

PROPAC CFAP

Real Time Response



Early detection of fires can prevent major catastrophes protecting valuable assets and saving lives. This predicated high reliability and rapid response time as critical requirements in Fire Alarm Panels. Hence, it is natural for customers to demand reliable, rugged and maintenance-free fire alarm panels.

The mission of a fire control system is to protect life, property and resources from hazardous scenarios like fire, explosion chemical spill or even radiation. It becomes a herculean task to identify and suppress a fire in real time for any organization without a perpetual fire monitoring and detection system.

Presenting Matrix PROPAC - A powerful and proactive CFAP (Conventional Fire Alarm Panel) used to continuously monitor smoke, heat, flame or spark in the immediate vicinity of an office, building, apartment, home or small industrial plant. It is fully geared to identify the smallest spark accurately, and is vital in critical situations for providing a real time response and thus reducing the risk of equipment damage and loss of life.

Matrix PROPAC is built using latest micro-controllers and ADCs for rapid and accurate response to the external events. It offers an easy to use interface through LCD, colored status indicators and touch sense keys. There are direct keys for various zones and other important actions such as status acknowledgement or routine system checks. Additional settings are offered through menu options on the LCD display, making it easy to setup and operate. Matrix PROPAC is housed in a rugged yet sleek weather-proof enclosure.

A wide range of sensors and detectors are supported by PROPAC, ensuring that it can be used with the existing installation seamlessly without the need to change IDC circuits. Front panel programming makes it easier for the user to configure the system in few seconds. It also offers one-person device testing so that a user can test it from his place remotely.

PROPAC has state-of-the-art technology and uses it to satisfy key requirements like fire and fault detection and reporting, panel reset, acknowledge fire and fault, evacuation for fire drill, alarm silence, event download through Ethernet, walk test, sounder test etc. Together, these features make it an ideal safety and security solution for small to large enterprises.



PROPAC CFAP 2

PROPAC CFAP 4

PROPAC CFAP 8

Architecture

The Matrix PROPAC family consists of 2, 4 and 8 zones Conventional Fire Alarm Control Panels integrated with fire relay, fault relay, auxiliary input and RS485 relay ports. All these panel devices are controlled through a powerful microcontroller which handles the whole system effectively and efficiently. This includes 2, 4 and 8 style-Y (Class-B) Initiating Device Circuits and 2 and 4 style-Y (Class-B) Notification Appliance Circuits.

Preventive Maintenance

Regular Preventive Maintenance is essential for any fire protection system to evaluate its reliability and functional capability. Many of the functions are monitored automatically by the system but it still requires proper inspection and testing by responsible occupants/persons. PROPAC offers a Preventive Maintenance or supervisory mode. It allows deactivation of any zone on a temporary basis for maintenance purpose. It offers a variety of inspection tests like Sounder Test, Lamp Test and Walk Test. These tests are mandatory to evaluate proper functionality of the system time-to-time.

Integration

Matrix PROPAC supports integration to third party hardware devices like water sprinklers, PA/VA system, gas release panels etc. to suppress the fire in an emergency. Panel also provides its integration with third party repeater

panels like Mimic Panel and other annunciators through a RS485 port on the serial link, for up to 32 devices in a row. Access control system and other relay based devices can also be interfaced with the fire or fault relay port which makes fire control system fully automated. In case of an alarm, the access control system can open all doors to allow rapid exit from the danger zone.

