

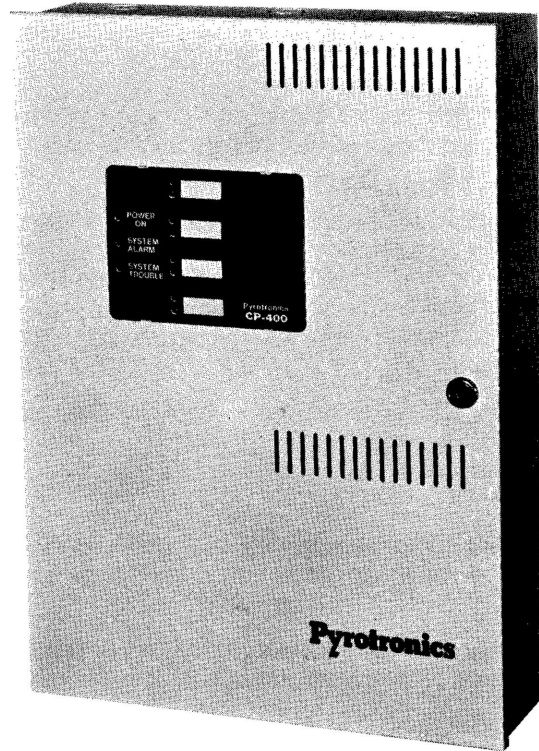


Fire Alarm Control Panel

ENGINEER AND ARCHITECT SPECIFICATIONS

MODEL CP-400

- 4 Zone Fire Alarm Control Panel Expandable to 8 Zones
- 4 Zone Extender Module with Supervisory Service Feature
- Remote Annunciator Capability
- Subsequent Alarm and Trouble
- Alarm Verification Option
- Supplementary Relay Option
- Municipal Tie, Leased Line Option
- Class A (Style D) Option
- Selectable Timed Alarm Silence Feature
- Selectable Drill Switch Feature
- Selectable March Time Feature
- 24 or 60 Hour Battery Backup
-  and CSFM Listed



Introduction

DESIGN FEATURES

The Pyrotronics CP-400 is an expandable 4 zone fire alarm control panel designed to use Pyrotronics two wire ionization, photoelectric, thermal and flame detectors, as well as direct shorting devices such as manual stations and water flow switches.

The standard 4 zone CP-400 system includes subsequent alarm, subsequent trouble, brown out protection, non-silencable waterflow alarm, selectable march time feature, selectable timed alarm silence feature, relay contacts — 2 alarm and 1 trouble, and 2 alarm indicating circuits.

The CP-400 is expandable to 8 zones with the use of a 4 zone expansion module. The 4 zone expansion module may be used for either alarm or supervisory service.

The CP-400 is designed to meet the varied fire alarm detection needs of small office buildings, apartment buildings, department stores, hotels or anywhere a cost efficient, general purpose fire alarm control panel is required.

The CP-400 meets the requirements of NFPA 72A, B & C and is UL listed.

Architects Specification

An expandable 4 zone fire alarm control panel shall be a Pyrotronics Model CP-400. The 4 zone fire alarm control panel shall be expandable to 8 zones with the use of a 4 zone expansion module. The 4 zone expansion module shall have the capability of being used either for alarm or supervisory service. The standard 4 zone system shall include: subsequent alarm, subsequent trouble, brown out protection, non-silencable waterflow alarm, selectable march time feature, selectable timed alarm silence feature, relay contacts — 2 alarm and 1 trouble, 2 alarm indicating circuits, and a 24 hour battery backup. The fire control panel shall have remote annunciator capabilities. Remote annunciation shall be provided by any Pyrotronics Model AN series remote annunciators. The expandable 4 zone fire alarm control panel may have the following options: alarm verification, supplementary relay, municipal tie or leased line, Class A (Style Z), or 60 hour battery backup. The expandable 4 zone fire alarm control panel shall meet the requirements of NFPA 72A, B & C and be UL listed.

CATALOG NUMBER **3065**

Replaces Catalog Number 3063

Description/Operating Features

INITIATING CIRCUITS

The standard CP-400 provides 4 Class B (Style B) initiating circuits, each of which will operate any combination of up to 30 Pyrotronics ionization or photoelectric fire detectors. Any number of thermal detectors or manual stations or other direct shorting devices may be connected to each zone. Also, a number of flame detectors, which is determined by the power requirements of that individual flame detector, may be connected to each zone. All of these initiating devices can be mixed on the same zone circuit providing the total power requirement of the circuit does not exceed 3 mA supervisory current.

