacture.

9.0 Post Fire Smoke Purge Panel Wiring Options Automation Displays Inc. can provide a Serial Interface wiring option for most Building Automation System. The Z-Card serial option is a low cost high density I/O circuit that can communicate with, Alerton, Automated Logic, Computrols, Delta Controls, Distech, Johnson Controls, Schneider Electric, Siemens, Trane, ModBus and BacNet. Hardwired systems using customer furnished I/O modules are available for all Building Automation and Fire Alarm System too. Honeywell, EDWARDS, Gamewell-FCI, KMC Controls, Reliable Controls, Notifier, SimplexGrinnell and many more. Typically all low voltage control modules can be mounted inside the Post Fire Smoke Purge Panel.

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