Web Configuration Tool

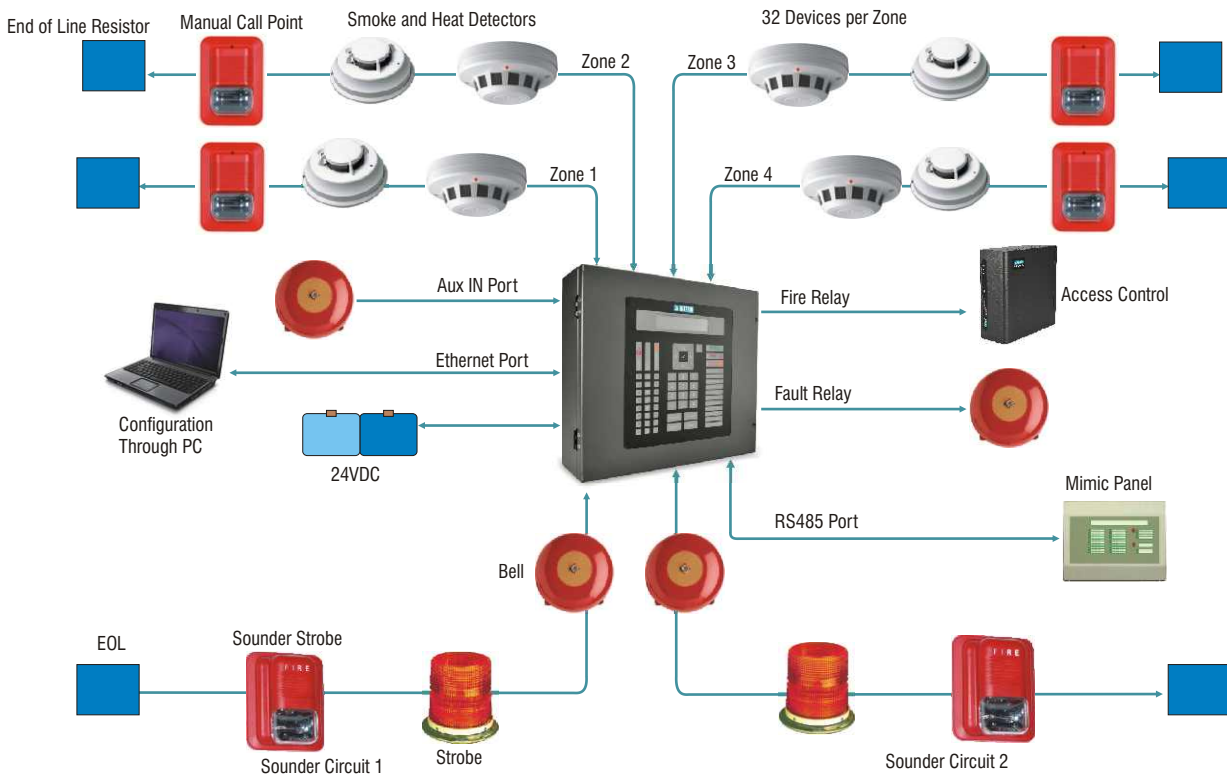
Installation and commissioning has been greatly simplified through the use of Matrix designed user friendly Web Configuration Tool called Jeeves. This easy to use tool allows the system to be easily programmed and ready to use within few minutes. Furthermore, event log files can be downloaded from the controller to Jeeves and converted to user readable format. This enables users to download, store and get the latest event logs into their computers.

Reduce False Alarm Potential

False alarms have the potential to cause substantial disruption to the smooth running of a business and additionally place an unwanted burden on fire service resources. Regular false alarms can cause building users to neglect alarm signals leading to incorrect actions in the event of a real fire situation. Matrix PROPAC eliminates such kind of possibilities like unwanted alarms, equipment false alarms and malicious false alarms.



