RELAY ALARM SYSTEMS

EXPANDABLE • HIGH DENSITY • INTERMIXABLE

SERIES X3 & X9

RONAN

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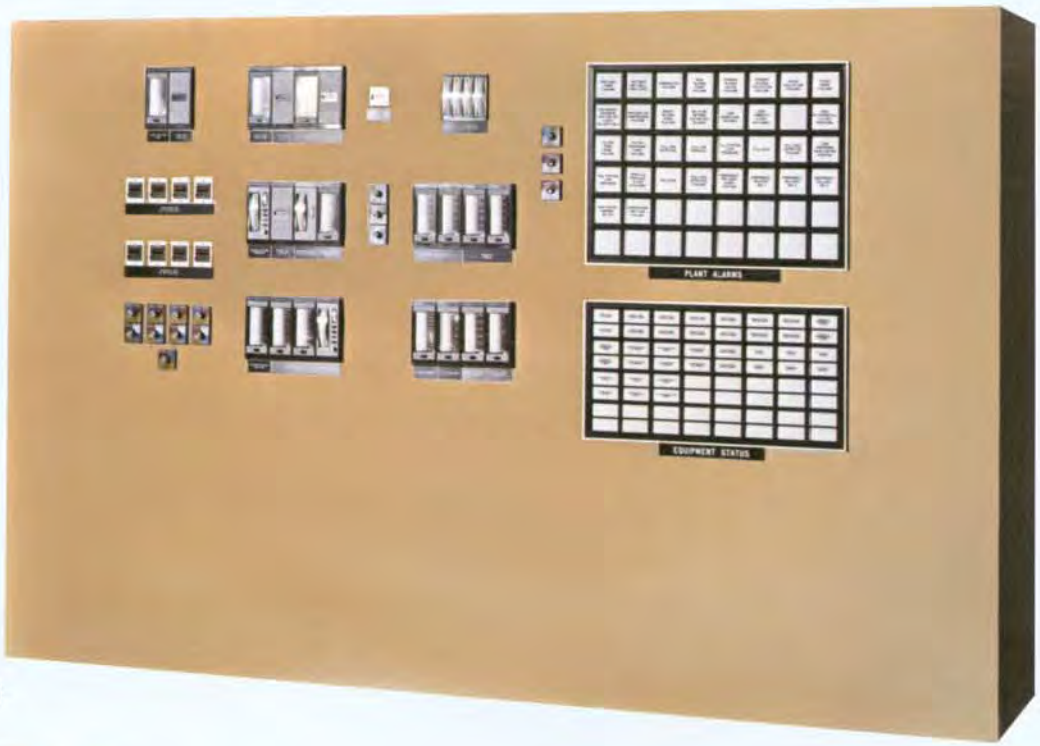
TYPICAL INSTALLATIONS



TYPICAL INSTALLATIONS OF RONAN ANNUNCIATORS AND LAMP CABINETS AS USED IN THE CONTROL AND MONITORING OF WASTE WATER TREATMENT PLANTS

RONAN

Ronan's relay annunciator line incorporates the latest features available in reliable relay technology and offers the widest range of displays and mounting styles.

Proven designs manufactured to withstand industrial applications such as chemical plants, mining, marine, offshore drilling platforms, steel plants, papermills, aluminum plants, oil refineries and cement plants.

National and international sales representation with service and manufacturing facilities in the U.S.A., Canada and United Kingdom.

FEATURES

- Modular, lightweight, cast aluminum construction.
- Cabinet constructed any number of windows high by any number wide.
- Universal wiring in the one and two window per chassis module versions allows any of the five standard alarm sequences to be used in any position.
- Allows grouping of alarms by use of colored bezels and lenses.
- Front accessible plug-in alarm modules.
- AC or DC operation in wide range of voltages.
- No heat dissipating resistors used in logic modules.
- Designed to comply with National Electric Code.
- Available for Class I, Division 2 applications.
- Selection of N.O. or N.C. field contacts without the change of wiring.
- Selection of lock-in or non-lock-in operation with appropriate alarm sequences.
- Individually replaceable alarm window lenses.
- Wide variety of cabinet styles and mounting enclosures.

OPTIONS AVAILABLE

- Expandability from 1 to 2 alarm points per module for any sequence.
- Expandability from 1 to 4 alarm points per 3.5 inch by 3.5 inch chassis module for "A" sequence applications.
- Intermix sequences in MODULARM and DUALARM chassis.
- MIMIC lamp output.
- H-Interlock to remove field voltage when alarm module is removed.
- Low voltage lamps driven using high voltage field contacts - available for remote logic applications.
- Mixed window sizes - large for critical alarms, smaller for less critical.
- General purpose or hermetically sealed relays.
- Plug-in pushbutton modules.
- Integral pushbutton station for Class I, Division 2 applications.
- Sandwich lenses to display alarm with color indication.
- Lamp dimming on AC Systems.

CONTENTS

CABINET STYLES — WINDOW DISPLAYS

with Integral Relay Logic Modules.

FLUSH MOUNTING
SERIES X3-1000 Modularm
X3-2000 Dualarm
X3-3000 Trialarm
X3-4000 Quadalarm

DESIGNED TO BE FLUSH MOUNTED IN STANDARD CONTROL PANELS AND CONSOLES.

FLUSH MOUNTING - REDUCED DEPTH
(LESS REAR COVERS)
SERIES X3LR-1000 Modularm
X3LR-2000 Dualarm
X3LR-3000 Trialarm
X3LR-4000 Quadalarm

DESIGNED TO BE FLUSH MOUNTED IN STANDARD CONTROL PANELS AND CONSOLES WHERE THE DEPTH OF THE CABINET IS CRITICAL.

RELAY RACK MOUNTING
SERIES X3RR-1000 Modularm
X3RR-2000 Dualarm
X3RR-3000 Trialarm
X3RR-4000 Quadalarm

FOR MOUNTING IN STANDARD 19" EIA CABINET WITH 5 X3 CABINET MODULES WIDE. AVAILABLE FOR USE IN 24" EIA CABINET WITH 6 X3 CABINET MODULES WIDE.

SURFACE MOUNTING
SERIES X3SM-1000 Modularm
X3SM-2000 Dualarm
X3SM-3000 Trialarm
X3SM-4000 Quadalarm

SUITABLE FOR APPLICATIONS WHERE THE ALARM SYSTEM MUST BE PROTECTED FROM ENVIRONMENTAL CONDITIONS AND IS AVAILABLE IN EITHER NEMA 4 OR NEMA 12 ENCLOSURES

EXPANDABILITY & INTERMIXABILITY

SEQUENCE INTERMIXABILITY

All Modularm, Dualarm and Remotalarm Chassis are prewired to accept any of the five standard alarm sequence modules in any alarm chassis position. This feature permits easy future revisions to the alarm system and will avoid costly field shutdowns when making changes to the system.

EXPANDABILITY AND SEQUENCE INTERMIXABILITY

Specifying a Dualarm Chassis equipped with Monalarm alarm modules permits a future expansion of 100 percent to the originally installed alarm system in addition to the choice of any one of five standard alarm sequence modules in the expansion.

Specifying a Trialarm Chassis equipped with Monalarm alarm modules, "A" sequence only, permits a future expansion of 100 percent if Dualarm "A" sequence alarm modules are installed, or 200 percent if Trialarm "A" sequence alarm modules are installed.

Specifying a Quadalarm Chassis equipped with Monalarm alarm modules, "A" sequence only, permits a future expansion of 100 percent if Dualarm "A" sequence alarm modules are installed, 200 percent expansion if Trialarm "A" sequence alarm modules are installed, or 300 percent expansion if Quadalarm "A" sequence alarm modules are installed.

WINDOW SIZE FLEXIBILITY

Since the Modularm and Dualarm Alarm Chassis are prewired to accept any one of five standard alarm sequences, it becomes possible to intermix alarm window size using the larger Modularm window for critical alarms and the smaller Dualarm windows for the general type of alarms, plus adds the advantage of using any one of five standard alarm sequences. If the alarm system only requires the "A" sequence alarm modules, it then offers window size flexibility of four sizes: Modularm, Dualarm, Trialarm or Quadalarm in one chassis.

EXPANDABILITY AND SEQUENCE INTERMIXABILITY CHART

ALARM CHASSIS SPECIFIED	ALARM MODULE SELECTION FOR USE IN ANY CABINET POSITION			
	MODULARM MODULES	DUALARM MODULES	TRIALARM MODULES	QUADALARM MODULES
Dualarm	"A" Sequence X3-1001 Manual Reset X3-1002 First Alert X3-1003 First Alert Manual Reset X3-1004 Ringback X3-1005	"A" Sequence X3-2001 Manual Reset X3-2002 First Alert X3-2003 First Alert Manual Reset X3-2004 Ringback X3-2005	—	—
Trialarm	"A" Sequence X3-1001	"A" Sequence X3-2001	"A" Sequence X3-3001	—
Quadalarm	"A" Sequence X3-1001	"A" Sequence X3-2001	"A" Sequence X3-3001	"A" Sequence X3-4001

DUALARM CHASSIS EQUIPPED WITH MODULARM AND DUALARM ALARM MODULES USING ANY OF FIVE STANDARD ALARM SEQUENCES.

TRIALARM CHASSIS EQUIPPED WITH MODULARM, DUALARM AND TRIALARM ALARM MODULES USING ONLY "A" SEQUENCE MODULES.

QUADALARM CHASSIS EQUIPPED WITH MODULARM, DUALARM, TRIALARM AND QUADALARM ALARM MODULES USING "A" SEQUENCE ONLY.

EXPANDABILITY & INTERMIXABILITY

SEQUENCE INTERMIXABILITY

All Modularm, Dualarm and Remotalarm Chassis are prewired to accept any of the five standard alarm sequence modules in any alarm chassis position. This feature permits easy future revisions to the alarm system and will avoid costly field shutdowns when making changes to the system.

EXPANDABILITY AND SEQUENCE INTERMIXABILITY

Specifying a Dualarm Chassis equipped with Monalarm alarm modules permits a future expansion of 100 percent to the originally installed alarm system in addition to the choice of any one of five standard alarm sequence modules in the expansion.

Specifying a Trialarm Chassis equipped with Monalarm alarm modules, "A" sequence only, permits a future expansion of 100 percent if Dualarm "A" sequence alarm modules are installed, or 200 percent if Trialarm "A" sequence alarm modules are installed.

Specifying a Quadalarm Chassis equipped with Monalarm alarm modules, "A" sequence only, permits a future expansion of 100 percent if Dualarm "A" sequence alarm modules are installed, 200 percent expansion if Trialarm "A" sequence alarm modules are installed, or 300 percent expansion if Quadalarm "A" sequence alarm modules are installed.

WINDOW SIZE FLEXIBILITY

Since the Modularm and Dualarm Alarm Chassis are prewired to accept any one of five standard alarm sequences, it becomes possible to intermix alarm window size using the larger Modularm window for critical alarms and the smaller Dualarm windows for the general type of alarms, plus adds the advantage of using any one of five standard alarm sequences. If the alarm system only requires the "A" sequence alarm modules, it then offers window size flexibility of four sizes: Modularm, Dualarm, Trialarm or Quadalarm in one chassis.

EXPANDABILITY AND SEQUENCE INTERMIXABILITY CHART

ALARM CHASSIS SPECIFIED	ALARM MODULE SELECTION FOR USE IN ANY CABINET POSITION			
	MODULARM MODULES	DUALARM MODULES	TRIALARM MODULES	QUADALARM MODULES
Dualarm	"A" Sequence X3-1001 Manual Reset X3-1002 First Alert X3-1003 First Alert Manual Reset X3-1004 Ringback X3-1005	"A" Sequence X3-2001 Manual Reset X3-2002 First Alert X3-2003 First Alert Manual Reset X3-2004 Ringback X3-2005	—	—
Trialarm	"A" Sequence X3-1001	"A" Sequence X3-2001	"A" Sequence X3-3001	—
Quadalarm	"A" Sequence X3-1001	"A" Sequence X3-2001	"A" Sequence X3-3001	"A" Sequence X3-4001

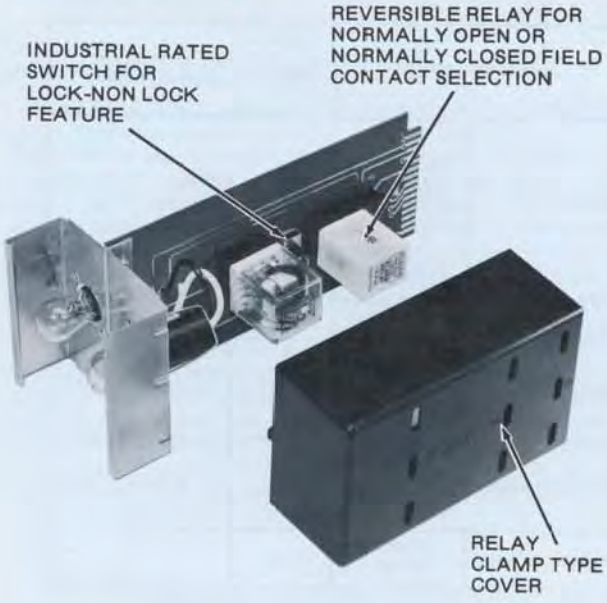
DUALARM CHASSIS EQUIPPED WITH MODULARM AND DUALARM ALARM MODULES USING ANY OF FIVE STANDARD ALARM SEQUENCES.

TRIALARM CHASSIS EQUIPPED WITH MODULARM, DUALARM AND TRIALARM ALARM MODULES USING ONLY "A" SEQUENCE MODULES.

QUADALARM CHASSIS EQUIPPED WITH MODULARM, DUALARM, TRIALARM AND QUADALARM ALARM MODULES USING "A" SEQUENCE ONLY.

