Seekirk

Model A1600 Series Annunciator

Applications:

For usage in all types of process industries, electric generation, transmission and distribution, gas and water utilities.

Features:

The Seekirk model A1600 is a window type annunciator offering a wide range of configurations presented to the user.

- Each module can be configured to allow from one to four alarm points per window without requiring additional power supplies or terminals.
- Window sizes may be all the same or may vary from module to module.
- For ease of maintenance, all circuit cards are plug-in and accessible from the front of the annunciator.
- All power supplies are integral to the annunciator and sectionalized within the annunciator to provide maximum reliability.
- Each point card utilizes a non-microprocessor based programmable logic device (CPLD) to generate all standard ISA and customer specified alarm sequences. The CPLD allows for fast design turn-around time for custom alarm sequences specified by the customer as well as providing high reliability and very low power consumption.
- Optically isolated input field contacts.
- Auxiliary relay dry contacts per alarm point.
- Each input for field contacts and auxiliary relays are field selectable for either normally open (form A) or normally closed (form B).
- Illumination sourced by the standard low-cost 28MB incandescent lamps or by optional low-power consumption LEDs in the available colors of red, amber, green, blue, and white.
- Optional bezel colors of red, yellow, green, blue, and black being the standard color.
- Unit mounting is available as either as flush or optional 19 inch or 24 inch rack mounts.
- Available options include for example; major (critical)/minor (non-critical) alarm relays, integral horn, and NEMA enclosures.

Specifications

AC Power:
Voltage input range- 110 or 220 VAC.

DC Power:
Voltage input range- 24, 48, 125 or 250 VDC.

Field Contact Input:
Input voltage range- 24 to 250 VDC or 18 to 220VAC.
Optocoupler rating- Minimum of 2500 VAC Withstand Test Insulation.
Input protection- Metal Oxide Varistor. Max. clamping voltage 360 Volts @ 2.0 Amps during a current pulse of 8/20 uSec.
Response Time:
1) Standard - 5.0 ms min.
2) Optional – Customer specified up to 1sec.
DIP Switch Selectable per Point:
1) N.O. or N.C. field contact input.

Display:
Standard – 28MB incandescent lamps.
Optional – LED; red, amber, green, blue, and white.
Legends – engraved windows.

Auxiliary Relay Ratings:
Max. switching voltage- 200 VDC.
Max. switching current- 1.0Amps.
Max. power rating- 10 VA.
Relay type- SPST.
DIP Switch Selectable per Point:
1) N.O. or N.C. contacts.

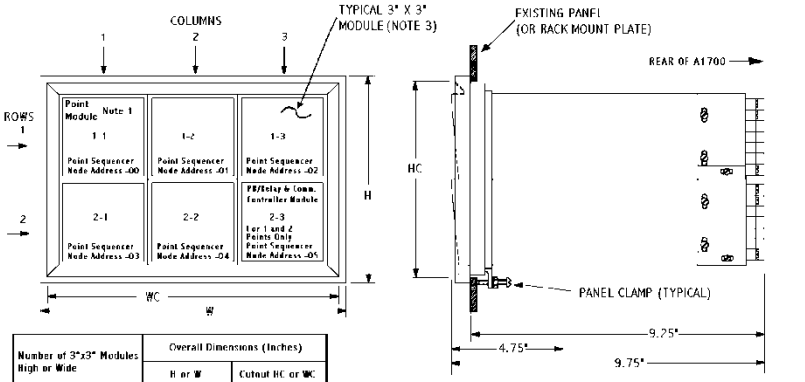
Alarm/Common Relay Ratings:
Max. switching current- 2.0 Amps @ 28 VDC. 1.0Amp @ 120 VAC.
Relay type- SPDT.
Optional Configuration:
1) Jumper selectable N.C. contact. Standard N.O. contact.
2) Reflash
3) Pulse

Audible – Internal (Optional):
Sound level- 75dB @ 2ft (61cm)

Mechanical:
Mounting and Enclosures -
Flush mounting is standard for the A1600. Optional 19" or 24" rack mount plates are available. Optional NEMA 4 or NEMA 12; wall, flush or special mounting. Consult factory for details.
Connections – Input/Output/Power
P.C. board mounted feed though barrier terminal block, with #6 screws suitable for #12 AWG wires.
Power Rating per Module:
Max. 6.0 watts @ input voltage, incandescent lamps.
Max. 2.9 watts @ input voltage, LED lamps.

Operating Temperature and Humidity Range:
14 to 158 degrees F. (-10 to 70 degrees C). 0-90% RH, non-condensing.