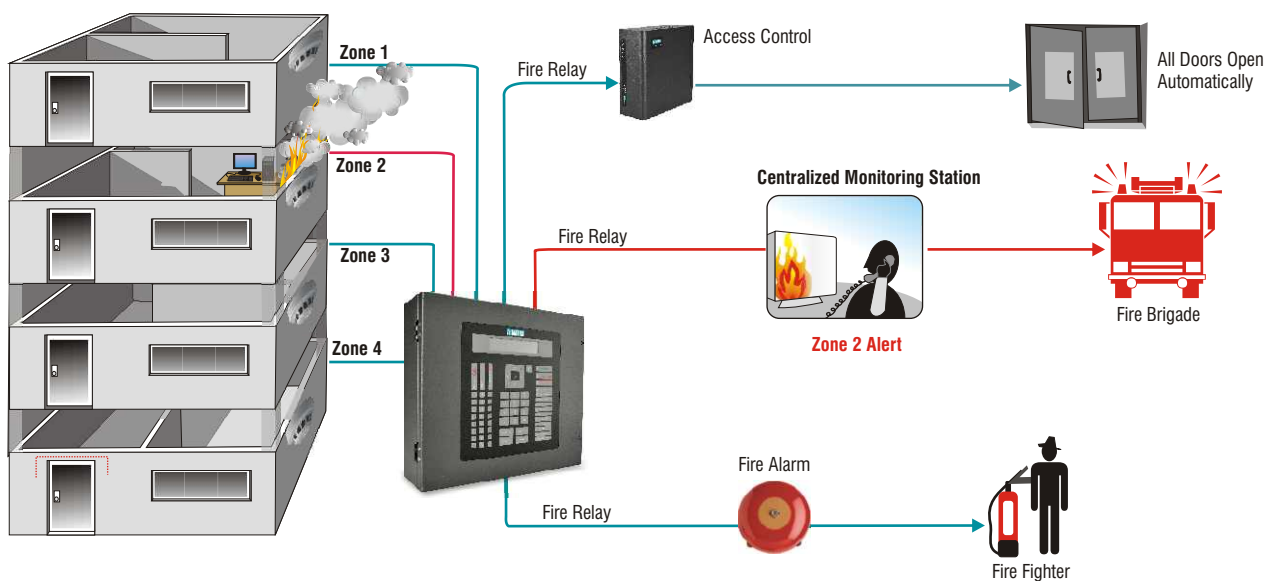
ARCHITECTURE



PROPAC Conventional Fire Alarm Panel

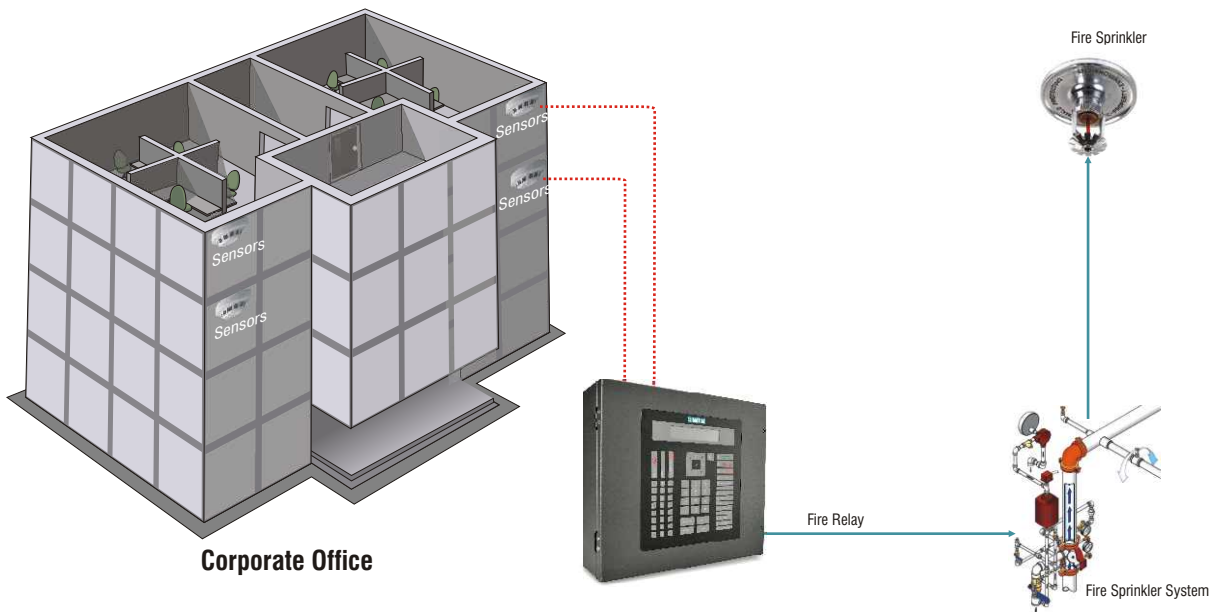
Fig. Shows 4 zones, 2 sounder circuits PROPAC CFAP4. Whenever the panel receives information from the environment sensors about changes associated with fire, it provides a real time response to building occupants by activating the sounder circuits and fire relay output to control the potential fire in time.