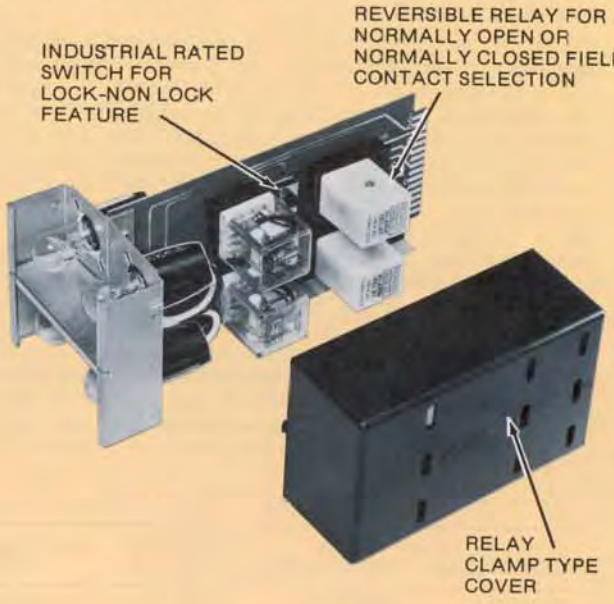
ALARM PLUG-IN MODULES — WINDOW SERIES

Modularm Modules - One Active Alarm Per Module



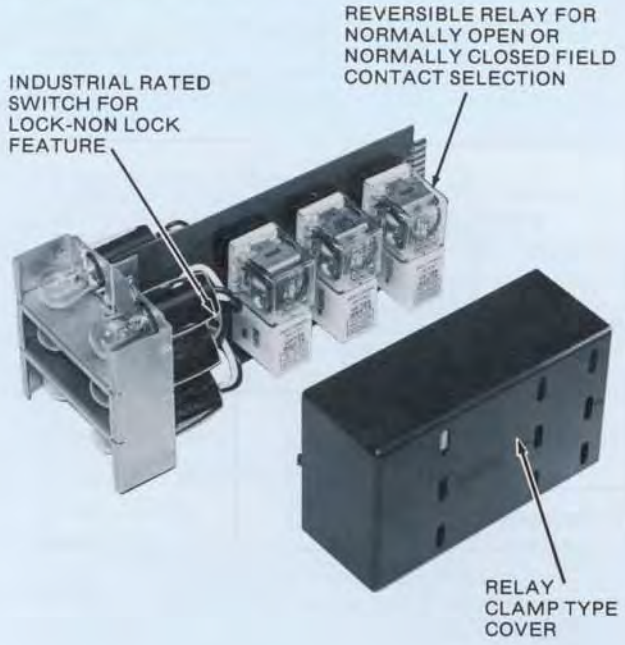
TYPICAL MODULE — "A" SEQUENCE
MODEL X3-1001-GP-115VAC
SEE PAGES 8-10 FOR OTHER SEQUENCES

Dualarm Modules - Two Active Alarms Per Module



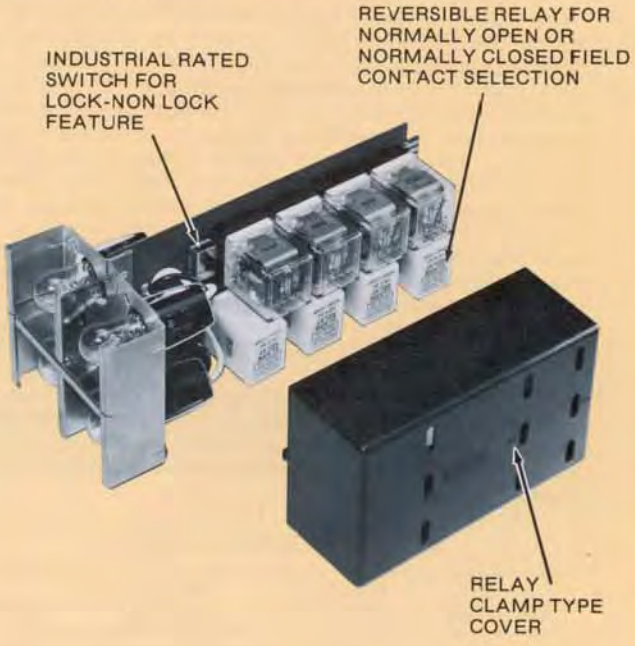
TYPICAL MODULE — "A" SEQUENCE
MODEL X3-2001-GP-115VAC
SEE PAGES 8-10 FOR OTHER SEQUENCES

Trialarm Modules - Three Active Alarms Per Module



"A" SEQUENCE MODULE
MODEL X3-3001-GP-115VAC

Quadalarm Modules - Four Active Alarms Per Module



"A" SEQUENCE MODULE
MODEL X3-4001-GP-115VAC

HERMETICALLY SEALED RELAYS USED FOR CLASS I, DIVISION 2 APPLICATIONS
2 OZ. G10 EPOXY CIRCUIT BOARDS
TWO LAMPS PER ALARM POINT ON MODULARM, DUALARM, TRIALARM MODULES
ONE LAMP PER ALARM POINT ON QUADALARM MODULES

ALARM PLUG-IN MODULES

"A" SEQUENCE

The "A" Sequence is the most common sequence used in industry and serves to monitor all types of control systems and plant operations. An alarm in the system is brought to the attention of the operator by the sounding of a horn and a flashing light, in a module or remote indicator, with suitable engraving to pinpoint the trouble. Depressing the silence pushbutton silences the horn and changes the flashing light to a steady light. Another alarm occurring in the system will repeat the above sequence. When the trouble has been corrected the respective steady light turns off automatically. Should the trouble correct itself before the operator silences the alarm it is important to note that depressing the silence pushbutton silences the horn and the flashing light is turned off omitting the steady light condition since there is no alarm condition present. All window type annunciators are available with two lamps to ensure maximum reliability and in addition to this a single pushbutton is provided to check all lamps in the alarm system as a further precaution.

ALARM SEQUENCE CHART

CONDITION	FIELD CONTACT	ALARM LIGHTS	HORN
Normal	Normal	Off	Off
Alarm	Abnormal	Flashing	On
Silence	Abnormal	On	Off
Normal	Normal	Off	Off
Lamp Test	Normal	On	Off

CABINET STYLE		NUMBER ALARMS PER MODULE	ALARM MODULE MODEL NUMBER
MODULARM	X3-1000 X3LR-1000 X3RR-1000 X3SM-1000	1	X3-1001(*) (**)
DUALARM	X3-2000 X3LR-2000 X3RR-2000 X3SM-2000	2	X3-2001(*) (**)
TRIALARM	X3-3000 X3LR-3000 X3RR-3000 X3SM-3000	3	X3-3001(*) (**)
QUADALARM	X3-4000 X3LR-4000 X3RR-4000 X3SM-4000	4	X3-4001(*) (**)
REMOTALARM	X9SM X9RR	2	X9-1001(*) (**)

*GENERAL PURPOSE OR HERMETICALLY SEALED

**SPECIFY 115VAC, 24VAC, 24VDC OR 125VDC

ALL ALARM MODULES EQUIPPED WITH SPDT AUXILIARY CONTACTS AND LOCK-NON LOCK OPTION

FOR CLASS I, DIVISION 2 APPLICATIONS SPECIFY H.S. FOR HERMETICALLY SEALED RELAYS

SPECIFY G.P. RELAYS FOR GENERAL PURPOSE SYSTEMS

MANUAL RESET SEQUENCE

The "Manual Reset" Sequence is identical to the "A" Sequence, the difference being that after the trouble has been corrected the steady light does not turn off automatically. The operator must depress the reset pushbutton to turn off the alarm light after the alarm contact has returned to the normal condition. The "Manual Reset" Sequence is especially useful in systems in which an alarm is often followed by realarms at frequent intervals. Another important use of the "Manual Reset" Sequence is on large systems where there is a possibility that a number of alarms may occur simultaneously. The operator acknowledges the alarms by depressing the acknowledge pushbutton turning off the horn and changing all of the flashing alarm lamps to steady. This gives the operator time to record all alarms that have occurred and eliminates the possibility of missing any momentary alarms that have returned to normal. (Note: On "A" Sequence systems all momentary alarms automatically return to normal when the acknowledge pushbutton is depressed.) With this sequence the operator must assume the responsibility of making sure that the system is reset after each of the trouble alarm contacts are corrected.

ALARM SEQUENCE CHART

CONDITION	FIELD CONTACT	ALARM LIGHTS	HORN
Normal	Normal	Off	Off
Alarm	Abnormal	Flashing	On
Silence	Abnormal	On	Off
Reset	Normal	Off	Off
Normal	Normal	Off	Off
Lamp Test	Normal	On	Off

CABINET STYLE		NUMBER ALARMS PER MODULE	ALARM MODULE MODEL NUMBER
MODULARM	X3-1000 X3LR-1000 X3RR-1000 X3SM-1000	1	X3-1002(*) (**)
DUALARM	X3-2000 X3LR-2000 X3RR-2000 X3SM-2000	2	X3-2002(*) (**)
REMOTALARM	X9SM X9RR	2	X9-1002(*) (**)

*GENERAL PURPOSE OR HERMETICALLY SEALED

**SPECIFY 115VAC, 24VAC, 24VDC OR 125 VDC

ALL ALARM MODULES EQUIPPED WITH SPDT AUXILIARY CONTACTS

FOR CLASS I, DIVISION 2 APPLICATIONS SPECIFY H.S. FOR HERMETICALLY SEALED RELAYS

SPECIFY G.P. RELAYS FOR GENERAL PURPOSE SYSTEMS

FIRST ALERT SEQUENCE

The "First Alert" Sequence is recommended for systems where it is important to identify the first alarm that occurred when alarms occur in rapid succession. This type of sequence is particularly useful in a shutdown system where other alarms result when the equipment is stopped. For example, on a gas engine driven compressor, if the engine shutdown is caused by "Overspeed", on stopping the engine a "Low Oil Pressure" alarm will occur if the oil pump is direct driven. On the standard "First Alert" sequence only the first alarm in a shutdown group is permitted to flash with all other subsequent alarms indicated by a steady light. Generally all of the alarm points that are associated with the shutdown are grouped together in the alarm system. It is apparent to the operator that the equipment has shutdown and he is aware of the trouble that resulted in the shutdown. An alarm system can have as many groups of "First Alert" as required in one system and can use the same horn, flasher and pushbutton station.

ALARM SEQUENCE CHART

CONDITION		FIELD CONTACT	ALARM LIGHTS	HORN
Normal		Normal	Off	Off
Alarm	First	Abnormal	Flashing	On
	All Subsequent	Abnormal	On	On
Silence	First	Abnormal	On	Off
	All Subsequent	Abnormal	On	Off
Normal		Normal	Off	Off
Lamp Test		Normal	On	Off

CABINET STYLE		NUMBER ALARMS PER MODULE	ALARM MODULE MODEL NUMBER
MODULARM	X3-1000 X3LR-1000 X3RR-1000 X3SM-1000	1	X3-1003 (*) (**)
DUALARM	X3-2000 X3LR-2000 X3RR-2000 X3SM-2000	2	X3-2003 (*) (**)
REMOTALARM	X9SM X9RR	2	X9-1003 (*) (**)

*GENERAL PURPOSE OR HERMETICALLY SEALED

**SPECIFY 115VAC, 24VAC, 24VDC OR 125VDC

ALL ALARM MODULES EQUIPPED WITH SPDT AUXILIARY CONTACTS

FOR CLASS I, DIVISION 2 APPLICATIONS SPECIFY H.S. FOR HERMETICALLY SEALED RELAYS

SPECIFY G.P. RELAYS FOR GENERAL PURPOSE SYSTEMS

FIRST ALERT MANUAL RESET SEQUENCE

This sequence operates identically to the "First Alert" Sequence previously described with the additional feature of holding the acknowledged alarm light on steady until reset by the operator after the alarm condition has been corrected. Also any subsequent alarm occurring after the first alarm is locked-in and must also be reset manually after correction of alarm condition.

ALARM SEQUENCE CHART

CONDITION		FIELD CONTACT	ALARM LIGHTS	HORN
Normal		Normal	Off	Off
Alarm	First	Abnormal	Flashing	On
	All Subsequent	Abnormal	On	On
Silence	First	Abnormal	On	Off
	All Subsequent	Abnormal	On	Off
Reset		Normal	Off	Off
Lamp Test		Normal	On	Off

CABINET STYLE		NUMBER ALARMS PER MODULE	ALARM MODULE MODEL NUMBER
MODULARM	X3-1000 X3LR-1000 X3RR-1000 X3SM-1000	1	X3-1004 (*) (**)
DUALARM	X3-2000 X3LR-2000 X3RR-2000 X3SM-2000	2	X3-2004 (*) (**)
REMOTALARM	X9SM X9RR	2	X9-1004 (*) (**)

* GENERAL PURPOSE OR HERMETICALLY SEALED

**SPECIFY 115VAC, 24 VAC, 24VDC OR 125VDC

ALL ALARM MODULES EQUIPPED WITH SPDT AUXILIARY CONTACTS

FOR CLASS I, DIVISION 2 APPLICATIONS SPECIFY H.S. FOR HERMETICALLY SEALED RELAYS

SPECIFY G.P. RELAYS FOR GENERAL PURPOSE SYSTEMS

ALARM PLUG-IN MODULES (CONT.)

RINGBACK SEQUENCE

The "Ringback" Sequence is used in systems where it is important for the operator to know when the trouble has been corrected. The alarm sequence performs exactly the same as the "A" Sequence when an alarm is initiated. The horn sounds and the alarm light flashes brightly. The operator acknowledges the alarm by depressing the acknowledge pushbutton which turns off the horn and changes the bright flashing alarm light to a steady bright light. When the trouble is corrected a bell is sounded and the alarm light flashes dimly indicating the point has returned to normal. Resetting the system by depressing the reset pushbutton turns off the bell and the dim flashing light.

ALARM SEQUENCE CHART

CONDITION	FIELD CONTACT	ALARM LIGHT	HORN	BELL
Normal	Normal	Off	Off	Off
Alarm	Abnormal	Flashing	On	Off
Silence	Abnormal	On	Off	Off
Return to Normal	Normal	Dim Flashing	Off	On
Reset	Normal	Off	Off	Off
Lamp Test	Normal	On	Off	Off

CABINET STYLE		NUMBER ALARMS PER MODULE	ALARM MODULE MODEL NUMBER
MODULARM	X3-1000 X3LR-1000 X3RR-1000 X3SM-1000	1	X3-1005 (*) (**)
DUALARM	X3-2000 X3LR-2000 X3RR-2000 X3SM-2000	2	X3-2005 (*) (**)
REMOTALARM	X9SM X9RR	2	X9-1005 (*) (**)

*GENERAL PURPOSE OR HERMETICALLY SEALED

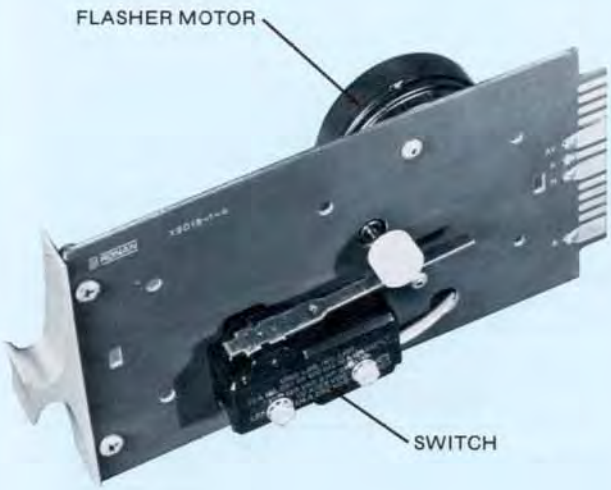
**SPECIFY 115VAC, 24VAC, 24VDC OR 125VDC

ALL ALARM MODULES EQUIPPED WITH SPDT AUXILIARY CONTACTS

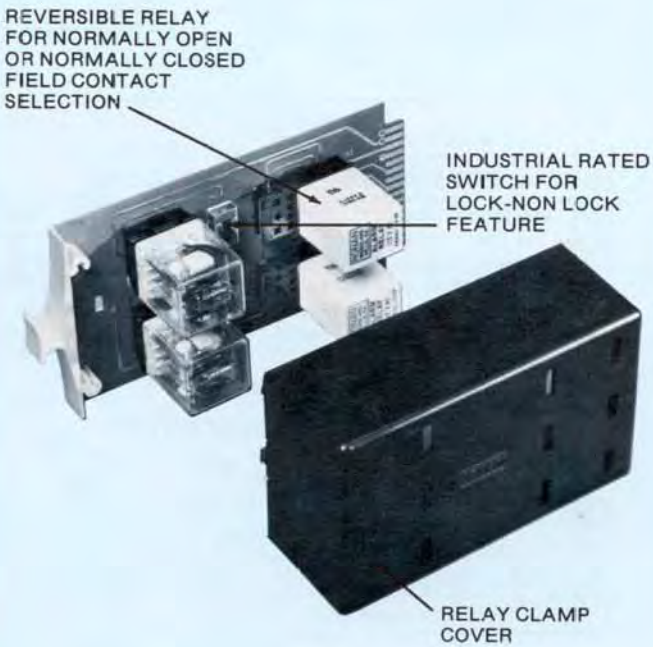
FOR CLASS I, DIVISION 2 APPLICATIONS SPECIFY H.S. FOR HERMETICALLY SEALED RELAYS

SPECIFY G.P. RELAYS FOR GENERAL PURPOSE SYSTEMS

ALARM PLUG-IN MODULES & FLASHER-REMOTALARM SERIES



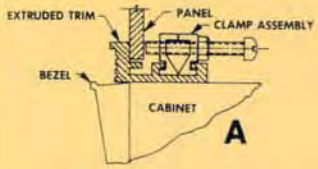
MODEL X9-5001-115VAC
GENERAL PURPOSE
REFER TO PAGE 16 FOR HERMETICALLY SEALED UNITS

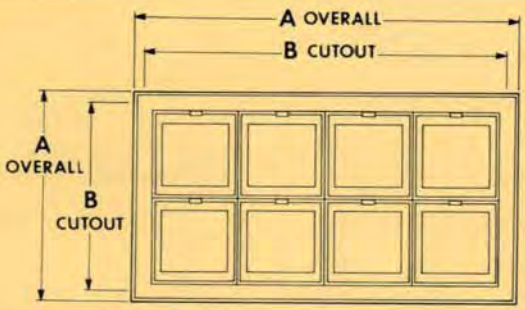


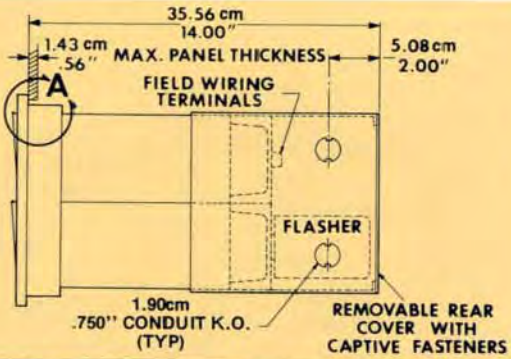
TYPICAL MODULE "A" SEQUENCE
MODEL X9-1001-GP-115VAC
TWO ALARMS/MODULE.

