# SOLID STATE ALARM SYSTEMS
## SERIES X11

RONAN

# BUY RONAN, THE BEST.

The Ronan Series X11 Window Annunciator Systems are designed to serve the standard process monitor market, providing economy while maintaining quality, performance, and appearance. The system features Monalarm, Binalarm and Trialarm displays within Ronan's standard 3.5 inch (89 mm) by 3.5 inch (89 mm) mechanical cabinet modules. The single plug-in module construction contains single or multi-point alarm circuitry of conventional solid state design with maximum noise immunity and reliability. The most popular industry-wide sequences and normally open/normally closed field contact logic are resident on the circuit board, DIP switch selectable. A system common trouble alarm and a point alarm output may be utilized for remote group alarms, or fed to integrally mounted auxiliary relays, upgrading the transistor type output switches to dry contact outputs. A separate integral auxiliary contact module supplied initially, or added later in the field, contains one to three relays, depending on the system's window density. A set of contact output terminals on a mounting plate is added to the points where repeater contacts are desired. A system's common reflash output allows remote re-annunciation of any one window going into alarm.
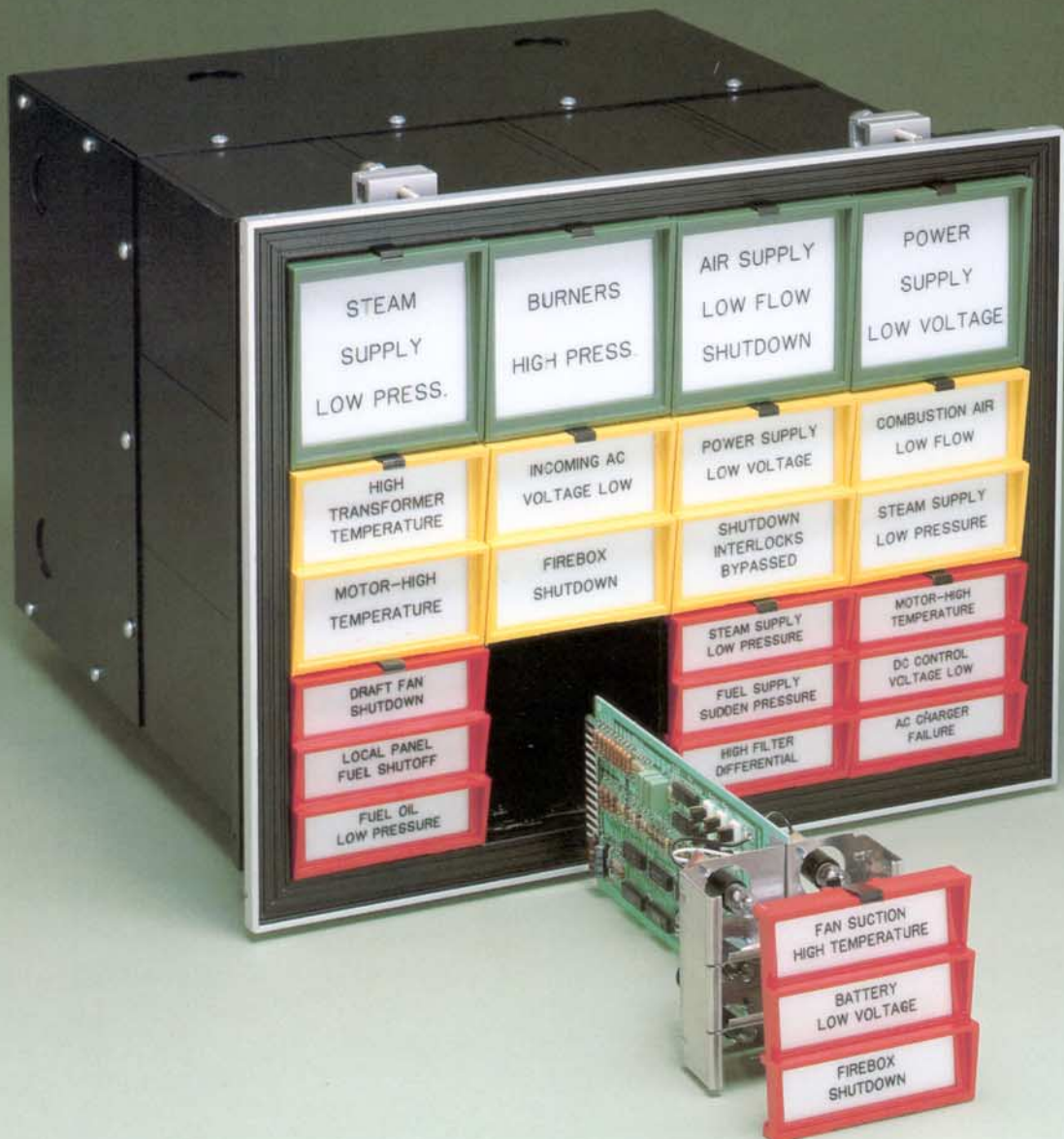
## INPUTS

**Digital**
- Dry Contact – Normally Open/Normally Closed
- 24VDC Field Contact Voltage
- Optional 125VDC Field Contact Voltage
- Optional 115VAC Live Field Contact Voltage

## SEQUENCE

**Dual Sequence – Switch Selectable**

ISA-A and ISA-F3A

ISA-A and ISA-M

Optional ISA-A1 Ring Back ISA-R

Multi First-Out Grouping Within System

## OUTPUTS

**Single Audible**

**Auxiliary Contact**
- Single-Pole, Double-Throw (Form C)
- May Be Added in the Field
- Relay Normally Non-Energized
- GP or HS Relays Available

**Common System Trouble Alarm**

**Individual Trouble Alarm If Not Used for Auxiliary Relay**

**Reflash — Pulse Output for Each New Alarm**

## FEATURES

**Design Technology — CMOS**
- High Noise Immunity
- Field Proven
- Available Off-the-Shelf, Worldwide
- No Custom Integrated Circuits

**Expandability**
- By Simple Exchange of Modules
- Up to 3 Times Original Number of Points
- No Internal Wiring Change

**Quality Construction**
- All Aluminum Extrusions and Castings
- Excellent Heatsinking
- Modular Assembly
- Maximum Flexibility in System Sizing
- Easy Panel Mounting
- Rugged Construction

**Color Coding**
- Eight Bezel Colors
- Colored Lenses
- Sandwich Lenses

## SERVICES

**Custom Designed Systems**

**Custom Designed Logic**

**Customer Training**

**Complete System Documentation**

**Field Service and Start-Up**

## WARRANTY

Three (3) Years

## FIELD SERVICE
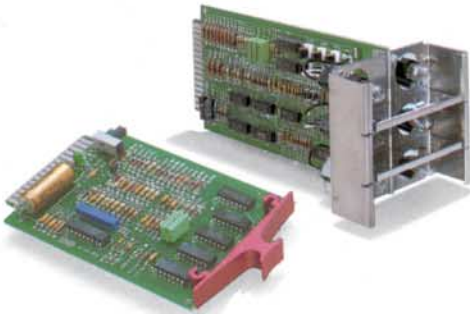
**Worldwide Sales and Service Offices**

**Complete Manufacturing Facilities in USA, Canada, and U.K.**

## APPROVALS AVAILABLE

**UL – Underwriters Laboratories**

**CSA – Canadian Standard Association**

# CONTENTS

4

## 3-Year 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 repair or replace any component found to be defective, on its return, transportation charges prepaid, within three years of its original purchase. This warranty carries no liability, either expressed or implied, beyond our obligations to replace the unit which carries the warranty.

