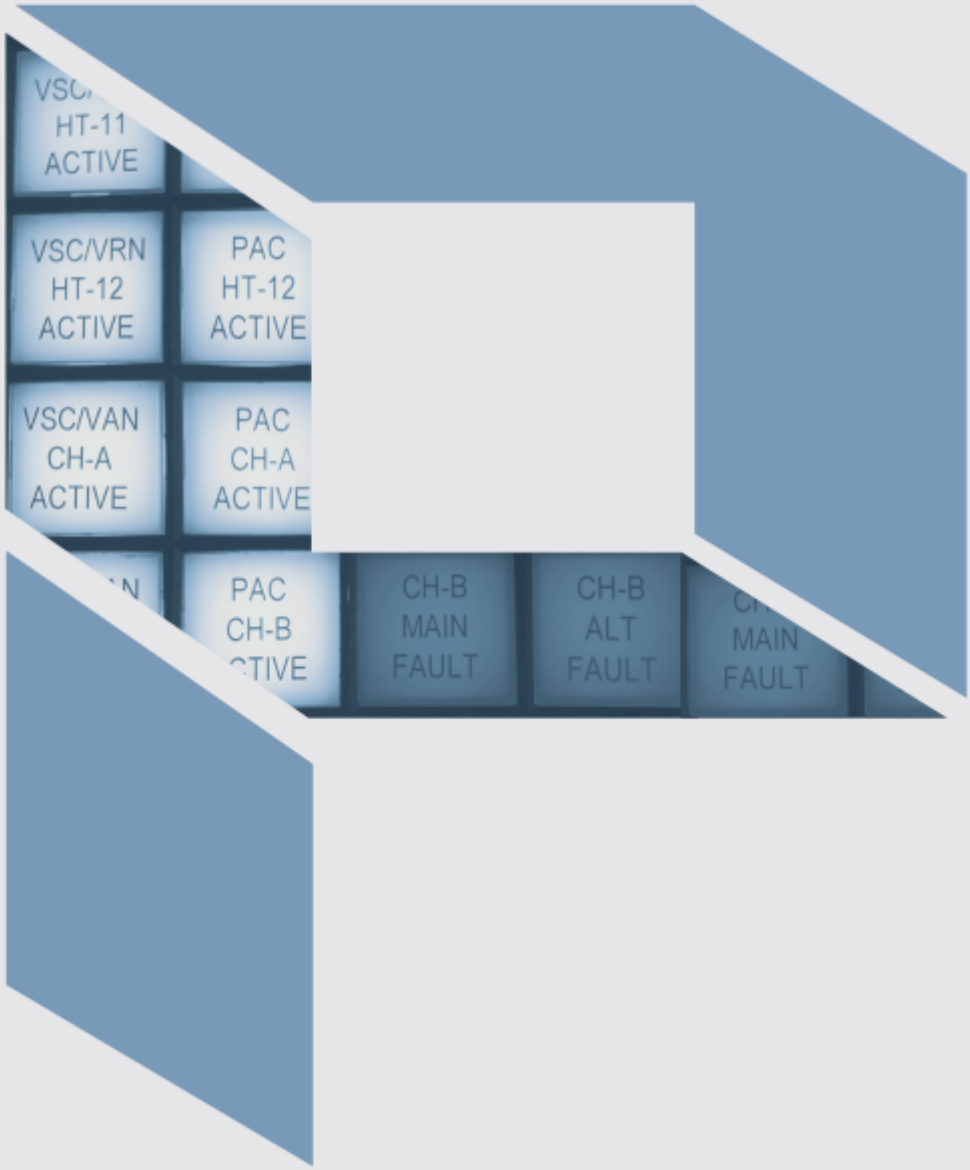
PULEO
ELECTRONICS

ALARM ANNUNCIATORS

Manufacturer Since 1968

HARDWARE & SOFTWARE



CONTENTS

THE PULEO ELECTRONICS EXPERIENCE

When you place an order with Puleo Electronics, we don't just sell you a product over the internet. Customer service and application engineering are both services we provide

When you call us, our technical staff will work with you to provide configuration drawings along with the quote. This assures you that both the part numbers and pricing are correct and that the products provided will work, "Out of the Box."

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WARRANTY

Puleo warranties its products against defective material and workmanship for one year from date of original purchased. During this warranty period, Puleo will repair or replace any component found to be defective.

PE102 RTU ANNUNCIATOR SERIES

OVERVIEW:

The PE102-24 and PE102-8/16 Annunciators are now available with built-in Ethernet and RS232/422 Communications for RTU capabilities. Models are available for 110, 220 Vac or 12, 24, 48, 125 Vdc operation and include our SDP Computer Alarm software at no extra charge.

In addition, Puleo's long distance dedicated Modem is available as an internal option. These versatile and compact RTU Annunciators make it easy to create plug & play Alarm Reporting Systems.

PE102 RTU-24 Model

RTU Annunciators are available in two configurations;

- Alarm Server with Encoder Technology
- Alarm Client with Decoder Technology

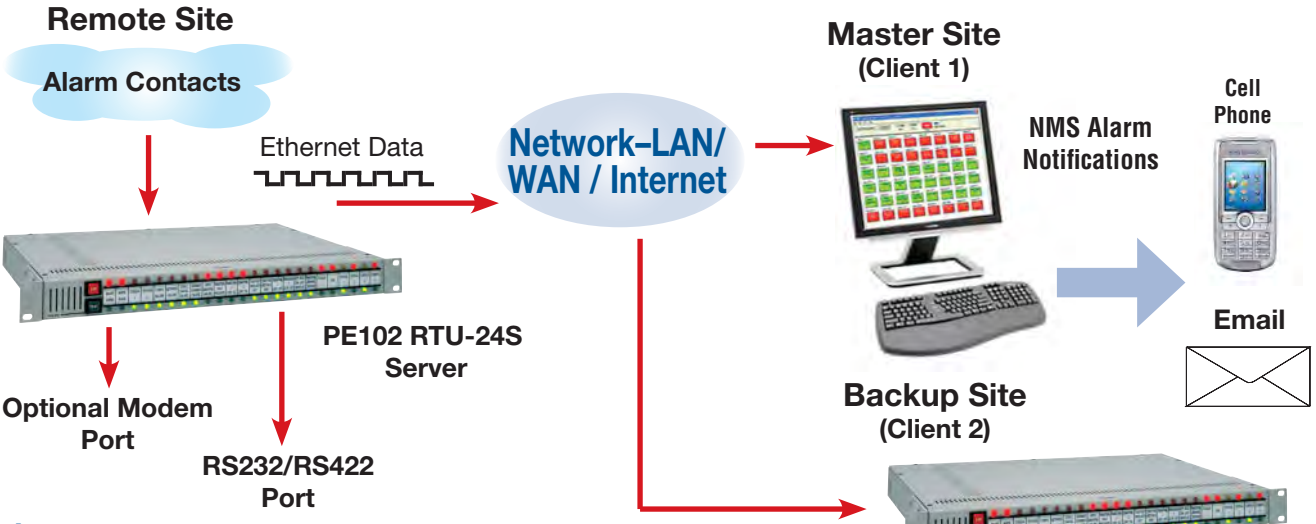
Server configurations can handle up to (6) Clients;

- (4) Ethernet Clients
- (1) RS232/RS422 Client
- (1) Optional Modem Client

PE102 RTU-8 & -16 Models

- 8 POINT UNIT AVAILABLE WITH CONTROL OPTION

Typical Monitoring Application– Ethernet Server handles up to (4) Simultaneous Clients (two shown)



Notes:

1. Cell Phone and Email Alarm Notification feature requires Software upgrade from SDP to NMS.
2. RS232 / RS422 Server port may also be used simultaneously with Ethernet port; Distances are 100' and 4000' respectively.
3. Optional Dedicated Modem supports up to 10 miles over a single 24 awg copper pair

Typical Control Application

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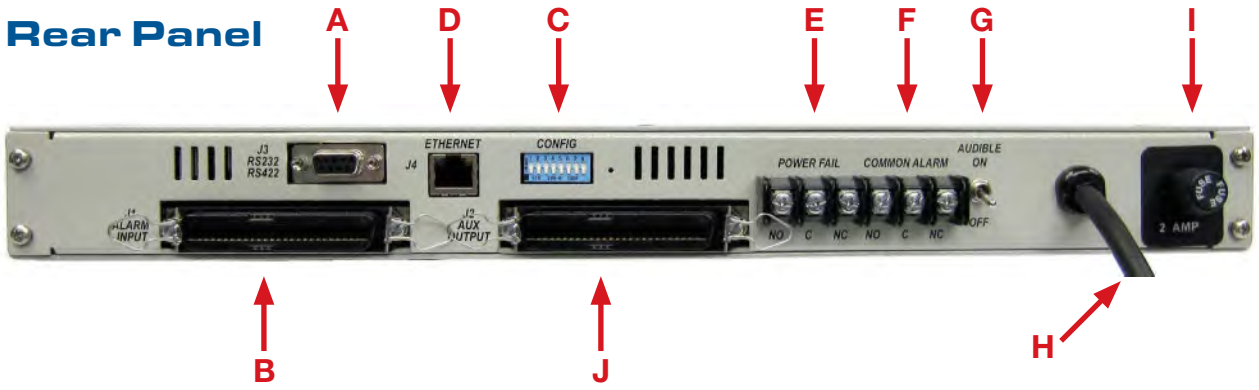
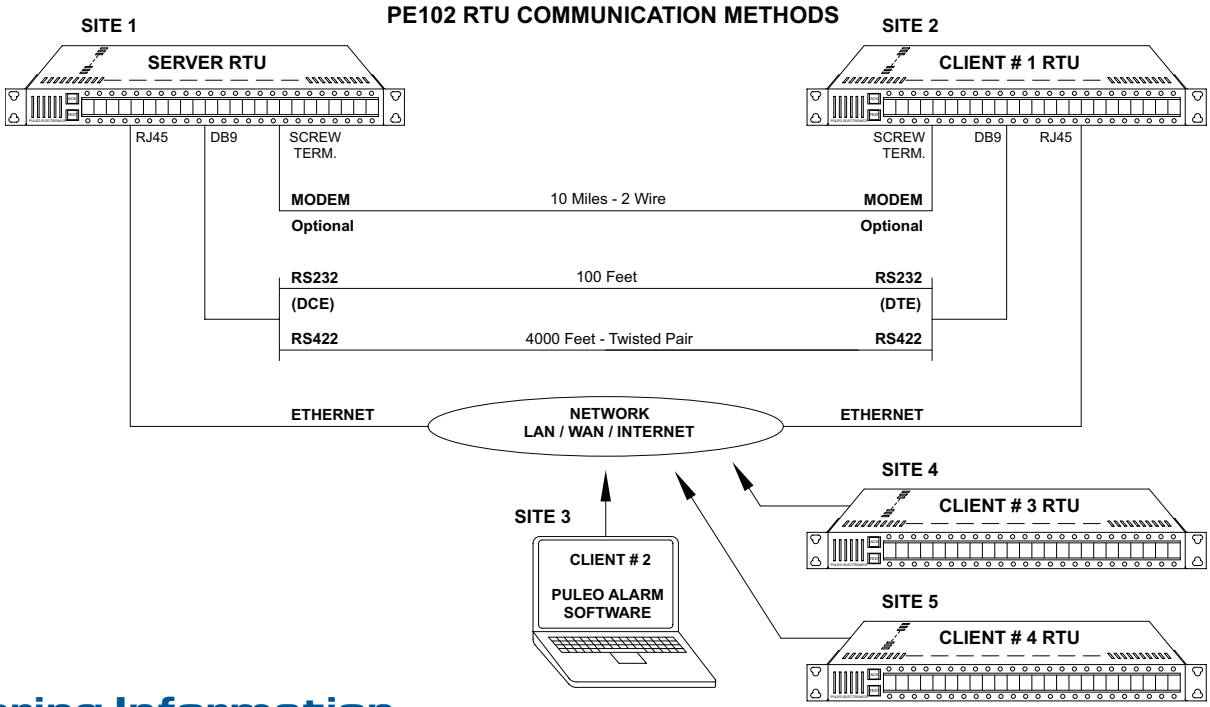
Rear Panel



A = RS232/422
B = Contact Alarm Inputs
C = Configuration Switch
D = Ethernet Port
E = Power Fail Output
F = Common Alarm Output
G = Audible Disable Switch
H = Power Cord (Screw Terminals for DC)
I = Fuse Holder
J = AUX Output
Note: Modem Option not shown

Communication Methods



Ordering Information

Series	Number of Alarm Points	Type	Power	Options (None=Blank)
PE102 RTU	- X Select: 8, 16 or 24	- Y Select: S = Server C = Client	- Z Select: 110 or 220 Vac 12, 24, 48 or 125 Vdc	- O M = Modem CM = Control Momentary Push Buttons CL = Control Latching Push Buttons

Example: PE102 RTU-24-S-110 24 Point Server RTU powered by 110 Vac.