FLUSH MOUNTED & REDUCED DEPTH CABINETS

FLUSH MOUNTED CABINET

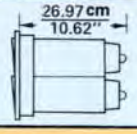






REDUCED DEPTH CABINET

Note: All other details same as for Flush Mount.



SERIES X3LR-1000 MODULARM
X3LR-2000 DUALARM
X3LR-3000 TRIALARM
X3LR-4000 QUADALARM

FOR USE IN APPLICATIONS WHERE THE CABINET DEPTH IS CRITICAL. USE INTEGRAL PUSHBUTTON FLASHER MODULES OR REMOTE MOUNTED FLASHER.

NUMBER OF ALARM CABINETS	A OVERALL	B CUTOUT	X3-1000 Modularm Nameplate Size (2.75"/6.99cm H x 3"/7.62cm W)	X3-2000 Dualarm Nameplate Size (1.4"/3.56cm H x 3"/7.62cm W)		X3-3000 Trialarm Nameplate Size (.86"/2.18cm H x 3"/7.62cm W)		X3-4000 Quadalarm Nameplate Size (1.4"/3.56cm H x 1.4"/3.56cm W)
HIGH or WIDE			NUMBER OF ALARMS HIGH OR WIDE	NUMBER OF ALARMS HIGH	WIDE	NUMBER OF ALARMS HIGH	WIDE	NUMBER OF ALARMS HIGH OR WIDE
1	5.00"/ 12.70cm	4.38"/ 11.11cm	1	2	1	3	1	2
2	8.50"/ 21.95cm	7.88"/ 20.00cm	2	4	2	6	2	4
3	12.00"/ 30.48cm	11.38"/ 28.89cm	3	6	3	9	3	6
4	15.50"/ 39.37cm	14.88"/ 37.78cm	4	8	4	12	4	8
5	19.00"/ 48.26cm	18.38"/ 46.67cm	5	10	5	15	5	10
6	22.50"/ 57.15cm	21.88"/ 55.56cm	6	12	6	18	6	12
7	26.00"/ 66.04cm	25.38"/ 64.46cm	7	14	7	21	7	14
8	29.50"/ 74.93cm	28.88"/ 73.34cm	8	16	8	24	8	16
9	33.00"/ 83.82cm	32.50"/ 82.55cm	9	18	9	27	9	18
10	36.50"/ 92.71cm	36.00"/ 91.44cm	10	20	10	30	10	20
11	40.00"/101.60cm	39.50"/100.33cm	11	22	11	33	11	22
12	43.50"/110.49cm	43.00"/109.22cm	12	24	12	36	12	24

NOTE: Not limited to 12 Cabinet Modules high or wide

CABINET ORDERING INFORMATION

Flush Mounted Series

Cabinet Modules High
Cabinet Modules Wide

2. 4X3 - 1000 Alarm Cabinet (Modularm System)

Flush Mounted Series Less Rear Covers

Cabinet Modules High
Cabinet Modules Wide

2.4X3LR-1000 Alarm Cabinet (Modularm System)

Refer to above chart for correct number of cabinet modules high by wide to find the number of alarm points high by wide on Dualarm, Trialarm and Quadalarm Cabinets.

STANDARD CABINET FINISH - Black Baked Enamel
ENGRAVING DETAILS—See Page 18

NOTE:
Flasher/Lamp Test Pushbutton Contact Loading refer to charts in General Specification —See Pages 28-29

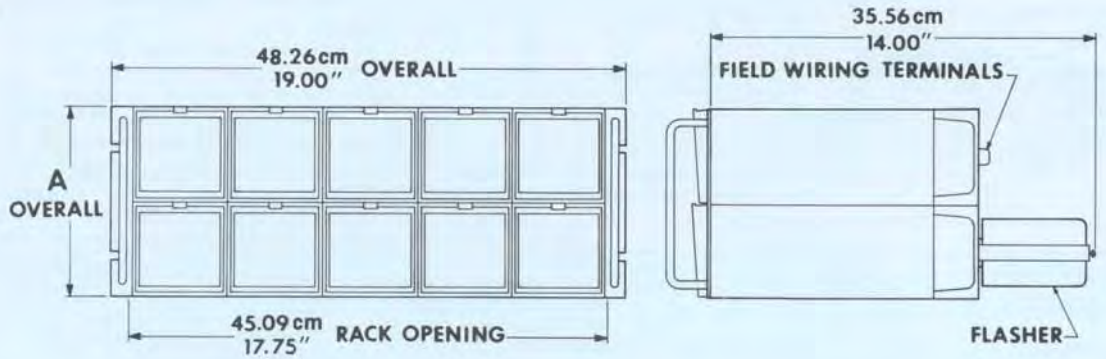
Acknowledge, Silence and Reset Pushbutton Contact Loading —See Pages 28-29

If Flasher or Pushbutton Loading exceeds design rating, use MR Relay (Suitable for Class I, Division 2) —See Page 26

SPECIFY:
ELECTRICAL CLASSIFICATION - General Purpose or Class I, Division 2
ALARM MODULE - General Purpose or Hermetically Sealed Relay - Voltage—See Pages 8-10
REAR MOUNTED FLASHER - General Purpose or Hermetically Sealed - Voltage—See Page 16
or
PLUG-IN PUSHBUTTON AND FLASHER MODULE - General Purpose-Voltage—See Page 17
or
INTEGRAL PUSHBUTTON STATION - Class I, Division 2 (Using Rear Mounted Flasher)—See Page 17

ACCESSORIES:
REMOTE PUSHBUTTONS - General Purpose or Class I, Division 2—See Page 26
HORNS AC - General Purpose or Class I, Division 2 —See Page 24
HORNS DC - General Purpose except Explosion Proof Type —See Page 24
BELLS AC OR DC - General Purpose Only—See Page 24

RELAY RACK CABINETS



NUMBER OF ALARM CABINET MODULES		A OVERALL	X3RR-1000 Modularm Nameplate Size (2.75"/6.99cm H x 3"/7.62cm W)		X3RR-2000 Dualarm Nameplate Size (1.4"/3.56cm H x 3"/7.62cm W)		X3RR-3000 Trialarm Nameplate Size (.86"/2.18cm H x 3"/7.62cm W)		X3RR-4000 Quadalarm Nameplate Size (1.4"/3.56cm H x 1.4"/3.56cm W)	
			NUMBER OF ALARMS		NUMBER OF ALARMS		NUMBER OF ALARMS		NUMBER OF ALARMS	
HIGH	WIDE		HIGH	WIDE	HIGH	WIDE	HIGH	WIDE	HIGH	WIDE
1	5	3.50"/ 8.89cm	1	5	2	5	3	5	2	10
2	5	7.00"/17.78cm	2	5	4	5	6	5	4	10
3	5	10.50"/26.67cm	3	5	6	5	9	5	6	10
4	5	14.00"/35.56cm	4	5	8	5	12	5	8	10
5	5	17.50"/44.46cm	5	5	10	5	15	5	10	10
6	5	21.00"/53.34cm	6	5	12	5	18	5	12	10
7	5	24.50"/62.23cm	7	5	14	5	21	5	14	10
8	5	28.00"/71.12cm	8	5	16	5	24	5	16	10
9	5	31.50"/80.01cm	9	5	18	5	27	5	18	10
10	5	35.00"/88.90cm	10	5	20	5	30	5	20	10

Note: Not limited to 10 Cabinet Modules high.
Also available for 24 inch RETMA Cabinets.

CABINET ORDERING INFORMATION

Cabinet Modules High
Cabinet Modules Wide

2.5X3RR-1000 Alarm Cabinet (Modularm System)

Refer to above chart for correct number of cabinet modules high by wide to find the number of alarm points high by wide on Dualarm, Trialarm and Quadalarm Cabinets.

SPECIFY:

ELECTRICAL CLASSIFICATION - General Purpose or Class I, Division 2

ALARM MODULE - General Purpose or Hermetically Sealed Relay - Voltage—See Pages 8-10

REAR MOUNTED FLASHER - General Purpose or Hermetically Sealed - Voltage—See Page 16
or

PLUG-IN PUSHBUTTON AND FLASHER MODULE - General Purpose - Voltage—See Page 17
or

INTEGRAL PUSHBUTTON STATION - Class I, Division 2 (Using Rear Mounted Flasher)—See Page 17

ACCESSORIES:

REMOTE PUSHBUTTONS - General Purpose or Class I, Division 2—See Page 26

HORNS AC-General Purpose of Class I, Division 2 —See Page 24

HORNS DC - General Purpose except Explosion Proof Type —See Page 24

BELLS AC OR DC - General Purpose Only—See Page 24

STANDARD CABINET FINISH - Black Baked Enamel

ENGRAVING DETAILS—See Page 18

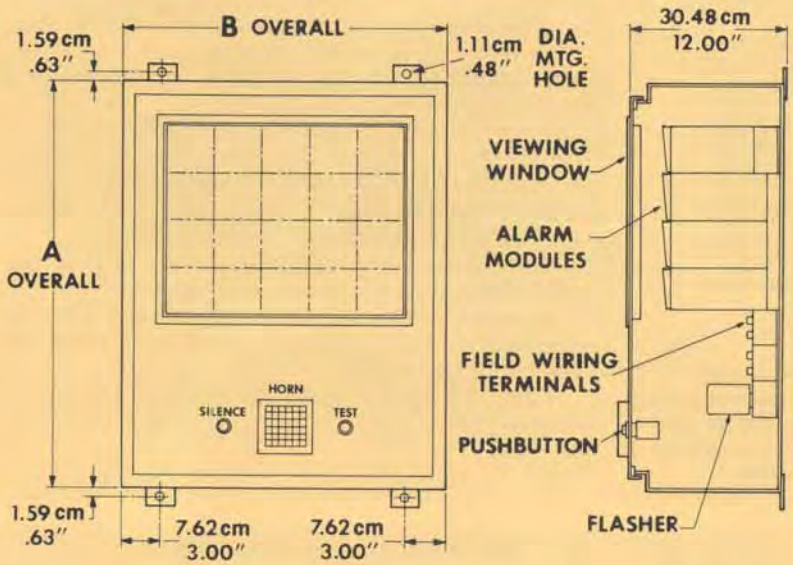
NOTE:

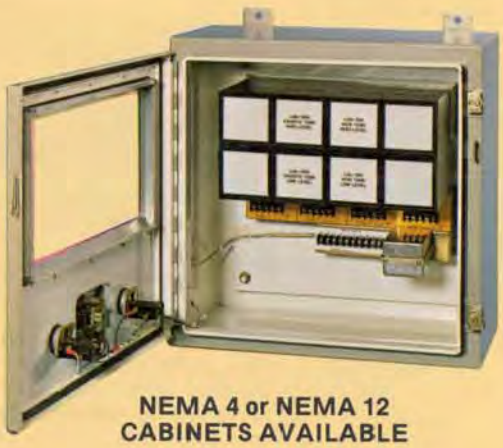
Flasher/Lamp Test Pushbutton Contact Loading refer to charts in General Specification—See Pages 28-29

Acknowledge, Silence and Reset Pushbutton Contact Loading —See Pages 28-29

If Flasher or Pushbutton Loading exceeds design rating, use MR Relay (Suitable for Class I, Division 2)—See Page 26

SURFACE MOUNTING CABINETS





NEMA 4 or NEMA 12 CABINETS AVAILABLE

MAX. NUMBER OF ALARM CABINET MODULES IN ENCLOSURE		A OVERALL	B OVERALL	X3SM-1000 Modularm Nameplate Size (2.75"/6.99cm H x 3"/7.62cm W)		X3SM-2000 Dualarm Nameplate Size (1.4"/3.56cm H x 3"/7.62cm W)		X3SM-3000 Trialarm Nameplate Size (.86"/2.18cm H x 3"/7.62cm W)		X3SM-4000 Quadalarm Nameplate Size (1.4"/3.56cm H x 1.4"/3.56cm W)	
				NUMBER OF ALARMS		NUMBER OF ALARMS		NUMBER OF ALARMS		NUMBER OF ALARMS	
HIGH	x WIDE			HIGH	WIDE	HIGH	WIDE	HIGH	WIDE	HIGH	WIDE
2	4	20.00"/ 50.80cm	20.00"/50.80cm	2	4	4	4	6	4	4	8
3	4	24.00"/ 60.96cm	20.00"/50.80cm	3	4	6	4	9	4	6	8
3	5	24.00"/ 60.96cm	24.00"/60.96cm	3	5	6	5	9	5	6	10
4	5	30.00"/ 76.20cm	24.00"/60.96cm	4	5	8	5	12	5	8	10
5	5	36.00"/ 91.44cm	24.00"/60.96cm	5	5	10	5	15	5	10	10
5	7	36.00"/ 91.44cm	30.00"/76.20cm	5	7	10	7	15	7	10	14
6	7	42.00"/106.68cm	30.00"/76.20cm	6	7	12	7	18	7	12	14
8	8	48.00"/121.92cm	36.00"/91.44cm	8	8	16	8	24	8	16	16

Note: Not limited to 8 Cabinet Modules high or wide.

CABINET ORDERING INFORMATION

Cabinet Modules High
Cabinet Modules Wide

2.4X3SM-1000 Nema 12 Alarm Cabinet (Modularm System)

Refer to above chart for correct number of cabinet modules high by wide to find the number of alarm points high by wide on Dualarm, Trialarm and Quadalarm Cabinets.

