EST2
Installation Sheets

P/N 3100056 • Rev 1.0 • 30NOV00

DEVELOPED BY	Edwards Systems Technology 6411 Parkland Drive Sarasota, FL 34243 (941) 739-4300
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CREDITS	This manual was designed and written by the EST Technical Services - Documentation Department, Sarasota.

DOCUMENT HISTORY

Date	Revision	Reason for change
30NOV00	1.0	Initial release

Content

Introduction

About this manual

This manual contains copies of the EST2 installation sheets. The sheets are arranged in alphabetical order by title. The part number listed in *Content* is the installation sheet part number.

The EST2 library

A library of related documents supports the EST2 product line. Here is a complete list of the EST2 library:

- *EST2 Installation and Service Manual* (P/N 270186)
- *EST2 Network Site Manual* (P/N 270895)
- *EST2 Network Supplement Manual* (P/N 270894)
- *EST2 System Operations Manual* (P/N 270188)
- *EST2 System Programming Manual* (P/N 270187)
- *EST2 Installation Sheets* (P/N 3100056)
- *2-SDU Help* (P/N180902)

Our technical writers constantly update the information in this manual. Your comments during our training classes, technical support phone calls, and field trips improve this document.

Related documents

The *Signature Series Intelligent Smoke and Heat Detectors Applications Bulletin (P/N 270145)* provides instructions and illustrations for various arrays of smoke and heat detectors.

The *Signature Series Component Installation Manual* (P/N 270497) supports the installation of the Signature Series detectors and modules.

The *Serial Number Log Book* (P/N 270267) provides a convenient means for recording the serial number of each Signature device installed in the fire alarm system.

The *SAN Annunciator Installation Guide* (P/N 250084) supports the SAN annunciators mentioned in this manual.

The *EST Speaker Application Guide* (P/N 85000-0033) provides information about the placement and layout of speakers for fire alarm signaling and emergency voice communications.

The *EST Strobe Applications Guide* (P/N 85000-0049) provides information for the placement and layout of strobes for fire alarm signaling.

The *Microline 182 Turbo Printer Handbook*, by Okidata provides all the necessary information for the maintenance and configuration of the PT1-S Form Printer. The Okidata handbook comes with the Form Printer.

PRODUCT DESCRIPTION

2-3ANN/D

The 2-3ANN/D is a set consisting of an outer door and an inner door. The outer door and the inner door mount on the remote annunciator wallbox. The outer door has a Lexan™ viewing window. The inner door provides mounting space for a liquid crystal display and three LED/switch modules.

2-6ANN/D

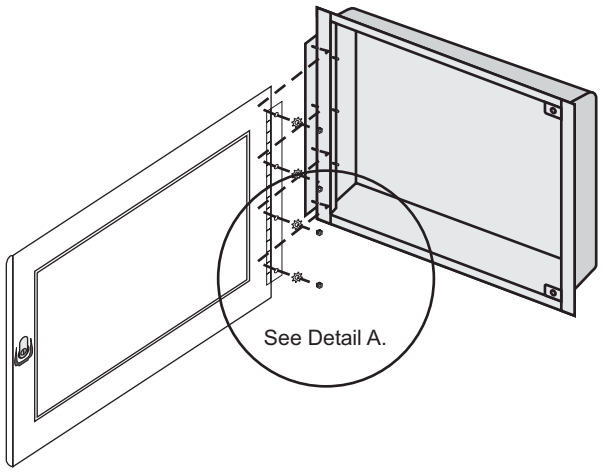
The 2-6ANN/D is a set consisting of an outer door and an inner door. The outer door and the inner door mount on the remote annunciator wallbox. The outer door has a Lexan™ viewing window. The inner door provides mounting space for a liquid crystal display and six LED/switch modules.

INSTALLATION

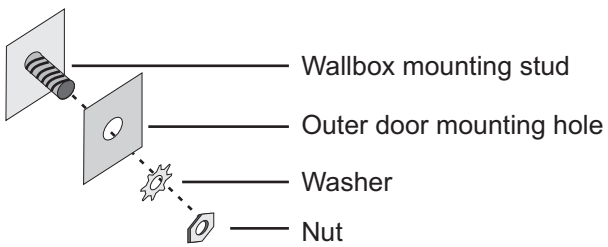
A Install the outer door.

1 Align the outer door mounting holes with the four wallbox mounting studs.

2 Mount the outer door with the washers and nuts provided.

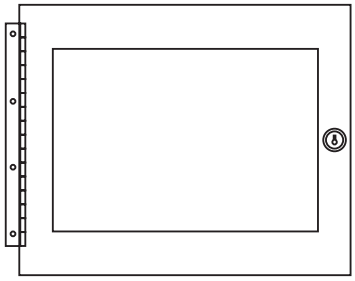


Detail A

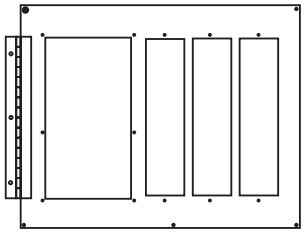


PRODUCT DIAGRAM

2-3ANN/D

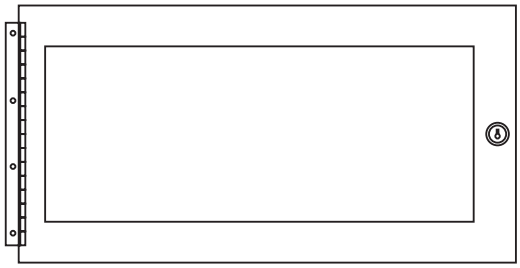


Outer Door

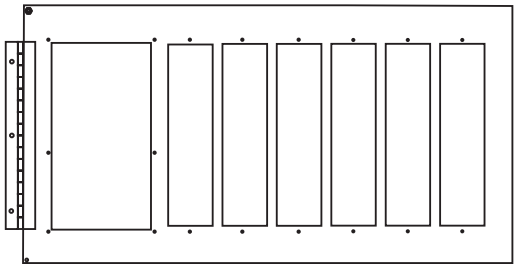


Inner Door

2-6ANN/D



Outer Door



Inner Door

INSTALLATION SHEET:

2-3ANN/D and 2-6ANN/D
Remote Annunciator Cabinet Doors

INSTALLATION SHEET P/N: 387478	FILE NAME: 387478.CDR
REVISION LEVEL: 2.0	APPROVED BY: K. Patterson
DATE: 30MAR00	CREATED BY: B. Graham

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INSTALLATION

B Install the inner door.

On the semi-flush mount wallbox

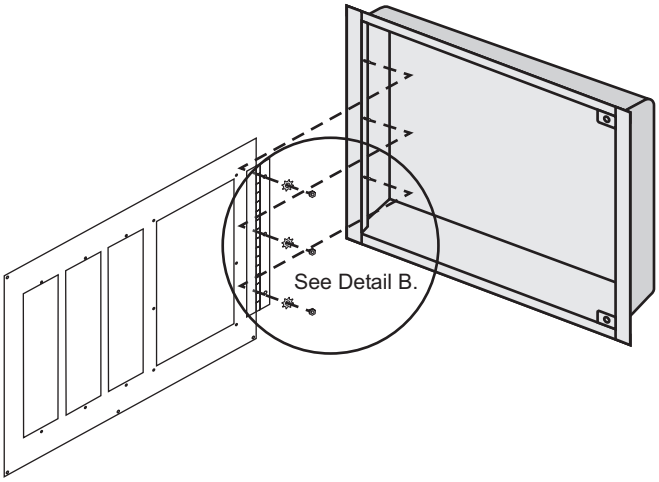
1 Align the inner door mounting holes with the three inner door mounting studs on the wallbox.

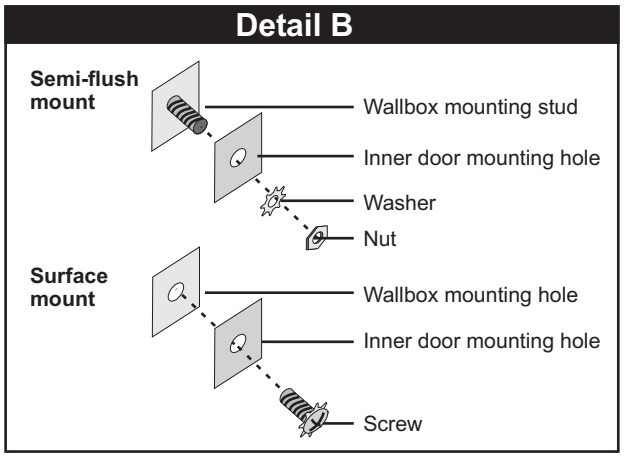
2 Secure the inner door to the wallbox with the washers and nuts provided.

On the surface mount wallbox

1 Align the inner door mounting holes with the three inner door mounting holes in the wallbox.

2 Secure the inner door to the wallbox with the screws provided.



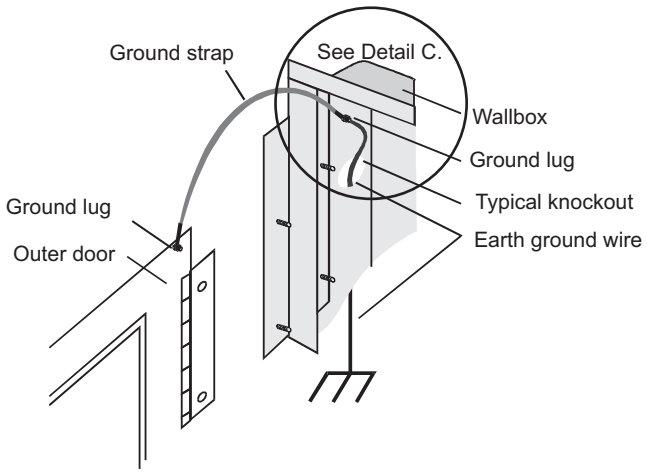


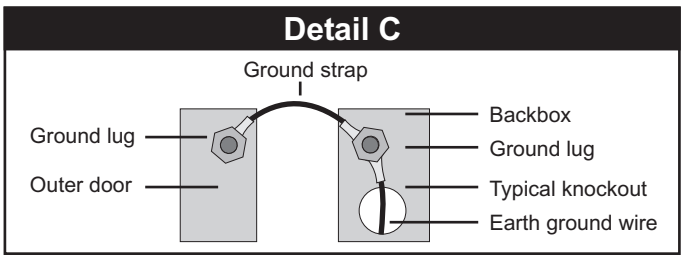
C Connect the ground strap.

1 Secure the ground strap to the outer door ground lug with the nut and washer provided.

2 Run a wire connected to earth ground through a knockout in the wallbox.

3 Secure the ground strap and the earth ground wire to the wallbox with the nut and washer provided.





PRODUCT DESCRIPTION

The Audio Control Module is a dual channel electronics package, which interfaces with the paging microphone operator interface (2-MIC) and the firefighter telephone (2-TEL). Two integral tone generators provide alert and evacuation signaling. Two auxiliary pre-amp level (1 V) inputs handle pre-recorded messages or other external sources. Each of the two audio output channels has a Class B or Class A, pre-amp level (1 V) output, to feed the audio amplifiers.

The Audio Control Module mounts on the rear of the enclosure and provides terminals for the external audio inputs, two audio risers, and RS-485 data.

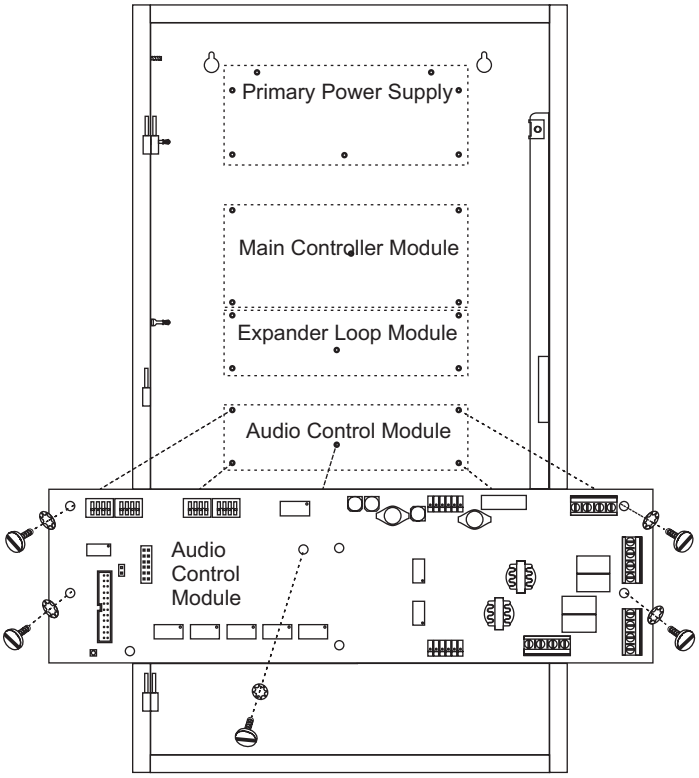
INSTALLATION

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.