OVERVIEW:

The popular PE103 Annunciator is now available with built-in Ethernet and RS232/422 Communications for RTU capabilities. The RTU Alarm Server can report up to (48) individual Alarms or (8) Group Alarms such as Critical, Major and Minor. Servers support up to (4) Ethernet Clients and (1) Serial Port Client. Our SDP Computer Alarm software is included at no extra charge.

In addition, new Opto-Isolator Inputs allow the Alarms to be triggered from a wide range of voltages or dry contacts. These versatile and compact RTU Annunciators make it easy to create plug & play Alarm Reporting Systems.

PE103 RTU-48S Shown

Models for 110, 220 VAC or 12, 24, 48, 125 VDC

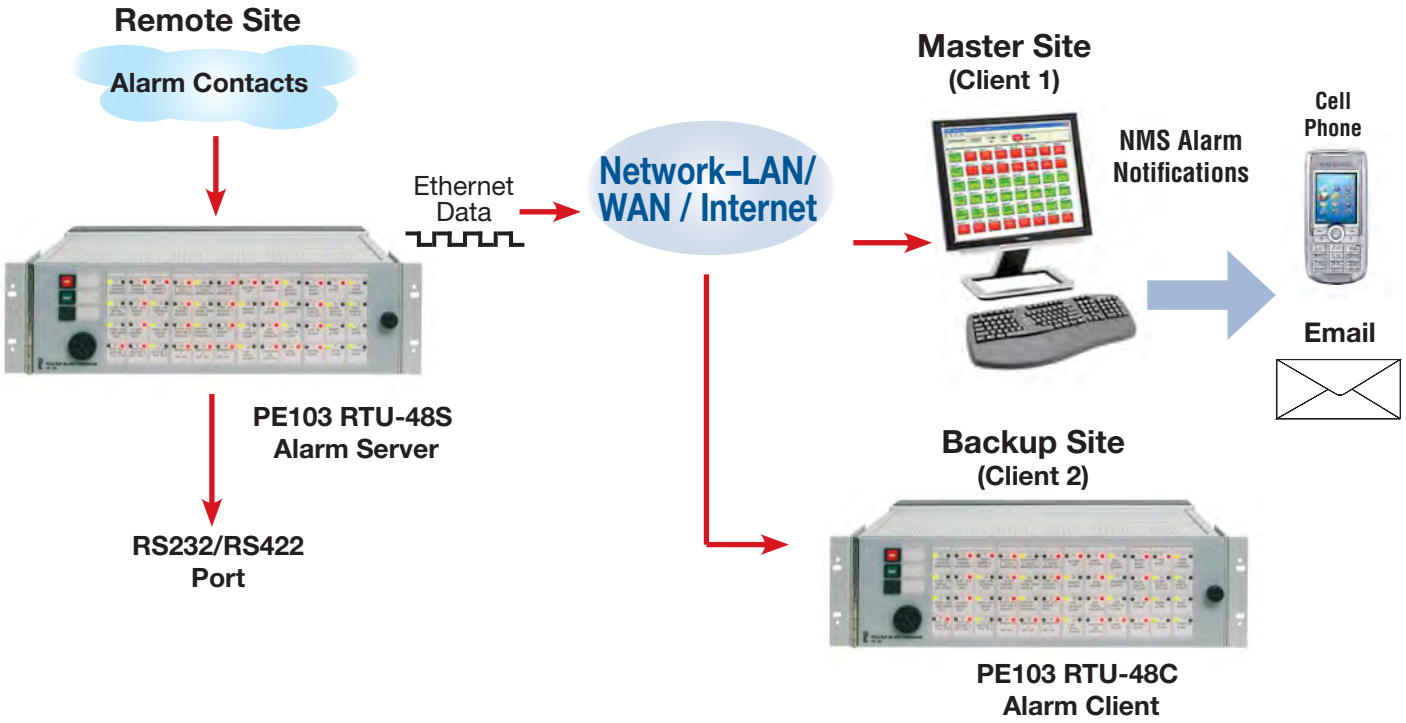
PE103 RTU Annunciator available in three configurations;

- Alarm Server - Encoder Technology
- Alarm Client - Decoder Technology
- No Communications (Field upgradable for Future Expansion)

Server configurations can handle up to (5) Clients;

- (4) Ethernet Clients
- (1) RS232/RS422 Client

Typical Application #1 – Ethernet Alarm Server reports all Alarms (RTU & Computer Clients shown)



Notes:

1. Cell Phone and Email Alarm Notification feature requires Software upgrade from SDP to NMS.
2. RS232 / RS422 Server port may also be used simultaneously with Ethernet port; Distances are 100' and 4000' respectively.

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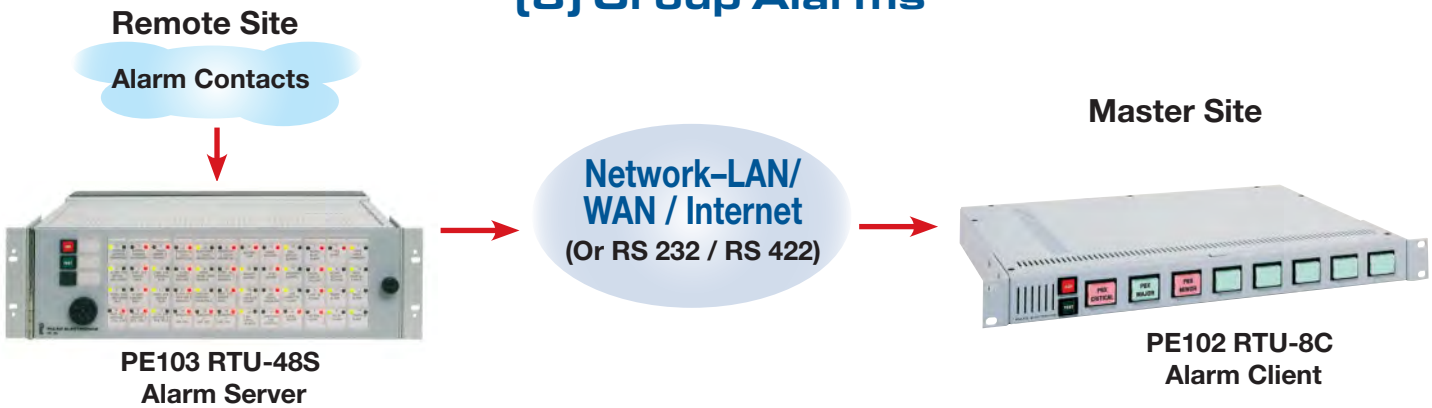
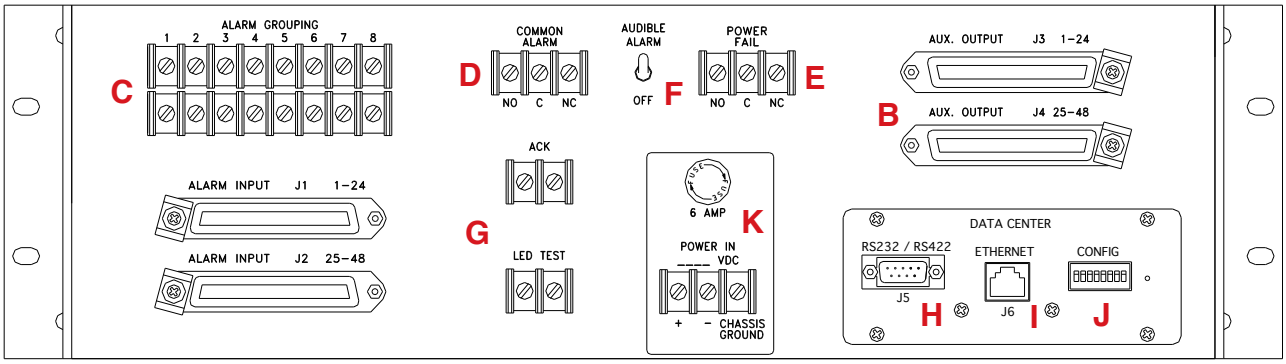
Typical Application #2 – Ethernet Alarm Server reporting (8) Group Alarms



REAR PANEL LAYOUT:



A = Alarm Inputs – NO or NC
B = Auxiliary Repeat Relays
C = Group Relays
D = Co Fail Relay
F = Audible Disable Switch
G = Remote ACK / Test Inputs
H = RS232 / RS422 Communications
I = Ethernet Communications
J = Communications Dip Switch
K = DC Power Input / Fuse Holder

ORDERING INFORMATION: PE103 RTU - 48 - Y - Z

Series	Number of Alarm Points	Type	Power
PE103 RTU	- 48 (Default) Select: 4 thru 48 in increments of 4	- Y Select: S = Server C = Client N = No Communications Field Kits available to upgrade "N" Models; Order: -S Field Kit or –C Field Kit	- Z Select: 110 or 220 Vac 12, 24, 48 or 125 Vdc

Example: PE103-48-S-110 48 Point Server RTU powered by 110 Vac.

ALARM MONITORING SOFTWARE

SDP Package: Monitor 48 alarms on your existing PC computer with this simple solution. SDP software will operate in the background while your computer is used for daily functions and will alert you when a transition has taken place. You chose the sound, print the history and configure the number of points. Use SDP software as a stand-alone solution or as an "add on" to a traditional annunciator at the main or secondary site.

NMS Package: NMS Network Alarm system will allow the user to monitor 48 Alarms from each of 32 sites on a dedicated basis. Hardwired or over a network.