SPECIFY:

ELECTRICAL CLASSIFICATION - General Purpose or Class I, Division 2

ALARM MODULE - General Purpose or Hermetically Sealed Relay - Voltage—See Pages 8-10

REAR MOUNTED FLASHER - General Purpose or Hermetically Sealed - Voltage—See Page 16

or

PLUG-IN PUSHBUTTON AND FLASHER MODULE - General Purpose - Voltage—See Page 17

or

INTEGRAL PUSHBUTTON STATION - Class I, Division 2 (Using rear Mounted Flasher)—See Page 17

ACCESSORIES:

REMOTE PUSHBUTTONS - General Purpose or Class I, Division 2—See Page 26

HORNS AC - General Purpose or Class I, Division 2 —See Page 24

HORNS DC - General Purpose except Explosion Proof Type —See Page 24

BELLS AC OR DC - General Purpose Only—See Page 24

STANDARD CABINET FINISH - Black Baked Enamel

ENGRAVING DETAILS —See Page 18

NOTE:

Flasher/Lamp Test Pushbutton Contact Loading refer to charts in General Specification—See Pages 28-29

Acknowledge, Silence and Reset Pushbutton Contact Loading —See Pages 28-29

If Flasher or Pushbutton Loading exceeds design rating, use MR Relay (Suitable for Class I, Division 2)—See Page 26

SURFACE MOUNTING

MODEL 6X9SM WITH COVER REMOVED AND ALARM MODULE IN THE WITHDRAWN POSITION PLUS FLASHER

This alarm series provides alarm logic for use with remotely mounted indicators such as bulls-eye lamps, Series X45, X18, LB light boxes and multicolor indicators X1D3, etc.

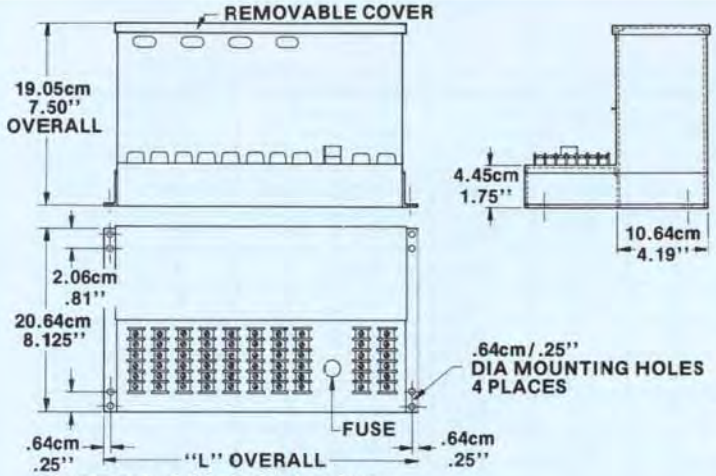
Ideally suited for use with compact alarm indicator displays as used on relay racks and low silhouette consoles where panel space is critical.

Also used on graphic panels where the alarm lights are located in the process diagram.

Each chassis is prewired to accept any of the five standard Alarm Sequence Modules.

Systems can by supplied utilizing 115 VAC on the field contacts while providing low voltage for the indicator lamps.

Each chassis equipped for integral flasher. A single flasher may be used for more than one chassis.



DIMENSIONAL INFORMATION

NUMBER OF ALARM MODULES	"L"
2	9.19"/23.33cm
4	13.38"/33.97cm
6	17.56"/44.61cm
8	21.75"/55.25cm
10	26.00"/66.04cm

ORDERING INFORMATION:

Number of Alarm Modules
4X9SM Chassis

SPECIFY:

*Alarm Module - Page 8-10

Unless otherwise indicated, alarm cabinet will be equipped with all active alarm modules. Each alarm module contains two alarm points.

Integral Cabinet Mounted Flasher - Page 16

System Voltage

ACCESSORIES:

*Remote Pushbuttons - Page 26

*Horn or Bell - Page 24

Indicator Lights - Page 22-23

Lamp Cabinets - Page 20

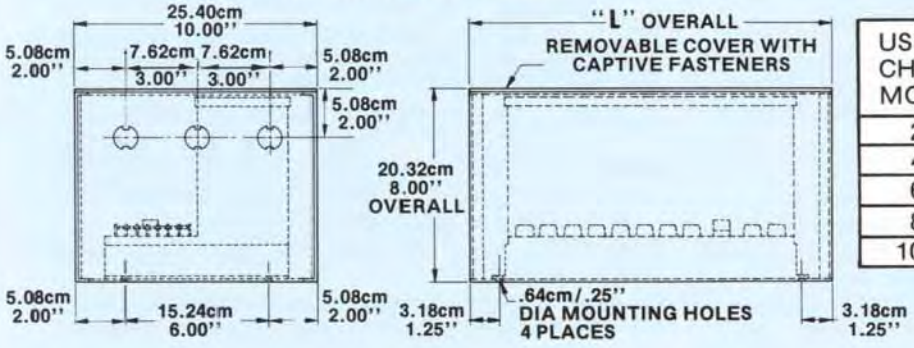
AC to AC Powerstat Power Supply for low voltage indicators - Page 15

NEMA 1 Enclosure - See below

*Note: Specify Electrical Classification: General Purpose or Class I, Division 2

Class I, Division 2 requires hermetically sealed (HS) relays, (HS) flasher, and Series X13 Mercury type pushbutton switches.

NEMA 1 ENCLOSURE

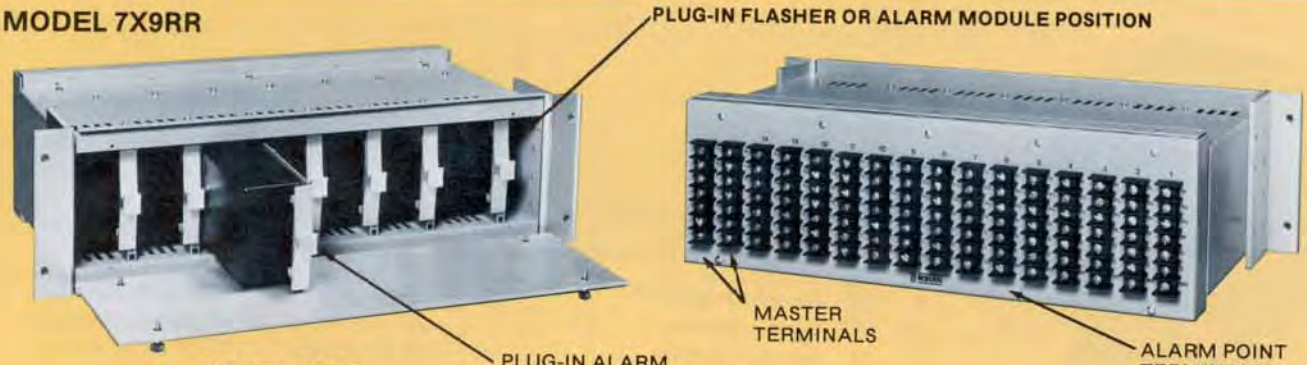


DIMENSIONAL INFORMATION

USE WITH CHASSIS MODEL	"L"	CAT. NO.
2X9SM	11.19"/28.41cm	2X9 N1
4X9SM	15.38"/39.05cm	4X9 N1
6X9SM	19.56"/49.69cm	6X9 N1
8X9SM	23.75"/60.33cm	8X9 N1
10X9SM	28.00"/71.12cm	10X9 N1

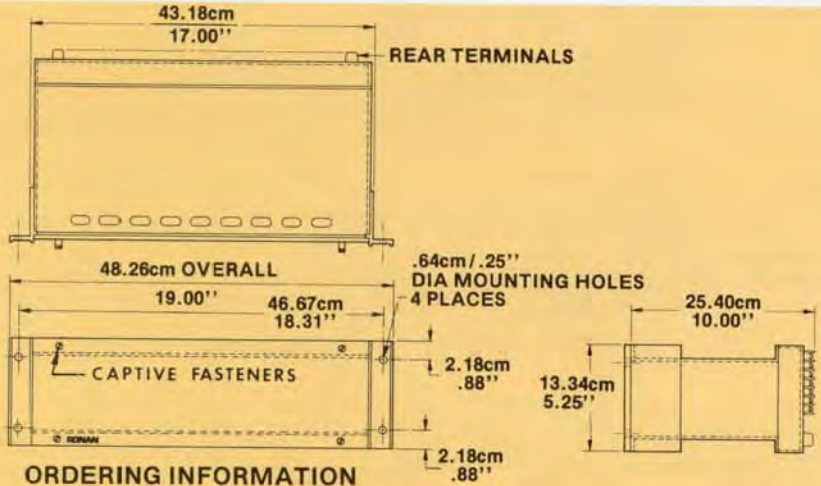
REMOTE LOGIC RELAY RACK MOUNTING

MODEL 7X9RR



MODEL 7X9RR WITH FRONT COVER REMOVED AND ALARM MODULE IN THE WITHDRAWN POSITION

REAR TERMINAL ARRANGEMENT
Each chassis is prewired to accept any of the five standard Alarm Sequence Modules.



The Model 7X9RR is the series designed for use in standard EIA Cabinets and also recommended for mountings where access is available from front and rear side of the unit.

Each 7X9RR alarm chassis is prewired to accept a total of 14 active alarms.

Systems can be supplied utilizing 115VAC on the field contacts while providing low voltage for the indicator lamps.

Each chassis equipped for integral flasher using one of the alarm module positions. A single flasher may be used for more than one chassis.

ORDERING INFORMATION

Number of Alarm Modules
7X9RR Chassis

SPECIFY:

*Alarm Module - Page 8-10
Unless otherwise indicated, alarm cabinet will be equipped with all active alarm modules. Each alarm module contains two alarm points.
Integral Flasher - Page 16
System Voltage

ACCESSORIES

*Remote Pushbuttons - Page 26
*Horn or Bell - Page 24
Indicator Lights - Page 22-23
Lamp Cabinets - Page 20
AC to AC Powerstat Power Supply for low voltage indicators - see below

*Note 1: Specify Electrical Classification: General Purpose or Class I, Division 2

Class I, Division 2 requires hermetically sealed (HS) relays, (HS) flasher, and Series X13 Mercury type pushbutton switches.

AC TO AC POWERSTAT POWER SUPPLY USED FOR LOW VOLTAGE INDICATORS

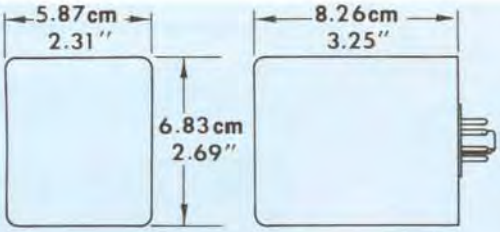
MODEL NO.	A	B	C
115-28-50-PSS	10.50''/26.67 cm	4.00''/10.16 cm	4.44''/11.11 cm
115-28-150-PSS	10.50''/26.67 cm	4.00''/10.16 cm	4.44''/11.11 cm
115-28-250-PSS	10.50''/26.67 cm	5.00''/12.70 cm	5.44''/13.81 cm

WATTAGE
OUTPUT VOLTAGE
INPUT VOLTAGE

ORDERING INFORMATION
Select model number based on wattage, input and output voltage
Electrical Classification — General Purpose

FLASHERS

PLUG-IN OCTAL TYPE
PLUG-IN P/C TYPE

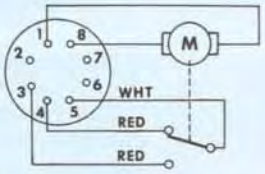


SERIES X3 PLUG-IN OCTAL SOCKET TYPE FLASHERS

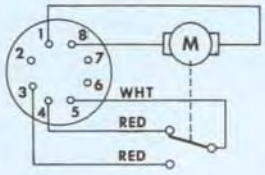
TYPE	ELECTRICAL CLASSIFICATION	VOLTAGE	MODEL
A	General Purpose	24 or 115VAC	X3-5021-Voltage
B	Class I, Division 2	24 or 115VAC	X3-5022-Voltage
C	General Purpose	24 or 125VDC	X3-5023-Voltage
D	Class I, Division 2	24 or 125VDC	X3-5024-Voltage

FOR SOCKET DETAILS SEE PAGE 29

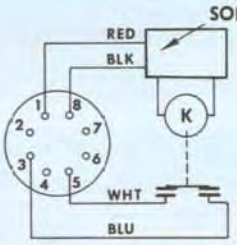
TYPE - A
MOTORIZED FLASHER
GENERAL PURPOSE
FLASHER RATING
115VAC — 5 AMPS
24VAC — 10 AMPS
STANDARD VOLTAGES
115VAC AND 24VAC
OTHER VOLTAGES AVAILABLE



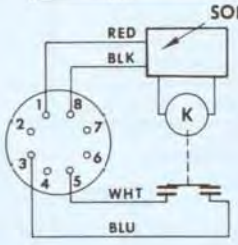
TYPE - B
MOTORIZED FLASHER
CLASS I, DIVISION 2
HERMETICALLY SEALED
FLASHER RATING
115VAC — 5 AMPS
24VAC — 10 AMPS
STANDARD VOLTAGES
115VAC AND 24VAC
OTHER VOLTAGES AVAILABLE



TYPE - C
SOLID STATE DRIVER-
RELAY FLASHER
GENERAL PURPOSE
FLASHER RATINGS
125VDC — 1 AMP*
24VDC — 5 AMPS*
*USE TYPE MR RELAYS FOR FLASHER AND LAMP TEST ON LARGER SYSTEMS.



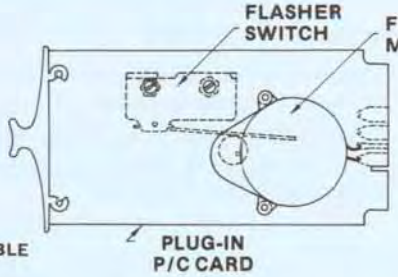
TYPE - D
SOLID STATE DRIVER-
RELAY FLASHER
CLASS I, DIVISION 2
FLASHER RATINGS
125VDC — 1 AMP*
24VDC — 5 AMPS*
*USE TYPE MR RELAYS FOR FLASHER AND LAMP TEST ON LARGER SYSTEMS.



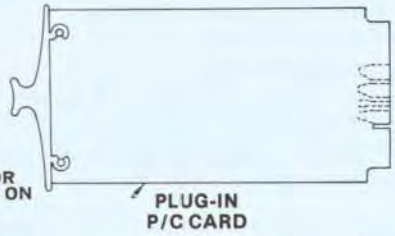
SERIES X9 PLUG-IN PRINTED CIRCUIT TYPE FLASHERS

TYPE	ELECTRICAL CLASSIFICATION	VOLTAGE	MODEL
A	General Purpose	24 or 115VAC	X9-5001-Voltage
B	Class I, Division 2	24 or 115VAC	X9-5002-Voltage
C	General Purpose	24 or 125VDC	X9-5003-Voltage
D	Class I, Division 2	24 or 125VDC	X9-5004-Voltage

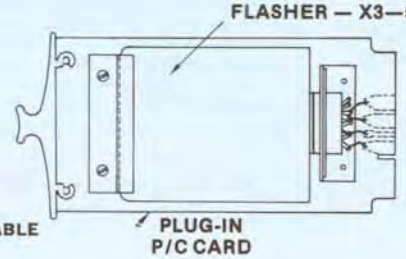
X9-5001
TYPE - A
MOTORIZED FLASHER
GENERAL PURPOSE
FLASHER RATING
115VAC — 5 AMPS
24VAC — 10 AMPS
STANDARD VOLTAGES
115VAC AND 24VAC
OTHER VOLTAGES AVAILABLE



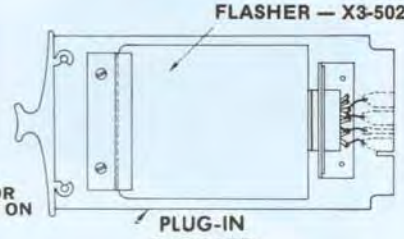
X9-5003
TYPE - C
SOLID STATE DRIVER-
RELAY FLASHER
GENERAL PURPOSE
FLASHER RATINGS
125VDC — 1 AMP*
24VDC — 5 AMPS*
*USE TYPE MR RELAYS FOR FLASHER AND LAMP TEST ON LARGER SYSTEMS.