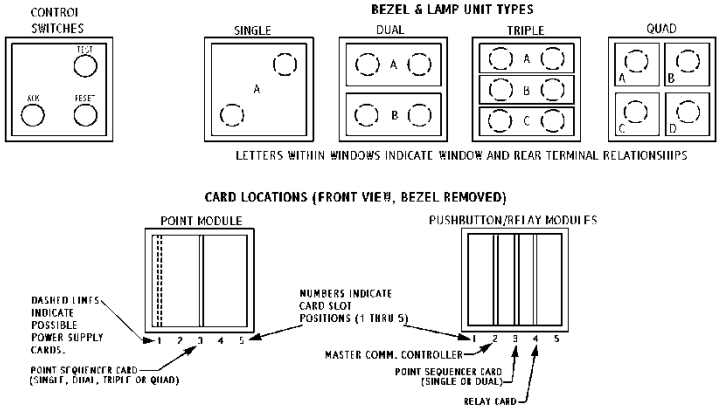
Dimensional Information and Wiring Hookup

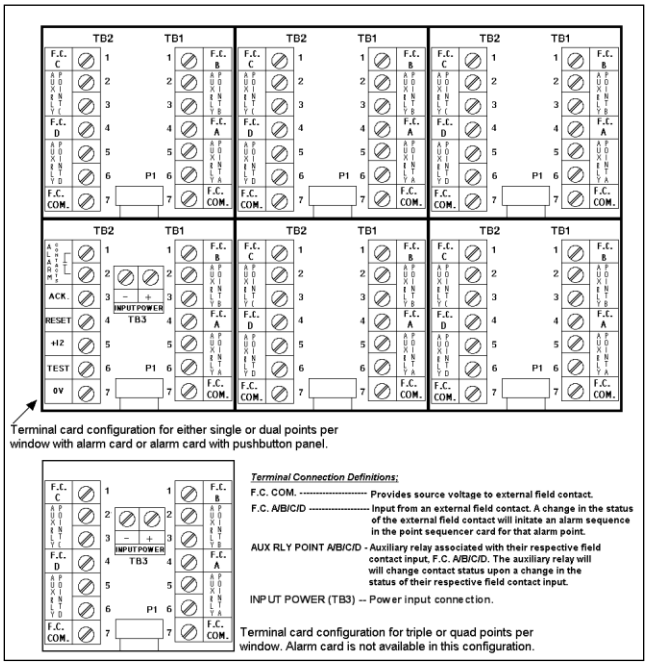


Number of 3"x3" Modules High or Wide	Overall Dimensions (Inches)	
	H or W	Cutout HC or WC
1	4.250"	3.875"
2	7.250"	6.875"
3	10.250"	9.875"
4	13.250"	12.875"
5	16.250"	15.875"
6	19.250"	18.875"
7	22.250"	21.875"
8	25.250"	24.875"
9	28.250"	27.875"
10	31.250"	30.875"
11	34.250"	33.875"
12	37.250"	36.875"
13	40.250"	39.875"
14	43.250"	42.875"

Note:
1) For location reference of a given 3" x 3" module, the first number is the horizontal row, the second number is the vertical column. Location 1 1 is always the top left hand module as viewed from the front.
2) Max. width for a rack mounted unit is 5 modules for a 19" rack or 7 modules for a 24" rack.
3) Any 3" x 3" module may contain 1, 2, 3, or 4 windows in a bezel.

Module Components (Front)





Terminal card configuration for either single or dual points per window with alarm card or alarm card with pushbutton panel.

Terminal Connection Definitions:

F.C. COM. ---------- Provides source voltage to external field contact.

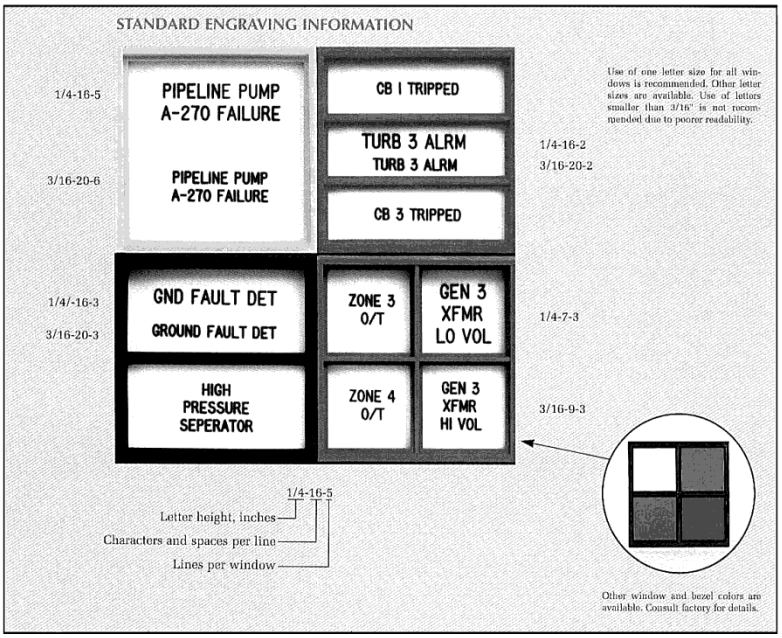
F.C. A/B/C/D ---------- Input from an external field contact. A change in the status of the external field contact will initate an alarm sequence in the point sequencer card for that alarm point.