Easy Set-Up, Features Include:

1. Scalable From 1 to 48 Alarm Points
2. User Configures Alarm Labels in Easy to Work Set-Up Mode
3. Historical Alarm Log Provides Date and Time of Each Alarm in Numerical Sequence
4. Event Screen Shows Last Event to Take Place Including Communication Failure

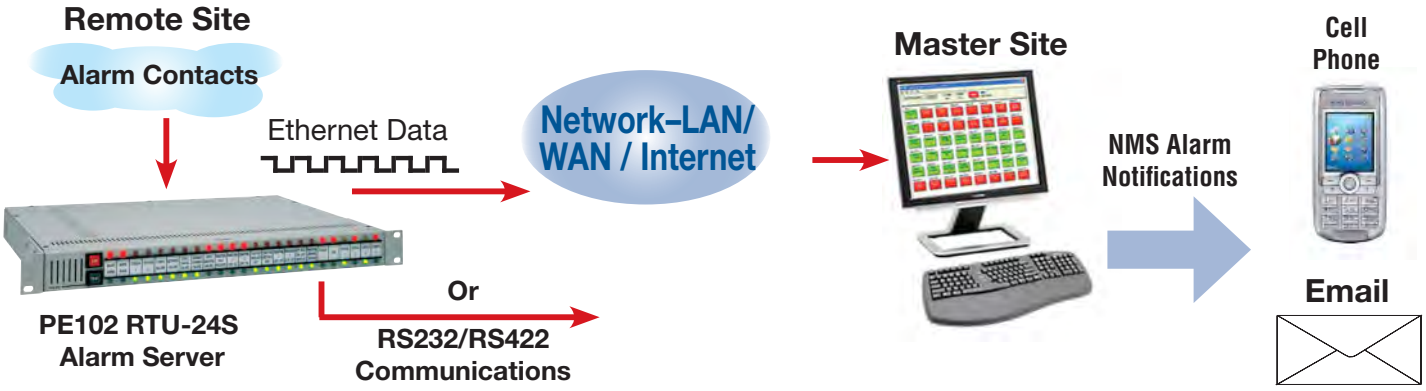
Windows operating system allows you to monitor alarms in the background while using your desktop for daily operating functions.

Overview

Puleo Alarm Software is compatible with Computers running Windows XP or Higher operating Systems.

Two Alarm packages are offered; SDP (Status Direct Plus) and NMS (Network Management Software).
Our full featured software provides enhanced Alarm graphics and logging with offsite notifications.
Use the feature table to select the appropriate Alarm Software for your Application.

Typical Application – Other Annunciator hardware configurations available.



NMS vs. SDP FEATURES

SOFTWARE FEATURE	NMS	SDP
Number of Sites & Alarm Points	32 x 48 (Note 1)	4 x 48 (Note 2)
Multiple Site Summary Screen	✓	×
System & Site Logs	✓ (Names User Defined)	✓ (Site Log only)
Contact Inputs	NO or NC Point x Point Basis	All NO or NC (Note 3)
Supported COM Ports / Baud Rate	COM 1 thru 99 (38.4K)	COM 1 thru 8 (19.2K)
COM Testing Monitor	✓	×
TC/IP Network Support	✓	× (Note 4)
Auto Acknowledge Alarms	✓	×
Local Annunciator Acknowledge	✓ (RS232 only)	×
Disable individual Site / Alarm Point	✓	×
Alarm Grouping - Critical, Major, Minor	✓	×
Alarm Sounds (Wav Files)	✓ (3 by Group)	✓ (1)
Alarm Hit Counter with Elapsed Time Stats	✓	✓(No Time Stats)
Offsite Alarm Notification – Phone Text / Email	✓	×

Notes:
1. A second iteration of NMS can be run to support an additional 32 Sites.
2. To monitor multiple sites, multiple iterations of SDP must be run. Since there is no Site Summary Screen, (4) sites is considered the practical operator limitation.
3. Requires Annunciator on the front end handling the NO / NC configuration for Point by Point SDP Compatibility.
4. Optional Software Add-in (seial IP) allows SDP to be network compatible.

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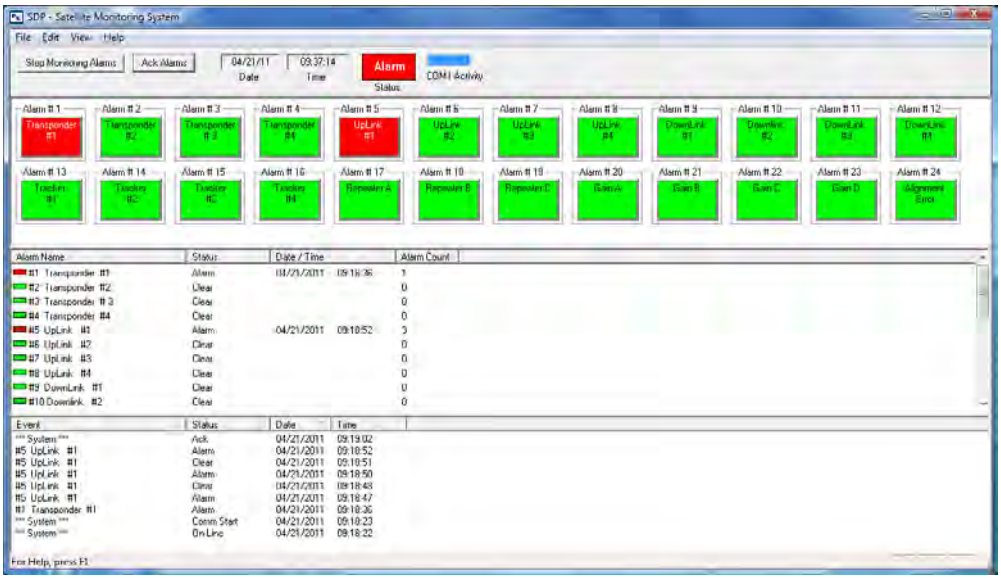
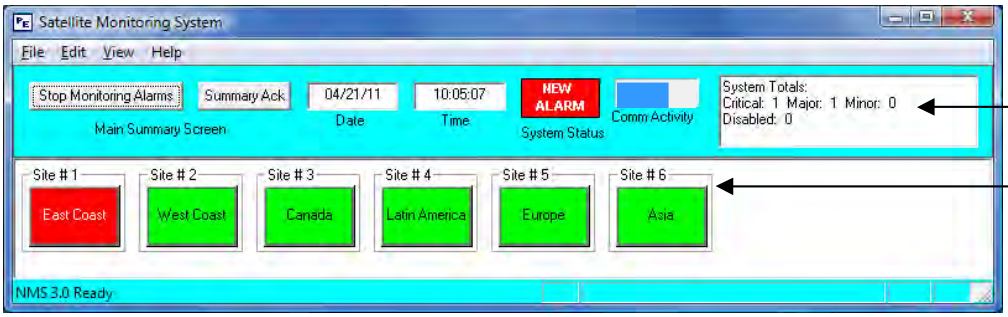
ALARM MONITORING SOFTWARE SCREEN SNAPSHOTS

SDP – Monitoring (1) Site with 24 Alarm Points



NMS – Monitoring (6) Sites

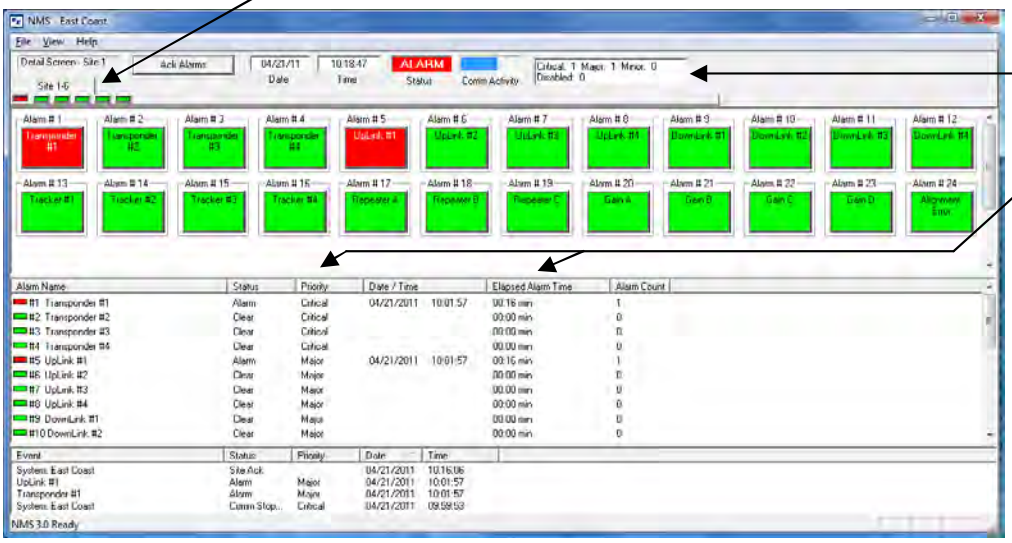
Site Summary Screen



Alarm Totals for all Sites by category

Status Indicators for each Site

Site Detail Screen – Site 1 Shown with 24 Points

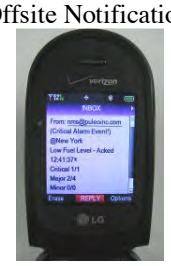


Indicator Tabs to Switch Sites

Alarm Totals for this Site by category

Enhanced Alarm Information
Elapsed Alarm Times
Priority: Critical, Major, Minor

Offsite Notification



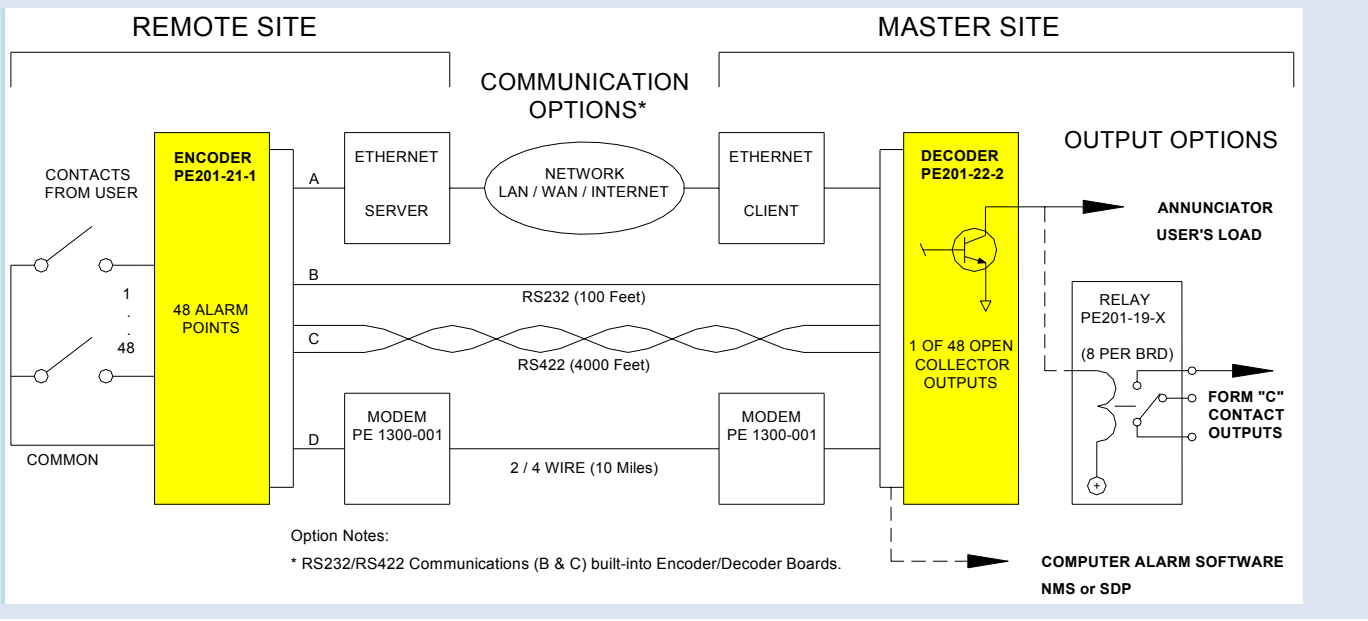
OVERVIEW:

The heart of these systems is our 48 Point Encoder and Decoder Boards. These compact boards handle up to 48 I/O points per board with built-in RS232 and RS422 communications at up to 38.4K Baud. Optional equipment allows Ethernet or 2 / 4 wire dedicated modem communications between sites. Controls can also be sent back to the remote site. Systems are available for 110, 220 Vac or 12, 24, 48, 125 Vdc.