X9-5002
TYPE - B
MOTORIZED FLASHER
CLASS I, DIVISION 2
HERMETICALLY SEALED
FLASHER RATING
115VAC — 5 AMPS
24VAC — 10 AMPS
STANDARD VOLTAGES
115VAC AND 24VAC
OTHER VOLTAGES AVAILABLE

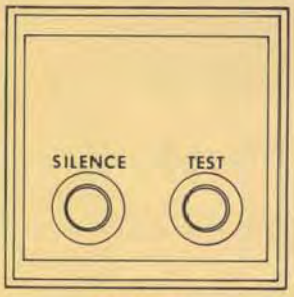


X9-5004
TYPE - D
SOLID STATE DRIVER-
RELAY FLASHER
CLASS I, DIVISION 2
FLASHER RATINGS
125VDC — 1 AMP*
24VDC — 5 AMPS*
*USE TYPE MR RELAYS FOR FLASHER AND LAMP TEST ON LARGER SYSTEMS.



PLUG-IN PUSHBUTTON & FLASHER MODULES

PLUG-IN PUSHBUTTON & FLASHER ASSEMBLIES — GENERAL PURPOSE TYPE

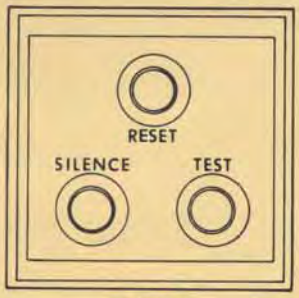


TYPE A

"A" SEQUENCE

FIRST ALERT SEQUENCE

Model X3-5001-(Voltage)



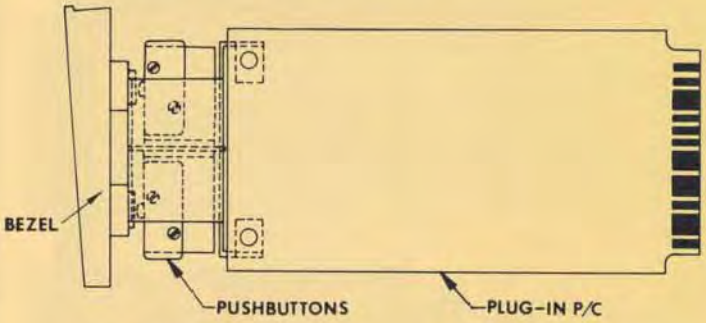
TYPE B

MANUAL RESET SEQUENCE

FIRST ALERT MANUAL RESET SEQUENCE

RINGBACK SEQUENCE

Model X3-5002-(Voltage)

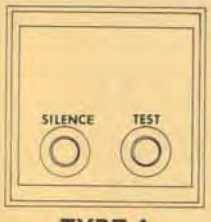


*FLASHER RATINGS — 24VAC - 10AMPS; 115VAC - 5AMPS; 24VDC - 5AMPS; 125VDC - 1AMP

*PUSHBUTTON RATINGS — 24VAC - 10AMPS; 115VAC - 5AMPS; 24VDC - 5AMPS; 125VDC - 1AMP

*Use MR-type Relays on larger systems
Note: Unless otherwise specified the Pushbutton Module is located in the lower right hand corner of the system.

INTEGRAL PUSHBUTTONS — CLASS I, DIVISION 2 TYPE

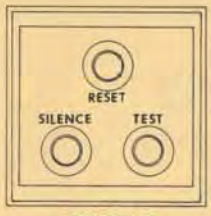


TYPE A

"A" SEQUENCE

FIRST ALERT SEQUENCE

Model X3-5011-(Voltage)



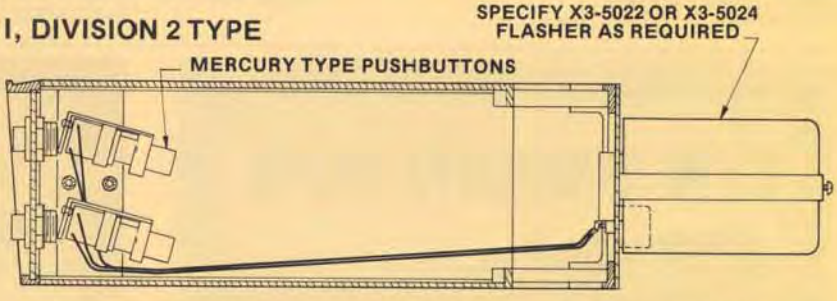
TYPE B

MANUAL RESET SEQUENCE

FIRST ALERT MANUAL RESET SEQUENCE

RINGBACK SEQUENCE

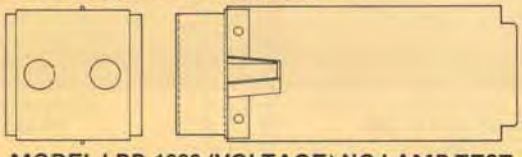
Model X3-5012-(Voltage)



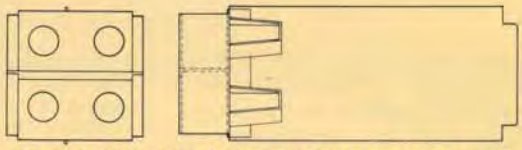
*PUSHBUTTON CURRENT RATING — 115VAC - 10AMPS; 24VAC - 10AMPS; 24VDC - 10AMPS; 125VDC - 5AMPS

*Use MR-type Relays on larger systems
Note: Unless otherwise specified the Pushbutton Module is located in the lower right hand corner of the system.

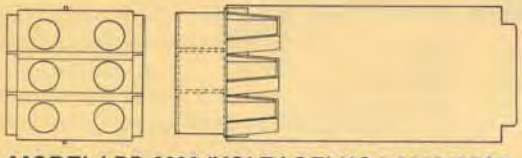
PLUG-IN LAMP MODULES



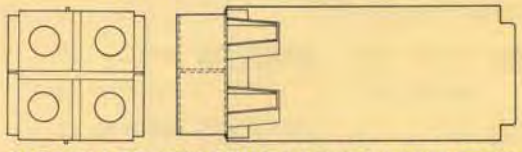
MODEL LBP-1000 (VOLTAGE) NO LAMP TEST
MODEL LBP-1001 (VOLTAGE) WITH LAMP TEST



MODEL LBP-2000 (VOLTAGE) NO LAMP TEST
MODEL LBP-2001 (VOLTAGE) WITH LAMP TEST



MODEL LBP-3000 (VOLTAGE) NO LAMP TEST
MODEL LBP-3001 (VOLTAGE) WITH LAMP TEST



MODEL LBP-4000 (VOLTAGE) NO LAMP TEST
MODEL LBP-4001 (VOLTAGE) WITH LAMP TEST

Note: Specify Test Relay Voltage.

NAMEPLATE ENGRAVING DETAILS

MODULARM SERIES X3-1000
LAMP CABINET LB-1000
INDICATOR LB1

LENS WL1 (*) (**)
BEZEL MB1 ( ).

DUALARM SERIES X3-2000
LAMP CABINET LB-2000
INDICATOR LB2

LENS WL2 (*) (**)
BEZEL DB2 ( ).

TRIALARM SERIES X3-3000
LAMP CABINET LB-3000
INDICATOR LB3

LENS WL3 (*) (**)
BEZEL TB3 ( ).

QUADALARM SERIES X3-4000
LAMP CABINET LB-4000
INDICATOR LB4

LENS WL4 (*) (**)
BEZEL QB4 ( ).

BEZEL COLORS AVAILABLE.

BLACK (0)		GREEN (5)	
WHITE (9)		YELLOW (4)	
RED (2)		BROWN (1)	
GREY (8)		BLUE (6)	

LENS ORDERING INFORMATION

WL1 (*)(**)
- Size
- Thickness
- Material color

- * **A** — 1/8" Material Thickness
- ** **W1** — White Translucent
- ** **R1** — Red Translucent
- ** **G1** — Green Translucent
- ** **A1** — Amber Translucent
- ** **B1** — Blue Translucent

*COLOR CODE TYPICAL BEZEL ORDERING INFORMATION DB2-(O) (BLACK BEZEL FOR DUALARM SERIES)

MODEL X45-100
LENS L45 (*)

MODEL X18-100

MODEL X18-300

MODEL X18-200

MODEL X1D3

LENS ORDERING INFORMATION

L45 (*)
- Size
- Material Color

*W1 — White Translucent
R1 — Red
G1 — Green
A1 — Amber
B1 — Blue

NOTE — To determine maximum characters per line add number of spaces between characters to engraved letters and numbers for total number permissible.

A COMPLETE LINE OF SANDWICH TYPE LENS AVAILABLE

- Eliminates lamp-life reducing color caps.
- Provides even distribution of color behind front lens.
- Recommend when color display behind white lens required to indicate alarm functions such as high or low, or distinguish between alarm and shutdown functions.

FRONT LENS WHITE TRANSLUCENT WL2B-W1

REAR LENS RED TRANSPARENT WL2B-R2

FRONT LENS WHITE TRANSLUCENT WL2B-W1

REAR LENS GREEN TRANSPARENT WL2B-G2

ORDERING INFORMATION

FRONT LENS

WL2 (*) (**)
- Size
- Thickness
- Material Color

*B — 1/16" Material Thickness
**W1 — White Translucent

REAR LENS

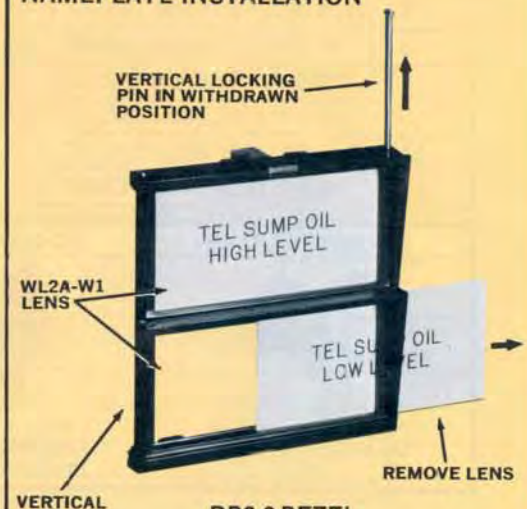
WL2 (*) (**)
- Size
- Thickness
- Material Color

*B — 1/16" Material Thickness
**R2 — Red Transparent
**G2 — Green Transparent
**A2 — Amber Transparent
**B2 — Blue Transparent

TYPICAL BEZEL DB2

NOTE — Standard sandwich lens available with white front lens and black engraved letters. Consult factory for special applications.

NAMEPLATE INSTALLATION

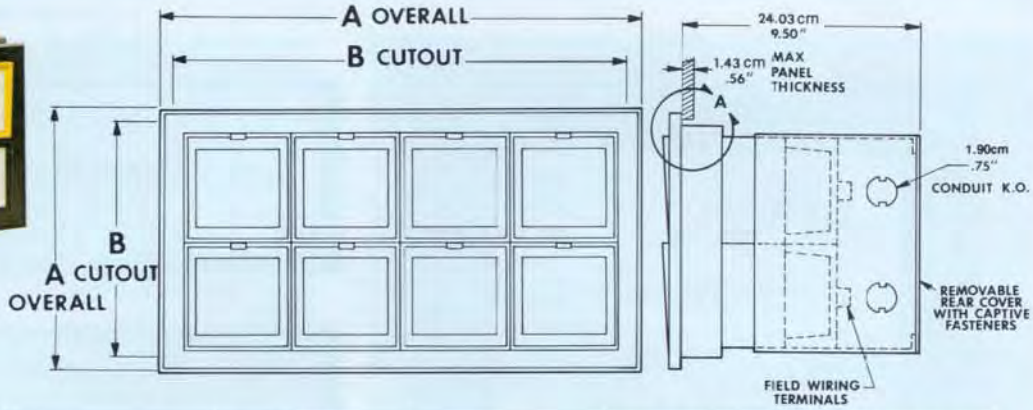


DB2-0 BEZEL

All alarm window lenses are inserted in channel groove and retained with vertical locking pin as shown. This design permits the relocation of individual legends without loss of engraved nameplate as found on conventional multipoint alarm windows.

LAMP CABINETS

MODEL 24LC-1000



NUMBER OF LAMP CABINET MODULES	A OVERALL	B CUTOUT	LC-1000 Nameplate Size (2.75"/6.99cm H x 3"/7.62cm W)	LC-2000 Nameplate Size (1.4"/3.56cm H x 3"/7.62cm W)		LC-3000 Nameplate Size (.86"/2.18cm H x 3"/7.62cm W)		LC-4000 Nameplate Size (1.4"/3.56cm H x 1.4"/3.56cm W)
			NUMBER OF WINDOWS	NUMBER OF WINDOWS		NUMBER OF WINDOWS		NUMBER OF WINDOWS
HIGH or WIDE			HIGH OR WIDE	HIGH	WIDE	HIGH	WIDE	HIGH OR WIDE
1	5.00"/ 12.70cm	4.38"/ 11.11cm	1	2	1	3	1	2
2	8.50"/ 21.59cm	7.88"/ 20.00cm	2	4	2	6	2	4
3	12.00"/ 30.48cm	11.38"/ 28.89cm	3	6	3	9	3	6
4	15.50"/ 39.37cm	14.88"/ 37.78cm	4	8	4	12	4	8
5	19.00"/ 48.26cm	18.38"/ 46.67cm	5	10	5	15	5	10
6	22.50"/ 57.15cm	21.88"/ 55.56cm	6	12	6	18	6	12
7	26.00"/ 66.04cm	25.38"/ 64.46cm	7	14	7	21	7	14
8	29.50"/ 74.93cm	28.88"/ 73.34cm	8	16	8	24	8	16
9	33.00"/ 83.82cm	32.50"/ 82.55cm	9	18	9	27	9	18
10	36.50"/ 92.71cm	36.00"/ 91.44cm	10	20	10	30	10	20
11	40.00"/101.60cm	39.50"/100.33cm	11	22	11	33	11	22
12	43.50"/110.49cm	43.00"/109.22cm	12	24	12	36	12	24

LC-1000 PLUG-IN	LC-2000 PLUG-IN	LC-3000 PLUG-IN	LC-4000 PLUG-IN
			
Plug-in Lamp Module Model LCP-1-Voltage	Plug-in Lamp Module Model LCP-2-Voltage Two Windows/Module	Plug-in Lamp Module Model LCP-3-Voltage Three Windows/Module	Plug-in Lamp Module Model LCP-4-Voltage Four Windows/Module

Standard Voltage
24 or 115VAC
24 or 125VDC

Lamp Wattage
Two - Six Watt Lamps for each LC-1000 Window
Two - Three Watt Lamps for each LC-2000 and LC-3000 Window
One - Three Watt Lamp for each LC-4000 Window

Expandability
Specifying an LC-4000 Lamp Cabinet permits the installation of LCP-1, LCP-2, LCP-3 or LCP-4 Lamp Plug-in Modules in the cabinet.