POWER SUPPLY AND BATTERY BACKUP

Input power is 120 VAC at 1.3 Amps. The system reverts to 24 hour or 60 hour battery backup if AC power is lost or if AC input power drops below approximately 96 VAC.

INDICATING CIRCUITS

The CP-400 provides for two system operated 1.5 Amp, Class B (Style W) indicating circuits with an output voltage of 24 VDC (nominal). The CP-400 indicating circuits provide the choice of march time as a standard feature, as well as a 5 or 10 minute timed alarm silence option.

VISUAL AND AUDIBLE INDICATORS

Green, yellow and red LEDs, respectively indicate power, system trouble and system alarm on the front panel. Additional red and yellow LEDs indicate individual zone alarms and troubles.

For diagnostic purposes yellow LEDs located on the CP-400 I/O circuit board indicate ground fault and indicating circuit troubles.

A trouble audible will sound with any system or zone trouble and will silence when the trouble condition is cleared.

The trouble audible can be manually silenced by the operation of a momentary push button silence switch. However, the trouble audible will resound upon appearance of a subsequent zone trouble or system trouble.

MANUAL CONTROLS

The silence and reset switches of the CP-400 are located on the standard zone board which is accessible only by unlocking the cabinet door. These switches are momentary. The switches are clearly marked "S" for silence and "R" for reset.

AVAILABLE RELAY CONTACTS

The CP-400 provides one DPDT alarm related and one SPDT trouble related relay, both of whose contacts are rated at 120 VAC, 3 Amp or 30 VDC, 3 Amp.

Optional System Expansion Modules

4 ZONE EXTENDER WITH SUPERVISORY SERVICE MODULE

Model: ZNE-404S

The CP-400 can be expanded to a total of 8 zones with the use of the 4 zone extender module, Model ZNE-404S. The ZNE-404S has all the features of the CP-400 standard four zones except the ZNE-404S may be used for either alarm or supervisory service. The ZNE-404S is connected to the primary zone board by means of a ribbon cable connector.

ALARM VERIFICATION WITH DRILL SWITCH MODULE

Model: RC-400

The RC-400 provides alarm verification for up to 8 selected zones. The RC-400 blocks the alarm on the selected zone

and resets the panel after 7.5 seconds. Any alarm release during the next 73 second period causes a panel alarm and activates all the alarm outputs.

A drill switch is also provided with the RC-400 which operates only the audible alarms. In the event of a true alarm during a drill, the alarm function overrides the drill switch.

CLASS A OPTION

Model: 405A

Up to 8 Class A (Style D) initiating and 2 Class A (Style Z) indicating circuits are available by adding the optional 405A Class A conversion module. (Note: The DI-4A/H detector is not compatible with the 405A module.)

MUNICIPAL TIE, LEASED LINE MODULE

Model: LT-4

The LT-4 module provides the capability of operating and supervising leased lines for alarms, troubles or supervisory service as well as operating a local energy municipal box. The LT-4 includes three separate leased line circuits along with one municipal tie circuit. A disconnect switch is also provided for system test.

SUPPLEMENTARY RELAY MODULE

Model: 405R

The 405R provides 4 alarm relays each with two Form "C" (DPDT) contacts. The four relays may be activated selectively by any combination of zones in alarm.

SUPERVISED REMOTE ANNUNCIATOR DRIVER MODULE

Model: AND-400

The AND-400 drives Pyrotronics AN series remote annunciators and provides panel supervision to the annunciator connections.

REMOTE ANNUNCIATORS

Models: AN-404, 404S, 408, 408S

Pyrotronics series AN remote annunciators are designed to operate with the CP-400 fire detection control panel. The AN-404 is a 4 zone alarm and system trouble remote annunciator. The AN-408 is an 8 zone alarm and system trouble remote annunciator. An optional weatherproof gasket is available only for models AN-404 and AN-408. The AN-404S and AN-408S in addition to providing the basic zone alarm and system trouble remote annunciation also feature a trouble silence switch with an audible ring back. The remote annunciators opaque, masked, typeable plastic legend strips are easily modified as conditions or locations change. Legend strip inserts can accommodate up to 20 typed characters or 20 eight point transfer letters per zone. High intensity long life red LEDs are used for zone alarm indication and yellow LEDs are used for system trouble indication. LED indicators are visible through the legend only when lit. Each AN series annunciator comes completely assembled and ready for easy installation in standard electrical gang boxes for either flush or surface mounting.