Note: See the installation sheets of the following wallboxes for other locations to mount the Audio Amplifier:

- WB3(R)
- WB7(R)
- RACCR

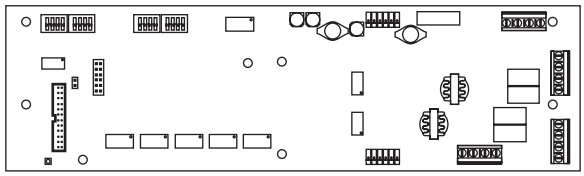
Jumper Settings

Leave JP1 installed in the absence of a 2-TEL Firefighter Telephone. The removal of JP1 enables supervision for the 2-TEL option board.

SPECIFICATIONS

Power requirements	
Power	24 Vdc
Standby with 2-MIC	75 mA
Standby with 2-TEL	75 mA
Active with 2-MIC	110 mA
Active with 2-TEL	120 mA
Frequency response	400 Hz to 4 kHz
Output	
Level	1.0 Vrms
Distortion	< 3%
Wiring configuration	2 channels, Class B (Style Y) or Class A (Style Z)
Maximum load	15 SIGA-AAxx amplifiers
Maximum resistance	100 Ω
Maximum capacitance	0.2 μF
Maximum wire size	14 AWG (1.5 mm^2)
Auxiliary inputs	
Configuration	2 electrically isolated channels (selected via programming)
Input impedance	10 KΩ
Input level	0.5 to 1.75 Vrms
Supervision	
Audio output (dc)	47KΩ EOL
Audio output (ac)	Audio pulse
Internal	1 kHz ac audio pulse
Communication	Internally through RS-485 data
Maximum wire size	14 AWG (1.5 mm^2)
Internal Generator tones	Slow whoop Fast whoop 1 kHz steady 1 kHz march time 1 kHz Morse U Hi-Lo Chime Horn Low tone Hi-Lo horn Fast Hi-Lo horn Temporal (3-3-3) 4-4 code 1 kHz @ 20 bpm 1 kHz @ 120 bpm
Environmental conditions	
Temperature	32 to 120 °F (0-49 °C)
Humidity	0 to 93%, non-condensing

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-AAC
Audio Control Module

INSTALLATION SHEET P/N: 387345	FILE NAME: 387345.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

Related documentation: Installation and Service Manual

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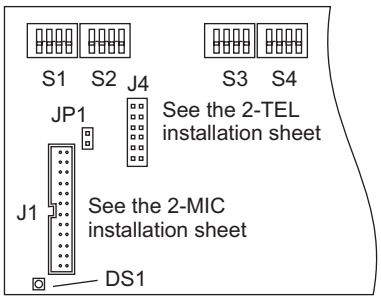
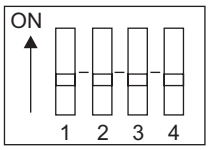
DIP SWITCH SETTINGS





Mode	Description
0	Tones selected by S1 and S3 are available at TB1 and TB3 upon activation of the Audio Control Module.
1	Boston code sequence (Evac channel only).
2	The signals connected to the auxiliary input terminals (TB4) are available at the output terminals (TB1 and TB3) upon activation of the Audio Control Module.
3	Silence for five minutes on fire.
4	The pre-announce tone disables the microphone and sounds the horn tone for five seconds upon the activation of the push-to-talk (PTT) switch.
5	Supervisory tone on TB3 and TB4 when the Audio Control Module is inactive.
6	Disables the generation of trouble conditions for applications without a microphone.
Zone 23	Generated upon the activation of the Audio Control Module and the Evac circuit (Ch 1, TB2) whenever an operator pushes the Phone to Evac or Page to Evac switch at the 2-MIC.
Zone 24	Generated upon the activation of the Audio Control Module and the Alert circuit (Ch 2, TB3) whenever an operator pushes the Phone to Alert or Page to Alert switch at the 2-MIC.

Channel 1: Evac signals

Function	S1-1	S1-2	S1-3	S1-4
Slow whoop	off	off	off	off
Fast Whoop	ON	off	off	off
1 kHz steady	off	ON	off	off
1 kHz march time	ON	ON	off	off
1 kHz Morse U	off	off	ON	off
Hi-Lo	off	off	ON	off
Chime	off	ON	ON	off
Horn	ON	ON	ON	off
Low tone	off	off	off	ON
Hi-Lo Horn	ON	off	off	ON
Fast Hi-Lo Horn	off	ON	off	ON
Temporal	ON	ON	off	ON
4-4 code	off	off	ON	ON
1 kHz @ 20 bpm	ON	off	ON	ON
1 kHz @ 120 bpm	off	ON	ON	ON

Channel 2: Alert signals

Function	S3-1	S3-2	S3-3	S3-4
Slow whoop	off	off	off	off
Fast Whoop	ON	off	off	off
1 kHz steady	off	ON	off	off
1 kHz march time	ON	ON	off	off
1 kHz Morse U	off	off	ON	off
Hi-Lo	off	off	ON	off
Chime	off	ON	ON	off
Horn	ON	ON	ON	off
Low tone	off	off	off	ON
Hi-Lo Horn	ON	off	off	ON
Fast Hi-Lo Horn	off	ON	off	ON
Temporal	ON	ON	off	ON
4-4 code	off	off	ON	ON
1 kHz @ 20 bpm	ON	off	ON	ON
1 kHz @ 120 bpm	off	ON	ON	ON

Channel 1: Evac operating modes

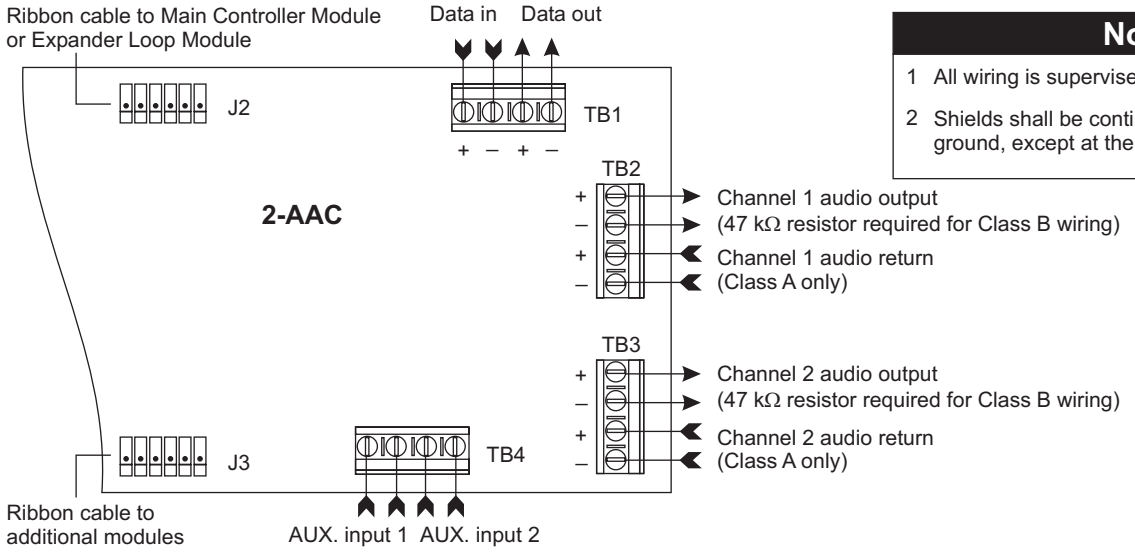
Function	S2-1	S2-2	S2-3	S2-4
Zone 23 and 24 enable	ON	X	X	X
Mode 0	X	X	off	off
Mode 1	X	off	ON	off
Mode 2	X	off	off	ON
Mode 3	X	off	ON	ON
Mode 4	X	ON	off	off

An X indicates that the switch does not apply to the mode.

Channel 2: Alert operating modes

Function	S4-1	S4-2	S4-3	S4-4
Mode 0	X	X	off	off
Mode 2	X	off	off	ON
Mode 3	X	off	ON	ON
Mode 4	X	ON	off	off
Channel 1 and 2 modes				
Mode 5	ON	X	X	X
Mode 6 (Ch 2 only)	X	off	ON	off

WIRING



Notes

1. All wiring is supervised and power-limited.
2. Shields shall be continuous and isolated from ground, except at the orignating panel.

PRODUCT DESCRIPTION

The Remote Alphanumeric Display Annunciators are modules that consist of indicators and controls for monitoring the system away from the control panel. The -C models include switches that provide limited operator functions over the system. Custom messages and front panel switch functions are uniquely programmable.

Note: See the related documentation listed in the title block for mounting instructions.

DIP SWITCH SETTINGS

Switch	Function	Position
S1-1	Auto acknowledge option	On
S1-2	Stealth buzzer option	On
S1-3	Not used	Off
S1-4	Not used	Off

JUMPER SETTINGS

JP1 and JP2 are RS-485 terminating jumpers and should be installed *only* at the last annunciator connection.

Function	JP1	JP2
Class A	Channel 0	Channel 1
Class B	Channel 0	N/A

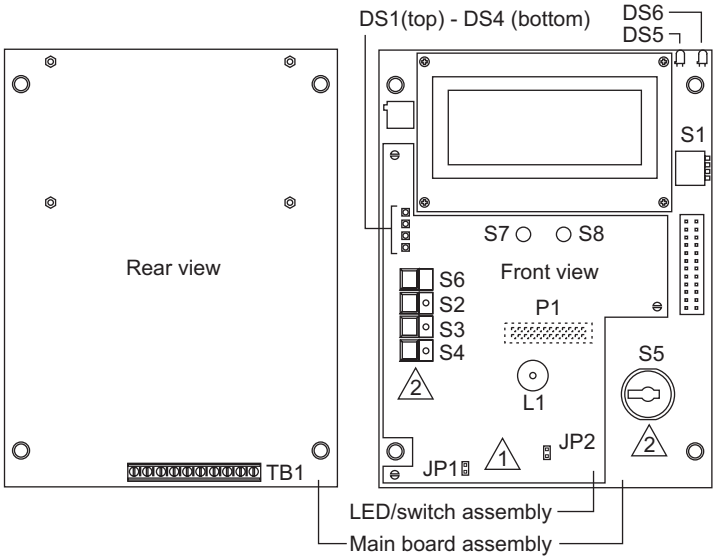
LEDs

LED	Indication
DS1 - DS4	See the System Operations Manual.
DS5	Data transmitting on Channel 0
DS6	Data transmitting on Channel 1

Circuit board assemblies

Notes

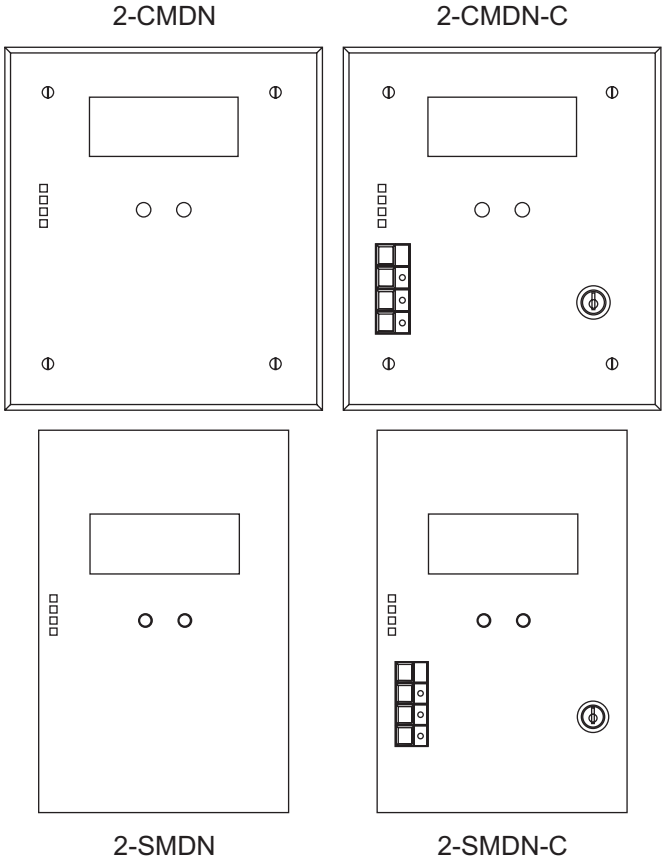
1. Remove the LED/Switch assembly to access to JP1 and JP2.
2. These control switches are included on -C models only.
3. The circuit board mounts behind the faceplate of the module.
4. The 2-CMDN(-C) also includes a backbox assembly.
5. See the related documentation listed in the title block for operator instructions on S2 – S8.