# SYSTEMS ENCLOSURES

The Ronan enclosures for annunciators with integral electronics are assembled from basic 3.5 inch (89 mm) by 3.5 inch (89 mm) mechanical modules to overall size and requirements specified. This allows the greatest flexibility to adapt to the customer's control panel dimensions. The aluminum extrusion modules provide excellent heat dissipation for a continuously lit annunciator system and feature structural strength required in industrial applications. The enclosures are painted with black, baked, semi-gloss enamel; custom colors may be supplied optionally.

The panel mount enclosure may be enhanced with a NEMA 4 or NEMA 12 door assembly to seal the front of the alarm system against the control panel where it is subject to moisture or a corrosive atmosphere. The door is supplied with a clear acrylic window, sealed with a neoprene gasket. Gasketing is supplied for sealing between door frame and control panel.

*Note: The panel cutout is the same as specified in the standard flush mounted alarm system.*

The flush-mounting NEMA 1 type enclosure, for control panel applications, feeds through a rectangular cutout and attaches to the panel with a number of simple clamping devices supplied with each system. The rear accessible terminals are enclosed with protective side and rear panels. The side panels feature pre-stamped conduit knockout entries for field wiring and power input.

The Ronan alarm systems of various window sizes are available for standard 19 inch (483 mm) or 24 inch (610 mm) relay rack mounting. The five mechanical module wide unit is suitable for 19 inch (483 mm), and the six module wide unit for 24 inch (610 mm) rack spacing.

## System Expandability
The Series X11 Annunciator Systems may be initially ordered with an expandability option, where the Monalarm System allows field expansion to either Binalarm or Trialarm and the Binalarm to Trialarm by simple exchange of alarm/lamp modules and the appropriate bezel.

The nominal cost addition for the expansion capability makes this feature highly justifiable, if the number of required windows may increase during the life of the alarm system. When converting to the expanded system, an allowance will be made on undamaged Modules and Bezels returned within the warranty period.

## Model X11-1000
### Flushmounting Type for Control Panels
*Nameplate Size 2.75" (70 mm)*
*× 3.00" (76 mm)*

These systems are
expandable and
intermixable.

2.75" High × 3" Wide Window
(69.85 mm × 76.20 mm)

Option: Pushbutton Module Standard Position;
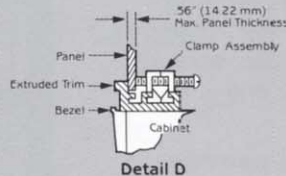Other Positions Optional

Front Accessible Flasher Module
Does Not Occupy Alarm Position

Field Wiring Terminals

Fuse and Master Terminals

14.125" (358.775 mm)
12.250"* (317.5 mm)
2.00" (50.80 mm)

.75" (19.05 mm) Conduit K.O.

Removable Rear Cover With Captive Fasteners

* Depth With Side and Rear Cover Removed
Note: Standard Finish Baked Enamel Black

.56" (14.22 mm) Max. Panel Thickness

Clamp Assembly

Panel

Extruded Trim

Bezel

Cabinet

**Detail D**
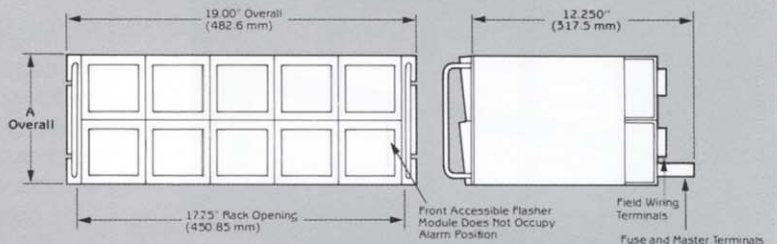
Alarm Module
Lamp Module
Window Bezel

*Pushbutton Stations

*The integral Pushbutton Station shown is
available as an option and may occupy any
position in the system. Pushbutton stations
will operate in conjunction with externally
wired pushbuttons. The lower, right hand
position also houses the Flasher/Horn
Driver Module.

| Number of Windows | A Overall | | B Cutout | |
|---|---|---|---|---|
| High or Wide | In. | mm | In. | mm |
| 1 | 5.00 | 127.0 | 4.38 | 111.1 |
| 2 | 8.50 | 215.9 | 7.88 | 200.0 |
| 3 | 12.00 | 304.8 | 11.38 | 288.9 |
| 4 | 15.50 | 393.7 | 14.88 | 377.8 |
| 5 | 19.00 | 482.6 | 18.38 | 466.7 |
| 6 | 22.50 | 571.5 | 21.88 | 555.6 |
| 7 | 26.00 | 660.4 | 25.38 | 644.5 |
| 8 | 29.50 | 749.3 | 28.88 | 733.4 |
| 9 | 33.00 | 838.2 | 32.50 | 825.5 |
| 10 | 36.50 | 927.1 | 36.00 | 914.4 |
| 11 | 40.00 | 1016.0 | 39.50 | 1003.3 |
| 12 | 43.50 | 1104.9 | 43.00 | 1092.2 |

## Model X11RR-1000
### Relay Rack Mounting Type
*19 Inch Rack Mounting — Standard*
*24 Inch Rack Mounting — Optional*

19.00" Overall (482.6 mm)
12.250" (317.5 mm)

A Overall

17.75" Rack Opening (450.85 mm)

Front Accessible Flasher
Module Does Not Occupy
Alarm Position

Field Wiring Terminals

Fuse and Master Terminals

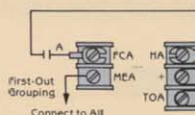*Not limited to 4 high
**Limited to 5 wide only (19 inch, 483mm rack)
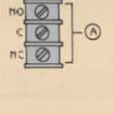Also available 6 wide (24 inch, 610 mm rack)

| Number of Windows | | A Overall | |
|---|---|---|---|
| High | Wide | In. | mm |
| 1 | 5** | 3.5 | 88.9 |
| 2 | 5 | 7.0 | 177.8 |
| 3 | 5 | 10.5 | 266.7 |
| 4* | 5 | 14.0 | 355.6 |

## Series X11-1000
### Rear Terminal Arrangement and Wiring Information

**Field Contact Input**

First-Out Grouping

Connect to All
ME Terminal of Points
Desired in a Group.

**Aux. Relay Contact Outputs**

Auxiliary Relay
Jumper Straps

**Master Terminals**

115 VAC   Power Supply

Test
Silence
ACK
Reset

AC Horn

Horn Relay

X36 Electronic Horn

Use Horn Relay or
Electronic Horn

Not Used
Transistor Output

**Alarm Module Output**

+V
−V

TOA
Drive Capacity
500 MA at 24 VDC

**Aux. Contact Module Output**

NO
C
NC

Internal Circuit

Notes:

1. CA Terminal Provides Logic Zero as Long as Any Point in the System is in Alarm
2. RF Terminal Provides an Output Pulse to Reflash a Remote Annunciator as New Points Alarm
3. F1,F2 Flasher Sync Connection for Multichassis Applications
4. Silence Pushbutton Optional, Not Required for Operation
5. Reset Pushbutton Only Used for F3A Sequence

## Model X11-2000
### Flush Mounting Type for Control Panels
Nameplate Size 1.44" (36 mm)
× 3.00" (76 mm)

*These systems are expandable and intermixable.*

A Overall
B Cutout

A B

14.125" (358.775 mm)
12.250" * (317.5 mm)
2.00" (50.80 mm)

D

.75" (19.05 mm) Conduit K.O.