CP-400 Accessories

FLUSH TRIM PLATE

Model: FT-4

Note: The exterior dimension of the FT-4 is 17" x 23".

POWER LIMITING MODULE

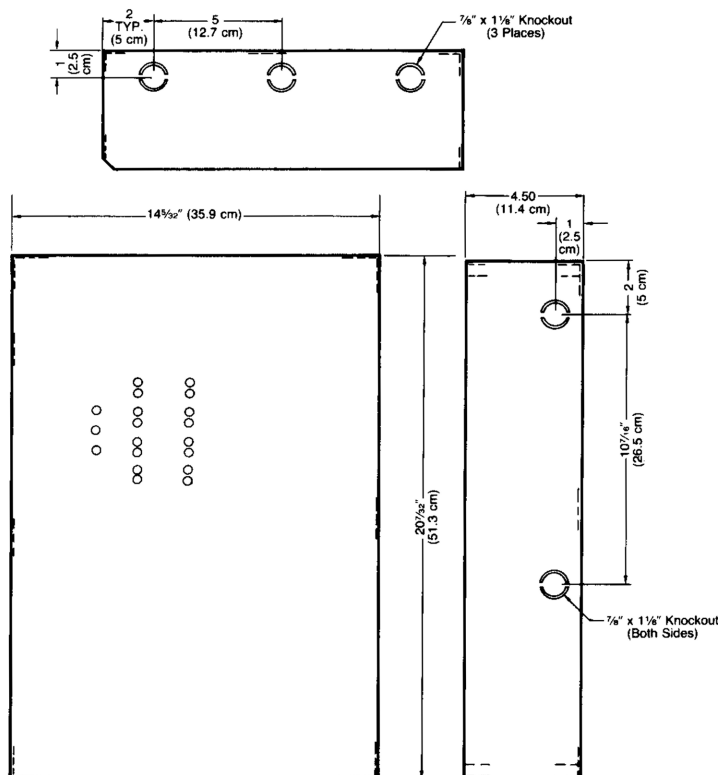
Model: PL-35

The PL-35 allows power limiting wiring of alarm indicating circuits. (See Pyrotronics specification sheet #3180).

Ordering Information

Model Number	Description	Approximate Shipping Wgts.	
		lbs	kg
CP-400	4 Zone Fire Alarm Panel	22	10
ZNE-404	4 Zone Extender Module	1	.45
RC-400	Alarm Verification Module	1	.45
LT-4	Leased Line/Municipal Tie Module	1	.45
405A	Class A Conversion Module	1	.45
405R	Supplementary Relay Module (4 Relays)	1	.45
BP-24	6.0 AH Battery Pack	10.6	4.8
BP-60	10 AH Battery Pack	19.4	8.8
BP-61	15 AH Battery Pack	20.0	9.0
FT-4	Flush Trim Plate	6	2.7
PL-35	Power Limiting Module	.4	.2
AND-400	Supervised Remote Annunciator Driver	.75	.34
AN-404	Remote 4 Zone Annunciator	.5	.23
AN-404S	Remote 4 Zone Annunciator with audible ring back, silence switch	.65	.3
AN-408	Remote 8 Zone Annunciator	.65	.3
AN-408S	Remote 8 Zone Annunciator with audible ring back, silence switch	.82	.37

Mounting Data – Dimensions



Note: Front door closes flush onto the backbox.

Current Requirements

Component	Current (A)	AH/24 hr	AH/60 hr
CP-400 Panel	0.110	2.64	6.60
ZNE-404	0.055	1.32	3.30
405R	0.005	0.12	0.30
RC-400	.0005	.012	.03
AND-400: See Note #3	—	—	—
AN-404	.015	.365	.905
AN-404S	.015	.368	.908
AN-408	.015	.368	.908
AN-408S	.015	.368	.908
405A: See Note #4	—	—	—
LT-4	0.005	0.12	0.30
Each L.L. Connection	0.009	0.216	0.54
Allow for Audibles	3A Output	0.52	0.52
Additional Loads:	Add any current drawn from the auxiliary power terminals.		