SPECIFICATIONS

Power	Nominal 24 Vdc @ 80mA
Host quantity and addressing	Up to 4 network addresses per annunciator
Printer port format	RS-232
Printer baud rate	2400, 4800, 9600
Annunciators per circuit	31
Message capacity	88 messages per panel address 352 maximum per annunciator
Maximum wire length	50 ft (15 m)

PRODUCT DIAGRAM



Note: The remote alphanumeric display annunciators will only work with the EST2 fire alarm system.

INSTALLATION SHEET:

2-CMDN(-C), 2-SMDN(-C)
Remote Alphanumeric Display Annunciators

INSTALLATION SHEET P/N: 270649	FILE NAME: 270649.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

Related documentation: System Operations Manual

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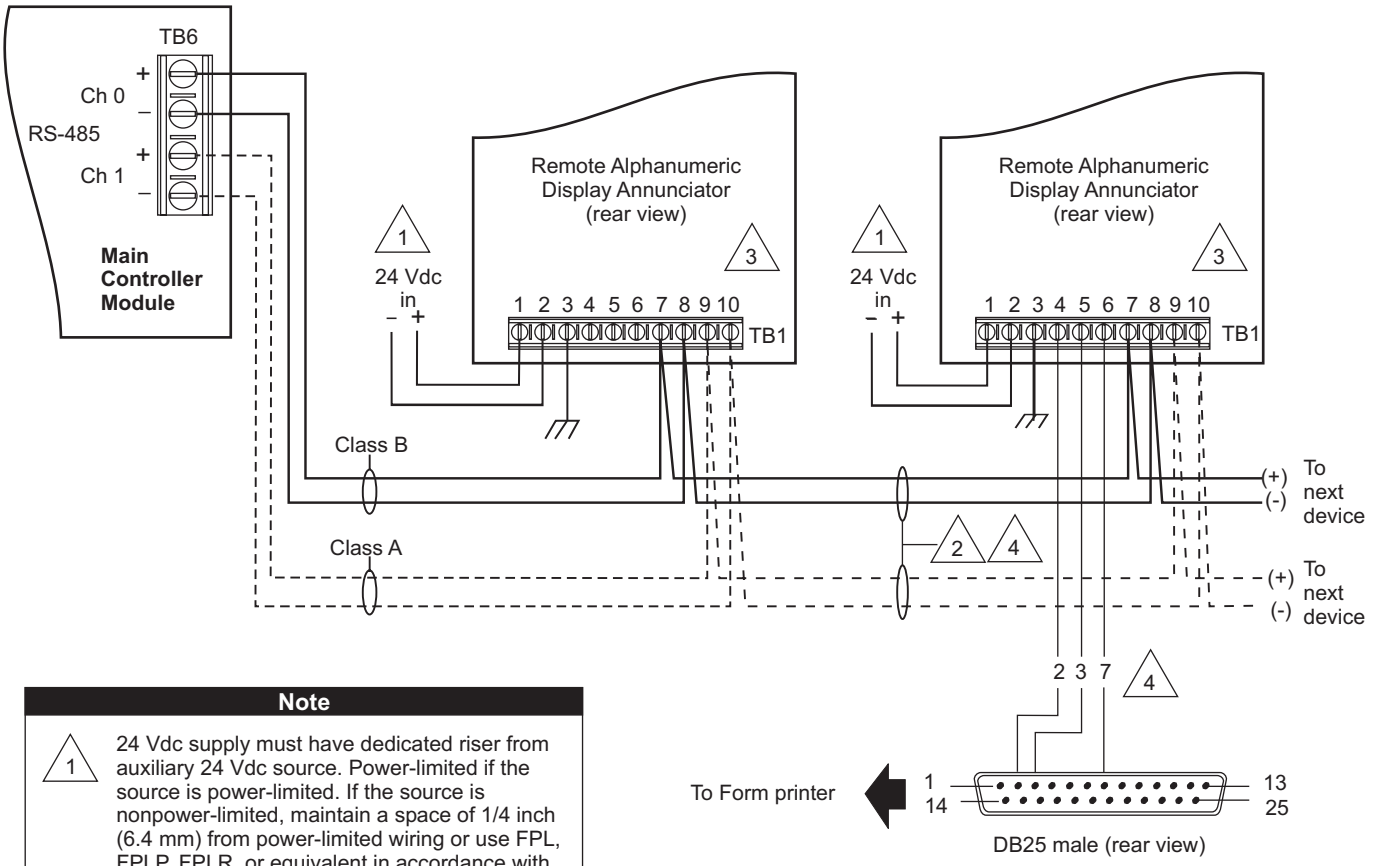
FIELD WIRING



Note

1. 24 Vdc supply must have dedicated riser from auxiliary 24 Vdc source. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring or use FPL, FPLP, FPLR, or equivalent in accordance with the National Electric Code.
2. Provide physical separation between two wire bundles to ensure network survivability.
3. See the TB1 connection table below.
4. Supervised and power-limited

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

TB1 connection table

Terminal	Function	Connection
TB1-1	+24 Vdc	+24 Vdc power supply
TB1-2	24 Vdc common	24 Vdc common
TB1-3	Earth ground	Local earth ground
TB1-4	RS-232 RX in	RS-232: To TX out on printer to Data TX on PC serial port (downloading)
TB1-5	RS-232 TX out	RS-232: To RX in on printer to Data RX on PC serial port (downloading)
TB1-6	RS-232 common	RS-232 Common on printer to common on PC serial port (downloading)
TB1-7	RS-485 Ch 0 (+)	To/from TB1-7 of additional 2-CMDN(-C)s/2-SMDN(-C)s
TB1-8	RS-485 Ch 0 (-)	To/from TB1-8 of additional 2-CMDN(-C)s/2-SMDN(-C)s
TB1-9	RS-485 Ch 1 (+)	To/from TB1-9 of additional 2-CMDN(-C)s/2-SMDN(-C)s
TB1-10	RS-485 Ch 1 (-)	To/from TB1-10 of additional 2-CMDN(-C)s/2-SMDN(-C)s

PRODUCT DESCRIPTION

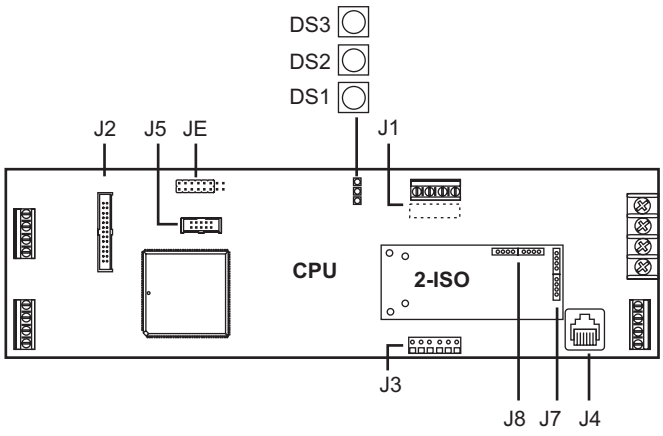
The Central Processor Unit (CPU) consists of the microprocessor and the circuits, which act as the primary interface between the network and the remote annunciators. Two RS-485 communication ports provide network and annunciator loop connections. An RS-232 port provides a connection for the printer or the download cable to the fire alarm control panel. Relay contacts provide supervision for alarms, supervisory conditions, and trouble conditions.

The CPU functions as a node on a Class A (Style 6) or Class B (Style 4) network. It also functions as a controller by sending and receiving tokens (in peer-to-peer fashion) to other network controllers.

The CPU receives its power from a listed Primary or Auxiliary Power Supply. The CPU also provides its own protection from transient spikes, which may arise from any source, including the power supply.

LEDs

LED	Indication	Color
DS1:	Internal communications	Green
DS2:	CH2 TXD	Green
DS3:	CH1 TXD	Green



Note: J7 and J8 of the 2-ISO plug into J7 and J8 of the CPU.

JACKS

Jack	Function
J1	24 Vdc in (not used)
J2	Data cable to the 2-LCD (front panel display module)
J3	24 Vdc out (not used)
J4	RJ-45 (download)
J5	Not used
J6	Not used
J7	2-ISO
J8	2-ISO

SPECIFICATIONS

Input power	18 to 26.4 Vdc, 92 mA - Standby 110 mA - Active
RS-485 NET	
Maximum device capacity	10 nodes
Maximum line impedance	0.44 μf/100Ω
Maximum wire size	14 AWG (1.5 mm^2)
RS-485 ANN	
Maximum device capacity	30 addresses
Maximum line impedance	0.44 μf/100Ω
Maximum wire size	14 AWG (1.5 mm^2)
RS-232	Non-isolated, 50 ft. (15.2 m) max. Must be located in the same room.
Relay contacts	
Alarm and Trouble	Form C, rated at 24 Vdc nominal @ 1 A
Supervisory	Form A, rated at 24 Vdc nominal @ 1 A
Temperature range	32 to 100 °F (0 to 38 °C)
Humidity range	0 to 93% RH

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

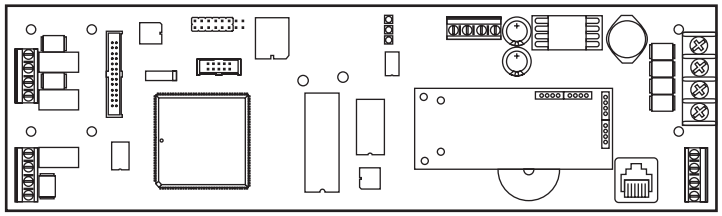
Observe static-sensitive material handling practices.

Wire Stripping Guide

Strip 1/4" from the ends of ALL wires that connect to the terminal blocks of the module.

CAUTION:
Exposing *more* than 1/4" of wire may cause a ground fault.
Exposing *less* than 1/4" of wire may result in a faulty connection.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-CPU
Central Processor Unit

INSTALLATION SHEET P/N: 387469	FILE NAME: 387469.CDR
REVISION LEVEL: 2.0	APPROVED BY: B. Wanek
DATE: 22AUG00	CREATED BY: B. Graham

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SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
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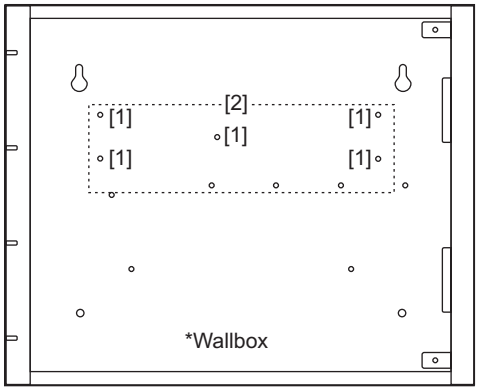
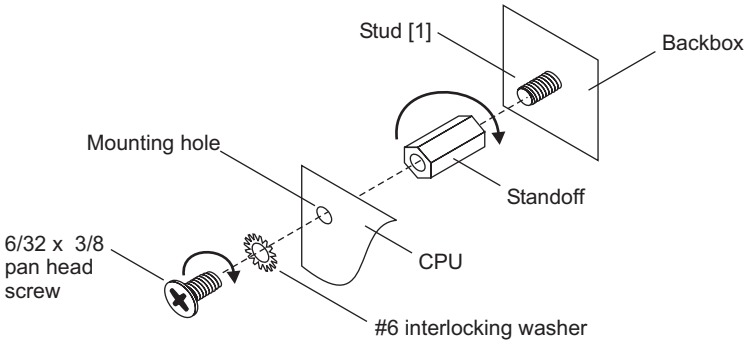
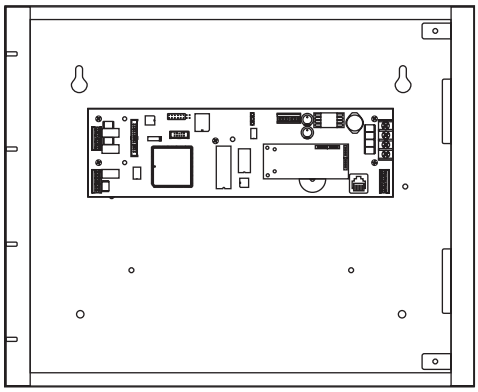
MOUNTING INSTRUCTIONS

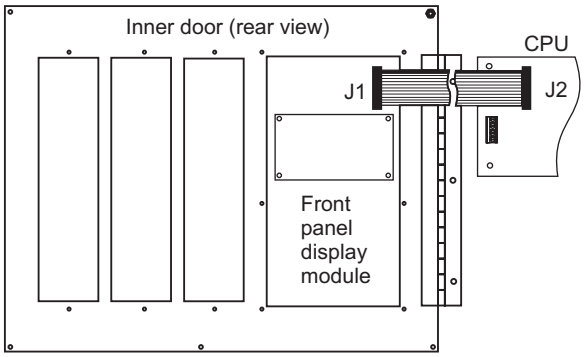


[1] stud
[2] footprint



*Mount the 2-CPU in a 6ANN/B(-S) or 10ANN/B(-S) wallbox. See the 6ANN/B(-S)/10ANN/B(-S) installation sheet for details about the placement of power-limited wiring.