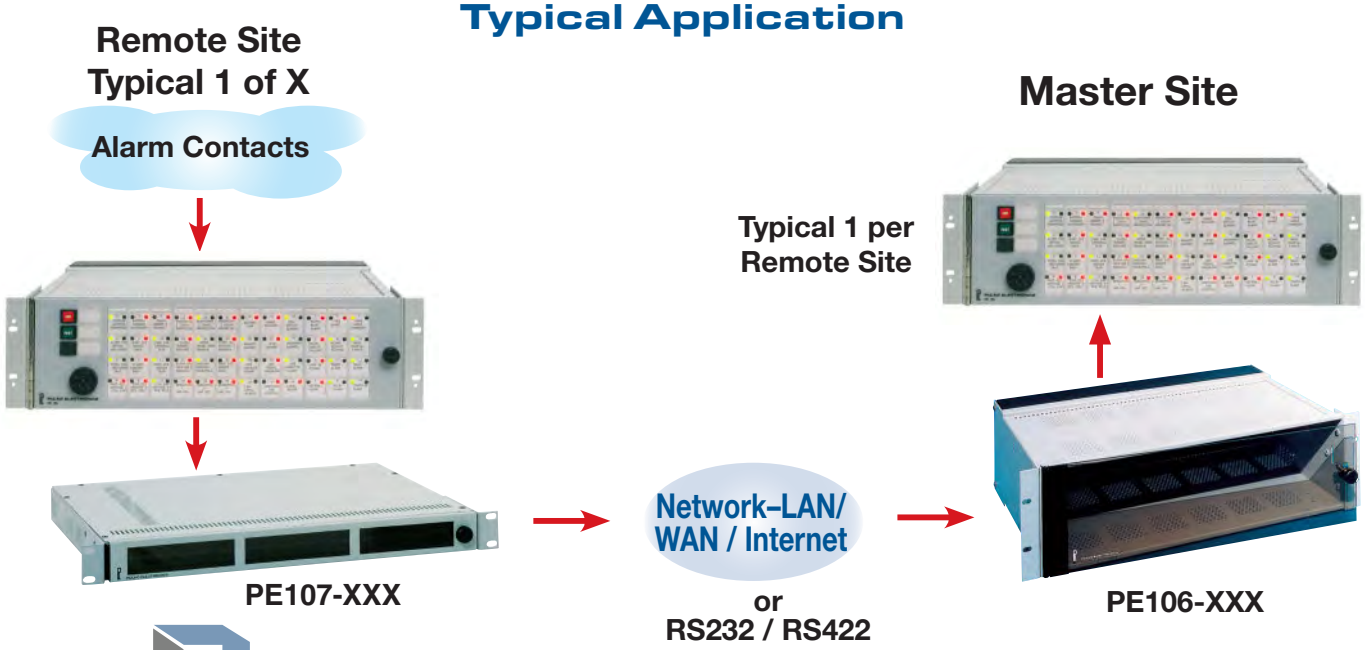
Display options include any Puleo Annunciator, the User's own Loads, or PC Computer Alarm Software with offsite notification via email and cell phone text messages.

Systems are fully scalable with any amount of I/O points, remotes, masters and display options. Our PE106/107/108 Chassis are engineered for the boards required for your specific application.

For small systems the PE102 RTU series of Annunciators are now available with Encoders, Decoders, Modems and Ethernet ports built-in to provide a compact (1RU) off the shelf solution.



Typical Application



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Typical PE106/PE107 P.C. Boards

THE PE201-21-1 ENCODER BOARD

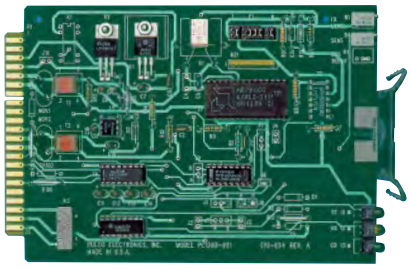
48 DRY CONTACT CLOSURES IN /RS232 or RS422 OUT

The PE201-21-1 Encoder Board scans and encodes dry contact inputs and outputs RS232/RS422 asynchronous data up to 38.4K baud. This unit can be combined with our modem board for remote monitoring and control. The inputs are wired to a 50-pin Telco type connector. The output is through a DB9 connector. A Windows P.C. based software program, SDP or NMS can be used with this board. Protocol, features and operating parameters are defined in technical documentation #TD-2

THE PE201-22-2 DECODER BOARD

RS232 or RS422 INPUT/48 OPEN COLLECTOR OUTPUT

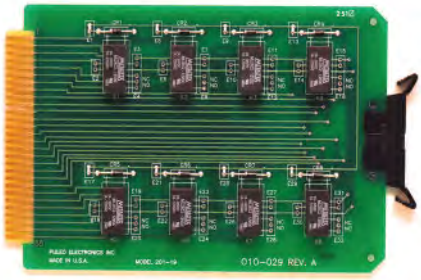
The PE201-22-2 Decoder Board is the mate for the Encoder Board listed above. Outputs are rated at 175MA each maximum. For controlling higher current sources, see specifications for the PE201-19 relay interface boards.



THE PE1300 MODEM FOR DEDICATED LINES

Leased Line Bell 103/202 Compatible

Dedicated Encoding/Decoding setups which are separated by significant distances require the RS232 asynchronous frequency shift keying voiceband modem. When ordered in a chassis with our encoder or decoder, the I/O is wired in series with the modem which the user accesses through screw terminals on the rear of the unit. (See technical documentation TD-3 for description of features).

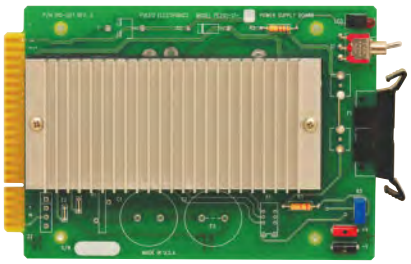


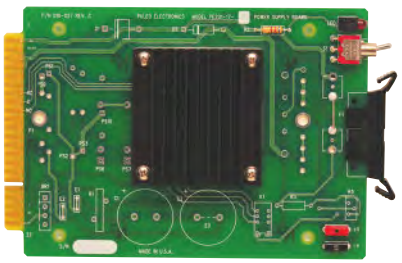
THE PE201-19 RELAY BOARD (12 VOLTS 24 VOLTS 48 VOLTS)

8 RELAYS, 2 OUTPUTS FROM EACH
CONTACTS RATED AT 2 AMPS/EACH

Have one input but require two isolated dry contact closure outputs? The PE201-19 Relay Board contains 8 single pole double throw relays. Each board is wired into a chassis with 50-pin connectors, one for input, one for output. Need screw terminals? See our cross connect section.

POWER SUPPLIES:

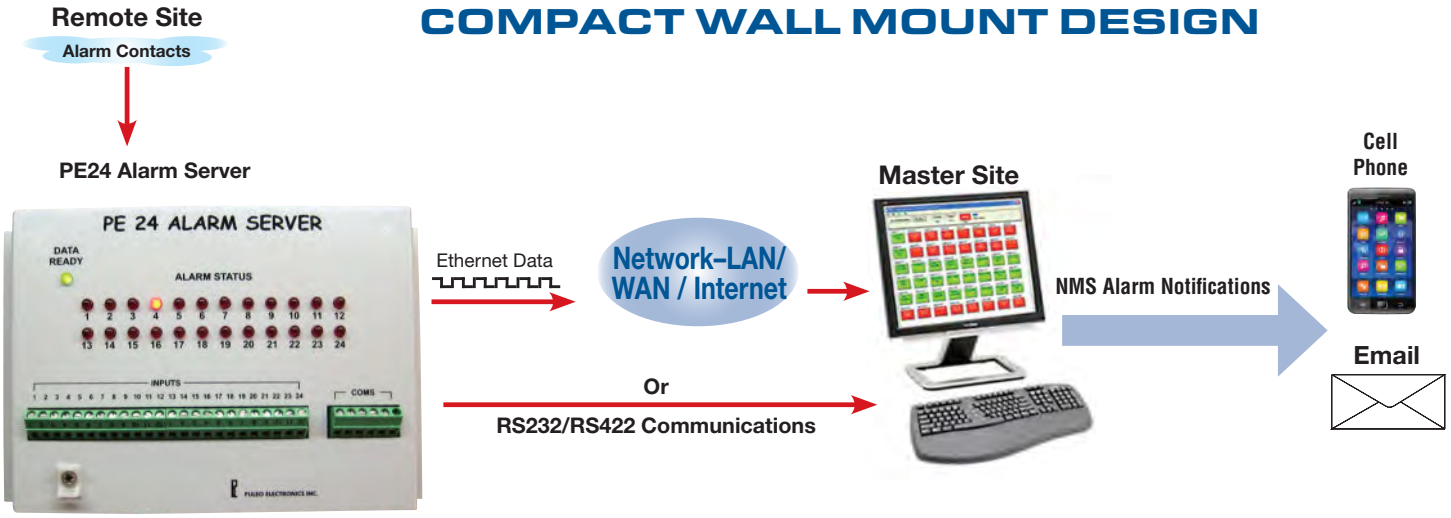




Power supplies are available for our equipment in various input Voltages, 12, 24, 48 or 125Vdc, 115 or 230Vac. The output Voltage is always 12V with Wattages of 10, 15, 30, 50 and 100.