Specifying an LC-3000 Lamp Cabinet permits the installation of LCP-1, LCP-2 or LCP-3 Lamp Plug-in Modules in the cabinet.

Specifying an LC-2000 Lamp Cabinet permits the installation of LCP-1 or LCP-2 Lamp Plug-in Modules in the cabinet.

Intermix of Lamp Window Sizes
Reviewing the expandability of the lamp cabinets, it is possible to use LCP-1, LCP-2, LCP-3 or LCP-4 in an LC-4000 Lamp Cabinet for example. Therefore, a mixture of window sizes can be used in LC-2000 and LC-3000.

Typical Ordering Information
┌── Lamp Cabinet Modules High
│┌── Lamp Cabinet Modules Wide
24LC-1000 Lamp Cabinet
8-LCP-1-115VAC Lamp Modules

Specify:
Cabinet Size by Modules
Lamp Voltage
Lens & Bezel Color
Sandwich Lens Color if required
Engraving Details

NEMA 12 AND NEMA 4 WATERTIGHT DOORS

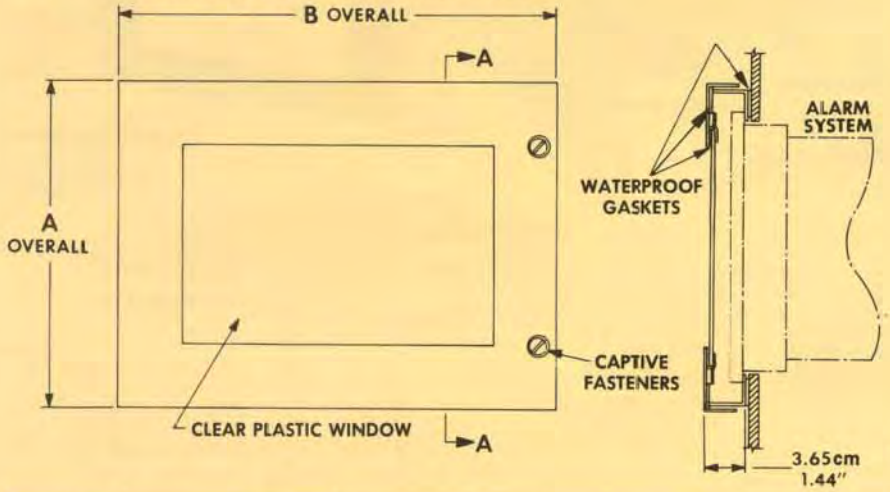
For use with Modularm, Dualarm, Trialarm, and Quadalarm Series to completely seal front of alarm system in control panel. Ideal for alarm panels where the front of the unit is subjected to moisture or a corrosive atmosphere.

The door assembly is supplied with a clear acrylic plastic window and sealed with neoprene gaskets. Gasketing is supplied for sealing between door frame and control panel.

Hinge is normally located on the longest side. **EXAMPLE:** 3 High by 4 Wide - Hinge will be located on the top. If special hinge locations are desired, please note on order and verify with factory.

NOTE:
Panel cutout the same as required for standard Modularm, Dualarm, Trialarm and Quadalarm. Standard finish black baked enamel.

DIMENSIONAL INFORMATION



NUMBER OF ALARM CABINET MODULES HIGH or WIDE	A OVERALL	B OVERALL	MODULARM SERIES NUMBER OF ALARMS HIGH or WIDE	DUALARM SERIES NUMBER OF ALARMS HIGH	DUALARM SERIES NUMBER OF ALARMS WIDE	TRIALARM SERIES NUMBER OF ALARMS HIGH	TRIALARM SERIES NUMBER OF ALARMS WIDE	QUADALARM SERIES NUMBER OF ALARMS HIGH or WIDE
1	6.63"/ 16.83cm	6.75"/ 17.15cm	1	2	1	3	1	2
2	10.13"/ 25.72cm	10.25"/ 26.04cm	2	4	2	6	2	4
3	13.63"/ 34.61cm	13.75"/ 34.93cm	3	6	3	9	3	6
4	17.13"/ 43.50cm	17.25"/ 43.82cm	4	8	4	12	4	8
5	20.63"/ 52.39cm	20.75"/ 52.71cm	5	10	5	15	5	10
6	24.13"/ 61.28cm	24.25"/ 61.60cm	6	12	6	18	6	12
7	27.63"/ 70.17cm	27.75"/ 70.49cm	7	14	7	21	7	14
8	31.13"/ 79.06cm	31.25"/ 79.38cm	8	16	8	24	8	16
9	34.63"/ 87.95cm	34.75"/ 88.27cm	9	18	9	27	9	18
10	38.13"/ 96.84cm	38.25"/ 97.16cm	10	20	10	30	10	20
11	41.63"/105.73cm	41.75"/106.05cm	11	22	11	33	11	22
12	45.13"/114.62cm	45.25"/114.94cm	12	24	12	36	12	24

ORDERING INFORMATION

23X3-1022-NEMA 12 or 4
- First digit: Alarm Cabinet Modules High
- Second digit: Alarm Cabinet Modules Wide

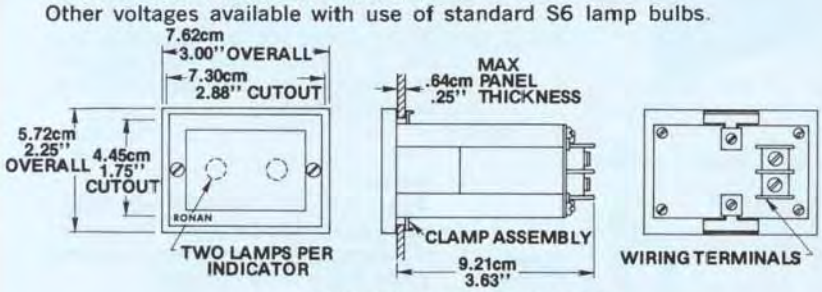
SUITABLE FOR THE FOLLOWING
MODULARM 2 Alarms High x 3 Alarms Wide
DUALARM 4 Alarms High x 3 Alarms Wide
TRIALARM 6 Alarms High x 3 Alarms Wide
QUADALARM 4 Alarms High x 6 Alarms Wide

INDICATORS

MODEL R100
1"/2.54cm Diameter mounting hole.
Standard voltage 115 VAC or 125 VDC.
Other voltages available with use of standard S6 lamp bulb.
Lens colors — Red, Green, White and Amber.
Lens can be supplied with gaskets to meet NEMA-12 standard on panel face.

MODEL R100

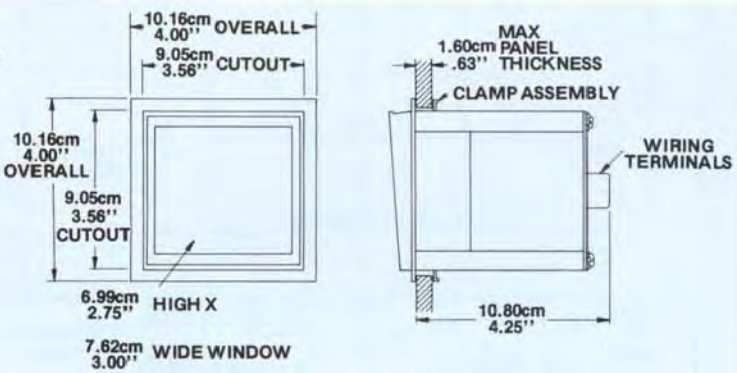
MODEL X45-100
Nameplate size — 1.375"/3.54cm High x 3"/7.62cm Wide
115 VAC system uses two 3-watt lamps.
Other voltages available with use of standard S6 lamp bulbs.



DIMENSIONAL INFORMATION

MODEL X45-100

MODEL LB1, LB2, LB3 and LB4
Nameplate size — 1.38"/3.49cm High x 3.00"/7.62cm Wide
115 VAC System
— LB1—2.75"/6.99cm High x 3.00"/7.62cm Wide
LB2—1.4" /3.56cm High x 3.00"/7.62cm Wide
LB3— .86"/2.18cm High x 3.00"/7.62cm Wide
LB4—1.4" /3.56cm High x 1.4" /3.56cm Wide
— LB1 Two 6-watt lamps
LB2 Two 3-watt lamps
LB3 Two 3-watt lamps
LB4 One 3-watt lamp
Mounting dimensions — same for LB1, LB2, LB3 and LB4



DIMENSIONAL INFORMATION

MODEL LB1

MODEL LB2

MODEL LB3

MODEL LB4

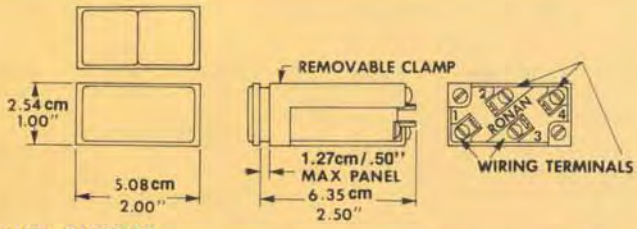
MULTI-COLOR INDICATOR X1D3
Tricolor — Any of three colors lights up total lens.
Voltages up to 28 volts.
Choice of five lens colors—Amber, Blue, Green, Red and White.
Mounting hole — .875"/2.23cm Diameter.
Send for bulletin for further details.

MODEL X1D3

COMPACT INDICATORS

MODEL X18-100 **MODEL X18-200**

New compact full voltage dual lamp indicators.
No need for resistors or transformers on 115 VAC service.
Suitable for mounting in groups vertically or horizontally.
Each lamp may be wired individually.
Two individual lenses may be used in one unit, i.e. Stop — Red Lens, Start — Green Lens.
Choice of lens colors — Amber, Blue, Green, Red, and White.
Wire terminals combination screw type and solderless tabs.
Lens surface may be engraved.
Voltages available — 6, 12, 24, 28, 48, 60 and 120.



PANEL CUTOUT

Single Mounting .906"/2.31cm High x 1.843"/4.69cm Wide
Multiple Mounting
Horizontally add 2.015"/5.12cm per additional unit
Vertically add 1.015"/2.58cm per additional unit

HORIZONTAL ARRANGEMENT

VERTICAL ARRANGEMENT

MODEL X18-100
MODEL X18-200
MULTI-ROW UNITS

MODEL X18-100
SINGLE LENS UNIT

MODEL X18-200
DUAL LENS UNIT

MODEL X18-300

New compact full voltage single lamp indicator
No need for resistors or transformers on 115 VAC service.
Suitable for mounting in groups vertically or horizontally.
Choice of lens colors — Amber, Blue, Green, Red, and White.
Wire terminals combination screw type and solderless tabs.
Lens surface may be engraved.
Voltages available — 6, 12, 24, 28, 48, 60 and 120.

PANEL CUTOUT

Single Mounting .906"/2.31cm High x .975"/2.48cm Wide
Multiple Mounting
Horizontally add 1.187"/3.02cm per additional unit
Vertically add 1.015"/2.58cm per additional unit

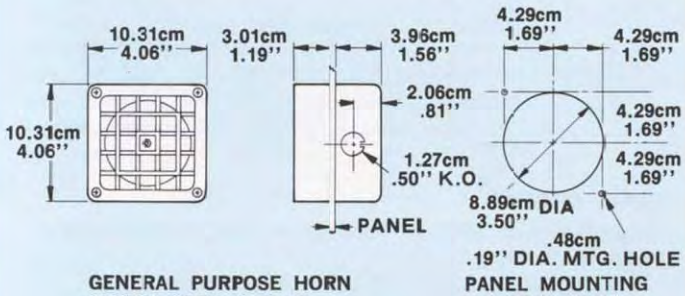
HORIZONTAL ARRANGEMENT

VERTICAL ARRANGEMENT

MODEL X18-300
MULTI-ROW UNITS

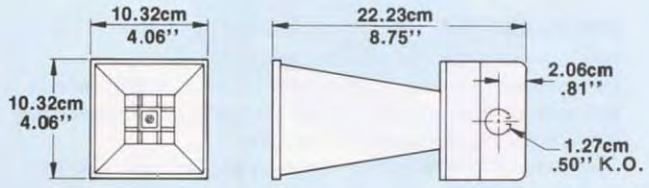
MODEL X18-300

ANNUNCIATOR ACCESSORIES

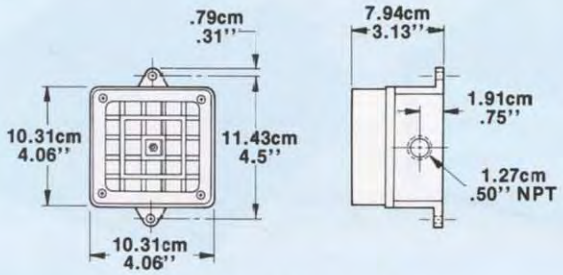


GENERAL PURPOSE HORN
MODEL 350N 115VAC
MODEL 450N 125VDC

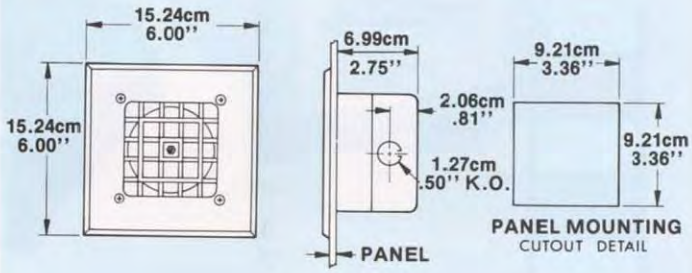
PANEL MOUNTING
CUTOUT DETAIL



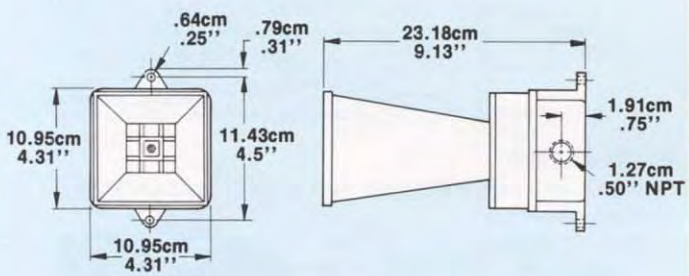
GENERAL PURPOSE PROJECTOR HORN
MODEL 351N 115VAC
MODEL 451N 125VDC



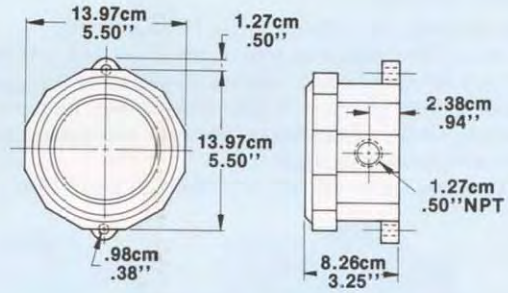
WEATHERPROOF HORN
MODEL 350W 115 VAC
MODEL 450W 125VDC



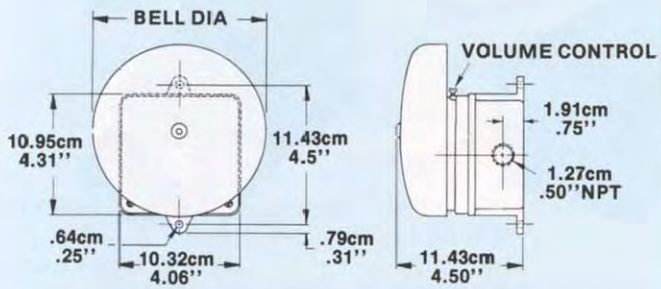
FLUSH MOUNTED HORN
MODEL 350F 115VAC
MODEL 450F 125VDC