APPLICATIONS



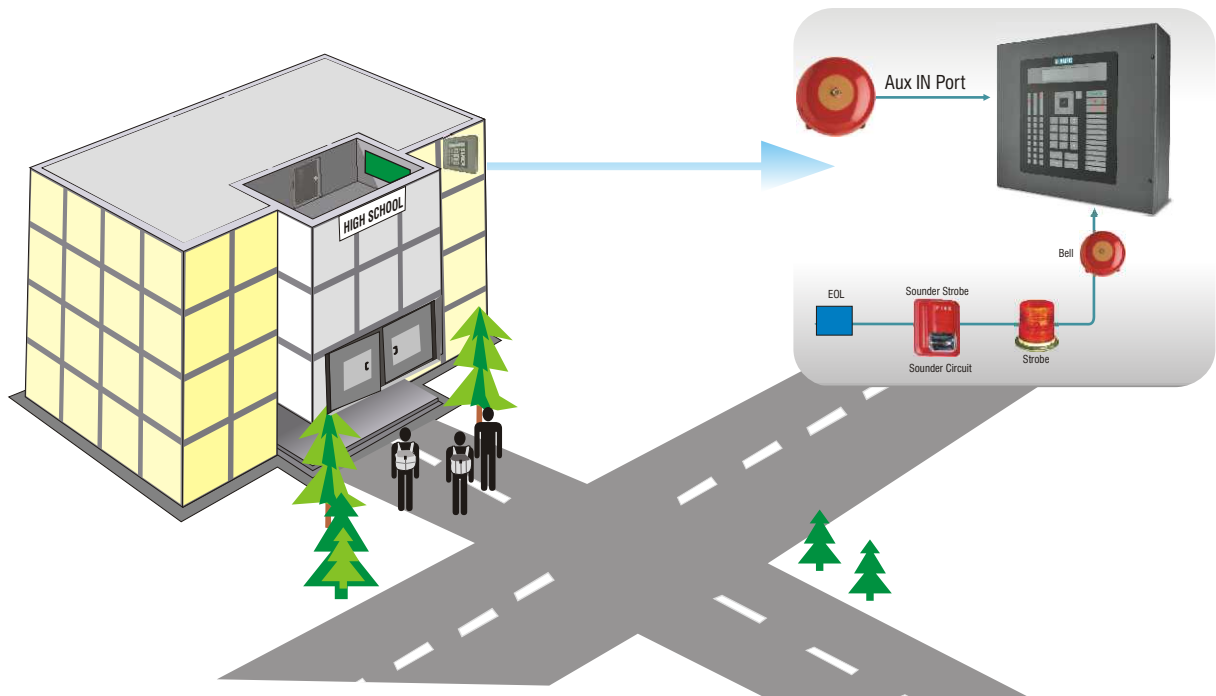
PROPAC Integration with Access Control, Centralized Monitoring Station and Fire Relay

Fig. shows deployment of PROPAC CFAP in an enterprise with 32 devices installed in each zone. When fire is detected in zone 2, PROPAC immediately activates the fire relay port and can alert the fire brigade through a Centralized Monitoring Station, simultaneously granting unrestricted access for mass evacuation and triggering the fire alarm to alert building occupants.