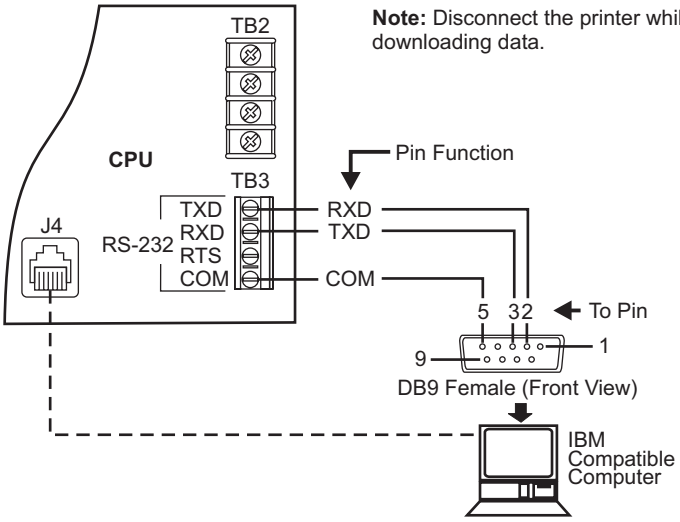


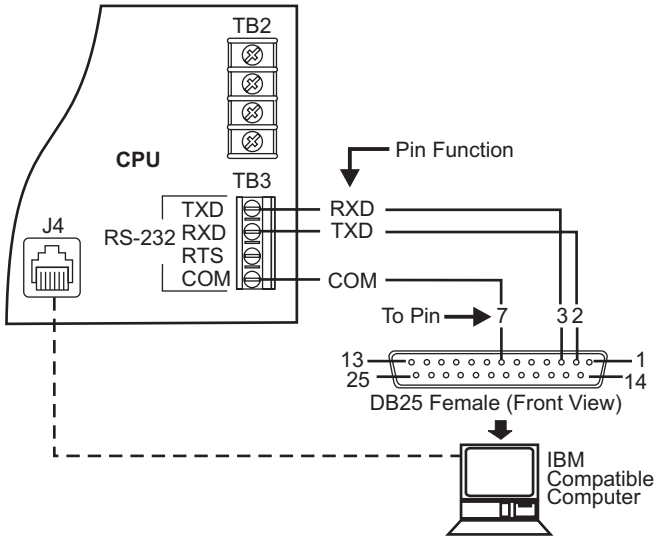
1. Screw the standoffs onto the designated backbox studs [1].
2. Align the CPU mounting holes with the standoffs in the designated footprint [2].
3. Secure the CPU to the standoffs with the screws and washers provided.
4. Make the appropriate connections to TB2 through TB5. (See Internal wiring and Network wiring, on the following pages, for more detail.)
5. Attach the ribbon cable from the CPU (J2) to the front panel display module (J1).

INTERNAL WIRING

Download Wiring

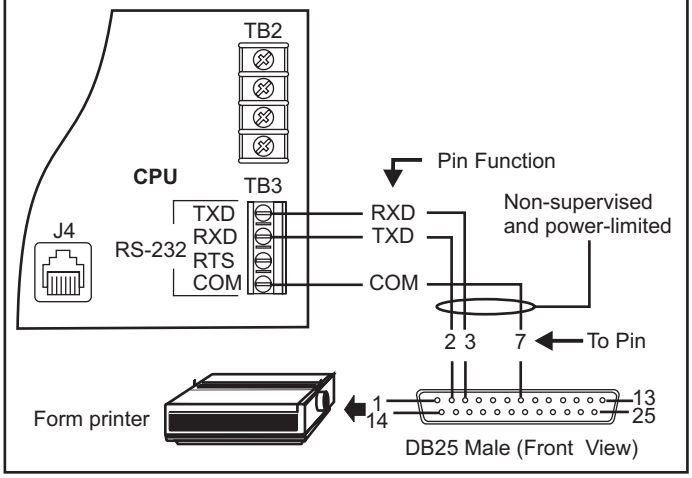
Note: Disconnect the printer while downloading data.





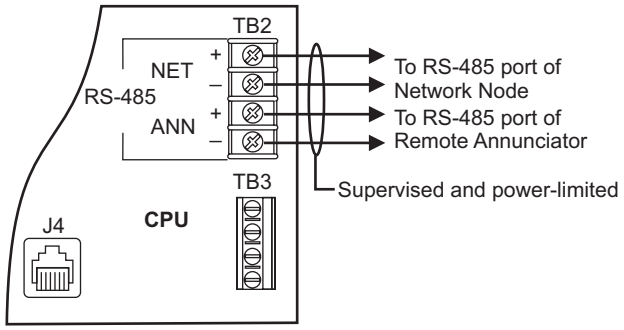
INTERNAL WIRING

Printer Wiring

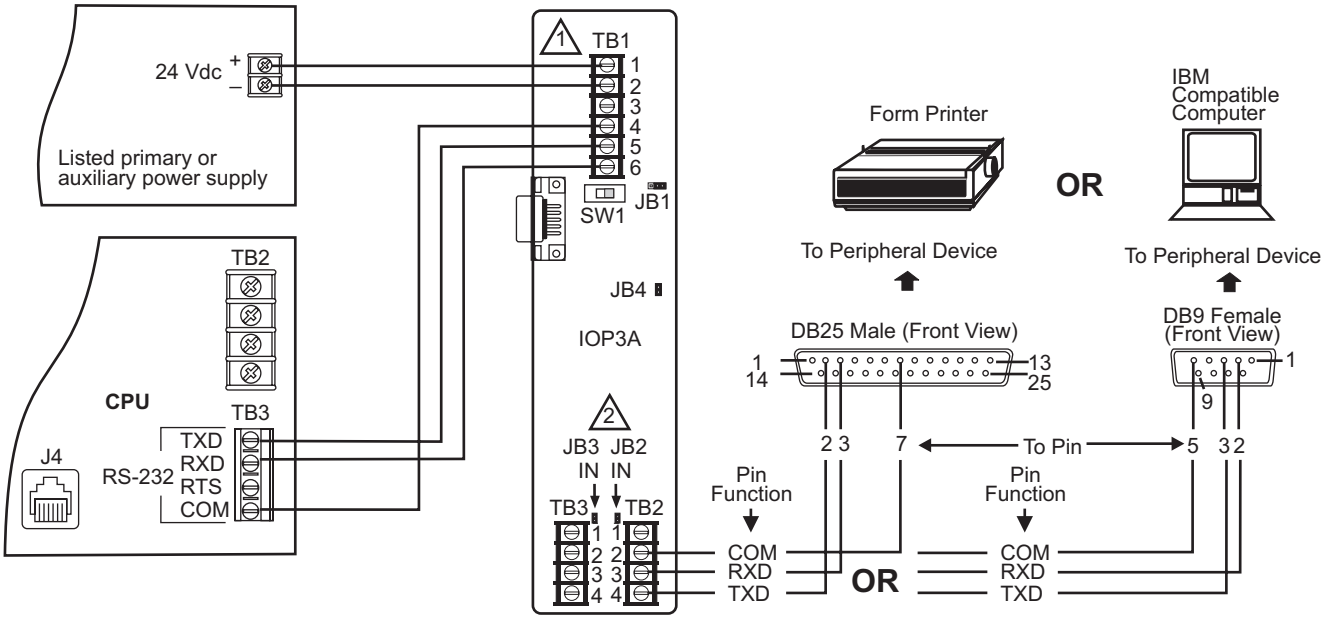


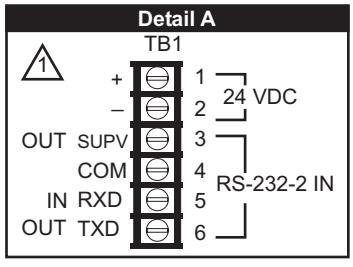
RS-485 Port Wiring

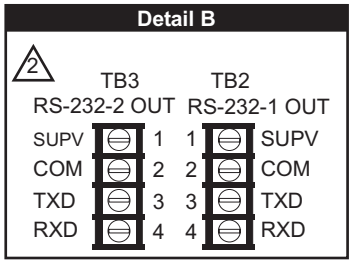
Caution: Any wiring that exits one building and enters another requires a Ditek surge protector module. See the Network Supplement Manual.



RS-232 Port Wiring with IOP3A Isolator Module







INTERNAL WIRING

RPM wiring

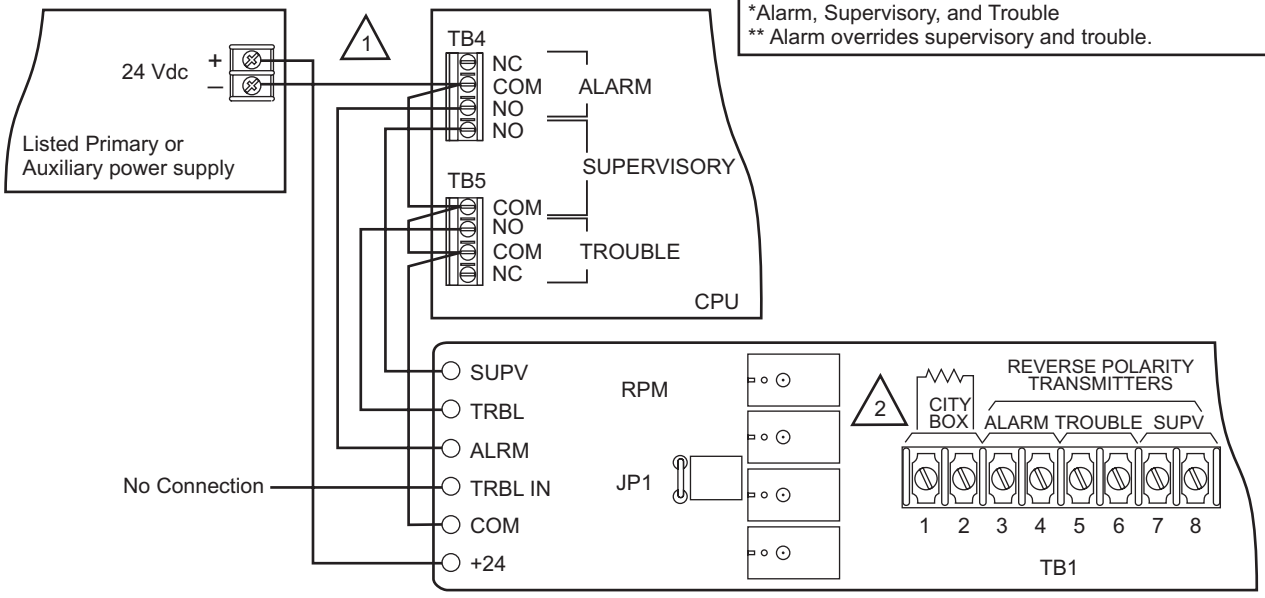
Notes

1. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.
2. UL/ULC Listed 3.9 kΩ EOL resistor (P/N 260001) required. Circuit not used.

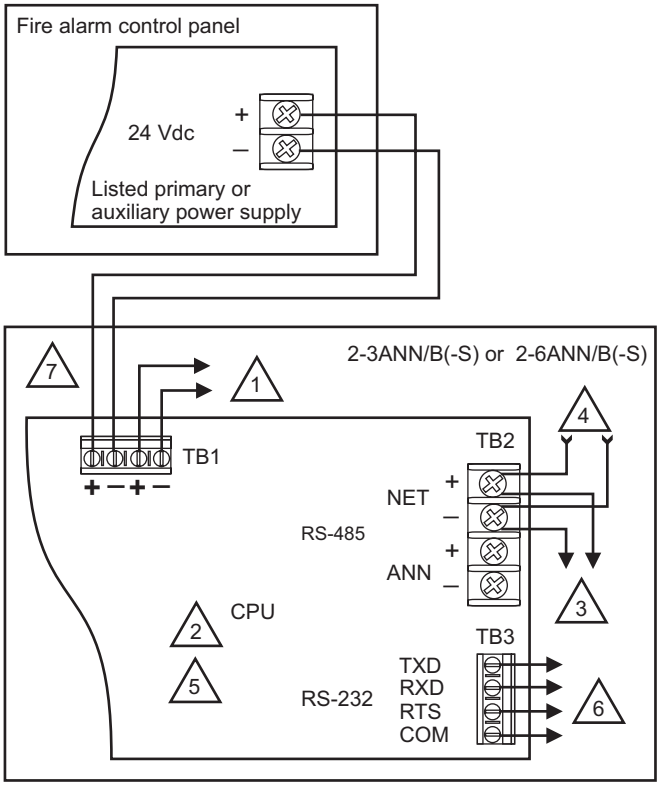
RPM Jumper Settings

Circuits*	JP1	Alarm	Supervisory	Trouble
Separate Circuits*	In	TB1-3,4: Reverse Polarity	TB1-7,8: Reverse Polarity	TB1-5,6: Reverse Polarity
Single Circuit*	Out	TB1-3,4: Reverse Polarity	TB1-3,4: 0.0 Vdc**	TB1-3,4: 0.0 Vdc**

*Alarm, Supervisory, and Trouble
** Alarm overrides supervisory and trouble.