NOTES:

- For 24 hour battery backup, the following apply: 6 AH battery (Model BP-24)—175mA supervisory current; 10 AH battery (Model BP-60)—250mA supervisory current. For 60 hour battery backup, the following limits apply: 15 AH battery (Model BP-61)—230mA supervisory current. For all four categories, the audible alarm current is 3A max.
- Refer to Operation, Installation and Maintenance Manual, P/N 315-087711, and Operating Instructions, P/N 315-087712 for additional information.
- AND-400 current requirements included in AN Series annunciators.
- Standby and alarm requirements are included in the CP-400 8 zone system.

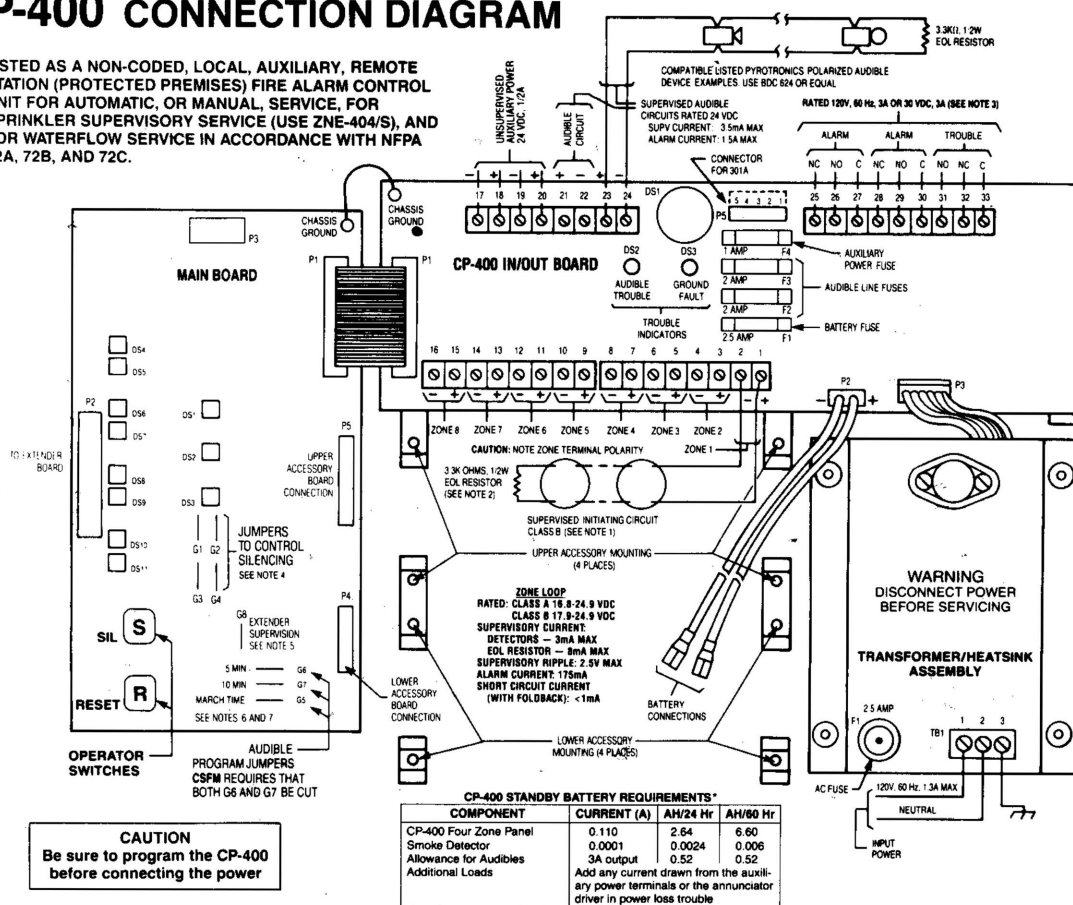
Expansion Module Placement

Available Space and Placement	ZNE-404S	RC-400	405A	405R	LT-4	AND-400
Interior of Control Panel Door (1 space available)	One Space Required					
Main Circuit Board (1 space available)		One Space Required				
Upper Accessory Mounting Position on the Backbox (2 spaces available)				One Space Required	One Space Required	One Upper Space & One Lower Space Required
Lower Accessory Mounting Position on the Backbox (2 spaces available)			One Space Required			

Note: The 405A, 405R, LT-4 or AND-400 can be mounted one on top of another. Care should be taken not to exceed the CP-400 optional module mounting capacity of 2 level stacking.