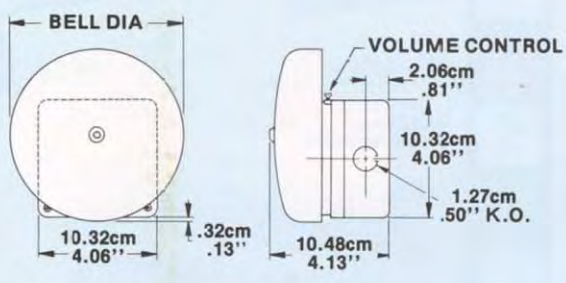
WEATHERPROOF PROJECTOR HORN
MODEL 351W 115VAC
MODEL 451W 125VDC



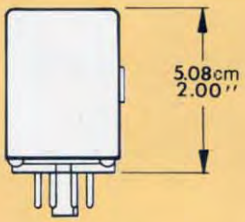
EXPLOSION PROOF HORN
MODEL 8140 115VAC

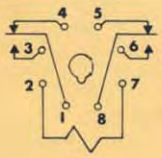


WEATHERPROOF BELL	DIA
MODEL 504W 115VAC or 604W 125VDC	4''/10.16cm
MODEL 506W 115VAC or 606W 125VDC	6''/15.24cm
MODEL 510W 115VAC or 610W 125VDC	10''/25.40cm



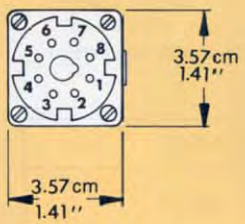
GENERAL PURPOSE BELL	DIA
MODEL 504N 115VAC or 604N 125VDC	4''/10.16cm
MODEL 506N 115VAC or 606N 125VDC	6''/15.24cm
MODEL 510N 115VAC or 610N 125VDC	10''/25.40cm





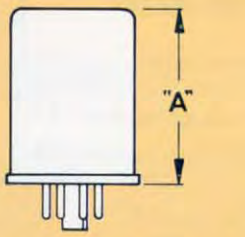
CKT DIAG.
RELAY SHOWN
DEENERGIZED

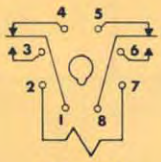
GENERAL PURPOSE RELAY



MODEL	VOLTAGE	CONTACT RATING
KRP-115AC	115VAC	10 AMPS
KRP-125DC	125VDC	.75 AMPS
KRP-24AC	24VAC	10 AMPS
KRP-24DC	24VDC	10 AMPS

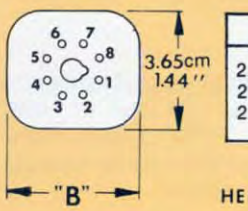
GENERAL PURPOSE RELAY





CKT DIAG.
RELAY SHOWN
DEENERGIZED

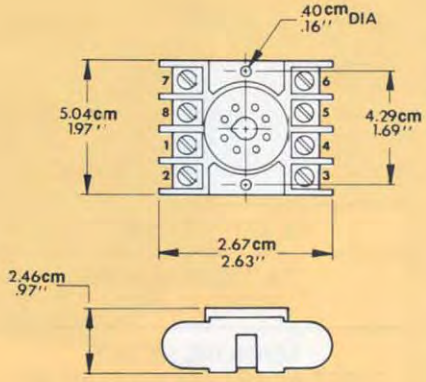
HERMETICALLY SEALED RELAY



A	B	MODEL	VOLT	RATE
2.12''/5.39cm	1.65''/4.20cm	KR7443-115AC	115VAC	10AMPS
2.50''/6.35cm	1.88''/4.78cm	KR7627-24AC	24VAC	10AMPS
2.12''/5.39cm	1.65''/4.20cm	KR7272-24DC	24VDC	10AMPS

HERMETICALLY SEALED RELAY

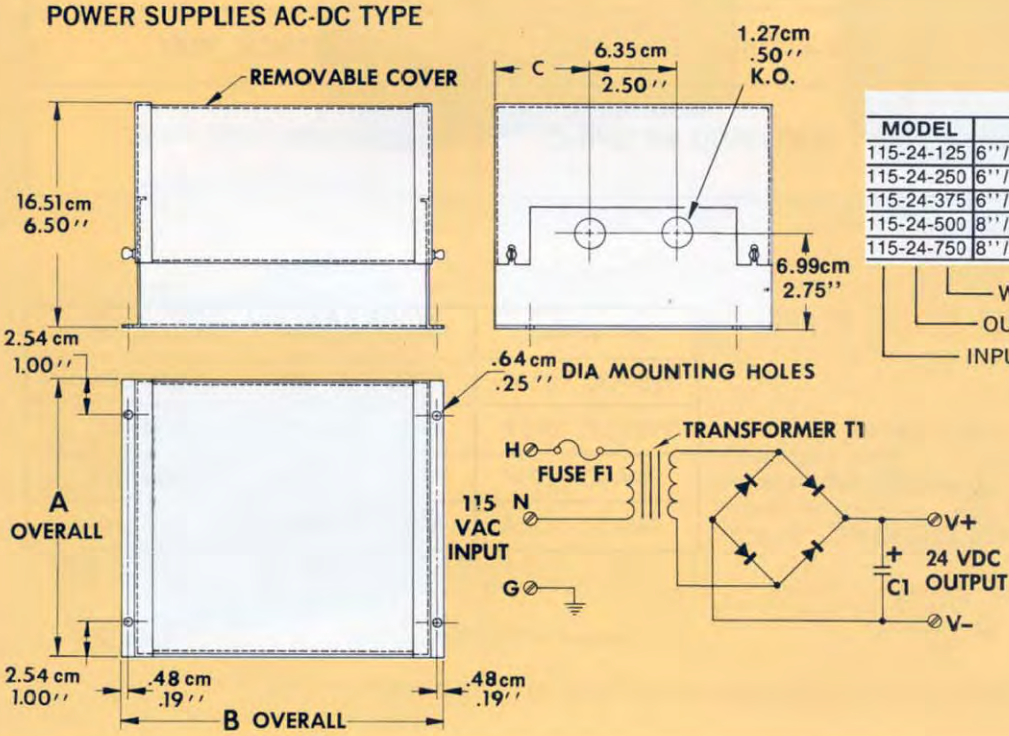
OCTAL SOCKET-SURFACE MOUNTING



MODEL 146-103

NOTE
Material — Brown Melamine.
Rating — 1250 Volts at 5 Amps.
Recommended Mtg. Screw — 6/32 x 1''

POWER SUPPLIES AC-DC TYPE



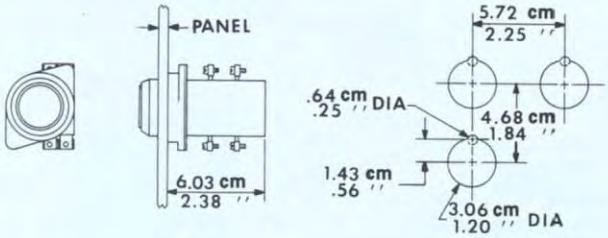
POWER SUPPLIES			
MODEL	A	B	C
115-24-125	6''/15.24cm	9¼''/23.50cm	1¾''/4.45cm
115-24-250	6''/15.24cm	9¼''/23.50cm	1¾''/4.45cm
115-24-375	6''/15.24cm	9¼''/23.50cm	1¾''/4.45cm
115-24-500	8''/20.32cm	10⅛''/25.72cm	2¾''/6.99cm
115-24-750	8''/20.32cm	10'' /25.72cm	2¾''/6.99cm

WATTAGE RATING
OUTPUT VOLTAGE DC
INPUT VOLTAGE AC

NOTE
For other output voltages please consult factory.

ANNUNCIATOR ACCESSORIES (CONT.)

General Purpose: Pushbuttons

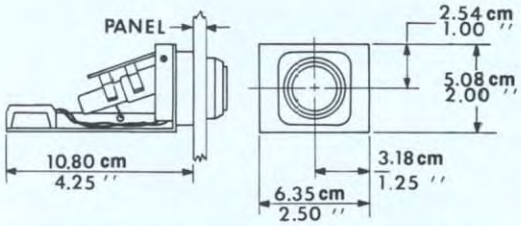


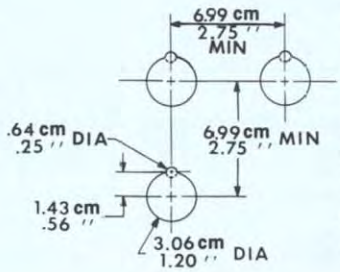
Contact Rating
115VAC - 10AMPS
24VAC - 10AMPS
125VDC - 2AMPS
24VDC - 5AMPS

Refer to specifications on Pages 28 and 29 for computing current load of lamp test, silence, and reset pushbuttons. Silence and reset pushbuttons operate one relay per alarm point.

ALARM SEQUENCE	NUMBER OF PUSHBUTTONS	NAMEPLATES
"A" SEQUENCE FIRST ALERT	TWO-202B	SILENCE, TEST
MANUAL RESET FIRST ALERT MANUAL RESET RINGBACK	THREE-202B	SILENCE, TEST, RESET

Mercury Type Pushbuttons
Suitable for Class I, Division 2 Locations



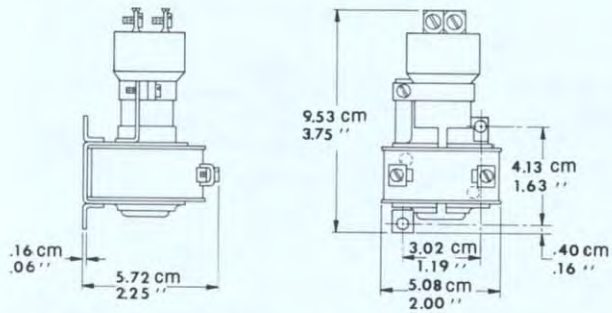


Contact Rating
115VAC - 10AMPS
24VAC - 10AMPS
125VDC - 5AMPS
24VDC - 10AMPS

Refer to specifications on Pages 28 and 29 for computing current load of lamp test, silence and reset pushbuttons. Silence and reset pushbuttons operate one relay per alarm point.

ALARM SEQUENCE	NUMBER OF PUSHBUTTONS	NAMEPLATES
"A" SEQUENCE FIRST ALERT	1-X13 PINO 1-X13PINC	SILENCE, TEST
MANUAL RESET FIRST ALERT MANUAL RESET RINGBACK	1-X13 PINO 2-X13PINC	SILENCE, TEST, RESET

Mercury Relay



Coil Voltage	Model Number	Contact Rating
125VDC, .02A	MR1-125VDC	25AMP
115VAC, .047A	MR1-115VAC	30AMP
24VAC, .228A	MR1- 24VAC	30AMP
24VDC, .110A	MR1- 24VDC	30AMP

Note: Recommended on systems where Lamp Load exceeds Flasher Contact and Lamp Test Pushbutton contact rating.

EXPLOSION-PROOF ALARMS

Single Point Units

MODEL X15-1001P
PANEL MOUNTING

MODEL X15-1001S
SURFACE MOUNTING

Standard voltage-115VAC
"A" sequence alarm logic
A choice of normally open or normally closed field contacts

S.P.D.T. auxiliary contacts
Integral replaceable flasher
Fuse protected circuitry
Refer to catalog EXP-173 for dimensions and wiring details.

Multi-Point Units

PANEL MOUNTED SERIES

REMOTE LOGIC SERIES

SURFACE MOUNTED SERIES

Complete alarm systems for installation in Class I, Division 1 areas. Standard systems incorporate the X9 Remote Alarm Chassis with a choice of five standard alarm sequences. All Panel and Surface mounting models are available with or without pushbuttons.

Refer to catalog EXP-102 for dimensional details.

GENERAL SPECIFICATIONS

AMBIENT TEMPERATURE

The outside ambient air temperature surrounding an annunciator in normal operation may vary from −40° F. to 120° F. maximum. Internal temperature of the annunciator must be kept below 150° F. In large annunciator cabinets, where during start-up periods there are large numbers of off-normal points, provision should be made for forced cooling of the cabinet. Fans can be provided as required, mounted in the rear cover, when high internal temperatures are anticipated.

HUMIDITY

The annunciator should be protected from excessive moisture and corrosive atmospheres. Special enclosures are available; i.e., NEMA 1, 4, 12, etc.

The printed circuit card is furnished with a fungus proof varnish coating on all exposed circuitry where required. Epoxy coatings are also available.

The dust covered General Purpose Relays are adequate for most conditions of ambient humidity. When a sealed environment is necessary, Hermetically Sealed Relays are available.

PRESSURE

Normal atmospheric pressure variations will not affect the annunciator.

AMBIENT LIGHTING

The standard Modularm window is illuminated with 12 watts, Dualarm and Trialarm window is illuminated with 6 watts and Quadalarm is illuminated by 3 watts. They should not be used in light levels over 85 foot-candles. Colored lamps consisting of clear lamps with colored filters are not recommended for use in ambient light levels over 50 foot-candles.

POSITION

The annunciator will operate in any position. Transient shock loads of 5G's will not damage the annunciator. In normal operation the relay will operate satisfactorily under 3G's shock loads. In vibratory environments, special consideration should be given to shortened life of light bulbs due to filament construction. Special shock mounting enclosures are available.

ANNUNCIATOR EQUIPMENT ENGINEERING DATA

UNIT	VOLTAGE	NOMINAL POWER	CONTACT CAPACITY	SOUND
SERIES X52 5PDT	115 VAC	1.2 VA	3 AMPS	
SERIES X23 4PDT	125 VDC	.9 WATTS	.5 AMPS	
ALARM RELAYS*	24 VAC	1.2 VA	3 AMPS	
	24 VDC	.9 WATTS	3 AMPS	
AUXILIARY RELAYS	115 VAC	2 VA	10 AMPS	
SERIES KRP & KR7272	125 VDC	3 WATTS	.75 AMPS	
	24 VAC	2 VA	10 AMPS	
	24 VDC	3 WATTS	10 AMPS	
AUXILIARY RELAYS	115 VAC	5.5 VA	30 AMPS	
MERCURY TYPE	24 VAC	5.5 VA	30 AMPS	
SERIES MR	125 VDC	5.0 WATTS	25 AMPS	
	24 VDC	6.5 WATTS	30 AMPS	
FLASHER RATINGS	115 VAC	5VA	5 AMPS	
ALL X3-5000 SERIES	24 VAC	5VA	10 AMPS	
	125 VDC	5 WATTS	1 AMPS**	
	24 VDC	5 WATTS	5 AMPS**	
HORN 350N	115 VAC	20 VA		100 DB AT 10'
450N	125 VDC	12 WATTS		97 DB AT 10'
350N	24 VAC	20 VA		100 DB AT 10'
450N	24 VDC	6 WATTS		97 DB AT 10'
PUSHBUTTONS	115 VAC		10 AMPS	
LARGE OILTIGHT	24 VAC		10 AMPS	
202B	125 VDC		2 AMPS***	
203B	24 VDC		5 AMPS	
PUSHBUTTONS	115 VAC		10 AMPS	
SERIES X13	24 VAC		10 AMPS	
MERCURY TYPE	125 VDC		5 AMPS	
	24 VDC		10 AMPS	

*For number of relays per alarm point refer to appropriate alarm schematic drawing

**Use auxiliary flasher relay series MR for all systems requiring greater loads than the flasher contact loading.

***Recommend the use of Series X13 Mercury Pushbuttons for this voltage

Note — All DC relay contact capacities listed are for resistive loads except the series MR relays.