Removable Rear Cover With Captive Fasteners

Field Wiring Terminals
Fuse and Master Terminals

* Depth With Side and Rear Cover Removed
Note: Standard Finish Baked Enamel Black

1.4" High × 3" Wide Window (35.56 mm × 76.20 mm)

Front Accessible Flasher Module Does Not Occupy Alarm Position

Option: Pushbutton Module: Standard Position; Other Positions Optional

.56" (14.22 mm) Max. Panel Thickness
Clamp Assembly
Panel
Extruded Trim
Bezel
Cabinet

**Detail D**

Alarm Modules
Lamp Module
Window Bezel

*Pushbutton Stations

*The integral Pushbutton Station shown is available as an option and may occupy any position in the system. Pushbutton stations will operate in conjunction with externally wired pushbuttons. The lower, right hand position also houses the Flasher/Horn Driver Module.

| Number of Windows | | A Overall | | B Cutout | |
|---|---|---|---|---|---|
| High | Wide | In. | mm | In. | mm |
| 2 | 1 | 5.00 | 127.0 | 4.38 | 111.1 |
| 4 | 2 | 8.50 | 215.9 | 7.88 | 200.0 |
| 6 | 3 | 12.00 | 304.8 | 11.38 | 288.9 |
| 8 | 4 | 15.50 | 393.7 | 14.88 | 377.8 |
| 10 | 5 | 19.00 | 482.6 | 18.38 | 466.7 |
| 12 | 6 | 22.50 | 571.5 | 21.88 | 555.6 |
| 14 | 7 | 26.00 | 660.4 | 25.38 | 644.5 |
| 16 | 8 | 29.50 | 749.3 | 28.88 | 733.4 |
| 18 | 9 | 33.00 | 838.2 | 32.50 | 825.5 |
| 20 | 10 | 36.50 | 927.1 | 36.00 | 914.4 |
| 22 | 11 | 40.00 | 1016.0 | 39.50 | 1003.3 |
| 24 | 12 | 43.50 | 1104.9 | 43.00 | 1092.2 |

## Model X11RR-2000
### Relay Rack Mounting Type
19 Inch Rack Mounting — Standard
24 Inch Rack Mounting — Optional

19.00" Overall (482.6 mm)
12.250" (317.5 mm)
A Overall
17.75" Rack Opening (450.85 mm)

Front Accessible Flasher Module Does Not Occupy Alarm Position

Field Wiring Terminals
Fuse and Master Terminals

*Not limited to 8 high
**Limited to 5 wide only (19 inch, 483 mm rack)
Also available 6 wide (24 inch, 610 mm rack)

| Number of Windows | | A Overall | |
|---|---|---|---|
| High | Wide | In. | mm |
| 2 | 5** | 3.5 | 88.9 |
| 4 | 5 | 7.0 | 177.8 |
| 6 | 5 | 10.5 | 266.7 |
| 8* | 5 | 14.0 | 355.6 |

## Series X11-2000
### Rear Terminal Arrangement and Wiring Information
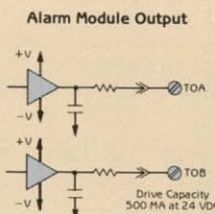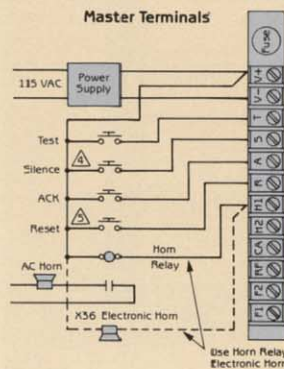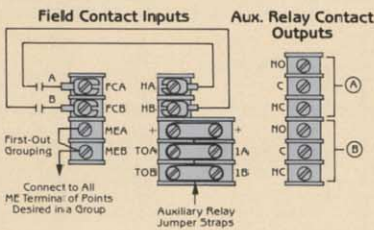
Field Contact Inputs
A FCA HA
B FCB HB
MEA
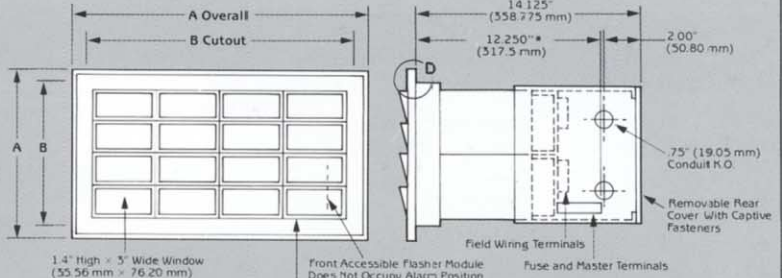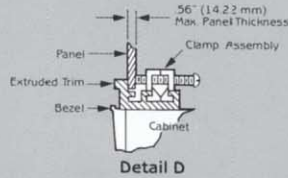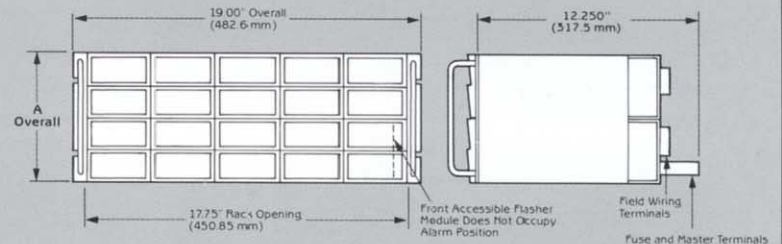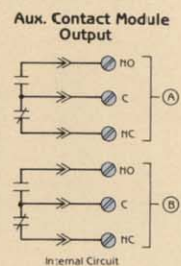First-Out Grouping MEB TOA
TOB

Connect to All ME Terminal of Points Desired in a Group
Auxiliary Relay Jumper Straps

Aux. Relay Contact Outputs
NO C NC (A)
NO 1A C 1B NC (B)

Master Terminals
115 VAC Power Supply
Test
Silence
ACK
Reset
AC Horn
Horn Relay
X36 Electronic Horn
Use Horn Relay or Electronic Horn
Fuse
Not Used
Transistor Output

Alarm Module Output
+V −V TOA
+V −V TOB
Drive Capacity 500 MA at 24 VDC

Aux. Contact Module Output
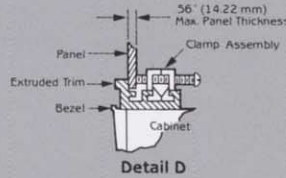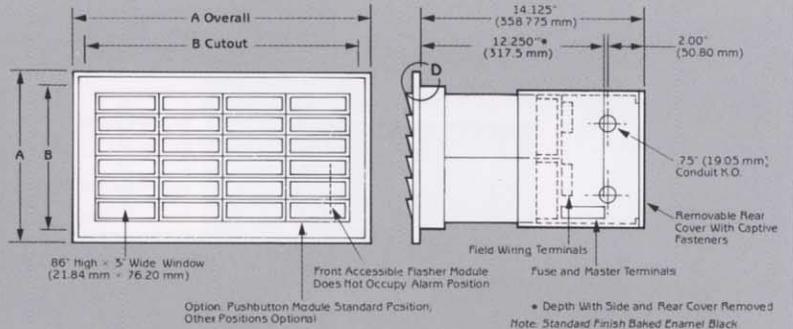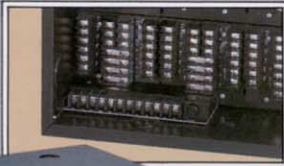NO C NC (A)
NO C NC (B)
Internal Circuit

Notes:
1. CA Terminal Provides Logic Zero as Long as Any Point in the System is in Alarm
2. RF Terminal Provides an Output Pulse to Reflash a Remote Annunciator as New Points Alarm
3. F1,F2 Flasher Sync Connection for Multichassis Applications
4. Silence Pushbutton Optional, Not Required for Operation
5. Reset Pushbutton Only Used for F3A Sequence

7

## Model X11-3000
### Flush Mounting Type for Control Panels
*Nameplate Size .86" (22 mm)*
*× 3.00" (76 mm)*

These systems are
intermixable.