Integration with Fire Sprinkler System through Fire Relay

Fig. shows deployment of PROPAC, integrated with a fire sprinkler system through the fire relay port in a corporate office. When an alarm is detected by fire sensing devices, the panel actuates fire relay port and activates the fire sprinkler system, which is established through water pipes at each floor and release the flow of water on eruption of fire.



To signal end of class period in Schools

Fig. shows typical installation of PROPAC in a school where it can be used as fire prevention system as well as a Class Change indicator. Manual activation of auxiliary input port can be used to actuate the sounder circuits to declare Class Change in schools at regular periods.

KEY FEATURES

Zones and Sounder Circuits

PROPAC is equipped with 2, 4 and 8 style-Y (Class-B) Initiating Device Circuits (IDCs) for connecting various fire, flame, smoke or heat sensors, detectors or Manual Call Points (MCPs). These devices are connected through a 2-wire interface terminated with an End of Line Resistor (EOL) which forms a zone. PROPAC incorporates 2, 4 and 8 zones with 32 sensors and detectors including MCPs which ensures unrestricted and perpetual monitoring and detection of fire or fault.

The 2-wire interface of PROPAC provides 24 VDC power to the sensors and detectors so there is no need of external power supply. It is also equipped with 2 and 4 style-Y (Class-B) Sounder Circuits or Notification Appliance Circuits (NACs) for the prompt declaration of fire and Class Change events. It allows connection for up to 4 devices like sounder, strobe, sounder-strobe etc. per NAC.

Fire Detection and Notification

This is the core function of PROPAC CFAP. It offers multi-zone Fire Detection and Notification. PROPAC provides rock-solid reliability without failure to detect fire, flame, smoke, and heat in any zone. Fire detection is achieved by sensors or Manual Call Points and notification is achieved through fire alarm indicator (LEDs), zone alarm, panel buzzer, sounder and strobe. PROPAC provides fire alerts through audio-visual appliances like Notification Appliance Circuits (NACs), panel buzzer and LEDs. Furthermore, it also actuates the fire relay for the next action that needs to be taken to suppress the fire in time.

Fire Relay and Integration

Whenever a fire occurs, the fire relay ports should be activated in order to control the fire and to initiate further control procedures. PROPAC offers flexible integration with an access control system and other devices through the fire relay which makes the system fully automated. If any organization is using Matrix PROPAC fire control panel integrated with access control system, then whenever fire is detected in any zone, it will open all the doors to evacuate the place. Furthermore, PROPAC can send information about fire to other location such as a central monitoring station.

Fault Detection and Reporting

PROPAC ceaselessly monitors the deployed fire alarm system for different faults like general faults, sounder faults and zone faults. These alerts are reported to the admin via audio-visual indicators provided on the Fire Alarm Panel viz. zone fault LEDs, fault LED, other specific fault LEDs and panel buzzer. The panel also activates the fault relay for further processing.

Specific Faults Indicators

PROPAC has various special fault indicators displayed on the panel with LEDs and buzzer for quick identification and reporting. It includes mains fault, battery fault, battery low, sounder fault, ground fault, zone fault and system fault.

User Friendly Menu

PROPAC offers a user friendly, interactive, LCD display based menu to configure, activate or deactivate features. The menu can handle tasks such as status check, maintenance, configuration, setting default password, clear log events, reset the system etc. PROPAC also allows assigning and editing LAN settings like IP address, subnet mask and gateway address from the menu itself.

User Access Levels and Codes

Higher level of security keeps the panel safe and secure. PROPAC CFAP has a security feature called User Access Levels and Codes, to protect the panel from unauthorized access and provide a role based access. PROPAC offers 4 different user levels and codes which provide level based rights to different users to access different functions of the panel. A user is given the facility to view zone status, battery status, event logs, mute buzzer, silence sounders, reset panel, evacuate fire drill etc. Each level is assigned with default code and PROPAC has the flexibility to change the code from panel itself.