Model CP-400 CONNECTION DIAGRAM

LISTED AS A NON-CODED, LOCAL, AUXILIARY, REMOTE STATION (PROTECTED PREMISES) FIRE ALARM CONTROL UNIT FOR AUTOMATIC, OR MANUAL, SERVICE, FOR SPRINKLER SUPERVISORY SERVICE (USE ZNE-404/S), AND FOR WATERFLOW SERVICE IN ACCORDANCE WITH NFPA 72A, 72B, AND 72C.



NOTES:

- Initiating devices — A maximum of 30 smoke detectors (any combination of those listed below as compatible detectors) and any number of direct shorting devices such as thermals, manual stations, and waterflow switches may be used. Total circuit line resistance is 36 ohms max, except when using detector relays (Model RR-3). Maximum resistance is 20 ohms. Maximum (3mA for detectors; 7mA for EOLR) supervisory current: 10mA per zone.
- Mounting plate P/N 500-621296 can be used for mounting end-of-line resistor. Place EOL resistor (3.3K ohms, 1/2 watt) across associated terminals when external circuit is not used.
- Alarm and trouble contacts are shown in supervisory status.
- Jumpers G1, G2, G3, and G4 on the main board may be cut to allow timeout or manual silencing of alarm bells for zones 1 through 4, respectively. The jumpers must remain intact on any zone used for waterflow alarm.
- If an optional four-zone extender board is installed, cut jumper G8 on the main board to supervise the connection of the extender board.
- To use power limited wiring to NFPA 70, NEC, the audible circuits, terminals 21-24, must use the PL-35 module. Refer to Instructions P/N 315-088567. Initiating circuits, terminals 1-16, and connections for the 301A are power limited as they are.

- If 10 minute nominal timeout of audibles is desired, cut jumper G6 on the main board. If 5 minute nominal timeout of audibles is desired, cut jumper G7 on the main board. If manual silencing only is desired, cut both jumpers G6 and G7 (CSFM requires that both G6 and G7 must be cut). If any zone is to be silencable (any G1 through G4 was cut), at least G6 or G7 must be cut.
- Initiating circuits and connections for the 301A annunciator are power limited per NFPA 70, National Electrical Code.

- Charging current, normal: 27.4V, 50mA
Maximum charging current: 2A
- Charger load current: 0.2A max
Battery load current: 4.7A max
For 24 hour battery backup, the following limits apply:
6 AH battery (P/N 175-084476) — 175mA supervisory current
10 AH battery (P/N 175-084477) — 250mA supervisory current

- For 60 hour battery backup, the following limits apply:
15 AH battery (P/N 175-387194) — 230mA supervisory current
- For all four categories the audible alarm current is 3A max.
Refer to OPERATION, INSTALLATION, AND MAINTENANCE Manual, P/N 315-087711, and Operating Instructions, P/N 315-087712 for additional information.

*Suitable for outdoor use when used with Catalog No. WBK-2 backbox.

OPTIONAL AUXILIARY MODULES AVAILABLE

Model	Description	Installation/Operating Instructions
Model 301A	Unsupervised remote system annunciator	P/N 315-075233C
Model 405A	Class A zone adapter for eight zones and two audible loops	P/N 315-087051C
Model 405B	Alarm relay output module for eight zones	P/N 315-087038A
Model 405R	Relay control output module	P/N 315-087497B
Model AND-400	Supervised remote annunciator driver	P/N 315-087899A
Model LT-4	Leased line and municipal tie module	P/N 315-087834B
Model RC-400	Alarm verification module	P/N 315-087863A
Model ZNE-404	Four zone extender board	P/N 315-087107B
Model ZNE-404/S	Four zone extender board with supervisory service capability	P/N 315-087900B



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