Alarm Modules
Lamp Module
Window Bezel

**Detail D**

Panel
Extruded Trim
Bezel
Clamp Assembly
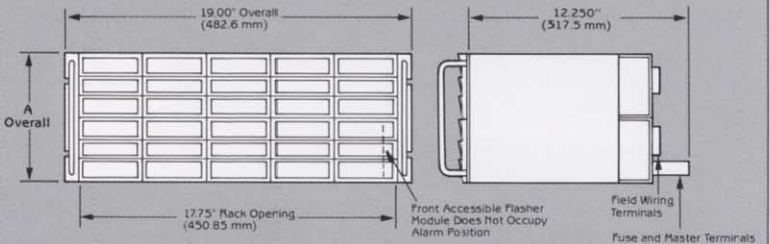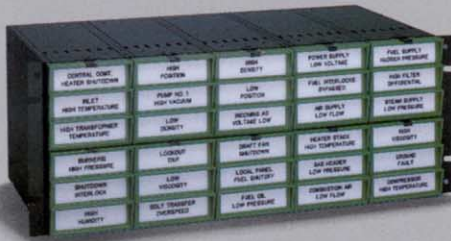Cabinet

.56" (14.22 mm)
Max. Panel Thickness

*Pushbutton Stations

*The integral Pushbutton Station shown is available as an option and may occupy any position in the system. Pushbutton stations will operate in conjunction with externally wired pushbuttons. The lower, right hand position also houses the Flasher/Horn Driver Module.

A Overall
B Cutout
.86" High × 3" Wide Window
(21.84 mm × 76.20 mm)

Option: Pushbutton Module Standard Position;
Other Positions Optional

Front Accessible Flasher Module
Does Not Occupy Alarm Position

14.125"
(358.775 mm)
12.250"●
(317.5 mm)
2.00"
(50.80 mm)

.75" (19.05 mm)
Conduit K.O.

Removable Rear
Cover With Captive
Fasteners

Field Wiring Terminals
Fuse and Master Terminals

● Depth With Side and Rear Cover Removed
Note: Standard Finish Baked Enamel Black

| Number of Windows | | A Overall | | B Cutout | |
|---|---|---|---|---|---|
| High | Wide | In. | mm | In. | mm |
| 3 | 1 | 5.00 | 127.0 | 4.38 | 111.1 |
| 6 | 2 | 8.50 | 215.9 | 7.88 | 200.0 |
| 9 | 3 | 12.00 | 304.8 | 11.38 | 288.9 |
| 12 | 4 | 15.50 | 393.7 | 14.88 | 377.8 |
| 15 | 5 | 19.00 | 482.6 | 18.38 | 466.7 |
| 18 | 6 | 22.50 | 571.5 | 21.88 | 555.6 |
| 21 | 7 | 26.00 | 660.4 | 25.38 | 644.5 |
| 24 | 8 | 29.50 | 749.3 | 28.88 | 733.4 |
| 27 | 9 | 33.00 | 838.2 | 32.50 | 825.5 |
| 30 | 10 | 36.50 | 927.1 | 36.00 | 914.4 |
| 33 | 11 | 40.00 | 1016.0 | 39.50 | 1003.3 |
| 36 | 12 | 43.50 | 1104.9 | 43.00 | 1092.2 |

## Model X11RR-3000
### Relay Rack Mounting Type
*19 Inch Rack Mounting — Standard*
*24 Inch Rack Mounting — Optional*

A Overall
19.00" Overall
(482.6 mm)
17.75" Rack Opening
(450.85 mm)
12.250"
(317.5 mm)

Front Accessible Flasher
Module Does Not Occupy
Alarm Position

Field Wiring
Terminals
Fuse and Master Terminals

| Number of Windows | | A Overall | |
|---|---|---|---|
| High | Wide | In. | mm |
| 3 | 5** | 3.5 | 88.9 |
| 6 | 5 | 7.0 | 177.8 |
| 9 | 5 | 10.5 | 266.7 |
| 12* | 5 | 14.0 | 355.6 |

*Not limited to 8 high
**Limited to 5 wide only (19 inch, 483 mm rack)
Also available 6 wide (24 inch, 610 mm rack)

## Series X11-3000
### Rear Terminal Arrangement and Wiring Information

Field Contact Inputs
Aux. Relay Contact Outputs
Master Terminals
Alarm Module Output
Aux. Contact Module Output

First-Out Grouping

Connect to All
ME Terminal of Points
Desired in a Group

Auxiliary Relay
Jumper Straps

115 VAC
Power Supply

Test
Silence
ACK
Reset
AC Horn

Horn
Relay

X36 Electronic Horn

Use Horn Relay or
Electronic Horn

Not Used
Transistor
Output

+V
−V
TOA

+V
−V
TOB

+V
−V
TOC
Drive Capacity
500 MA at 24 VDC

NO
C
NC

Internal Circuit

*Notes:*

1. CA Terminal Provides Logic Zero as Long as Any Point in the System Is in Alarm
2. RF Terminal Provides an Output Pulse to Reflash a Remote Annunciator as New Points Alarm
3. F1,F2 Flasher Sync Connection for Multichassis Applications
4. Silence Pushbutton Optional, Not Required for Operation
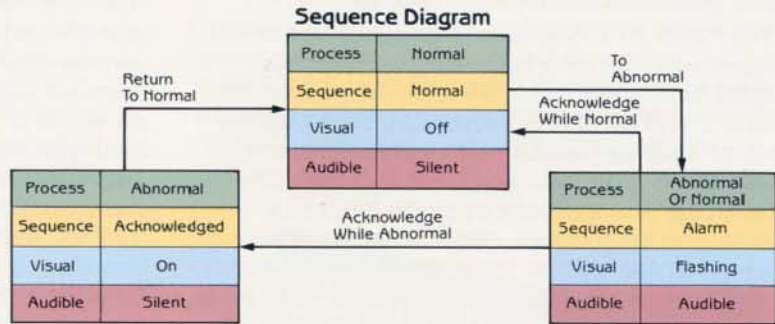5. Reset Pushbutton Only Used for F3A Sequence