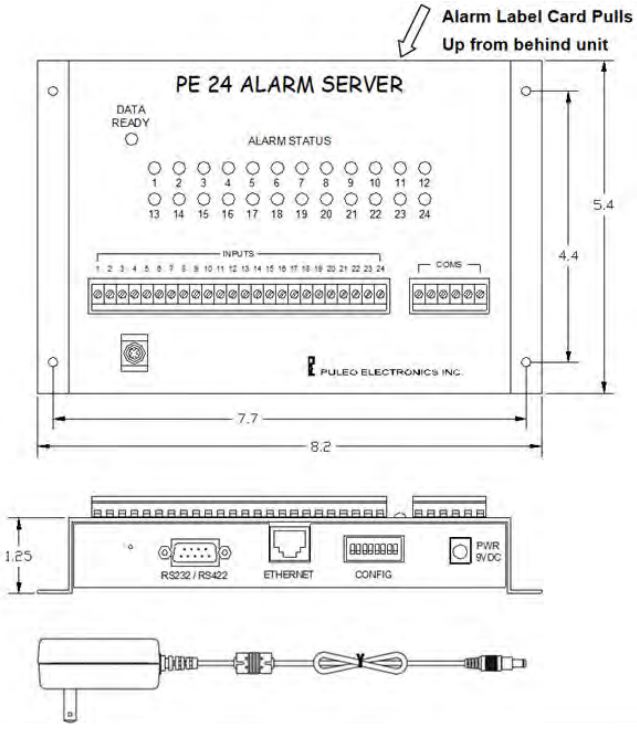
REMOTE 24 POINT ALARM PACKAGE

COMPACT WALL MOUNT DESIGN

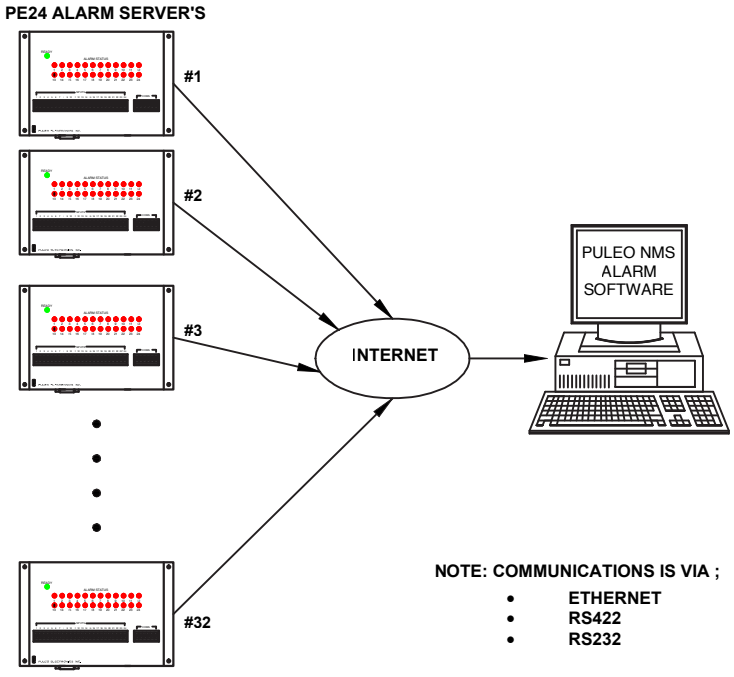


FEATURES

- Monitors 24 normally open alarm points with RED status LED's (dry contacts)
- Green Ready LED indicates data transmission
- Ethernet IP and RS232 / RS422 Communications
- Supports up to (4) Ethernet clients, (1) Serial client
- NMS Computer Alarm Software included with offsite notification via texting and email
- Can also be used with Puleo Client Display RTU's
- Compact Wall Mount Design
- Easy screw terminal wiring for alarm inputs
- 100 - 240VAC UL approved external low voltage power source



INCLUDED NMS SOFTWARE MONITORS UP TO (32) PE24 ALARM SERVERS



NOTE: COMMUNICATIONS IS VIA ;

- **ETHERNET**
- **RS422**
- **RS232**

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PE102 ANNUNCIATOR SERIES

GENERAL FEATURES ON ALL MODELS

- NO or NC Alarm inputs
- 1 Dry contact closure output for every input monitored.
- Relay interface for maximum isolation and noise immunity.
- Audible disable switch.
- Compact design with self-contained flasher and audible alarm.
- Common alarm relay output (contacts transfer when any point goes flashing, resets when acknowledged).
- Power fail relay output.
- Termination by 50 pin AMP Champ® connector.
- LEDs used on all displays including legend windows.
- Power input 12, 24, 48 or 125 Vdc, 115 or 230 Vac.
- Alarm inputs: Isolated contacts or 12, 24 or 48 Vdc
- For rack, panel or desk mount
- Chassis size 19" W x 1-3/4" H x 13" D

*See sequence table next page

PE102-8 & PE102-16

Back lighted Legend Windows

PARTICULAR FEATURES OF EACH MODEL

PE102-8
- Monitors 8 points
- Sequence No. 1 or No.3

PE102-8 OPTIONS
- Control switches momentary or latching
- Built in Dialer

PE102-16
- Monitors 16 points
- Sequence No. 1 or No. 3
- Split legend window, 2 points per window

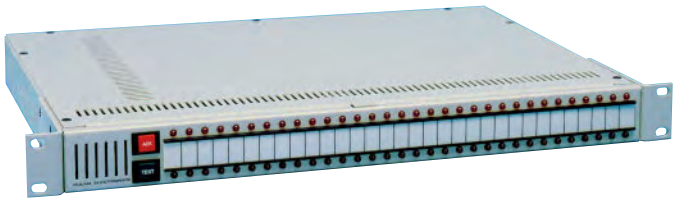
PE102-24 & PE102-48

PARTICULAR FEATURES OF EACH MODEL

PE102-24
- Monitors 24 points
- Sequence No. 1 or No. 3

PE102-48
- Monitors 48 points
- Sequence No. 3 only

PE102-32 & PE 102-64



PARTICULAR FEATURES OF EACH MODEL

PE102-32
- Monitors 32 points
- Sequence No. 1 or No. 3

PE102-64
- Monitors 64 points
- Sequence No. 3 only

ACCESSORIES

PE704-001
Bezel, 1 ¾" Panel

PE705-001
Desk Top Legs

Note: For ease of installation, see I/O package on page 22

PE103 ANNUNCIATOR SERIES

GENERAL FEATURES ON ALL MODELS

- NO or NC Alarm inputs
- 2 Dry contact closure output for every input monitored.
- Relay interface for maximum isolation and noise immunity.
- Audible disable switch.
- Compact design with self-contained flasher and audible alarm.
- Common alarm relay output (contacts transfer when any point goes flashing, resets when acknowledged).
- Power fail relay output.
- Termination by 50 pin AMP Champ® connector.
- LEDs used on all displays including legend windows.
- Power input 12, 24, 48 or 125 Vdc, 115 or 230 Vac.
- Alarm inputs: Isolated contacts or 12, 24 or 48 Vdc
- For rack, panel or desk mount

FEATURES

PE103-48-2B

- Monitors up to 48 alarm points
- Chassis size 19" W x 5-1/4" H x 13" D
- 2 Auxiliary relay outputs for every point monitored
- Legends can be field printed (laser) with supplied CD template and inserted behind overlay panel.
- Alarm input polarity common in groups of 4 points
- Sequence No. 1 or No. 3
- Alarm Groupings: Any alarm point can be assigned to any or all of 8 groups. Each group provides a relay contact output. The contacts are made available to the user by screw terminals on the back panel
- Auxiliary disable screw terminals
- Group disable screw terminals

Sequence of Operation No. 1			Sequence of Operation No. 3		
Condition	**Status Lamps**	**Audible Alarm**	**Condition**	**Status Lamps**	**Audible Alarm**
Normal	Red Lamp off Green Lamp On	Off On	Normal	Red Lamp off	Off
Alarm	Red Lamp Flashing Green Lamp Off	On	Alarm	Red Lamp Flashing	On
OPERATE ACKNOWLEDGE BUTTON			OPERATE ACKNOWLEDGE BUTTON		
Alarm	Red Lamp On Steady Green Lamp Off	Off	Alarm	Red Lamp On Steady	Off
Return to Normal	Red Lamp Off Green Lamp Flashing	On	Return to Normal	Red Lamp Off*	Off
OPERATE ACKNOWLEDGE BUTTON			*On return to normal red lamp will go off even if not acknowledged		
Normal	Red Lamp Off Green Lamp on Steady	Off			
A fleeting, or momentary alarm condition, will cause green lamp to flash and audible alarm to sound. Operating the ACKNOWLEDGE button will silence the audible alarm and cause the green lamp to stop flashing and remain on steady.			Does not latch in fleeting or momentary alarms.		

PE103-48-3

Same features as above except all Alarm Inputs use Opto-Isolators to handle field contact voltages up to 125 Vdc. This higher voltage is typically used in Sub-Station Applications. Also available in other voltages. Remote ACK and Lamp Test screw terminals replace the disable screw terminals.

ACCESSORIES

PE704-002

Bezel, 5 ¼" Panel

PE704-003

Dual Bezel same as above except 10 ½" Panel
(includes back tab to secure two units together)

PE705-002

Desk Top Legs & Handle

Note: For ease of installation, see I/O package on page 22

PE12 CHANNEL ALARM SYSTEM WITH MODBUS OPTION

ANNOUNCING NEW FEATURES:

- ***ENHANCED MODBUS COMMANDS – SCADA MASTER CAN WRITE ALARMS!***
- ***COMMON ALARM RELAY ENHANCEMENTS***
  - ***DETECTS POWER FAILURES***
  - ***CONFIGURABLE TO REFLASH ~ 1 SECOND ON NEW ALARMS***
- ***SUPPORTS DRY CONTACTS & WETTED +24 VDC / +125 VDC CONTACTS!***

The PE12 is a compact CMOS microprocessor based 12 Alarm Point Annunciator designed for industrial applications and features low power consumption with high reliability.

Programmable Opto-Isolated Inputs handle both Normally Open (NO) and Normally Closed (NC) Contacts.

Unit can be programmed for two different Sequences of Operation (Refer to Tables).

Modbus option allows SCADA Masters to poll the Annunciator for Alarm Status or Write Alarms via RS485 or RS232.

Models available for 115 / 230 Vac or 24, 48, 125 Vdc

INPUTS

- **NO/NC contacts**
- **Optically isolated**

OUTPUTS

- **Horn relay contacts**
- **Common alarm relay contacts**

GENERAL FEATURES:

Indication:	RED LED for each point.
Alarm Sequences: (ISA)	A or F1 A programmable
Flash Frequency	90 pulses/min.
Circuit Technology:	uP circuit C-MOS
Power Requirements:	115/230Vac 50/60Hz, or 24, 48, 125Vdc
Power Consumption:	6 Watts
Operating Temperature:	0-50°C (32.0-122°F)
Storage Temperature:	-20 70°C
Terminals:	Pluggable screw terminals
Case:	Self-extinguish ABS resin
Overall Dimensions:	72 x 144 x 170mm DIN 43700 (2.83”W x 5.67”H x 6.69”D)
Panel Cut out:	68 x 138mm (2 .68” x 5.32”
Weight:	1 Kg (32.5 oz)

PE12 CHANNEL ALARM SYSTEM WITH MODBUS OPTION

SEQUENCE OF OPERATION TABLES

ISA – A Sequence (Factory Default)

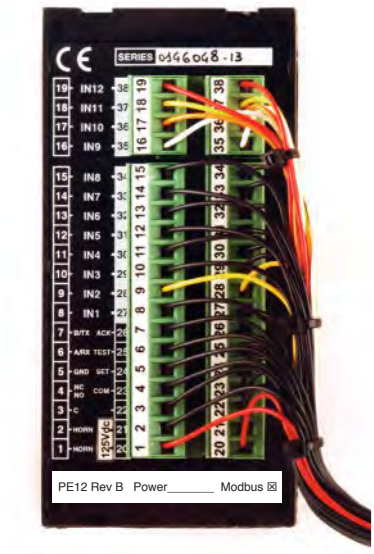
ALARM CONDITION	RED LED	HORN RELAY	COMMON RELAY
NORMAL	OFF	DE-ENERGIZED	DE-ENERGIZED
ALARM	FLASHING	ENERGIZED	ENERGIZED
RETURN TO NORMAL	FLASHING	ENERGIZED	DE-ENERGIZED
PRESS ACKNOWLEDGE BUTTON			
IF CONTACT RETURNS TO NORMAL	OFF	DE-ENERGIZED	DE-ENERGIZED
IF CONTACT STILL IN ALARM *	STEADY	DE-ENERGIZED	ENERGIZED