AUX RLY POINT A/B/C/D - Auxiliary relay associated with their respective field contact input, F.C. A/B/C/D. The auxiliary relay will change contact status upon a change in the status of their respective field contact input.

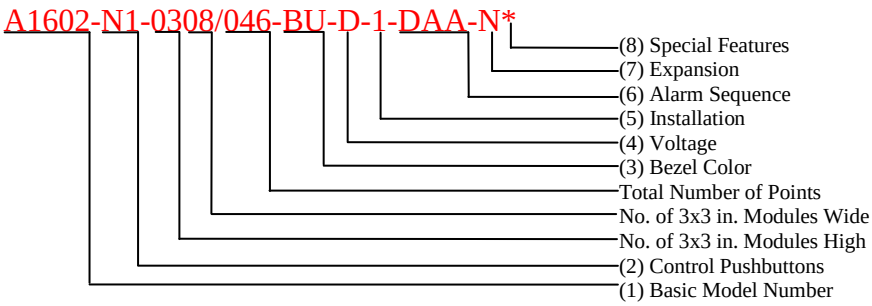
INPUT POWER (TB3) -- Power input connection.

Terminal card configuration for triple or quad points per window. Alarm card is not available in this configuration.

Window Engraving Information



Ordering and Specifying Information:



(1) Basic Model Number: (Window Size)
A1601 – 1 Point/Module –- 3.0”H x 3.0”W
A1602 – 2 Points/Module – 1.5”H x 3.0”W
A1603 – 3 Points/Module – 1.0”H x 3.0”W
A1604 – 4 Points/Module – 1.5”H x 1.5”W
A1605 – As Required ------- Mixed Sizes

(2) Control Pushbuttons: **N2**
Location
N – Integral
X – External – Specify style and part or model number if Seekirk is to supply.
Types
1- TEST, ACK
2 - TEST, ACK, RESET
3 - TEST, ACK, Horn Silence
4 - TEST, ACK, RESET, Horn Silence
5 - TEST, ACK, RESET, First In Reset
6 - TEST, ACK, RESET, First In Reset, Horn Silence

(3) Bezel Color:
RD – Red
YL – Yellow
GN – Green
BU – Blue
BK – Black - Standard
MX – Mixed

(4) Voltage:
B - 48 VDC
C – 125 VDC
D – 120 VAC 60Hz
E – 18 VAC 60Hz
F – 24 VDC
G – 230VAC 60 Hz
H – 250 VDC

(5) Installation:
1 –Flush mount, panel clips supplied (standard).
2 – 19” rack mount.
3 – 24” rack mount.
4 – Cabinet required – Specify type/style/size.

(6) Point Card Details: **DAA**
Sequence (Standard) (Note 1)
Letter from table, page 5
X – Mixed
Z – Special

Field Input Contacts: (Note 2 and 3)
A – All cards supplied for N.O. contacts.
B – All cards supplied for N.C. contacts.
C – Mixed per chart supplied with order
Auxiliary Relay Options: (Note 4)
A – N.O. contacts.
B – N.C. contacts.
C – Mixed per chart supplied with order.
D – Not required/not applicable.

(7) Expansion:
N – Non Expandable – A1601 or A1602 max. Expandable up to two points/module.
E – Expandable – A1601-A1604 max. Expandable up to four points/module.

(8) Special Features:
An “*” at the end will indicate special requirements not included in the standard model. Specify details.

Notes:
1) For additional or special sequences contact Seekirk.
2) All field contacts N.O./N.C. selections are configurable via DIP switches located on the point card.
3) All point cards are setup for a field contact voltage of 24VDC. If a different voltage is required, please specify voltage.
4) All auxiliary relay contacts N.O./N.C. selections are configurable via DIP switches located on the point card.