# SEQUENCES

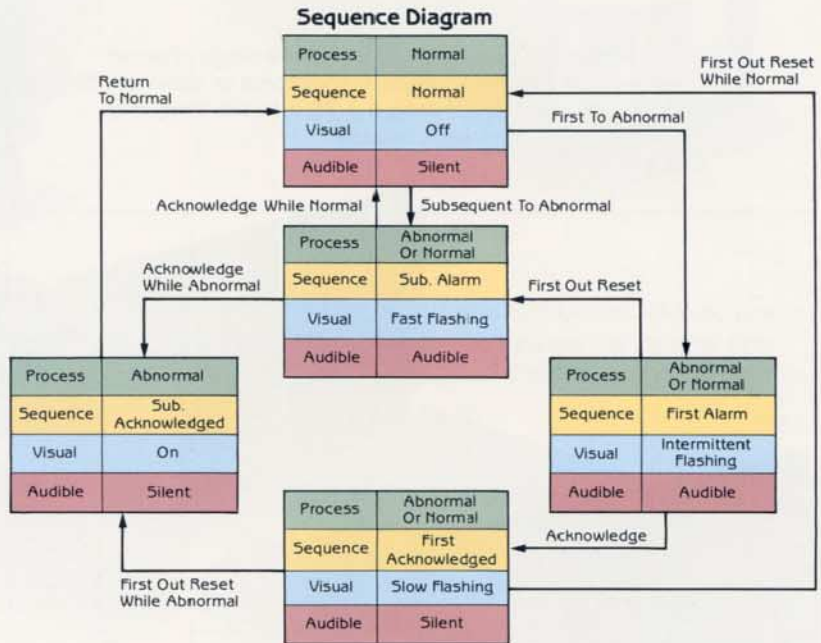## Sequence A, Automatic Reset

### Sequence Features

1. Acknowledge and Test Pushbuttons.
2. Alarm Audible Device.
3. Lock-In of Momentary Alarms Until Acknowledged.
4. The Audible Device is Silenced and Flashing Stops When Acknowledged.
5. Automatic Reset of Acknowledged Alarm Indications When Process Conditions Return to Normal.
6. Operational Test.

### Sequence Diagram

| Process | Normal |
|---------|--------|
| Sequence | Normal |
| Visual | Off |
| Audible | Silent |

Return To Normal → 

To Abnormal

Acknowledge While Normal

| Process | Abnormal |
|---------|----------|
| Sequence | Acknowledged |
| Visual | On |
| Audible | Silent |

Acknowledge While Abnormal

| Process | Abnormal Or Normal |
|---------|--------------------|
| Sequence | Alarm |
| Visual | Flashing |
| Audible | Audible |

## Sequence F3A, Automatic Reset First Out With First Out Flashing and Reset Pushbutton
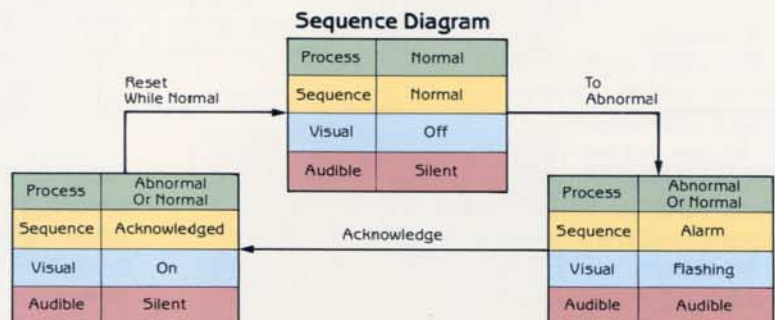
### Sequence Features

1. Acknowledge, First Out Reset, and Test Pushbuttons.
2. Alarm Audible Device.
3. Lock-In of Momentary Alarms Until Acknowledged.
4. First Out Flashing Different from Subsequent Flashing.
5. First Out Reset Pushbutton to Change the First Out Visual Indication to be the Same as Subsequent Visual Indications.
6. Automatic Reset of Acknowledged Alarm Indications When Process Conditions Return to Normal.
7. Operational Test.

### Sequence Diagram

| Process | Normal |
|---------|--------|
| Sequence | Normal |
| Visual | Off |
| Audible | Silent |

Return To Normal

First Out Reset While Normal

First To Abnormal

Acknowledge While Normal    Subsequent To Abnormal

| Process | Abnormal Or Normal |
|---------|--------------------|
| Sequence | Sub. Alarm |
| Visual | Fast Flashing |
| Audible | Audible |

Acknowledge While Abnormal

First Out Reset

| Process | Abnormal Or Normal |
|---------|--------------------|
| Sequence | First Alarm |
| Visual | Intermittent Flashing |
| Audible | Audible |

| Process | Abnormal |
|---------|----------|
| Sequence | Sub. Acknowledged |
| Visual | On |
| Audible | Silent |

Acknowledge

| Process | Abnormal Or Normal |
|---------|--------------------|
| Sequence | First Acknowledged |
| Visual | Slow Flashing |
| Audible | Silent |

First Out Reset While Abnormal

## Sequence M, Manual Reset

### Sequence Features

1. Acknowledge, Reset and Test Pushbuttons.
2. Alarm Audible Device.
3. Lock-In Momentary Alarms Until Acknowledged.
4. The Audible Device Is Silenced and Flashing Stops When Acknowledged.
5. Manual Reset of Acknowledged Alarm Indications After Process Conditions Return to Normal.
6. Operational Test.

### Sequence Diagram

| Process | Normal |
|---------|--------|
| Sequence | Normal |
| Visual | Off |
| Audible | Silent |

Reset While Normal

To Abnormal

| Process | Abnormal Or Normal |
|---------|--------------------|
| Sequence | Acknowledged |
| Visual | On |
| Audible | Silent |

Acknowledge

| Process | Abnormal Or Normal |
|---------|--------------------|
| Sequence | Alarm |
| Visual | Flashing |
| Audible | Audible |

9

For other sequences contact factory or see enclosures.
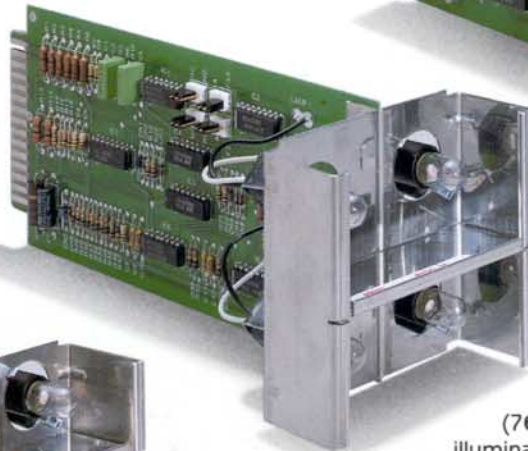
# ALARM MODULES

## Alarm Sequence/Display Module

The Model X11 is offered in two dual sequence configurations, allowing field selection of either the most commonly used ISA-A, or the popular first out ISA-F3 and the ISA-M sequences, selectable by means of a jumper switch setting on each alarm module. ISA-R Ring Back and ISA-A-4-5 status Indication are also available as single sequence modules. The combination display/alarm module contains a single, dual or triple alarm channel circuit with the appropriate dual lamp display constructed as a single plug-in module. The modules are removable from the front of the system without interference with the remaining channels of the system. The window display areas are contained within Ronan's standard colored bezels, allowing multi-line engraving on single or sandwich lenses. The alarm logic may interface with a normally open or normally closed field contact. The field contacts are interrogated by the system's 24VDC logic supply, or optionally with 125VDC from a dual output power supply, if so specified. Modules are available with optical isolation and can accept 115VAC or 125VDC live field contact voltages.
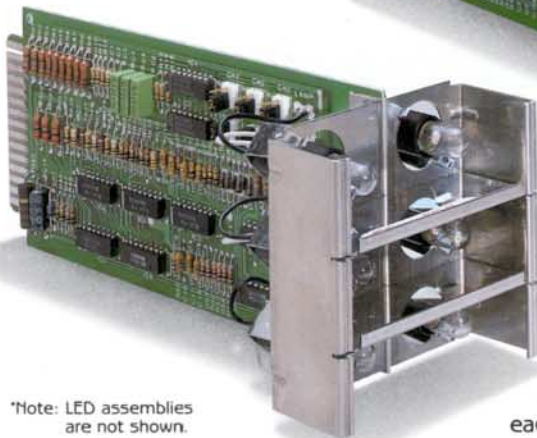
## Monalarm

The monalarm plug-in module features single channel alarm logic with two 3 watt incandescent or optional LED type indicators* illuminating a 2.75 inch (70 mm) high by 3 inch (76 mm) wide window.