ISA – F1A Sequence

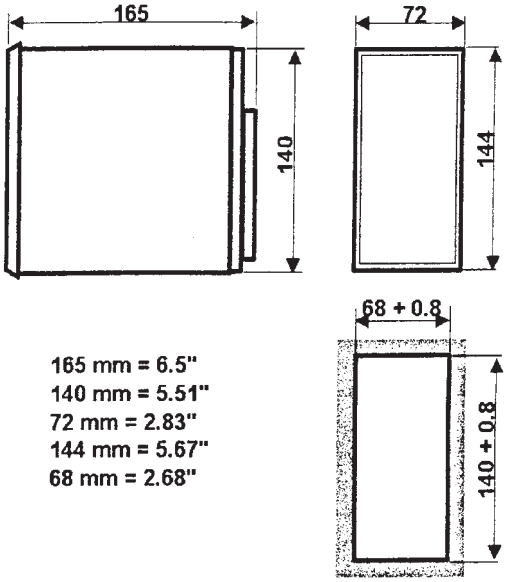
ALARM CONDITION		RED LED	HORN RELAY	COMMON RELAY
NORMAL		OFF	DE-ENERGIZED	DE-ENERGIZED
FIRST ALARM		FLASHING	ENERGIZED	ENERGIZED
NEXT ALARM		STEADY	ENERGIZED	ENERGIZED
ALL RETURN TO NORMAL	FIRST ALARM	FLASHING	ENERGIZED	DE-ENERGIZED
	NEXT ALARM	STEADY	ENERGIZED	DE-ENERGIZED
PRESS ACKNOWLEDGE BUTTON				
ALL ALARMS		OFF	DE-ENERGIZED	DE-ENERGIZED
IF CONTACT STILL IN ALARM *		STEADY	DE-ENERGIZED	ENERGIZED

Note: * This state automatically returns to normal condition when alarm contact returns to normal.

REAR - TYPICAL REMOVABLE CUSTOMER TERMINALS



PANEL CUT-OUT AND OVERALL DIMENSIONS



165 mm = 6.5"
140 mm = 5.51"
72 mm = 2.83"
144 mm = 5.67"
68 mm = 2.68"

DUST COVER

ANNUNCIATOR ACCESSORIES

WALL MOUNT BRACKET

19" RACK MOUNT PLATE (4RU)

PE12 RACK-1 (AS SHOWN)
PE12 RACK-2 (FOR TWO UNITS)

PULEO ELECTRONICS

PE20 CHANNEL ALARM SYSTEM

The PE20 is a compact CMOS microprocessor based 20 Alarm Point Annunciator designed for industrial applications and features low power consumption with high reliability.

Programmable Opto-Isolated Inputs handle both Normally Open (NO) and Normally Closed (NC) Contacts.

Unit can be programmed for two different Sequences of Operation (Refer to Tables).

Models available for 115 / 230 Vac or 24, 48, 125 Vdc.

INPUTS

- **NO/NC contacts**
- **Optically isolated**

OUTPUTS

- **Horn relay contacts**
- **Common alarm relay contacts**

GENERAL FEATURES:

Indication:	RED LED for each point.
Alarm Sequences: (ISA)	A or F1 A programmable
Flash Frequency	90 pulses/min.
Circuit Technology:	uP circuit C-MOS
Power Requirements:	115/230Vac 50/60Hz, or 24, 48, 125Vdc
Power Consumption:	6 Watts
Operating Temperature:	0-50°C (32.0-122°F)
Storage Temperature:	-20 70°C
Terminals:	Pluggable screw terminals
Case:	Self-extinguish ABS resin
Overall Dimensions:	72 x 144 x 170mm DIN 43700 (2.83”W x 5.67”H x 6.69”D)
Panel Cut out:	68 x 138mm (2 .68” x 5.32”
Weight:	1 Kg (32.5 oz)

Note:

The PE20 has the same ISA Sequence of Operation Tables, Removable Rear Terminals, Panel Cut-Out / Overall Dimension and Annunciators Accessories as the PE12. Refer to the PE12 Detailed Specifications for more information on these Features.

Programmable Alarm Annunciator

For reliable annunciation using the "no master module" concept

Complete Alarm System

Everything is contained within the standard 725 Annunciator to provide a complete alarm monitoring system. This includes all pushbuttons and a local audible.

MODBUS (OPTION)

For RS485 serial communications with remote equipment, the PE 725 can be supplied with the MODBUS protocol.
This allows the unit to transmit / receive alarm information between PE 725's or from PLC's or SCADA systems.

Rack Mounting (OPTION)

The Annunciators can be supplied pre-mounted in standard 19" aluminum mounting plates. A maximum of 7 cells will fit across a 19" front plate.

Legends

The legends can be supplied as requested or alternatively film legend generation software is available to allow customers the convenience of making their own film legends using a standard laser printer.

Alarm Contacts

All inputs are opto-coupled, (isolated from the supply on request). The standard unit is suitable for volt-free contacts or 24Vdc voltage inputs. Optional inputs voltages include 48V, 125V, 110V, AC or DC.

Power Supplies

The supply required to power the annunciator in nominally 24 Vdc. Puleo can supply suitable power supplies or DC/DC converters if converting from other AC or DC voltages.

- All sizes from 1 to 252 points
- "No master module" ASIC technology so there is no single point of failure
- Only 145 mm (5.71") installed depth
- Three different window sizes
- Ultra-bright LED illumination
- User programmable from the front for alarm sequences and function
- Five relay outputs as standard
- Individual repeat relays for all points
- Modbus Available as an option

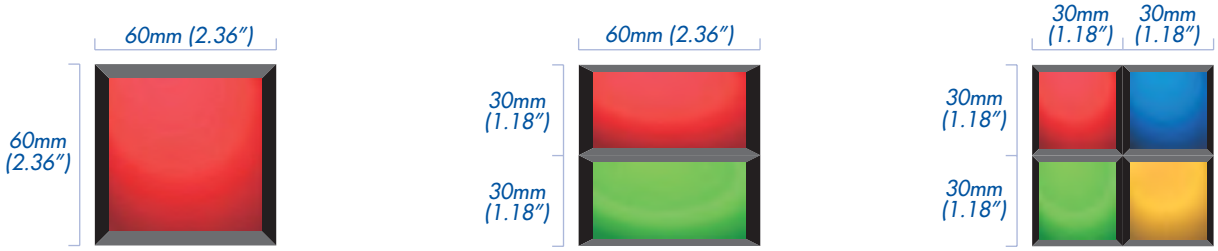
PULEO ELECTRONICS

SALES@PULEOINC.COM ■ WWW.ANNUNCIATOR.COM ■ 516.599.4875

System Configuration

Window Size *& Layout*

The Series 725 Annunciator is a modular design allowing a customer to quickly design an alarm system to suit their exact requirements for both window size and number of windows. The system is built up of multiple cells, each cell has dimensions of 60 x 60mm (2.36" x 2.36") and can be configured as a single large window (60 x 60mm) (2.36" x 2.36"), two medium windows (60 x 30mm) (2.36" x 1.18") or four small windows (30 x 30mm) (1.18" x 1.18").



REAR VIEW
REMOVABLE SCREW TERMINALS

PROGRMABLE ONSITE
SILVER FOIL INSTRUCTIONS ON UNIT

PE725 4 POINT ANNUNCIATOR

WALL MOUNT BRACKET

THIS POPULAR 4 POINT UNIT AND MOUNT BRACKET IS USUALLY IN STOCK

GO TO ANNUNCIATOR.COM FOR SPECIAL PRICING

PE725 Series – Order Numbering System

PE725 – M - 7W - 5H - 6T - 68A – SL – R – FC24 – C

- **PE725** — Model Series
- **M** — Window Size
  - S = Small
  - M = Medium
  - L = Large
  - I = Intermix
- **7W - 5H** — # of Cells
  - W = Wide
  - H = High
- **6T** — PushButton * Module (TAR)
  - 6T = Standard
  - NT = External
- **68A** — # of Alarm Points
- **SL** — LED Display
- **R** — Standard Repeat Relays
- **FC24** — Field Contact AC/DC Voltage
  - 24 = 9 to 33V
  - 48 = 19 to 70V
  - 125 = 72 to 135V
- **C** — Options (ex. G-C-T)
  - Blank = None
  - G = GFI
  - C = Modbus RS485
  - C7 = Hi-Speed Modbus
  - T = Tropicalization

Window Calculator (Yellow Shading 19" Rack Mountable)

LARGE Windows 2.36"W x 2.36"H (60 x 60mm) 1 Window (8 LEDs) Per Cell

Cells High	Wide 1	2	3	4	5	6	7	8	9	10
1	0	1	2	3	4	5	6	7	8	9
2	1	3	5	7	9	11	13	15	17	19
3	2	5	8	11	14	17	20	23	26	29
4	3	7	11	15	19	23	27	31	35	39
5	4	9	14	19	24	29	34	39	44	49
6	5	11	17	23	29	35	41	47	53	59
7	6	13	20	27	34	41	45	55	52	69
8	7	15	23	31	39	47	55	63	71	79
9	8	17	26	35	44	53	62	71	80	89
10	9	19	29	39	49	59	69	79	89	99

***If NT TAR, add 1 Alarm Point.**

Colored Lenses Available - Red, Green, Yellow, Blue
Specify Color & Window # when ordering.