NETWORK WIRING



Notes

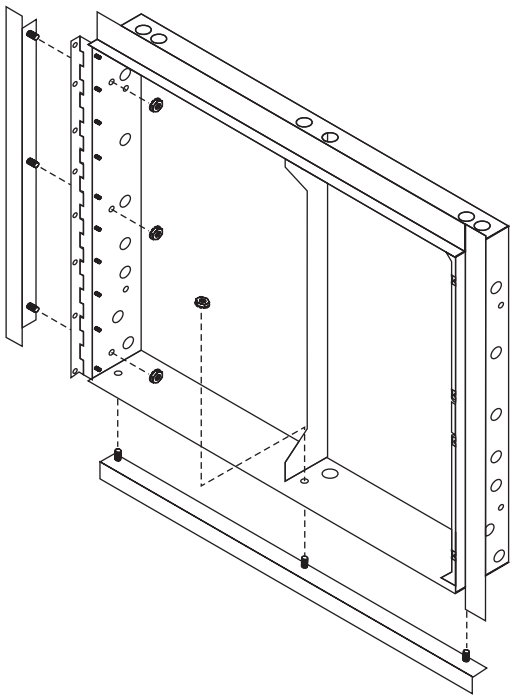
1. Power may be daisy-chained to the next device.
2. Cabinets and components do not appear in proportion to their actual dimensions.
3. The RS-485 signal may be multi-dropped to the next controller on the network.
4. This RS-485 line is multi-dropped from a previous controller on the network.
5. The network can support up to ten controllers (i.e., ≤ five Network Main Controller Modules and ≤ five 2-CPU-CCs).
6. RS-232 signal to peripheral devices: printers and download cables.
7. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.

PRODUCT INFORMATION

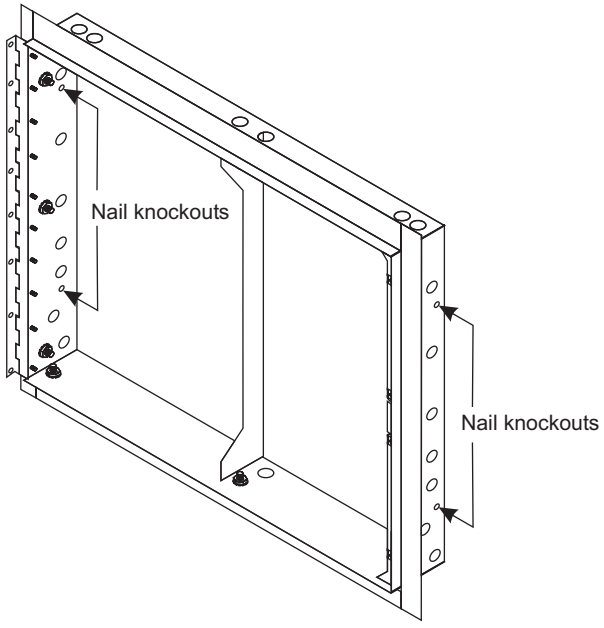
The 2-DFK(R) is a trim kit that prepares double-wide wall boxes for semi-flush mounting. The trim kit is available in two colors: grey or red(R).

INSTALLATION

1 Install the trim kit with the nuts provided.

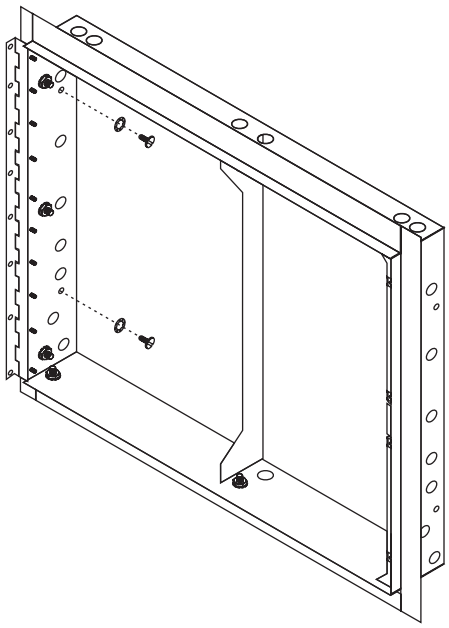


2 Prepare the nail knockouts.

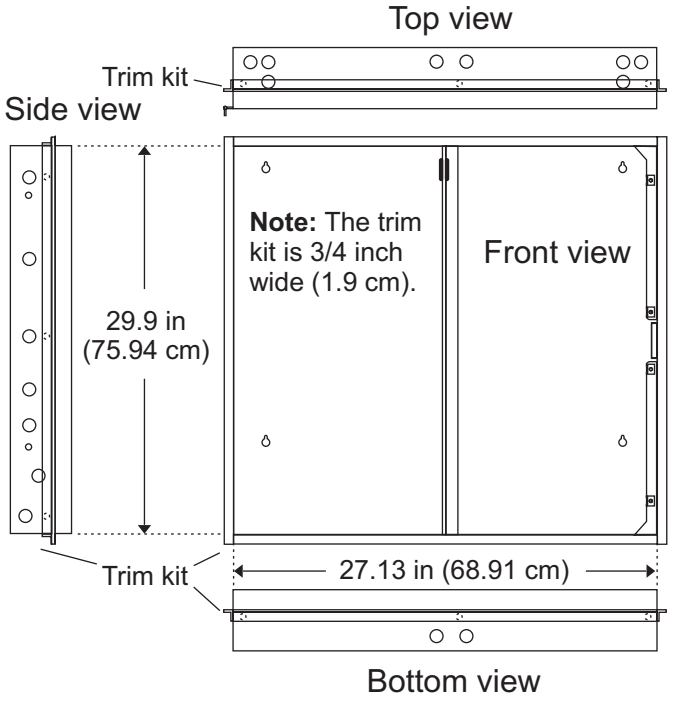


INSTALLATION

3 Secure the wallbox to the frame.



DIMENSIONS



INSTALLATION SHEET:

2-DFK(R) Semi-Flush Trim Kit

INSTALLATION SHEET P/N: 387569	FILE NAME: 387569.CDR
REVISION LEVEL: 1.0	APPROVED BY: B. Shivers
DATE: 11/19/98	CREATED BY: B. Graham

A UNIT OF GENERAL SIGNAL
GS BUILDING SYSTEMS CORPORATION

GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

PRODUCT DESCRIPTION

The 2-DLM Data Line Monitor is designed to create a Class A (Style 6) RS-485 line when used with Network Main Controller Modules and 2-CPU(s). The 2-DLM also creates a Class A (Style 6) Annunciator RS-485 when used with a Network Main Controller Module or 2-CPU and local annunciation devices. The purpose of the 2-DLM is to detect and repair opens on the RS-485 lines.

The 2-DLM consists of a microprocessor and the necessary support circuitry to communicate with the two ends of the RS-485 lines over two separate channels. If communication stops on either of the two channels, indicating a line break, the 2-DLM will connect the channels and repair the broken communication lines.

The 2-DLM receives 24 Vdc from a 2-PPS/XX(-220) or a SIGA-APS. In addition, the 2-DLM is transient protected on all terminal connections. The 2-DLM side mounts to a WB series cabinet or back mounts to a network annunciator cabinet.

SPECIFICATIONS

Input Power	18 - 26.4Vdc, 18mA
Network Data Lines (Both)	
Class (Style)	Class A (Style 6)
Maximum Line Impedance	0.44 μF/100 Ω
Maximum Wire Size	14 AWG (1.5 mm^2)
Temperature Range	32 to 100 °F (0 to 38 °C)
Humidity Range	0 to 93% RH

Dip Switch Functions

Switch	Function
SW1-1	On for operating on the annunciator loops
SW1-2	Future Use
SW1-3	On for testing the 2-DLM
SW1-4	Future Use

INSTALLATION: REMOTE ANNUNCIATOR CABINET

Caution!

Observe static-sensitive material handling practices.

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Remote annunciator wallbox installation

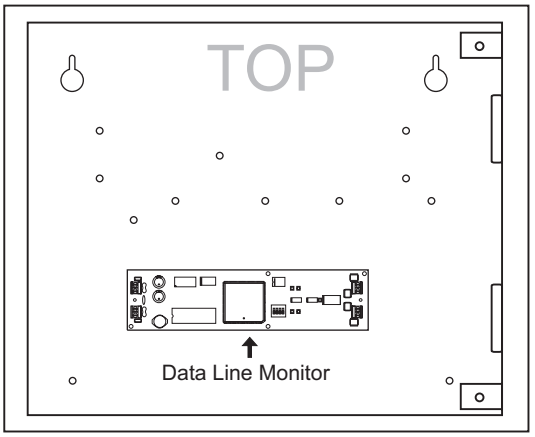
To back mount the Data Line Monitor in a remote annunciator wallbox:

1 Screw standoffs onto the appropriate backbox studs.

2 Align the 2-DLM mounting holes with the appropriate studs and standoffs in the backbox.

3 Mount the 2-DLM with the 6/32 x 3/8 pan head screws and #6 interlocking washers provided.

4 Make the appropriate connections to TB1 through TB4. (See the following pages for more detail.)



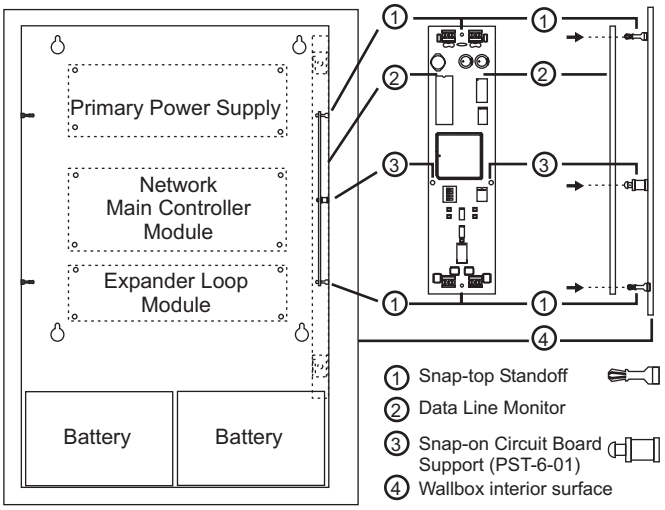
Standard wallbox installation

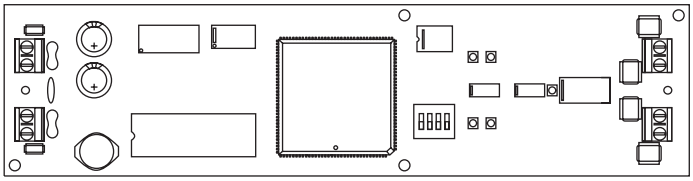
To side mount the Data Line Monitor in a standard wallbox:

1 Align the 2-DLM mounting holes with the appropriate standoffs on either side of the backbox.

2 Snap the 2-DLM onto the standoffs.

3 Make the appropriate connections to TB1 through TB4. (See the following pages for more detail.)





INSTALLATION SHEET:

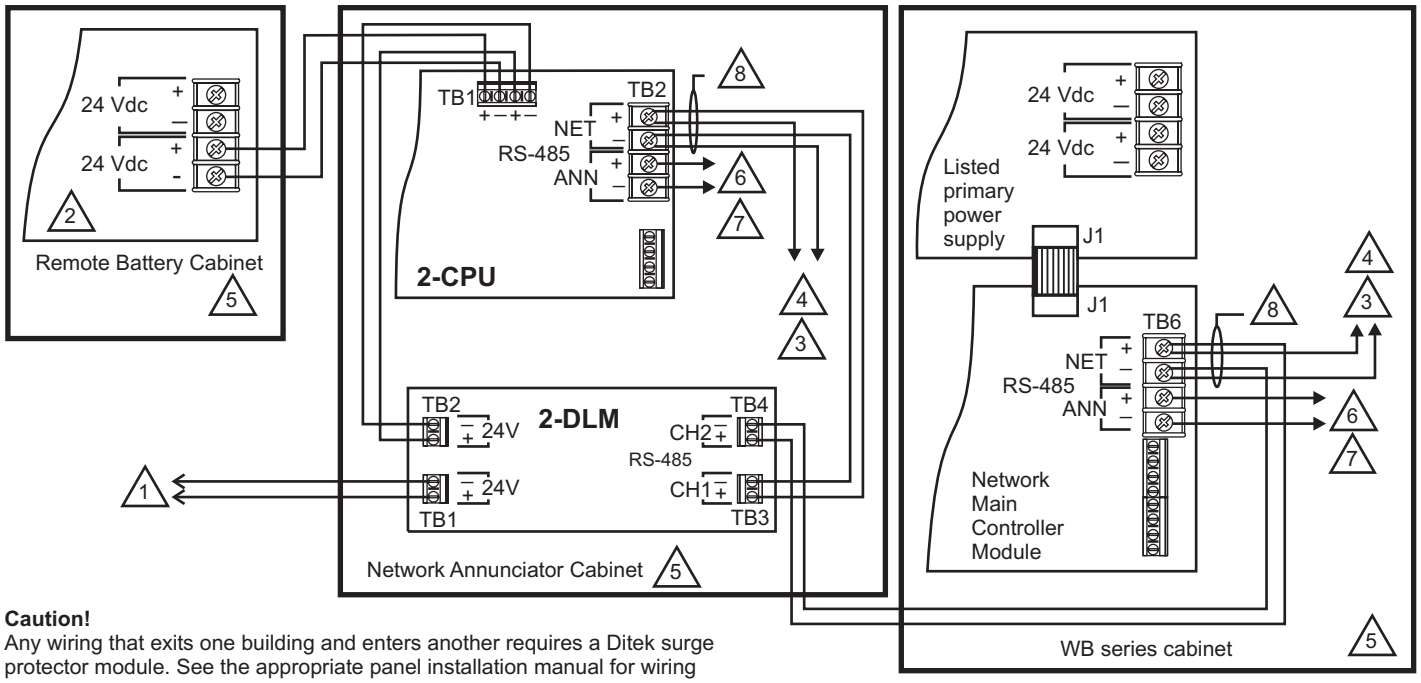
2-DLM
Data Line Monitor

INSTALLATION SHEET P/N: 387471	FILE NAME: 387471.CDR
REVISION LEVEL: 2.0	APPROVED BY: P. Decker
DATE: 30MAR00	CREATED BY: B. Graham

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

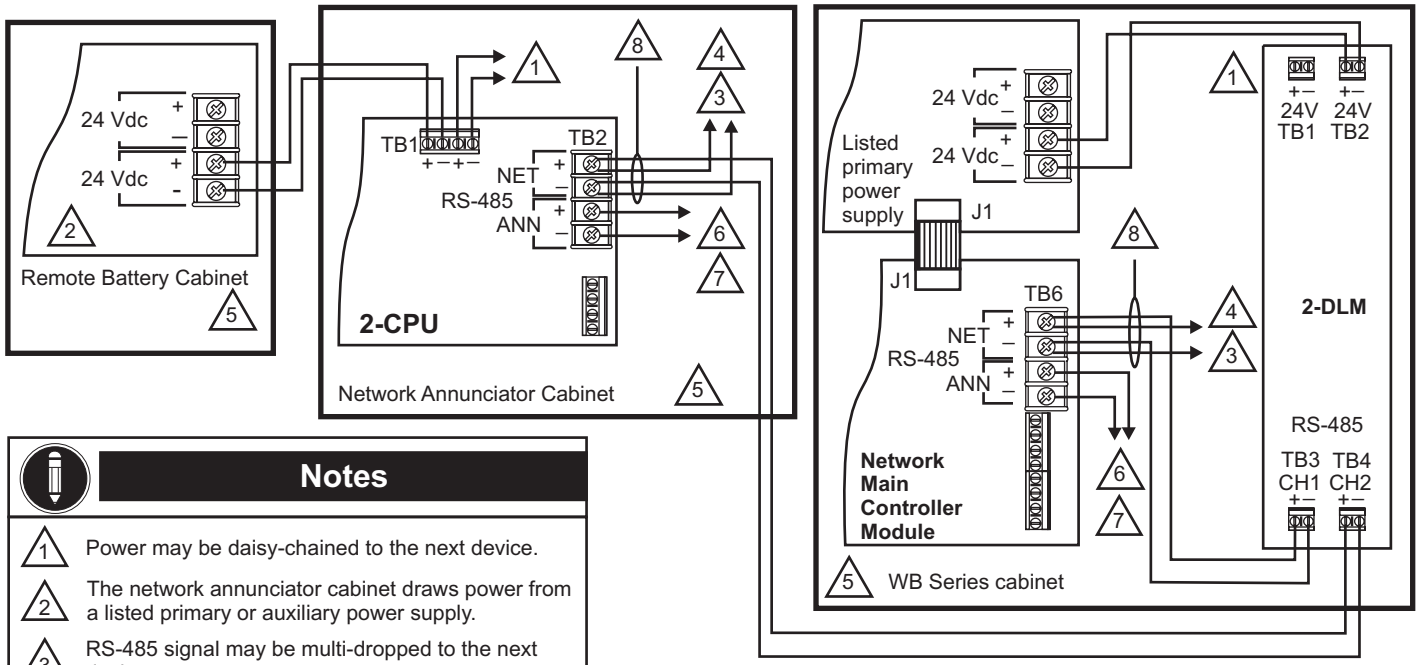
FIELD WIRING

2-DLM back mounted in a network annunciator cabinet



Caution!
Any wiring that exits one building and enters another requires a Ditek surge protector module. See the appropriate panel installation manual for wiring

2-DLM side mounted in a WB series cabinet



Notes

1. Power may be daisy-chained to the next device.
2. The network annunciator cabinet draws power from a listed primary or auxiliary power supply.
3. RS-485 signal may be multi-dropped to the next device.
4. The network can support up to ten controllers (i.e., ≤ five Network Main Controller Modules and ≤ five 2-CPUs).
5. Cabinets and components do not appear in proportion to their actual dimensions.
6. To SAN annunciators, 2-LSRAs, and 2-SMDNs.
7. The wiring and functions of the 2-DLM for the RS-485 ANN lines are identical to the RS-485 NET lines. Make sure SW1-1 is on.
8. Class A (Style 6)
9. All wiring is supervised and power-limited.

Wire Stripping Guide

Strip 1/4" from the ends of ALL wires that connect to the terminal blocks of the module.

CAUTION:
Exposing *more* than 1/4" of wire may cause a ground fault.
Exposing *less* than 1/4" of wire may result in a faulty connection.

PRODUCT INFORMATION

Description

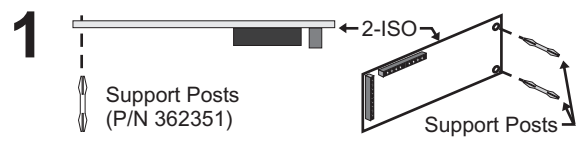
The 2-ISO Isolator Module is an option card that mounts directly to either a Main Controller Module or a 2-CPU. Its purpose is to provide electrical isolation between RS-485 devices and the control panel's primary power supply. The 2-ISO also isolates the primary power supply from other system power supplies and electrical interference events.

SPECIFICATIONS

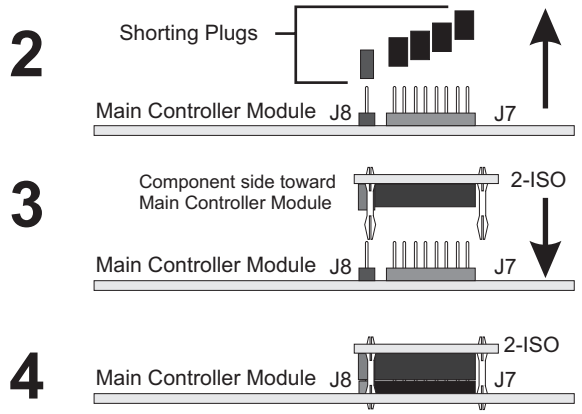
Voltage	5 Vdc, nominal
Current	25mA
Maximum line parameters	0.44μF/100 Ω
Isolation	500 Vac

MOUNTING INSTRUCTIONS

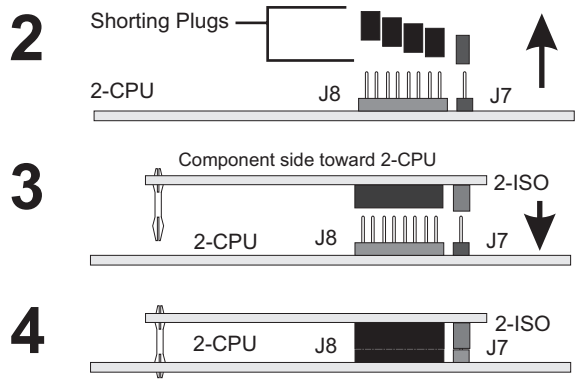
Snapping support posts to the 2-ISO

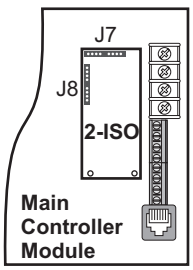


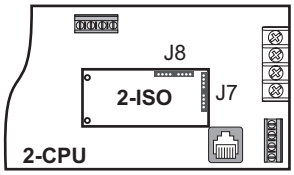
Mounting the 2-ISO on a Main Controller Module



Mounting the 2-ISO on a 2-CPU







Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

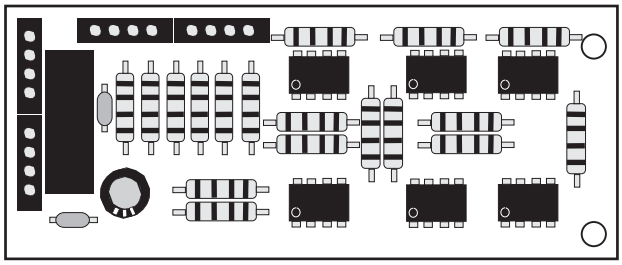
Observe static-sensitive material handling practices.

The 2-ISO is an integral sub-assembly of the Main Controller Module and the 2-CPU. If the need arises to replace the 2-ISO, follow the steps below to install the replacement module.

1. Snap the support posts to the holes located opposite J7 and J8 in the component side of the isolator module.
2. Remove the shorting plugs from J7 and J8 of the control module.*
3. Align J7, J8, and the support posts of the Isolator Module with J7, J8, and the appropriate holes on the control module (component side of the Isolator Module facing the controller module).
4. Mate the isolator module's jacks with the control module's jacks and snap the support posts into the control module's mounting holes.

***Note:** The control module, in these mounting instructions is either a Main Controller Module or a 2-CPU. Step 1 applies to both modules. Steps 2 through 4 will differ slightly for the Main Controller Module and the 2-CPU.

2-ISO



INSTALLATION SHEET:

2-ISO
Isolator Module

INSTALLATION SHEET P/N: 270498	FILE NAME: 270498.CDR
REVISION LEVEL: 1.1	APPROVED BY: JM
DATE: 07/30/98	CREATED BY: B. GRAHAM

A UNIT OF GENERAL SIGNAL
GS BUILDING SYSTEMS CORPORATION

GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

DESCRIPTION

The Liquid Crystal Display Module (LCD) is the primary operator interface with the system. The liquid crystal display features a back-lit screen, with 4-lines (20 alphanumeric characters each). LEDs provide status information. Front panel switches and a numeric keypad provide access to system operation and maintenance functions.

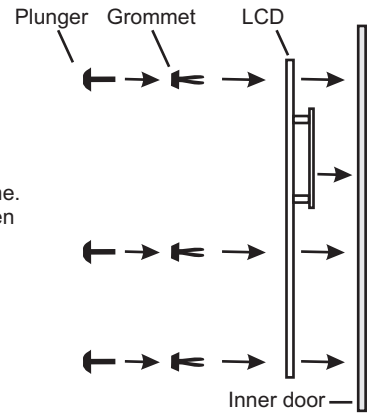
INSTALLATION

1 Mount the LCD

a. Push a grommet through the mounting holes of the LCD and the inner door.

b. Insert a plunger into the grommet.

c. Repeat steps 1 and 2 until you have installed all six sets of grommets and plungers.



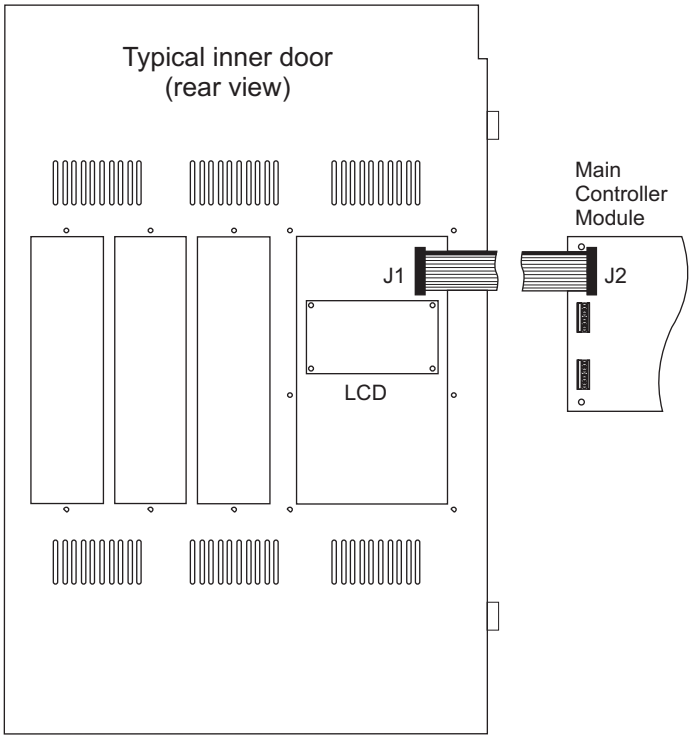
Note: Do not try to insert the plunger and grommet into the mounting holes at the same time. Insert the grommet first and then the plunger to avoid damaging them.