## Binalarm

The two-window binalarm module contains two channels of alarm logic to display alarm conditions on two windows, sized for 1.44 inch (36 mm) high and 3 inch (76 mm) wide lenses. Each window is illuminated by two 2 watt lamps or LED type indicators.*

## Trialarm

The trialarm module represents the highest possible density of the Model X11 Series. The three 0.86 inch (22 mm) high by 3 inch (76 mm) wide windows are illuminated by three sets of two 2 watt lamps or optional LED type indicators*, each set driven by one channel of the three channel alarm logic.

*Note: LED assemblies are not shown.

## Output Features

The Model X11 System provides a common trouble alarm (CTA) output, presented on the master terminal assembly. This output drives a system's internally or remotely mounted relay to annunciate an alarm condition if any one or more points in the system are in alarm. A second output, also presented on the master terminal assembly, features a reflash signal which allows reannunciation to a remote system of any one window going into alarm. In addition, each field contact input is repeated and presented as an output on rear terminals by way of an open collector transistor. These, per-point, outputs allow multigrouping of alarms, or are utilized to drive internal auxiliary contact repeater relays, providing a Form C contact, available on rear mounted terminals.

The dual frequency flashing signal generator and the pushbutton/audible alarm interface is furnished by the flasher module. The flasher is master/slave selectable to allow sychronization of flash rates in multi-system applications. The module is designed to drive up to 150 points of alarm and for convenience purposes is always located behind the lower right hand module of the system.
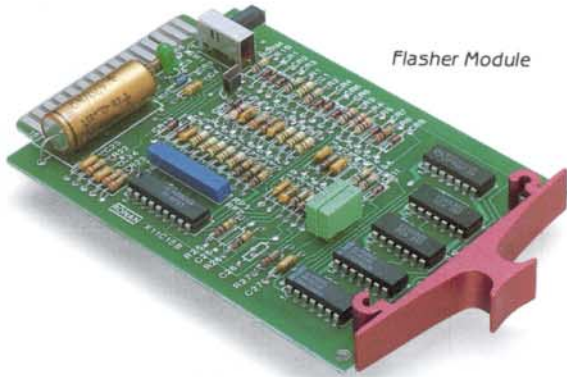
Two, three or four pushbuttons, depending on the sequence selection, may be specified. The horn driver capability of either module is sized to drive a KRP-24VDC Horn Relay or a Ronan Model X36-24 Electronic Horn. Ordering Pushbutton Module with SILENCE adds useful feature to the basic ISA sequence.

Flasher Module

Pushbutton Module
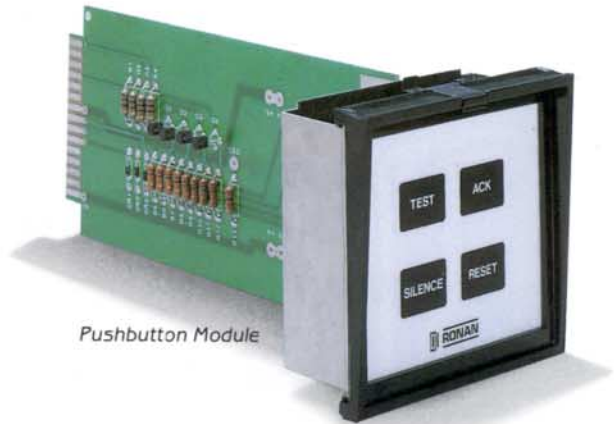
## Auxiliary Contact Module

The auxiliary contact module is available with a single, dual or triple relay circuit, accommodating the window density selected. The modules plug in from the front of the system and may be purchased initially, or added later in the field. The terminals for the contact outputs are furnished on a small subpanel to be mounted on the rear terminal plate of each mechanical module. Each relay provides a Form C type contact with a rating of 3 Amp. at 28VDC, or 2 Amp. at 115VAC for the General Purpose type, and 2 Amp. at 28VDC or 1 Amp. at 115VAC for Hermetically Sealed relays.
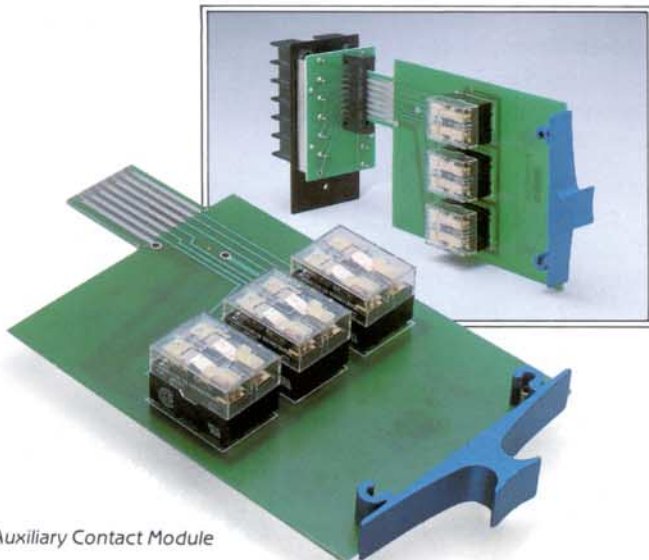
## Filter Module

All remotely located pushbuttons and DC power input lines are fed to the system via integral filter modules, servicing up to 50 alarm points (36 points for 1000 Series).

Filter Module RF-24-1

Filter Module RF-24-2
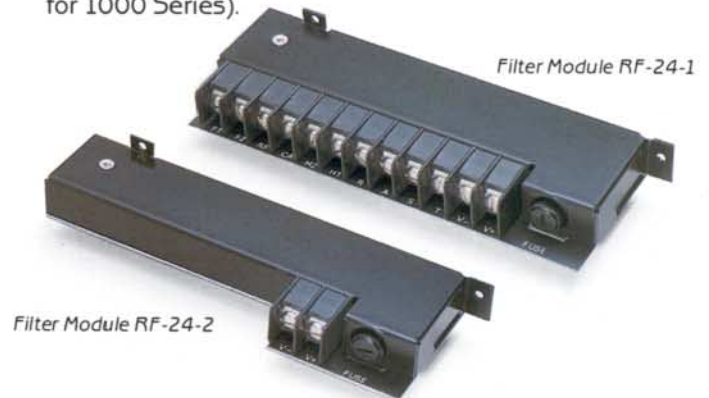
## Master Terminals

The remote pushbuttons, audible alarm and power wiring are terminated at the Master Terminal Assembly located on the rear of the system's chassis. Polarity protection, to prevent reverse power hook-up, and a system's fuse, are an integral part of the Master Terminal Assembly.