MEDIUM Windows 2.36"W x 1.18"H (60 x 30mm) 2 Windows (4 LEDs) Per Cell

Cells High	Wide 1	2	3	4	5	6	7	8	9	10
1	0	2	4	6	8	10	12	14	16	18
2	2	6	10	14	18	22	26	30	34	38
3	4	10	16	22	28	34	40	46	52	58
4	6	14	22	30	38	46	54	62	70	78
5	8	18	28	38	48	58	68	78	88	98
6	10	22	34	46	58	70	82	94	106	118
7	12	26	40	54	68	82	96	110	124	138
8	14	30	46	62	78	94	110	126	142	158
9	16	34	52	70	88	106	124	142	160	178
10	18	38	58	78	98	118	138	158	178	198

***If NT TAR, add 2 Alarm Point.**

SMALL Windows 1.18"W x 1.18"H (30 x 30mm) 4 Windows (2 LEDs) Per Cell

Cells High	Wide 1	2	3	4	5	6	7	8	9	10
1	0	4	8	12	16	20	24	28	32	36
2	4	12	20	28	36	44	52	60	68	76
3	8	20	32	44	56	68	80	92	104	116
4	12	28	44	60	76	92	108	124	140	156
5	16	36	56	76	96	116	136	156	176	196
6	20	44	68	92	116	140	164	188	212	236
7	24	52	80	108	136	164	192	220	248	
8	28	60	92	124	156	188	220	252		
9	32	68	104	140	176	212	248			
10	36	76	116	156	196	236				

***If NT TAR, add 4 Alarm Point.**

If Modbus, delete 2 Alarm Points

Dimensions - Overall / Cutout

No. of Cells	Overall Inches (mm)		Cutout Inches (mm)	
1	3.46	(88)	2.91	(74)
2	5.83	(148)	5.28	(134)
3	8.19	(208)	7.64	(194)
4	10.55	(268)	10.00	(254)
5	12.91	(328)	12.36	(314)
6	15.28	(388)	14.72	(374)
7	17.64	(448)	17.09	(434)
8	20.0	(508)	19.45	(494)
9	22.36	(568)	21.81	(554)
10	24.72	(628)	24.17	(614)
11	27.09	(688)	26.54	(674)
12	29.45	(748)	28.90	(734)

PE725 Power Supply Selection – 24Vdc Output

Select PS Model based on Facility Input Voltage and Annunciators Total Current Requirements as follows;

POWER SUPPLY INPUT	PULEO	PS CURRENT RATING @ 24VDC	PE725 WITH TAR SUPPORTED WINDOW WITH REPEAT RELAYS ( ) = WITHOUT REPEAT RELAYS		
VOLTAGE	**MODEL #**	**AMPS**	**SMALL**	**MEDIUM**	**LARGE**
NOMINAL 48 VDC POWER INPUT					
36 – 72 VDC	PE014-074	4.2	94 (127)	62 (75)	37 (41)
	PE014-077	6.3	142 (192)	105 (113)	56 (62)
NOMINAL 125 VDC POWER INPUT					
72 – 144 VDC	PE014-075	4.2	94 (127)	62 (75)	37 (41)
	PE014-076	6.3	142 (192)	105 (113)	56 (62)
	PE014-081	8.4	191 (256)	126 (152)	75 (84)
NOMINAL 120 / 240 VAC 50/60 POWER INPUT					
100 – 264 VAC	PE014-078	3.2	71 (106)	48 (57)	28 (31)
	PE014-089	5.0	112 (168)	75 (90)	44 (49)

PE725 19" Rack Mount Plate Selection

(Puleo Power Supply mounts to Plate Directly or with Din Rail)

Numbering System:

Note: To fit 19" Rack, Annunciator cannot be more than 7W

PE725 - PLATE - 19 - 7W - 5H

# of Cells
W = Wide
H = High

Cell Height "H"	RU #	Height Inches (1RU = 1.75")
1	6	10.50
2	8	14.00
3	9	15.75
4	10	17.50
5	12	21.00
6	14	24.50
7	15	26.25
8	17	29.75
9	18	31.50
10	20	35.00

PE725-PLATE-19-7W-5H
68 Points, Medium Windows Shown

FUSE / POWER DISTRIBUTION ALARM PANELS

PE303-015

FEATURES

- 1 or 2 Power Inputs with Green LED Indicators
- Up to 40 GMT Fuse Positions
- Audible Alarm
- Blown-Fuse Indicator Lamp
- Alarm Relay Output
- Screw Terminal or Wire Wrap Output Connections

20 Position Model

OPERATION

Upon Failure of any Fuse:

- Red LED Indicator Lights
- Audible Alarm Sounds
- Alarm Output Relay Contacts Transfer

40 Position Model

SPECIFICATIONS

- Maximum for each Power Input is 50 AMPS
- Maximum for any One Fuse Position is 15 AMPS
- Height: 1.75" Depth: 13"

PE303-016

FEATURES

- 20 GMT Fuse Positions
- Front Panel Wiring
- Indicator Lamp
- Relay Output

OPERATION

Upon Failure of any Fuse:

- Indicator Lamp Lights
- Output Relay Contacts Transfer

SPECIFICATIONS

- Rated at 50 Amps total for each Group of 10 Positions
- 24 or 48 Vdc Power Input
- Maximum Current for any one Position is 10 Amps
- Height: 1.75" Depth: 8" Weight: 4.5lbs

CIRCUIT BREAKER / POWER DISTRIBUTION PANEL

PE304-001

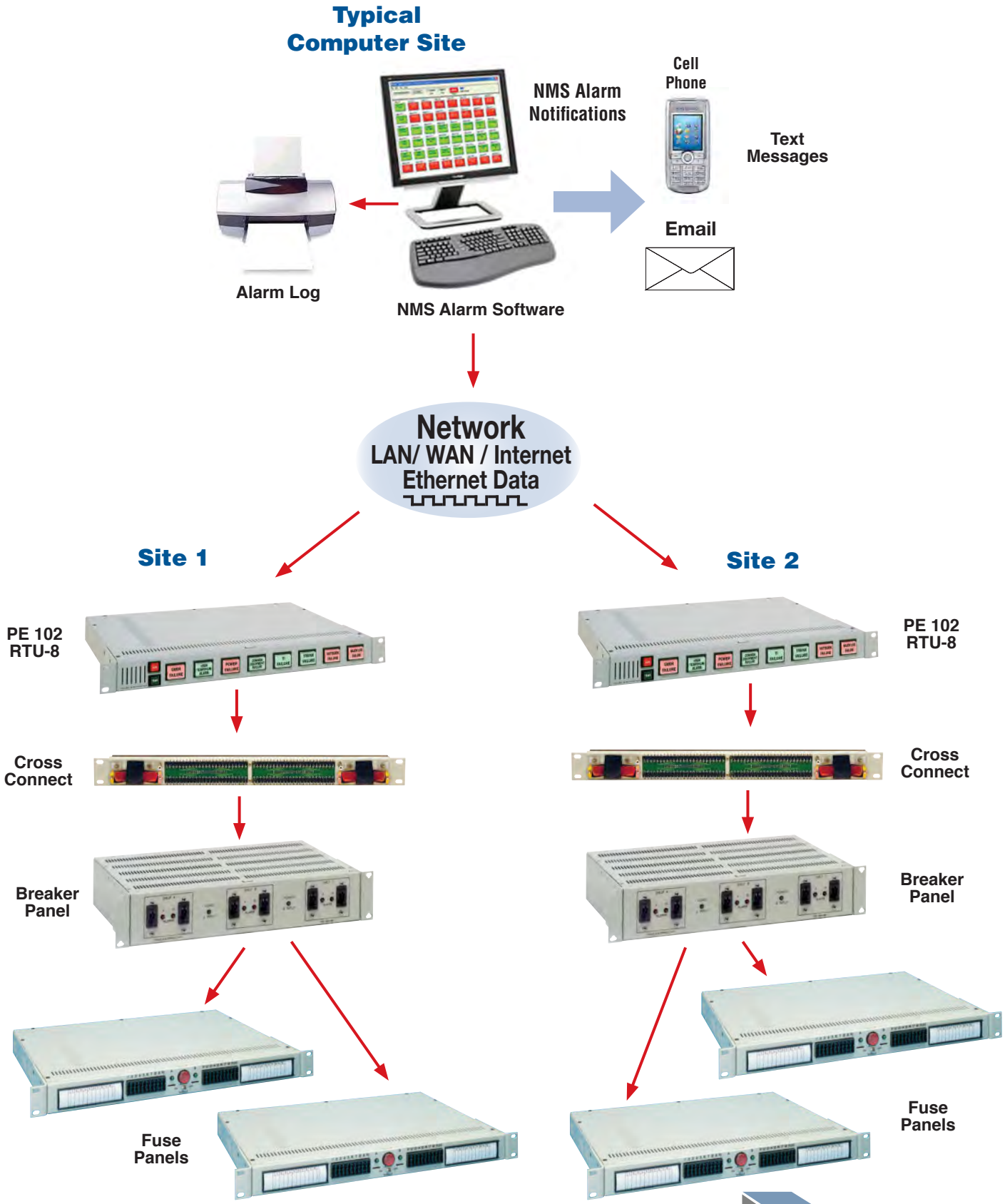
FEATURES

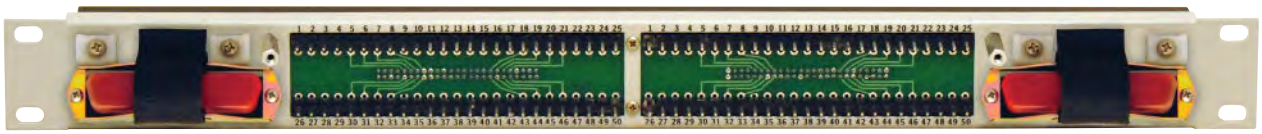
- 2 Battery Inputs A and B
- 6 Circuit Breaker outputs
- Green LED Power indicators
- Tripped Breaker Red LED Indicator with Common Alarm Output Relay
- Closed Frame Chassis

SPECIFICATIONS

- Maximum Breaker Current 40 AMPS
- Maximum Power each Battery Input: 150 AMPS
- Alarm Relay Contacts: 60V, 1 AMP
- Tripped Breaker Red LED Indicator with Common Alarm Output Relay
- Height 3.5", Depth 10", 19" or 23" Rack Mounting
- Weight: 11 lbs.

APP #12 Power Distribution System with Alarms



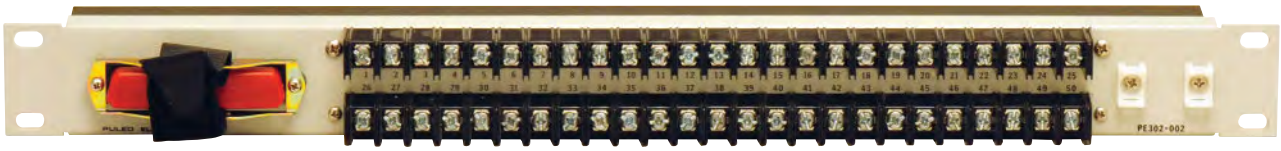


WIRE WRAP

Applications: Used to break-out individual wires from 50-pin connector to mate two mismatched connectors.
Specifications: Units are 19" rack mountable with two 50-pin AMP Champ® connectors wired to correspondingly numbered .045" square, wire wrap pins.

PE302-001-X

(REPLACE "X" WITH NUMBER LISTED)
1 = Both Connectors Female
2 = Female Connectors left side, Male Connector right side
3 = Both Connectors Male



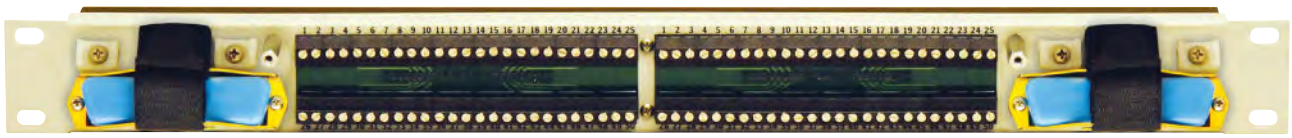
SCREW TERMINALS

- 19" Rack Mountable
- 50 No. 6 Screw Terminals wired to a 50-pin Centroni Type connector
- Screw Terminals accept up to No. 12 AWG wire

PE302-002-X

(REPLACE "X" WITH NUMBER LISTED)
1 = Female
2 = Male

PE302-002-2MOV
for PE 103-48-3 125Vdc



MINI-SCREW TERMINALS

- 19" Rack Mountable
- Convert each AMP Champ® 50-pin connector to 50 screw terminals
- Screw Terminals accept up to No. 14 AWG wire

***Ears available for 23" Rack Mount**

PE302-004-X

(REPLACE "X" WITH NUMBER LISTED)
1 = 2 Female Connectors
2 = 1 Female Connector left side, 1 Male Connector right side
3 = 2 Male Connectors

PE102 I/O & PE103 I/O PACKAGE

25 pair Connectorized cables consist of 25 pair # 24AWG solid copper wire insulated with .008" semi rigid PVC. They were made for indoor use and are color coded according to the telecommunications industry standard. The connectors are 50 pin Centronics type. The 180° connector is available in bail and screw mount whereas the 90° connector is available in screw mount only.