2 Connect the ribbon cables

a. Connect the ribbon cable from J1 on the LCD to J2 on the Main Controller Module.

b. Connect the ribbon cable from J3 of the LCD to J1 on the first LED/switch module (address 0).

Note: See the LED/Switch module installation sheet for ribbon cable connections between modules and dip switch settings.



SPECIFICATIONS

Input Power	
Voltage	24 Vdc
Standby current	20 mA
Alarm current	130 mA
Display	4 line, 20 character, back-lit, alphanumeric, super-twist, liquid crystal
Environmental Conditions	
Temperature Range	32 to 120 °F (0 to 49 °C)
Humidity	0 to 93%, Non-condensing
Indicators	
LEDs	AC Power, Alarm, Supervisory, Trouble, Monitor, Disable, Ground Fault, CPU Fail, Test, Reset, Trouble Silence, Alarm Silence, Drill, and User Option
Controls	
Numeric keypad	0 - 9, Enter, and Delete
Message review switches	Alarm, Supervisory, Trouble, and Monitor
Function switches	Status, Program, Enable, Disable, Activate, Restore, Reports, and Test
User option switch	The programmer determines the function of this switch.

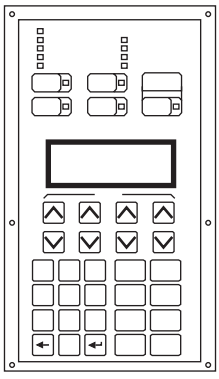
Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-LCD Liquid Crystal Display

INSTALLATION SHEET P/N: 270212	FILE NAME: 270212.CDR
REVISION LEVEL: 4.0	APPROVED BY: J. Massing
DATE: 29MAR00	CREATED BY: B. Graham

Related documentation: Installation and Service Manual

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

PRODUCT DESCRIPTION

The Expander Loop Module (LCX) provides the standalone system an additional multiplexed Signature Data Circuit (SDC) and two Notification Appliance Circuits (NACs). The SDC and the NACs can operate on Class A or Class B wiring. The SDC can support 96 Signature Series detectors and 94 Signature Series modules. The NACs have separate input terminals, which are rated at 24 Vdc @ 3.5 A or 100 W @ 25 Vrms or 70 Vrms audio. The NAC terminals may share power or receive it from a listed fire alarm power supply.

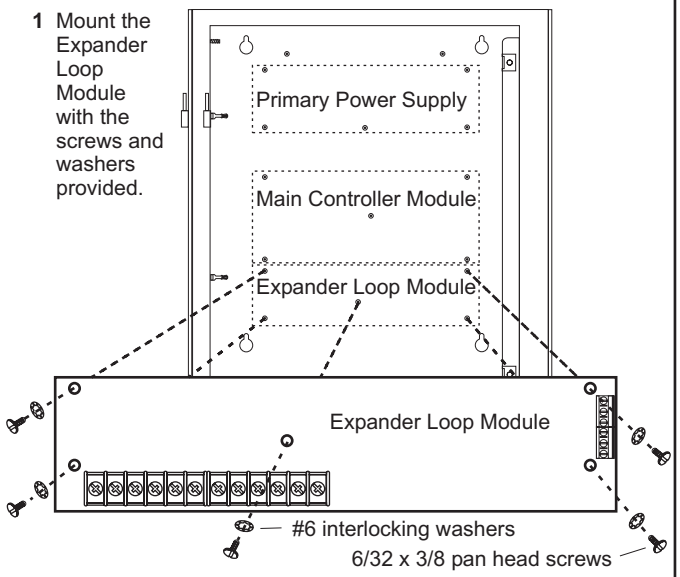
Wire Stripping Guide

Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

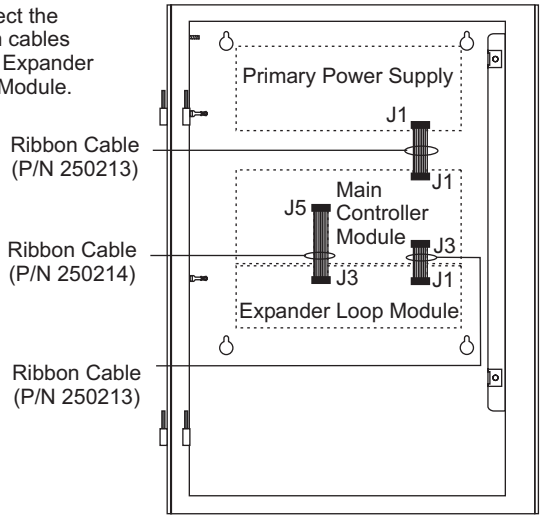
Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty

INSTALLATION

1 Mount the Expander Loop Module with the screws and washers provided.



2 Connect the ribbon cables to the Expander Loop Module.



SPECIFICATIONS

Input Power	24 Vdc @ 20 mA, standby;130 mA active
NACs	
Quantity/Style	Two Class A (Style Z) or Class B (Style Y)
Voltage	24 Vdc, Nominal
NAC Current Rating	3.5 A or 100 W @ 25/70 Vrms per circuit
Line Resistance	50 Ω max.
EOL Resistor	15 kΩ , ½ W
Maximum Wire Size	12 AWG (2.5 mm^2)
SDC	
Class (Style)	Class A (Style 7) or Class B (Style 4)
Detector Capacity	96 Signature Series detectors
Module Capacity	94 Signature Series modules
Line Resistance	65 Ω max. full load (50 mA)
Line Capacitance	0.33 μf, max.
Maximum Wire Size	14 AWG (1.5 mm^2)
Environmental Conditions	
Temperature Range	32 to 120 °F (0 to 49 °C)
Humidity	0-93%, Non-condensing

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

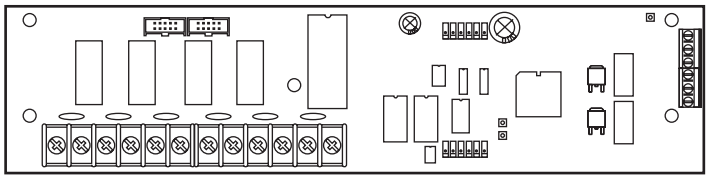
Caution!

Observe static-sensitive material handling practices.

WIRE ROUTING

The routing of power-limited and nonpower-limited wiring differs with each cabinet. For more information on the routing of power-limited and nonpower-limited wiring, see the cabinet's installation sheet.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-LCX
Expander Loop Module

INSTALLATION SHEET P/N: 270213	FILE NAME: 270213.CDR
REVISION LEVEL: 3.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

Related documentation: Installation and Service Manual

EDWARDS SYSTEMS TECHNOLOGY, INC.
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OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

FIELD WIRING

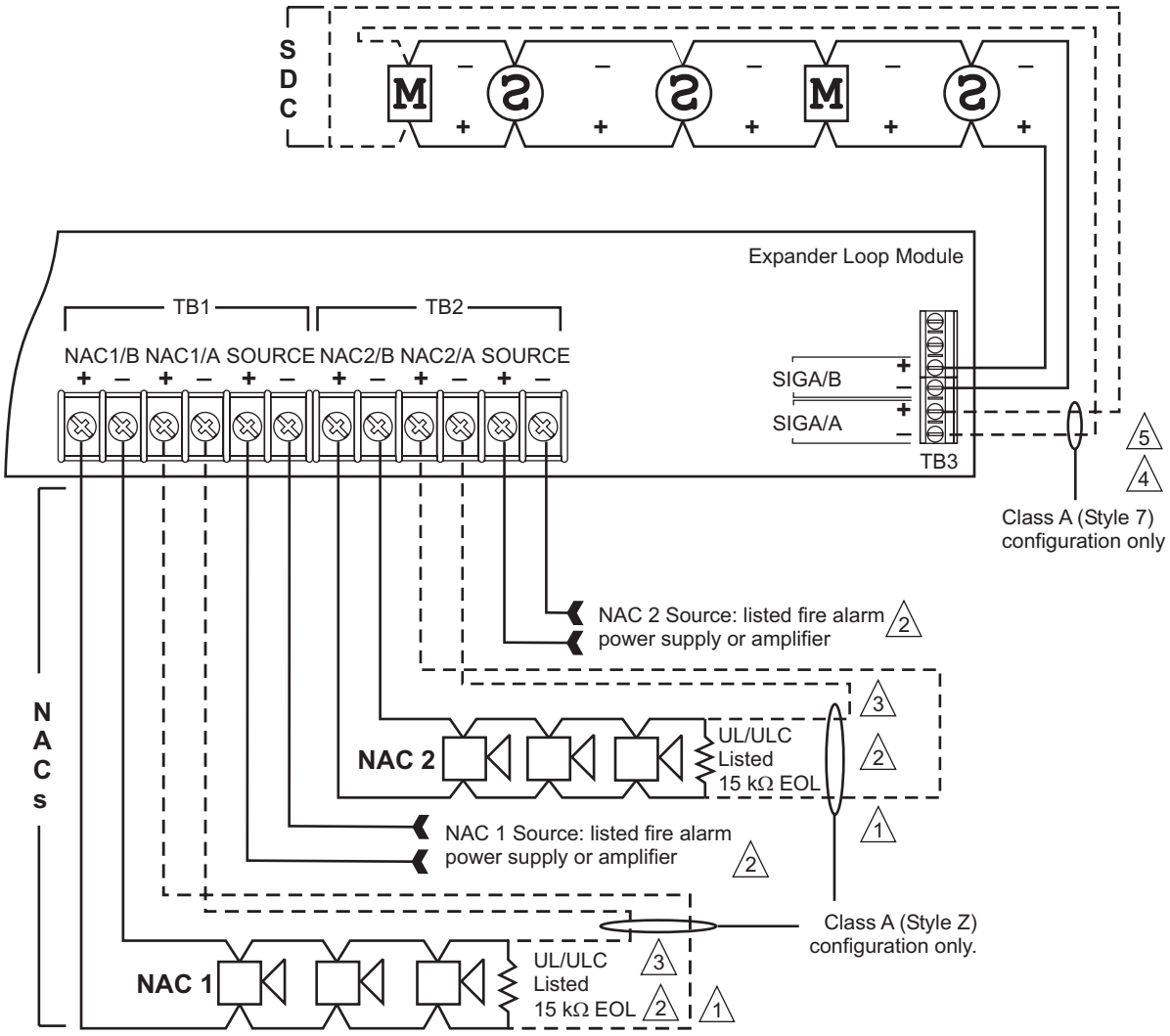
Notification Appliance Circuits (NACs) / Signature Data Circuit SDC Wiring

Notes

1. Supervised.
2. Power-limited when connected to a power-limited source. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring or use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.
3. 15 kΩ resistor Required for Class B (Style Y) wiring only.
4. Supervised and power-limited.
5. No T-taps when wired as a Class A (Style 7) circuit.
6. For maximum wire resistance, see the Installation and Service Manual.
7. Contacts shown with system power applied.

Legend

- M — Signature Series module/pull station
- S — Signature Series smoke detector
- Notification appliance

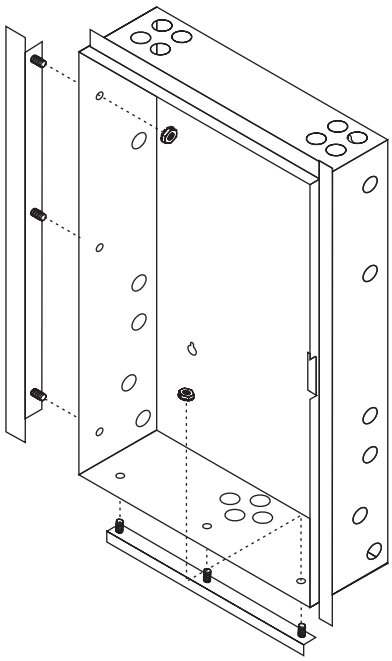


PRODUCT INFORMATION

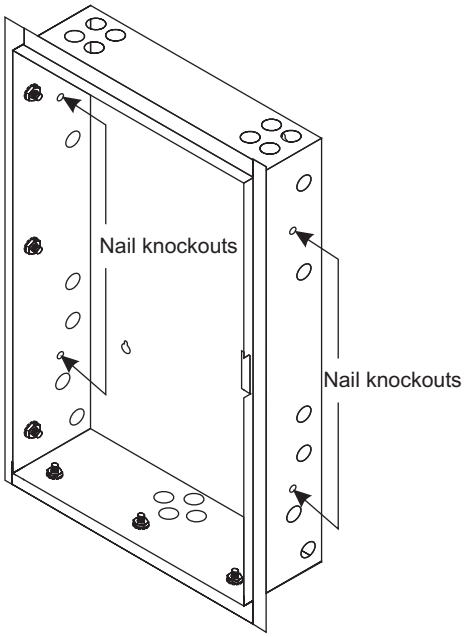
The 2-LFK(R) is a trim kit that prepares the WB3 series wall box for semi-flush mounting. The trim kit is available in two colors: grey or red(R).