User Interface and Display

PROPAC provides multiple communication pathways between panel and the user. It comprises Touch Sensitive Keypad and Web based Jeeves for programming, monitoring and controlling the panel locally or remotely. Furthermore, audio visuals such as 2x24 characters LCD, 33 colored status LEDs and built-in buzzer together, provide system status and response effectively and efficiently.

Touch Sensitive Keypad

PROPAC is equipped with an attractive Touch Sensitive Keypad with 22 membrane keys and 33 on-board LEDs. Four special function keys activate or deactivate intended functions without going through menu including functions such as EVACUATE, SILENCE, ACK and RESET.

Normal Mode

It is essential for any fire alarm system switch to the normal mode once it completes the booting process after power on reset. PROPAC completes these processes quickly and starts monitoring various zones, all sounder circuits and other input ports for detection of faults and fire alarms under Normal Mode.

Delayed Mode

Some organization would like to postpone the activation of sounders for sometime after fire is detected to avoid a panic situation in sensitive areas like server rooms, hospitals, pharmaceutical companies etc. PROPAC permits those authorized users to configure delayed mode which having user access level-3. For this feature, PROPAC offers a 0-9 minutes delay timer for sounder activation.

Evacuation or Fire Drill

PROPAC has a special key EVACUATION provided on the panel to activate the NACs (Sounder) for the period decided by the user. It is mainly used to arrange a fire drill or manual evacuation to indicate/alert the occupants to empty the building / premises. The panel also supports colored LED to indicate the status of the feature.

Reset Panel

The Reset function normalizes the zones after an alarm condition is cleared and resets the panel (LEDs, Buzzers etc) with respect to the zone. PROPAC has a key called RESET for this purpose. Once the Reset is applied, the system should reset all zones, clear the alarm condition and deactivate any sounder if active.

FEATURES LIST

Alarm Silence

Whenever panel detects a fire through the sensors or MCPs, panel generates a notification to user through audio and visual alarm using the output devices like sounder, strobe and buzzer. Alarm can be easily silenced through the on-board alarm SILENCE key, which is equipped with an LED indication to show active or de-active states.

Acknowledge Fire/Faults

Whenever PROPAC detects any fire or fault, system declares it as a fire alarm or fault alarm and activates the built-in buzzer output. Once, this alarm or fault state is noticed by the user, system provides a facility to mute the activated buzzer with special key ACK/MUTE with status indication.

Sounder Test

The Sounder Test is a maintenance feature of PROPAC to monitor proper functioning of the sounder circuit. It is a part of the preventive maintenance capabilities. The Sounder Test is selected from the menu using the keypad. PROPAC offers a range of sounder test timer from 0-9 minutes.

Lamp Test

Lamp Test is a testing and maintenance feature of PROPAC that allows user to activate all the LEDs and internal buzzer to verify their proper functioning.

Walk Test

PROPAC offers preventive maintenance or fault reactivation maintenance facility through Walk Test Mode available from the user menu. It is essential to conduct routine maintenance on the installed system to ensure PROPAC is healthy and ready to detect the fire. PROPAC supports testing of individual zones, multiple zones or a set of sounders in sequence.

Walk Test Inactivity Timer/Stop Test

PROPAC offers the flexibility to select Walk Test Inactivity Timer ranges, from 10-60 minutes using the menu. If multiple zones are activated for Walk Test then it activates the test LEDs corresponding to these zones. PROPAC also provides a facility called Stop Test from the menu. Stop Test will terminate all active walk tests from all the zones.

Events Log

PROPAC can log up to 999 events or transactions during its normal, alarm or fault mode of operation. The Event Log consists of alarm, fault and enable/disable events. Sometimes, it is necessary to record all users created and system generated events for further processing and reports. These reports can be downloaded in a user friendly format using Jeeves.