Standard Alarm Sequences

STANDARD POINT LOGIC CARD SEQUENCES

SEQUENCE OF EVENTS I OCCURS WHEN FIELD CONTACTS RETURN TO NORMAL AFTER "ACK" [1]

SEQUENCE OF EVENTS II OCCURS WHEN FIELD CONTACTS RETURN TO NORMAL BEFORE "ACK" [1]

SEQUENCE OF EVENTS I	→ 1	→ 2	→ 3	→ 4			→ 5	→ 6		
SEQUENCE OF EVENTS II	→ 1	→ 2			→ 3		→ 4	→ 5	→ 6	

POINT CARD SEQUENCE TYPE		SIGNAL DEVICE	FIELD CONTACTS STATUS		PUSHBUTTON OPERATION	FIELD CONTACTS STATUS		PUSHBUTTON OPERATION		
OUR LTR	NEW ISA		NORMAL	ALARM	"ACK"	RET TO NORM AFTER "ACK"	RET TO NORM BEFORE "ACK"	"ACK"	"RESET"	1ST OUT "RESET"
D	(A)	VISUAL AUDIBLE	OFF OFF	FLASH ON	ON OFF	OFF OFF	FLASH ON	OFF OFF	NA NA	NA NA
E	(A-5)	VISUAL AUDIBLE	OFF OFF	ON ON	ON OFF	OFF OFF	ON ON	OFF OFF	NA NA	NA NA
F	(A-4)	VISUAL AUDIBLE	OFF OFF	FLASH ON	ON OFF	OFF OFF	OFF OFF	OFF OFF	NA NA	NA NA
G	(A-4-5)	VISUAL AUDIBLE	OFF OFF	ON ON	ON OFF	OFF OFF	OFF OFF	OFF OFF	NA NA	NA NA
H	(A-13)	VISUAL AUDIBLE	DIM OFF	FLASH ON	ON OFF	DIM OFF	FLASH ON	DIM OFF	NA NA	NA NA
J	(R-8)	VISUAL AUDIBLE	OFF OFF	FLASH ON	ON OFF	DIM FLASH ON	FLASH ON	OFF OFF	NA NA	NA NA
K	(M)	VISUAL AUDIBLE	OFF OFF	FLASH ON	ON OFF	ON OFF	FLASH ON	ON OFF	OFF OFF	NA NA
L	(M-5)	VISUAL AUDIBLE	OFF OFF	ON ON	ON OFF	ON OFF	ON ON	ON OFF	OFF OFF	NA NA
M	(A-8-12)	VISUAL AUDIBLE	OFF OFF	FLASH ON	ON OFF	OFF BEEP	FLASH ON	OFF OFF	NA NA	NA NA
N	(F2A)	1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	FLASH ON ON	ON ON OFF	OFF OFF OFF	FLASH ON ON	OFF OFF OFF	NA NA NA	NA NA NA
P	(F2M)	1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	FLASH ON ON	ON ON OFF	ON ON OFF	FLASH ON ON	ON ON OFF	OFF OFF OFF	NA NA NA
Q		VISUAL AUDIBLE	OFF OFF	FAST FLASH ON	ON OFF	OFF OFF	SLOW FLASH ON	OFF OFF	NA NA	NA NA
R	(R)	VISUAL AUDIBLE	OFF OFF	FAST FLASH ON	ON OFF	SLOW FLASH ON	FAST FLASH ON	ON OFF	OFF OFF	NA NA
S	(F3A)	1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	FAST FLASH SLOW FLASH ON	ON ON OFF	OFF OFF OFF	FAST FLASH SLOW FLASH ON	OFF OFF OFF	NA NA NA	NA NA NA
T	(F3M)	1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	FAST FLASH SLOW FLASH ON	ON ON OFF	ON ON OFF	FAST FLASH SLOW FLASH ON	ON ON OFF	OFF OFF OFF	NA NA NA
[2] U		1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	FAST FLASH SLOW FLASH ON	FAST FLASH ON OFF	FAST FLASH ON OFF	FAST FLASH SLOW FLASH ON	FAST FLASH ON OFF	FAST FLASH OFF OFF	OFF OFF OFF
[3] V	(F3A-3)	1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	INT. FAST FL. FAST FLASH ON	SLOW FLASH ON OFF	SLOW FLASH OFF OFF	INT. FAST FL. FAST FLASH ON	SLOW FLASH OFF OFF	NA NA NA	OFF OFF OFF
[3] W	(F3M-3)	1ST VISUAL SUB. VISUAL AUDIBLE	OFF OFF OFF	INT. FAST FL. FAST FLASH ON	SLOW FLASH ON OFF	SLOW FLASH OFF OFF	INT. FAST FL. FAST FLASH ON	SLOW FLASH ON OFF	SLOW FLASH OFF OFF	OFF OFF OFF

[1] NOTE 1: STEP 5 OR 6 IN EITHER SEQUENCE OF EVENTS I OR II ARE NOT APPLICABLE (NA) WHERE SPECIFIED.

[2] NOTE 2: AT ANY TIME DURING THE SEQUENCE OF EVENTS, OPERATION OF THE 1ST OUT RESET WILL CAUSE THE 1ST VISUAL TO REVERT TO THE SUBSEQUENT STATE.

[3] NOTE 3: "INT. FAST FL." MEANS INTERMITTENT FAST FLASH.

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