POWER SUPPLY

The standard power supply inputs are 115 Volt AC, 60 Cycle and 125 Volt DC. Power supply fluctuations of 10% will operate the annunciator satisfactorily. Special voltages and frequencies are available on request.

POWER CONSUMPTION

In determining the maximum load per system, consider the following:

1. Number of relays energized x coil wattage.
2. Total number of lamps x lamp wattage.
3. Flasher wattage.
4. Horn wattage.

For design purposes the maximum load occurs during lamp test when all alarm points are in the normal condition. Also for design purposes the normal load typically has 75% of all alarm points in the normal condition and 25% in the acknowledged alarm condition.

Please note that in each alarm system application the normal operating load may vary.

LOCK-IN FEATURE

The "Lock-in" feature is provided to prevent momentary alarms from returning to normal without first being acknowledged by the operator. In systems supplied with the choice of "Lock-in" or "Non-lock" it is possible to permit momentary alarms to automatically reset themselves when using the "Non-lock" feature.

AUXILIARY CONTACTS

Isolated auxiliary contacts are provided with most alarm sequences. The contacts are especially useful in shutdown and interlock circuits in various types of electrical control circuits. Since the contact is part of the alarm sequence the operator has full knowledge of any malfunction and can take the proper corrective action before acknowledging or resetting the alarm. It is important to note that with "Manual Reset" the alarm can be acknowledged; however, reset can be delayed as long as required, until manually activated, to maintain the auxiliary contact in the alarm position.

ALARM RELAY SPECIFICATIONS

SYSTEM DESIGN VOLTAGES

Nominal Voltage
115VAC — 60 Cycles
Operating Range
105VAC to 125VAC

Nominal Voltage
125VDC
Operating Range
105VDC to 145VDC

Nominal Voltage
24VAC
Operating Range
20.4VAC to 28VAC

Nominal Voltage
24VDC
Operating Range
18VDC to 30VDC

COIL RESISTANCE VALUES

24VAC - 200 OHMS
115VAC - 3900 OHMS
24VDC - 600 OHMS
125VDC - 17500 OHMS

NOMINAL TIMING VALUES

Pull-in - 13 milliseconds
Dropout - 10 milliseconds

TEMPERATURE RISE

At nominal voltage - 40°C.
At 25% overvoltage - 55°C.

POWER CONSUMPTION

AC Relays - 1.2VA nominal
DC Relays - 0.9 watts nominal

RELAY CONTACTS

4 PDT for alarm relays X23 series
5 PDT for alarm relays X52 series
Material - fine silver with gold flash
Rating - 3 amps at 30VDC or 115VAC resistive

INSULATING MATERIAL

Molded glass reinforced alkyd
Resistance - 1500 megohms minimum

EXPECTED LIFE

Mechanical - 50 million operations
Electrical - 100,000 operations at full rated load

BREAKDOWN VOLTAGE

General Purpose:
1250 volts RMS 60 cycles between contacts and all other elements

Hermetically Sealed:
750 volts RMS 60 cycles between contacts and all other elements

MAXIMUM POWER REQUIREMENT PER ALARM POINT IN WATTS

CABINET	"A" SEQUENCE		MANUAL RESET SEQUENCE FIRST ALERT SEQUENCE RINGBACK SEQUENCE		FIRST ALERT MANUAL RESET SEQUENCE	
	24VAC/24VDC	115VAC/125VDC	24VAC/24VDC	115VAC/125VDC	24VAC/24VDC	115VAC/125VDC
SERIES X3-1000	9	14	10	15	11	16
SERIES X3-2000	9	8	10	9	11	10
SERIES X3-3000	9	8	NOT APPLICABLE			
SERIES X3-4000	5.5	5				

GENERAL PURPOSE 4PDT

HERMETICALLY SEALED 4PDT

GENERAL PURPOSE 5PDT

HERMETICALLY SEALED 5PDT

TYPICAL ORDERING INFORMATION

TO ORDER A WINDOW TYPE ANNUNCIATOR

QTY.	SPECIFY	
	Cabinet Style See Page 11 thru 13	Cabinet Modules High Cabinet Modules Wide 1000 Modularm 2000 Dualarm 3000 Trialarm 4000 Quadalarm ( ) ( ) X3- ( ) Flush Mounting ( ) ( ) X3LR- ( ) Flush Mounting less Rear Covers ( ) ( ) X3RR- ( ) Relay Rack Mounting ( ) ( ) X3SM- ( ) Surface Mounting
	Alarm Models See Pages 8-10	**Sequence** / **Modularm** / **Dualarm** / **Trialarm** / **Quadalarm** "A" X3-1001-( )-( ) X3-2001-( )-( ) X3-3001-( )-( ) X3-4001-( )-( ) Manual Reset X3-1002-( )-( ) X3-2002-( )-( ) First Alert X3-1003-( )-( ) X3-2003-( )-( ) First Alert Manual Reset X3-1004-( )-( ) X3-2004-( )-( ) Ringback X3-1005-( )-( ) X3-2005-( )-( ) └ Voltage └ GP or HS Note: Use HS Relays for Class I, Division 2
	Plug-in Flashers See Page 16	General Purpose Model X3-5021-(Voltage) 24VAC or 115VAC Model X3-5023-(Voltage) 24VDC or 125VDC Class I, Division 2 Model X3-5022-(Voltage) 24VAC or 115VAC Model X3-5024-(Voltage) 24VDC or 125VDC Note: Use HS Relays for Class I, Division 2
	Remote Pushbuttons See Page 26	

Sequence	Function	General Purpose	Class 1 Division 2
"A" or First Alert	Test	1 ea. 202B	1 ea. X13 PINO
	Silence	1 ea. 202B	1 ea. X13 PINC
Manual Reset First Alert Manual Reset or Ringback	Test	1 ea. 202B	1 ea. X13 PINO
	Silence	1 ea. 202B	1 ea. X13 PINC
	Reset	1 ea. 202B	1 ea. X13 PINC

	Integral Pushbutton/ Flasher Module General Purpose See Page 17	Model X3-5001-(Voltage) "A" and First Alert Sequences Model X3-5002-(Voltage) Manual Reset, First Alert Manual Reset and Ringback Sequences
	Integral Pushbuttons Class I, Division 2 See Page 17	Model X3-5011-"A" and First Alert Sequences Model X3-5012-Manual Reset, First Alert Manual Reset and Ringback Sequences Note: Use appropriate Class I, Division 2 Plug-in Flasher
	Horns or Bells	See Page 24

EXAMPLE 1
Description
Ten point window type alarm system 2 units high by 5 units wide. Window size 2¾" by 3". First alert sequence with Aux. contacts. All active points. Rear mounted flasher, remote pushbuttons. General Purpose application, 115VAC. Flush mounted horn.

Ordering Information
25 X 3-1000 Alarm Cabinet
10-X3-1003-GP - 115VAC Alarm Modules
1-X3-5021 - 115VAC Flasher
2-202B Pushbuttons for Test and Silence
1-350F Horn 115VAC
System Voltage - 115VAC
Electrical Classification - General Purpose

EXAMPLE 2
Description
An eighteen point window type alarm system with Dualarm cabinet 6 units high by 3 units wide. For surface mounting. Standard "A" sequence. Pushbuttons and Horn to be door mounted. Class I, Division 2 application. 115VAC.

Ordering Information
33X3SM-2000 Alarm Cabinet (6 Alarms high by 3 Alarms wide)
9-X3-2001-HS - 115VAC Alarm Modules (2 Active per Module)
1-X3-5022 - 115VAC Flasher
1-X13 PINO Lamp Test Pushbutton
1-X13 PINC Silence Pushbutton
1-350N Horn
1-Surface mounting NEMA 12 enclosure. Horn and pushbuttons to be door mounted
System Voltage - 115VAC, Electrical Classification - Class I, Division 2

TO ORDER A REMOTE TYPE ANNUNCIATOR

QTY.	SPECIFY	
	Chassis Style See Page 14-15	Number of Alarm Plug-in Modules Note: —2, 4, 6, 8 and 10 X9SM Series —Two Alarm Points per Module —7 X9RR Series ( ) X9SM Surface Mounting 7 X9RR Relay Rack Mounting Note: X9SM: Internal plug-in flasher does not occupy Alarm Modules Position. X9RR: Alarm Position available if Flasher located elsewhere.
	Alarm Models See Pages 8-10 Specify Voltage and Electrical Classification	GP or HS Relays Voltage X9-1001-( )-( ) "A" Sequence X9-1002-( )-( ) Manual Reset Sequence X9-1003-( )-( ) First Alert Sequence X9-1004-( )-( ) First Alert Manual Reset Sequence X9-1005-( )-( ) Ringback Sequence Note: Use HS Relays for Class I, Division 2
	Nema 1 Enclosure	Enclosure for X9SM Chassis - General Purpose see page 14
	Plug-in Flasher Models See Page 16	General Purpose Model X9-5001-(Voltage) 24VAC or 115VAC Model X9-5003-(Voltage)24VDC or 125VDC Class I, Division 2 Model X9-5002-(Voltage) 24VAC or 115VAC Model X9-5004-(Voltage) 24VDC or 125VDC Note: Refer to Specifications Pages 28-29 for Flasher Contact Loading
	Remote Pushbuttons See Page 26	General Purpose 2-Model 202B Pushbuttons "A" and First Alert Sequences 3-Model 202B Pushbuttons Manual Reset, First Alert Manual Reset and Ringback Sequences Class I, Division 2 1-X13PINO 1-X13PINC "A" and First Alert Sequences 1-X13PINO 2-X13PINC Manual Reset, First Alert Manual Reset and Ringback Sequences Note: Refer to Specifications Pages 28-29 for Pushbutton Contact Loading
	Lamp Cabinets	See Page 20
	Indicators	See Pages 22-23
	Horns or Bells	See Page 24

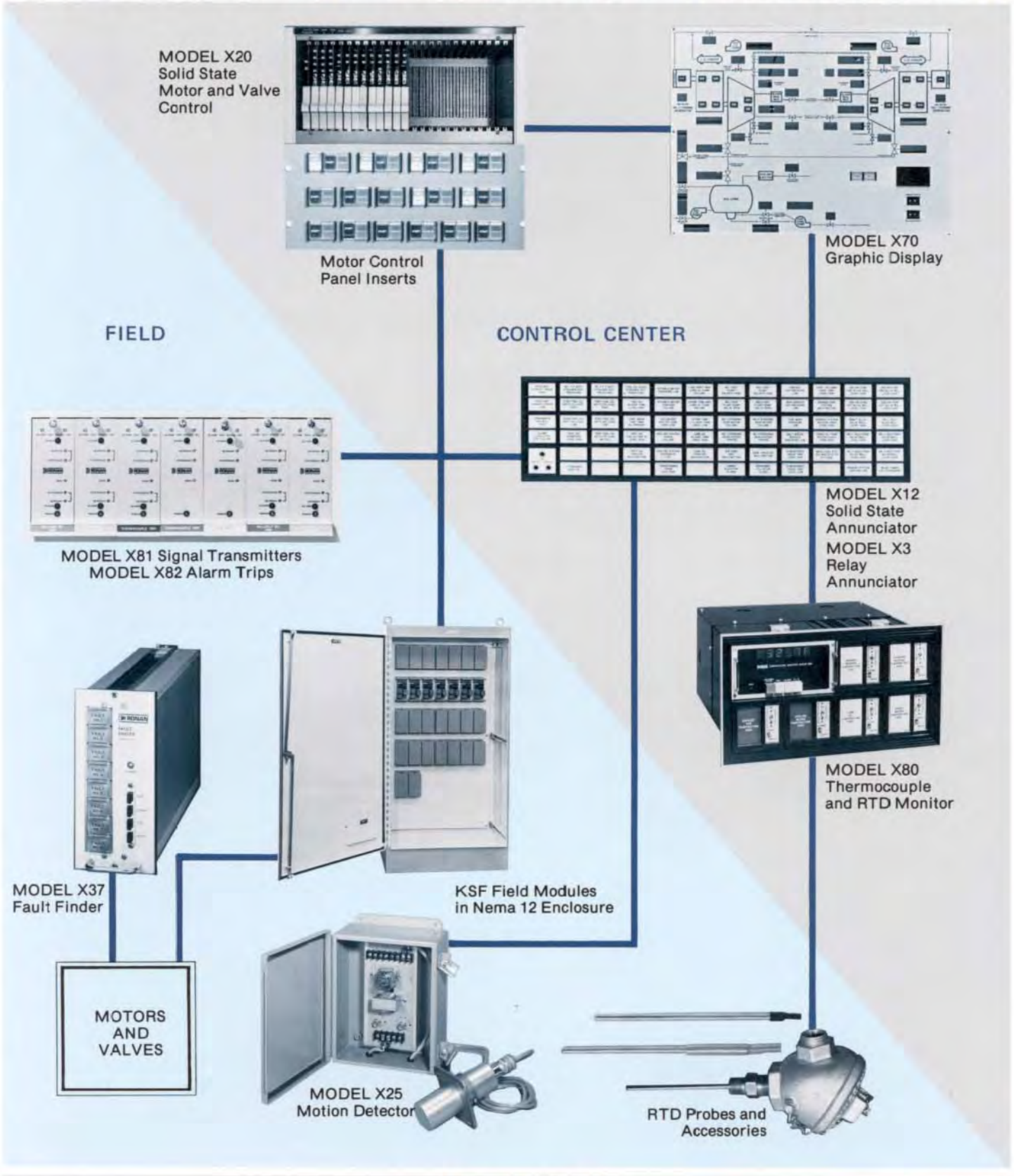
EXAMPLE 3
Description
A twenty point window type alarm system. Sixteen active points "A" sequence. 2 spare alarm points without alarm logic. Dualarm windows rack mounted. Plug-in pushbutton module and flasher - General Purpose. 115VAC.

Ordering Information
25X3RR-2000 Alarm Cabinet (4 Alarms high X 5 Alarms wide)
8-X3-2001-GP-115VAC Alarm Modules
1-Alarm Cabinet position to accept future Alarm Module with 2 Active Alarm Points per Module
1-X3-5001-115VAC Plug-in Pushbutton and Flasher Module
1-350N Horn 115VAC
System Voltage - 115VAC, Electrical Classification - General Purpose

EXAMPLE 4
Description
A fourteen point Remote System for surface mounting with NEMA 1 Enclosure. First alert with manual reset sequence. Remote pushbuttons for test, acknowledge and reset. 125 Volt DC operation. General Purpose application. Fourteen full voltage indicators with red lens engraved. Projection type horn.

Ordering Information
8X9SM Chassis (16 Alarm point Capacity)
7-X9-1004-GP-125VDC Alarm Modules
1-Spare Chassis Position prewired for two future alarm positions
1-X9-5003-125VDC Plug-in Flasher
3-202B Pushbuttons for Test, Acknowledge, and Reset
14-X18-100 Indicators 125VDC - Reds lens engraved
1-8X9N1 NEMA 1 Enclosure
1-45IN Horn
System Voltage - 125VDC, Electrical Classification - General Purpose

RONAN PROCESS INSTRUMENTATION AND MONITORING EQUIPMENT



RONAN WARRANTY

RONAN warrants equipment of its own manufacture to be free from defects in material and workmanship, under normal conditions of use and service, and will replace any component found to be defective, on its return, transportation charges prepaid, within one year of its original purchase. This warranty carries no liability, either expressed or implied, beyond our obligations to replace the unit which carries the warranty.