Class Change Facility

Sometimes a user wishes to make use of the sounders of fire alarm for some other purpose. Class Change is used for the application where alarm output is activated but fire relay is not activated. Especially useful in schools where the sounders are installed for fire reporting, but are activated to indicate changing of student's class also.

Configuration through Ethernet

PROPAC provides an alternate option to configure the system other than menu provided. The alternate option is configuring the system through Ethernet. A user can use the Ethernet connectivity to configure zone setting, sounder setting, general setting, LAN setting, download events and upgrade firmware.

Firmware upgrade through Ethernet

It is essential to upgrade the software to the controller whenever there are changes made in the firmware. Firmware upgrade feature allows system to upload the latest firmware to the controller. This allows the end user to get the latest version of the firmware at a single click.

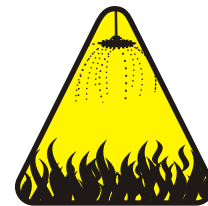
Event Log Download through Ethernet

The events download feature allows system to download event log files from the controller to the application software and converts the files to user readable format.

Mimic Panel

PROPAC provides remote panel interface and protocol to connect third party Mimic Panel on a RS485 serial link. PROPAC allows a total of 32 Mimic Panels to be connected in series on a RS485 link. Mimic Panel on the network repeats the display and all the LED indicators of the Fire Alarm Control Panel. PROPAC allows full monitoring on the Mimic Panel which is especially useful in multi-floor situations.

- Acknowledge Fire/Faults
- Alarm Silence
- Class Change Facility
- Configuration through Ethernet
- Delayed Mode
- Events Log
- Events download via Ethernet
- Evacuation or Fire Drill
- Fault Detection and Reporting
- Fire Detection and Notification
- Fire Relay and Integration
- Firmware upgrade through Ethernet
- LCD based Display
- Lamp Test
- Mimic Panel
- Normal Mode
- Reset Panel
- Sounder Test
- Specific Faults Indicators
- Touch Sensitive Keypad
- User Access Levels and Codes
- User Friendly Menu
- Walk Test
- Walk Test Inactivity Timer/Stop Test
- Zones and Sounder Circuits



TECHNICAL SPECIFICATIONS

Electrical Panel

System Configuration : 2, 4 and 8 Zones Panel
Terminal Capacity : 1mm² to 2.5mm² Solid or Standard Wire

Power Supply

Mains : 100-265 VAC, 47-63 Hz
Consumption : 60 W Max
Mains Supply Fuse : 2A Fast Blow, Glass Fuse 5×20mm
System Voltage : 24 V Nominal (19-28) VDC
Maximum Ripple Voltage : <100 mV
Battery : 24 V, 2×12V@3.2Ah Sealed Lead Acid

Battery Charge Voltage : 27.6V Max
Battery Charge Current : 0.65A Max
Battery Fuse : 3.5A Fast Blow, Glass Fuse 5×20 mm

Maximum Current Drawn from Batteries (Mains Failed) : 1.5 A Max
Standby Operation on Fully Charged Battery : 24 Hours in Standby and 10 Minutes in Alarm State

Initiating Device Circuit

Zone Circuits : 2/4/8
Zone Voltage : (20-28)V DC
Current Limited : <40 mA Max
Supervisory Current : 8mA (with 32, 2 Wire Smoke Detectors@100μA each & EOL)

End of Line Resistor : 6.8 KΩ +/- 5%, ½ watt
Loop Resistance : 100 Ω max
No of Detectors per Zone Connection : 32
Screw Type Terminal block, Recommended Conductor Size 2mm²
Cable Type : Fire Resistant Screened (FRS) Cable, Minimum Conductor Size 2 mm²