Auxiliary Contact Module

11

# NAMEPLATE ENGRAVINGS

Letter Size (inches)  Characters per Line  Number of Lines

*Actual Size*

1/4 RONAN 11/6

3/16 RONAN 14/7

5/32 RONAN 17/8

1/8 RONAN 22/10

**Monalarm Series 1000** — Model WB1-(   )*

1/4 RONAN 11/3
3/16 RONAN 14/3
5/32 RONAN 17/4
1/8 RONAN 22/5

1/4 RONAN 11/3
3/16 RONAN 14/3
5/32 RONAN 17/4
1/8 RONAN 22/5

**Binalarm Series 2000** — Model WB2-(   )*

1/4 RONAN 11/2

3/16 RONAN 14/2

5/32 RONAN 17/2
1/8 RONAN 22/3

**Trialarm Series 3000** — Model WB3-(   )*

12

## Bezel Colors Available:

| | | |
|---|---|---|
| Black (0) | Green (5) | Grey (8) |
| White (9) | Yellow (4) | Blue (6) |
| Red (2) | Brown (1) | |

*Color Code
Typical Bezel Ordering Information WB3-(0) (Black Bezel for Trialarm Series)

## System Color Coding

### Display and Nameplates

Ronan's Window Annunciator may be color coded by plant or process function with colored bezels and solid color or sandwich type nameplates.
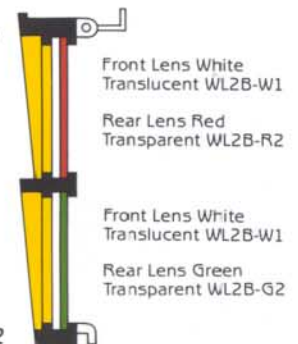
### Bezels

The Bezels are available in eight (8) colors without additional cost, allowing very distinct differentiation between groups of internal system's function, e.g., same sequence, first out groups, common alarm groups, etc., or plant and process groups of similar functions.

### Colored Nameplates

The Nameplates may be supplied in five distinct standard colors to identify functions such as fire alarm, shutdown, etc.

### Sandwich Nameplates

The Sandwich Nameplates, an option exclusive to the Ronan Visual Annunciator, are generally supplied with white front lens and colored back lens. This lens combination displays all windows white in non-lit status, changing to the selected color in OFF-Normal condition.

Front Lens White
Translucent WL2B-W1

Rear Lens Red
Transparent WL2B-R2

Front Lens White
Translucent WL2B-W1

Rear Lens Green
Transparent WL2B-G2

*Typical Bezel DB2*

# POWER SUPPLIES/INVERTERS

Your Alarm System may be powered from 115VAC 60 Hz, 220VAC 50 Hz or 125VDC sources by using a power supply or inverter, generating a nominal 24VDC unregulated voltage (18-28VDC) for the logic and lamps, and 24VDC or 125VDC for field contact interrogation.

## Power Requirement

To specify the correct power supply, count the number of active and future alarm modules you would like to power from the supply. Calculate the total requirement as follows:

Total Watts = No. of Alarm Modules × Factor (F)

$F = 7.5$ for X11-1000
$F = 10.5$ for X11-2000
$F = 15.5$ for X11-3000

*F includes power requirements for Auxiliary Contact Relays (less 1 Watt if relays are not required).*

Match the total wattage with the next higher power rating of the listed Power Supply or Inverter.
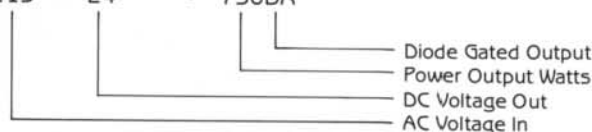
## DC — DC Converters

Model — Power Failure, Circuit Breaker, Power ON Light, Diode Gated

```
125  -  24/125  -  150SCP
125  -  24/125  -  300SCP
125  -  24/125  -  600SCP
 48  -  24/125  -  150SCP
 48  -  24/125  -  300SCP
 48  -  24/125  -  600SCP
```
— Power Output Watts
— DC Voltage Out
— DC Voltage In
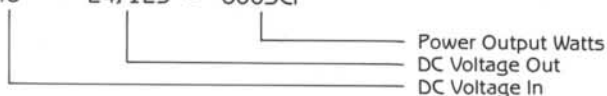
## AC — DC Power Supplies

```
115  -  24       -  125
115  -  24       -  250
115  -  24       -  375
115  -  24       -  500
115  -  24       -  750

220  -  24       -  125
220  -  24       -  250
220  -  24       -  375
220  -  24       -  500
220  -  24       -  750

115  -  24/125   -  125
115  -  24/125   -  250
115  -  24/125   -  375
115  -  24/125   -  500
115  -  24/125   -  750

115  -  24       -  250DA
115  -  24       -  375DA
115  -  24       -  500DA
115  -  24       -  750DA
```
— Diode Gated Output
— Power Output Watts
— DC Voltage Out
— AC Voltage In

## General Specifications

### Systems Voltage:
*Logic, Field Contact, Lamps:* 24VDC ±20%
*Field Contact:* 125VDC ±20% Optional

### Power Sources:
*Systems External Power Supplies or Inverters Available for:* 120VAC ±20% 60Hz; 240VAC ±20% 50/60Hz; 24, 48 or 125VDC ±20%

### Temperature Range:
*Storage:* −40° to +85°C (−40° to +185°F)
*Operating:* −40° to +60°C (−40° to +185°F) with incandescent lamps; 0° to +60°C (32° to +140°F) with LED type indicators.

### Inputs:
*Contact:* Normally Open, Normally Closed; Systems Internal Interrogation Voltage 24VDC Standard, 48 or 125VDC Opt.

### Response Time:
10 msec Nominal

### Surge Withstand Capability (SWC):
*All Logic Tested to:* IEEE 472 — 1974 and ANSI/IEEE C37-90 — 1978

### Outputs:
*Light:* Fast Flash, Slow Flash, Steady On, Intermittent Fast Flash
*Alarm:* Single Audible
*Auxiliary Relay:* Form C, Normally Not Energized
*Hermetically Sealed:* Rating 2 Amp. 28VDC, 1 Amp. 115VAC
*General Purpose:* Rating 3 Amp. 28VDC, 2 Amp. 115VAC
*Audible-, Retransmit-, Common Trouble Alarm Relay:* DPDT, Rating 10 Amp. 28VDC, 10 Amp. 125VAC

### Controls:
*Integral or Remote Silence, Acknowledge, Reset, Test:* Momentary Pushbutton, Single Pole, Normally Open

### Systems Size:
*Multiple of Cabinet Module:* 3.5" (89 mm) × 3.5" (89 mm)

### Systems Weight:
*Per Cabinet Module:* 1.5 lbs. (.69 kg) Not Including Power Supply

## Pushbuttons



### General Purpose

| Type | Contact | Rating |
|------|---------|--------|
| 202B Oil Tight | 1NO 1NC | |
| 203B Pushbutton | 2 NO 2NC | 24VDC, 5 Amp. |
| 2025 Oil Tight | 1NO 1NC | 125VDC, 2 Amp. |
| 2035 Switch | 2NO 2NC | |

### Mercury Type — Class I Div. 2 Locations

| Type | Contact | Rating |
|------|---------|--------|
| X13P ( ) ( ) P.B. | Up to | 24VDC, 10 Amp. |
| X13S ( ) ( ) Switch | 4NO or NC | 125VDC, 5 Amp. |

└─── NO or NC
    └── Number of Contacts



## Horn Relays

### General Purpose

| Model | Voltage | Contact Rating |
|-------|---------|----------------|
| KRP-24VDC | 24VDC | 10 Amp. |

### Hermetically Sealed — Class I Div. 2

| Model | Voltage | Contact Rating |
|-------|---------|----------------|
| KR7272 | 24VDC | 10 Amp. |



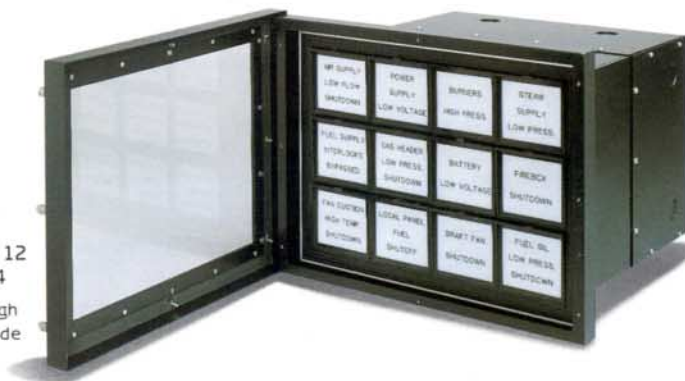## Socket

Model 146-103 to be mounted by customer.