PE102 I/O Package Includes:

- (1) PE302-004-1 Cross Connect
- (2) PE413-25MM-5 180/90 25 Pair Connectorized Cable

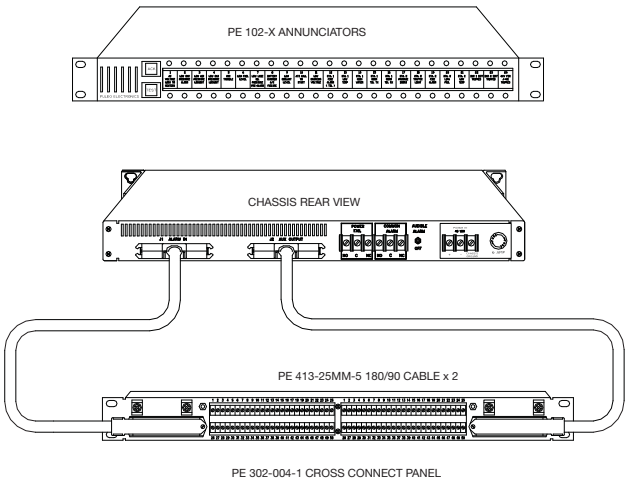
PE413-25MM-5 180/90

A 25 pair Connectorized cable which is 5 feet in length and has a 180° Male Bail Mount connector used to connect to the PE102 Alarm Annunciator and a 90 ° Male Screw Mount connector used to connect to the PE302-004-1 Cross Connect.

PE302-004-1

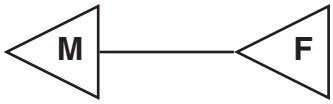
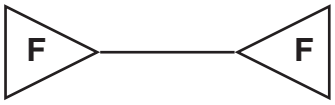
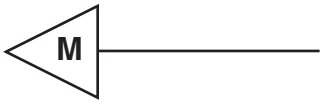
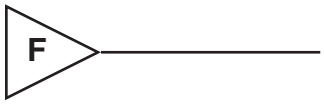
A Cross Connect which accepts (2) 25 pair Connectorized cables with 90 ° Male connectors and separates each of them out to 100 correspondingly numbered Mini-Screw Terminals. Wires up to # 14AWG can be connected to these terminals. The connectors are 50 pin Centronics type. The unit mounts in a 19" Rack. (23" extender ears are available, specify at time of order).

PART# PE 102-IO-5 . . . . . .$185.00



FOR PE103 I/O PACKAGE

The above I/O Package handles the full 48 Alarm Inputs. If using the Aux Outputs, a second I/O Package is Required.

SYMBOLS AND DESCRIPTIONS	CATALOG NUMBER	LENGTHS IN FEET.	WEIGHT IN LBS	PRICE EACH
25 Pair Cable with Male or Female Connectors				
 **Male connector at one end and a female connector at the other end.** Choose MF for Male and Female ends Example: PE413-25MF-5	PE413-25_ _-3	3	1	$29.40
	PE413-25_ _-5	5	1	$29.40
	PE413-25_ _-10	10	2	$33.60
	PE413-25_ _-15	15	3	$37.80
	PE413-25_ _-20	20	4	$42.00
	PE413-25_ _-25	25	4	$46.20
	PE413-25_ _-30	30	5	$50.40
	PE413-25_ _-35	35	5	$54.60
 **Male connector at each end.** Choose MM for Male ends Example: PE413-25MM-5	PE413-25_ _-40	40	6	$58.80
	PE413-25_ _-45	45	6	$63.00
	PE413-25_ _-50	50	7	$67.20
	PE413-25_ _-75	75	10	$88.20
	PE413-25_ _-100	100	13	$109.20
 **Female connector at each end.** Choose FF for Female ends Example: PE413-25FF-5	PE413-25_ _-125	125	16	$130.20
	PE413-25_ _-150	150	20	$151.20
	PE413-25_ _-175	175	23	$172.20
	PE413-25_ _-200	200	26	$193.20
	PE413-25_X-5	5	1	$21.00
	PE413-25_X-10	10	2	$25.20
	PE413-25_X-15	15	3	$29.40
 **Male connector at one end.** Choose M for Male Example: PE413-25MX-5	PE413-25_X-20	20	4	$33.60
	PE413-25_X-25	25	4	$37.80
	PE413-25_X-30	30	5	$42.00
	PE413-25_X-35	35	5	$46.20
	PE413-25_X-40	40	6	$50.40
	PE413-25_X-45	45	6	$54.60
 **Female connector at one end.** Choose F for Female Example: PE413-25FX-5	PE413-25_X-50	50	7	$58.80
	PE413-25_X-100	100	13	$100.80
	PE413-25_X-150	150	20	$142.80
	PE413-25_X-200	200	26	$184.80

PULEO HISTORY

Puleo Electronics began manufacturing Alarm Reporting & Control Systems in Lynbrook, NY in 1963. The company began by bidding and winning contracts for the New York Port Authority and throughout the transport infrastructure in the Northeast region.

Our Alarm Annunciators were later used in Satellite earth stations to monitor the failure of equipment within the racks in earth stations around the world. Later, Independent Telephone Companies installed our Annunciators to monitor the failure of modems and transmission equipment within their Central Office bays. Telecom Interconnects followed with applications to monitor data coming from the service ports of private branch exchanges or PBX's. Applications to indicate an alarm in the PBX room and to Dial-up on alarm were a natural progression.

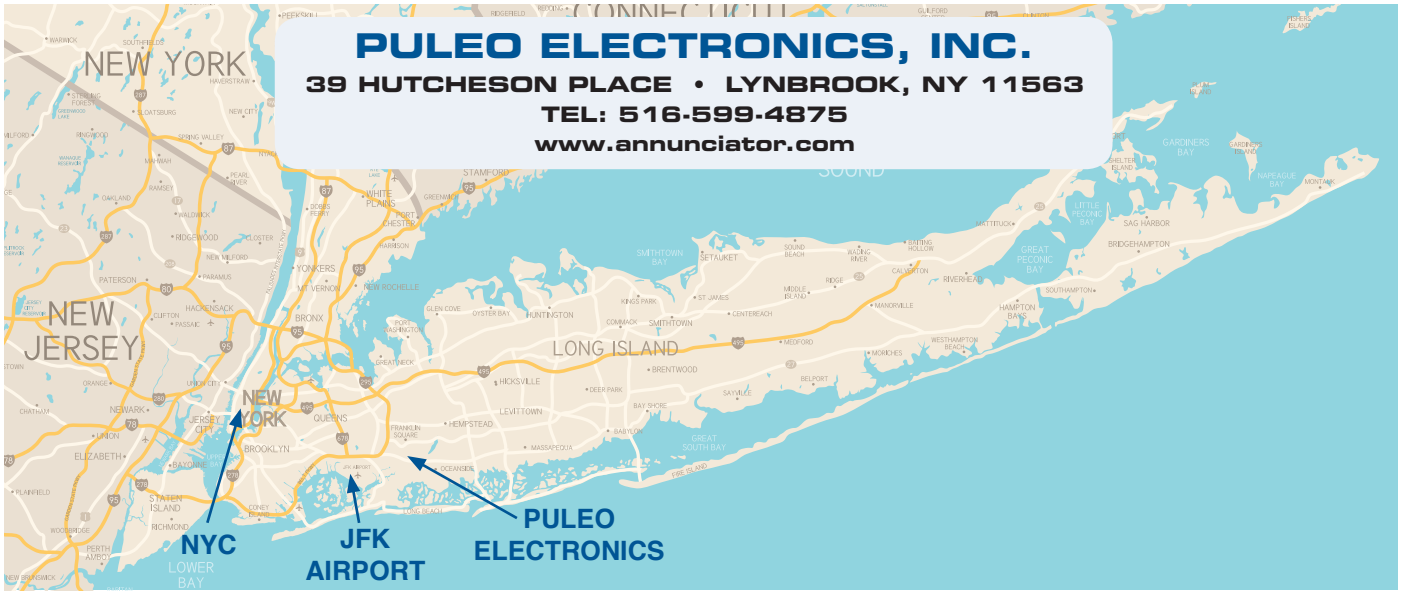
Power utilities followed with alarms from their remote substations and generation facilities.

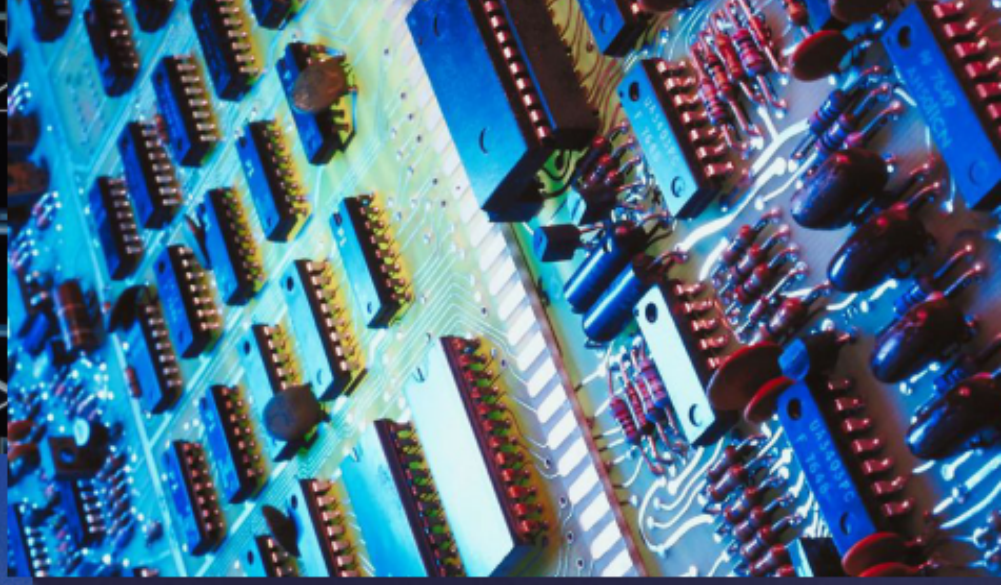
Customers eventually asked Puleo to report alarms from remote locations back to a central site. At first, this was done with dedicated wiring or leased lines from our embedded systems. These types of systems are still being implemented for applications that require the most highly secure reporting.

Later, local or wide area networks were used to report alarms from many locations to a central source. Some customers have used our Annunciators to monitor alarms locally and then added the internet to report to several people traveling anywhere in the world. Our current hardware/software package will call up personnel to report only when selected points at critical locations go into alarm. Our software will log and document the times of all alarms and the times that responses where made.

If you are planning to implement an alarm system throughout your network and want to work with a company that has over 40 years of experience of alarm reporting and remote control, call us at 516-599-4875, or come visit us here outside New York City, next to JFK Airport for a demonstration on how engineers in your specific industry are configuring Alarm Reporting & Control Systems for the future.

Reprint of Advertisement in the November 17, 1975 Issue of Telephony





PULEO
ELECTRONICS

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