Notification Appliance Circuit

Notification Appliance Circuit : 2/4
Output Voltage : (20-28)V DC
Output Current : 1A Max per NAC
End of Line Resistor : 6.8 KΩ +/- 5%, ½ Watt
Protection : Self Resettable Fuse on each Circuit, Overload Protected

Maximum no of Bells@25mA : 40 Polarized
Maximum no of Electronic Connection : 50 Polarized
Screw Type Terminal Block, Maximum Conductor Size 2mm
Cable Type : Fire Resistant Screened Cable, Recommended Conductor Size 2mm²

Relay and Auxiliary Input Port

Fire Relay : Form C Relay, 2A@30V DC Max(Resistive)
Fault Relay : Form C Relay, 2A@30V DC Max(Resistive)
Auxiliary Input : Short to Trigger, (20-28)V DC

Auxiliary Output Port

Auxiliary DC Output : 28VDC@150mA Max
Max Open Circuit Voltage : 27.2VDC
Max Sink Current : 150mA
Protection : Overload Protected, Power Limited

Communication

RS485 : For Mimic Panel or Annunciator
Ethernet : 10/100 Mbps for Programming and Controlling

User Interface and Display

Ethernet based Remote Interface : Web Connectivity via On-board Web Server
User Interface : Touch Sensitive Keypad
Display : 2×24 Characters Alpha Numeric LCD with Backlight

Indicators and Controls

LED Indicators : 33 Colored Status Indicators
Zonal Alarm, Zonal Fire/Fault, Power, Fire, Fault, Mains Fault, Battery Fault, Battery Low, Sounder Fault, Ground Fault, System Fault, Delayed Mode, Walk Test, Zone Disable, Sounder Disable, Evacuate, Silence, Ack/Mute
Special Keys : ACCEPT, SILENCE, RESET, EVACUATE, ACK/MUTE
Access Levels : 4

External Connection

Cable Entry : (14×21)mm Grommetted Entries on the Top Face of the Cabinet
Power Cable Entry : 1×12.50 mm Knockout Entry

Mechanical

Dimensions (W×H×D) : 315 × 280 × 93 mm (12.40" × 11.02" × 3.66")
Material : 1.6 mm M.S Sheet Powder Coated
Color : Metallic Black
Weight : 2 Kgs (4.4 lbs) without Batteries

Environmental

Operating Temperature : 0 °C to +50 °C (+32 °F to +122 °F)
Storage Temperature : +10 °C to +55 °C (+50 °F to +131 °F)
Relative Humidity : 5-95 % RH (Non-Condensing)

ORDERING INFORMATION

PRODUCT	DESCRIPTION
PROPAC CFAP2	2 Zone Conventional Fire Alarm Panel
PROPAC CFAP4	4 Zone Conventional Fire Alarm Panel
PROPAC CFAP8	8 Zone Conventional Fire Alarm Panel
Ethernet Module	10/100 Mbps Ethernet for Programming and Controlling



■ ABOUT MATRIX

An ISO 9001 Company, Matrix is a leader in Telecom and Security solutions for modern businesses and enterprises. An innovative, technology driven and customer focused organization; the company is committed to keep pace with the revolutions in the telecom and security industries. With around 30% of its human resources dedicated to the development of new products, Matrix has launched cutting-edge telecom products like IP-PBX, Universal Gateways, VoIP Gateways and Terminals, GSM Gateways and Security products like Access Control and Time-Attendance Systems and Fire Alarm Systems. These solutions are feature-rich, reliable and conform to the international standards. Having global foot-prints in Asia, Europe, North America, South America and Africa through an extensive network of more than 500 channel partners, Matrix ensures that the products serve the needs of its customers faster and longer. Matrix has gained trust and admiration of more than 150,000 customers representing the entire spectrum of industries. Matrix has won many awards for its innovative products



SECURITY SOLUTIONS

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Due to continuous technology upgradations, product specifications are subject to change without notice.