## Power Supplies

*(For Details see Page 13)*

## Water Tight Doors

( ) ( ) X11-1022N12, Nema 12
( ) ( ) X11-1022N4, Nema 4

└─── Cabinet Modules High
    └── Cabinet Modules Wide



## Horns — Vibrating Type



| Model | Description |
|-------|-------------|
| 350N-115 VAC | Class I, Division 2 or General Purpose |
| 450N-(Voltage) | General Purpose — Specify 125VDC or 24VDC |
| 350W-115 VAC | Class I, Division 2 or General Purpose |
| 450W-(Voltage) | General Purpose — Specify 125VDC or 25VDC |
| 350F-115 VAC | Class I, Division 2 or General Purpose |
| 450F-(Voltage) | General Purpose — Specify 125VDC or 24VDC |
| 351N-115 VAC | Class I, Division 2 or General Purpose |
| 451N-(Voltage) | General Purpose — Specify 125VDC or 24VDC |
| 351W-115 VAC | Class I, Division 2 or General Purpose |
| 451W-(Voltage) | General Purpose — Specify 125VDC or 24VDC |
| 8140-115 VAC | Explosion Proof Class I, Division 1 |
| 8141-(Voltage) | Explosion Proof Class I, Division 1, 125VDC or 24VDC |
| 300XB-(Voltage) | Explosion Proof Class I, Division 1, 24VAC, 125VDC or 24VDC |
| 8130-115 VAC | Explosion Proof Class I, Division 1 |
| 8131-24VDC | Explosion Proof Class I, Division 1 |

*Choose voltage from description column.

## Bells



| Model | Description |
|-------|-------------|
| 504N-115 VAC | General Purpose, 4 Inch Diameter |
| 506N-115 VAC | General Purpose, 6 Inch Diameter |
| 510N-115 VAC | General Purpose, 10 Inch Diameter |
| 604N-125 VDC | General Purpose, 4 Inch Diameter |
| 606N-125VDC | General Purpose, 6 Inch Diameter |
| 610N-125VDC | General Purpose, 10 Inch Diameter |
| 504W-115 VAC | Weatherproof, 4 Inch Diameter |
| 506W-115 VAC | Weatherproof, 6 Inch Diameter |
| 510W-115 VAC | Weatherproof, 10 Inch Diameter |
| 604W-125VDC | Weatherproof, 4 Inch Diameter |
| 606W-125VDC | Weatherproof, 6 Inch Diameter |
| 610W-125VDC | Weatherproof, 10 Inch Diameter |

## Chimes — Single Stroke



X12-1128-115VAC
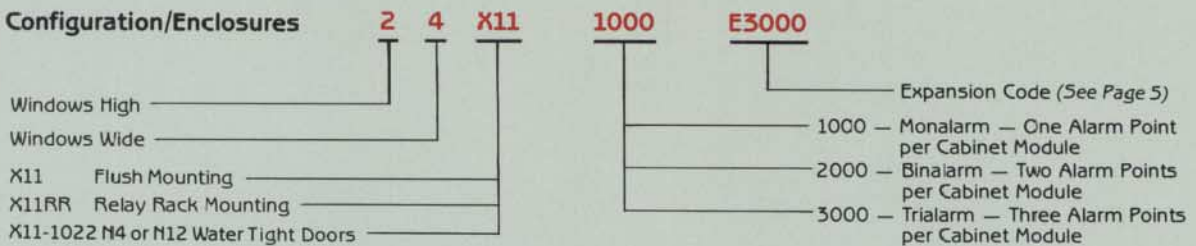X12-1128-125VDC
X12-1128-24VDC

## Horns — Electronic



X36-24VDC
X36-48VDC
X36-115VAC
Sonalert-24VDC
Sonalert-115VAC

14

# TYPICAL ORDERING INFORMATION

## X11 Series Window Model

**QTY**

**Configuration/Enclosures**  **2**  **4**  **X11**  **1000**  **E3000**

Expansion Code *(See Page 5)*

1000 — Monalarm — One Alarm Point
per Cabinet Module

2000 — Binalarm — Two Alarm Points
per Cabinet Module

3000 — Trialarm — Three Alarm Points
per Cabinet Module

Windows High
Windows Wide

X11       Flush Mounting
X11RR    Relay Rack Mounting
X11-1022 N4 or N12 Water Tight Doors

### System Detail
Cabinet Modules

### Alarm/Display Modules

| | |
|---|---|
| X11/1-F3A/A | Monalarm, Single Alarm Point and Display Module |
| X11/1-M/A | Monalarm, Single Alarm Point and Display Module |
| X11/2-F3A/A | Binalarm, Dual Alarm Points and Display Module |
| X11/2-M/A | Binalarm, Dual Alarm Points and Display Module |
| X11/3-F3A/A | Trialarm, Three Alarm Points and Display Module |
| X11/3-M/A | Trialarm, Three Alarm Points and Display Module |

### Support Modules

| | |
|---|---|
| X11-FHD | Flasher/Horn Driver Integral (Order One Per 150 Points) |
| X11-PB2 | Pushbutton Module (Ack, Test) Occupies One Cabinet Module * |
| X11-PB3A | Pushbutton Module (Ack, Reset, Test) Occupies One Cabinet Module * |
| X11-PB3B | Pushbutton Module (Sil, Ack, Test) Occupies One Cabinet Module * |
| X11-PB4 | Pushbutton Module (Sil, Ack, Reset, Test) Occupies One Cabinet Module * |
| X11-RF-24-1 | Filter Module (Order One for Each 10 Amperes Input Power) |
| X11-RF-24-2 | Filter Module (Order One for Each Additional 10 Amperes Input Power) |

*Pushbutton Module Will Be Located in the Lower Right Corner (If Not Otherwise Specified)

### Auxiliary Function Modules

| | |
|---|---|
| X11/1-Aux-( ) | Single Point Auxiliary Contact Module *(See Page 11)* |
| X11/2-Aux-( ) | Dual Points Auxiliary Contact Module *(See Page 11)* |
| X11/3-Aux-( ) | Triple Points Auxiliary Contact Module *(See Page 11)* |

GP or HS

### Accessories

| | |
|---|---|
| 202B | Pushbutton, Externally Mounted — General Purpose *(See Page 14)* |
| X13P1NO | Pushbutton, Externally Mounted — Class I, Div. 2 *(See Page 14)* |
| KRP-24 | Horn Relay — General Purpose Type *(See Page 14)* |
| KR-7272 | Horn Relay — Class I, Div. 2 Type *(See Page 14)* |
| 146-103 | Socket for Horn Relay for External Mounting |
| _____ | Horns *(See Page 14)* |
| _____ | Bells *(See Page 14)* |
| _____ | Chimes *(See Page 14)* |
| _____ | Power Supply/Inverter (Order as Required) *(See Page 13)* |

### Options

- Gold Plated Printed Circuit Connectors
- Fungus Proof Coating
- Sandwich Lenses (Specify Colors)
- Colored Lenses (Specify Colors)
- System Air Purge

15

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