INSTALLATION

1 Install the trim kit with the nuts provided.

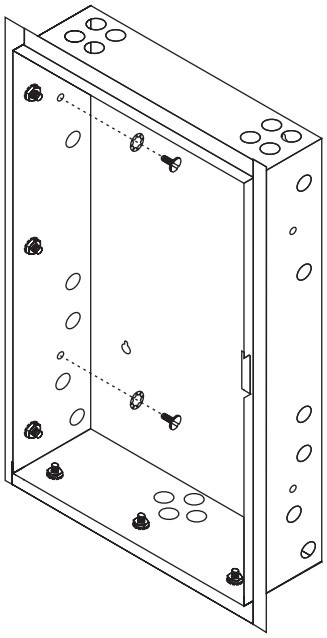


2 Prepare the nail knockouts.

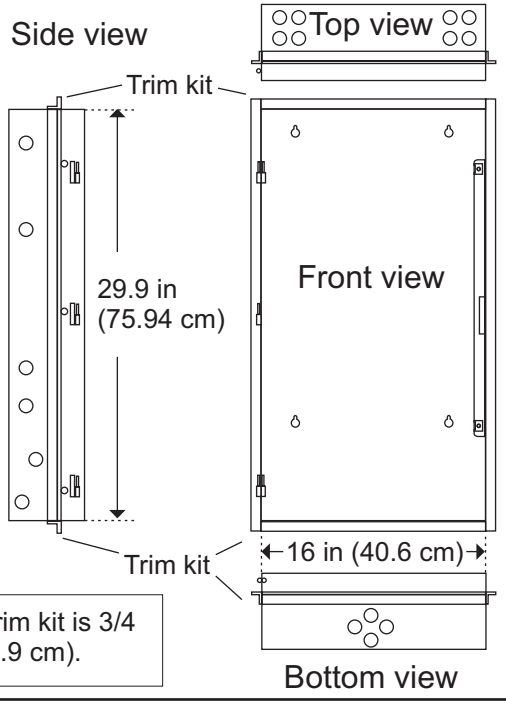


INSTALLATION

3 Secure the wallbox to the frame.



DIMENSIONS



Note: The trim kit is 3/4 inch wide (1.9 cm).

INSTALLATION SHEET:

2-LFK(R)
Semi-Flush Trim Kit

INSTALLATION SHEET P/N: 387570	FILE NAME: 387570.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Patterson
DATE: 01/26/99	CREATED BY: B. Graham

A UNIT OF GENERAL SIGNAL

GS BUILDING SYSTEMS CORPORATION

GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243
USA

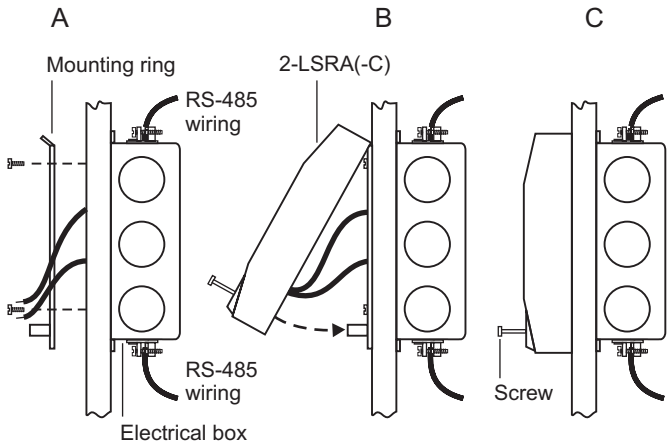
625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

PRODUCT DESCRIPTION

The 2-LSRA(-C) features a 4-line, 20-character back-lit alphanumeric liquid crystal display for use with the fire alarm panel. An optional RS-232 printer/download port is available for a local printer connection, depending on annunciator configuration. The printer provides a hard copy of the information on the annunciator display. The annunciators require 24 Vdc for operation.

All annunciator front panels include Normal, Alarm, Supervisory, and Trouble LEDs. The 2-LSRA is a reduced complement annunciator, which provides only the Next/Acknowledge and Back switches. The 2-LSRA-C is a full complement annunciator, which provides password protected Reset, Alarm Silence, Trouble Silence, Drill/All Call, Next/Acknowledge, and Back switches. The password protect Enable/Disable switch is located on the rear of the unit.

INSTALLATION INSTRUCTIONS



1. Secure the mounting ring (P/N P-039964-1243) to the electrical box, as shown in panel A.
2. Install the LSRA-232 Printer/Programming Port in the annunciator.
3. Set the DIP switches according to Table 1.
4. Connect the RS-485 wires to the appropriate 2-LSRA(-C) terminals.

   Note: See Table 2 and the wiring diagrams on this installation sheet. Leave enough wire to permit the lowering of the 2-LSRA(-C) for programming.
5. Download annunciator data from the Systems Definition Utility. See the SDU online help and the LSRA-232/2-LSRA-PROG installation sheet for downloading instructions.
6. Slide the top of the annunciator onto the top flange of the mounting ring.
7. Push the bottom of the annunciator over the stud-nut, as shown in panel B.
8. Secure the bottom of the annunciator to the adapter ring using the screw provided, as shown in panel C.
9. Cover the screw hold with the label provided.

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

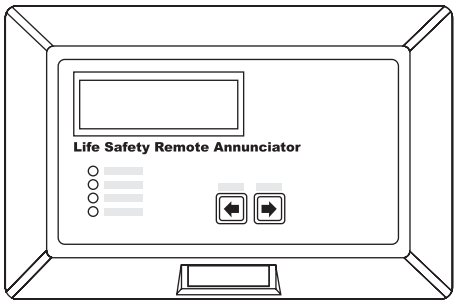
Observe static-sensitive material handling practices.

SPECIFICATIONS

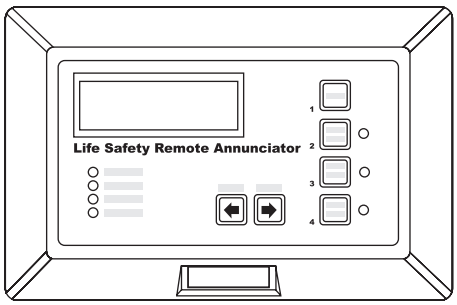
Power	18.4 - 26.4 Vdc @ 80 mA
RS-485 communications	Class B (Style 4) or Class A (Style 7)
Baud rate	9600
Quantity/addressing	Up to 4 network addresses per annunciator (30 addresses max.)
Maximum wire length	
RS-232	50 ft (15 m)
RS-485	7,700 ft (2,348 m), 18 AWG (0.75 sq mm) Twisted Pair
Maximum wire size	One 14 AWG (1.5 sq mm) or two 18 AWG (or 0.75 sq mm)
Optional printer port format	RS-232
Message capacity	88 messages per panel address 352 max. per annunciator
Mounting	North American 2-gang or 4-inch square electrical box
Dimensions (HWD)	
U.S.	5-5/8 in x 8-3/8 in x 1-5/16 in
Metric	14.29 cm x 21.27 cm x 3.33 cm
LSRA-RK Remote Key Switch	1-5 Vdc @ 1.06 mA power-limited, non-supervised
Operating temperature range	32 - 120 °F (0-49 °C)
Operating humidity range	0-93% RH, non-condensing

PRODUCT DIAGRAM

2-LSRA



2-LSRA-C



INSTALLATION SHEET:

2-LSRA(-C)
Life Safety Remote Annunciator

INSTALLATION SHEET P/N: 387414	FILE NAME: 387414.CDR
REVISION LEVEL: 2.0	APPROVED BY: K. Johnson
DATE: 11MAY00	CREATED BY: B. Graham

Related documentation: Installation and Service Manual; System Operations Manual; SDU online help; LSRA-232/LSRA-PROG installation sheet

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SARASOTA, FL: 941-739-4300 FAX 941-753-1806
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INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INSTALLATION

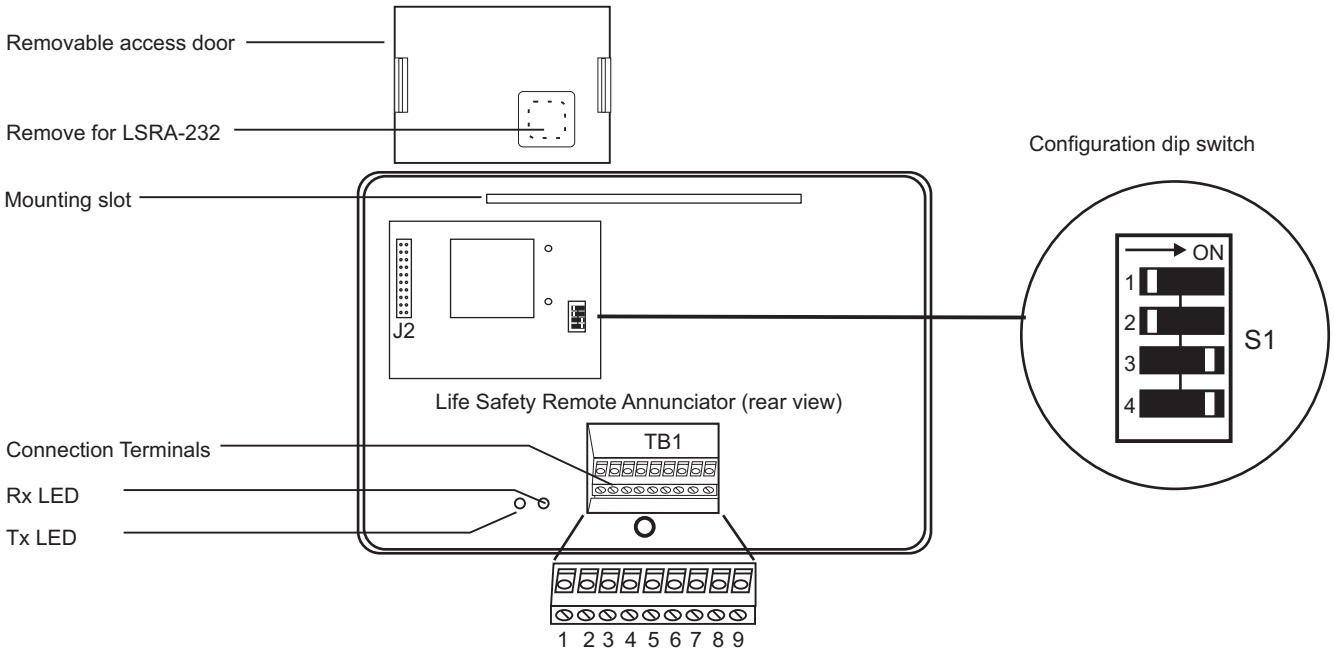


Table 1: DIP switch settings

Description	Switch positions			
	S1-1	**S1-2**	**S1-3**	**S1-4**
Annunciator programming mode	OFF	OFF	OFF	ON*
Password programming mode	OFF	OFF	ON*	OFF
Buzzer enabled and auto acknowledge disabled	OFF	OFF	OFF	OFF
Buzzer disabled and auto acknowledge disabled	OFF	ON	OFF	OFF
Buzzer enabled and auto acknowledge enabled	ON	OFF	OFF	OFF
Buzzer disabled and auto acknowledge enabled	ON	ON	OFF	OFF

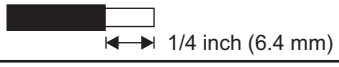
* = Toggle ON and OFF

Table 2: Connection terminals

Terminal	Connection
TB1-1	(+) External key switch
TB1-2	(-) External key switch
TB1-3	RS-485, CH0 (+)
TB1-4	RS-485, CH0 (-)
TB1-5	RS-485, CH1 (+)
TB1-6	RS-485, CH1 (-)
TB1-7	(+) 24 VDC
TB1-8	24 VDC Common
TB1-9	Earth Ground

Wire Stripping Guide

Caution: Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module. Exposing *more* than 1/4 inch of wire may cause a ground fault. Exposing *less* than 1/4 inch of wire may result in a faulty connection.



Setting annunciator passwords

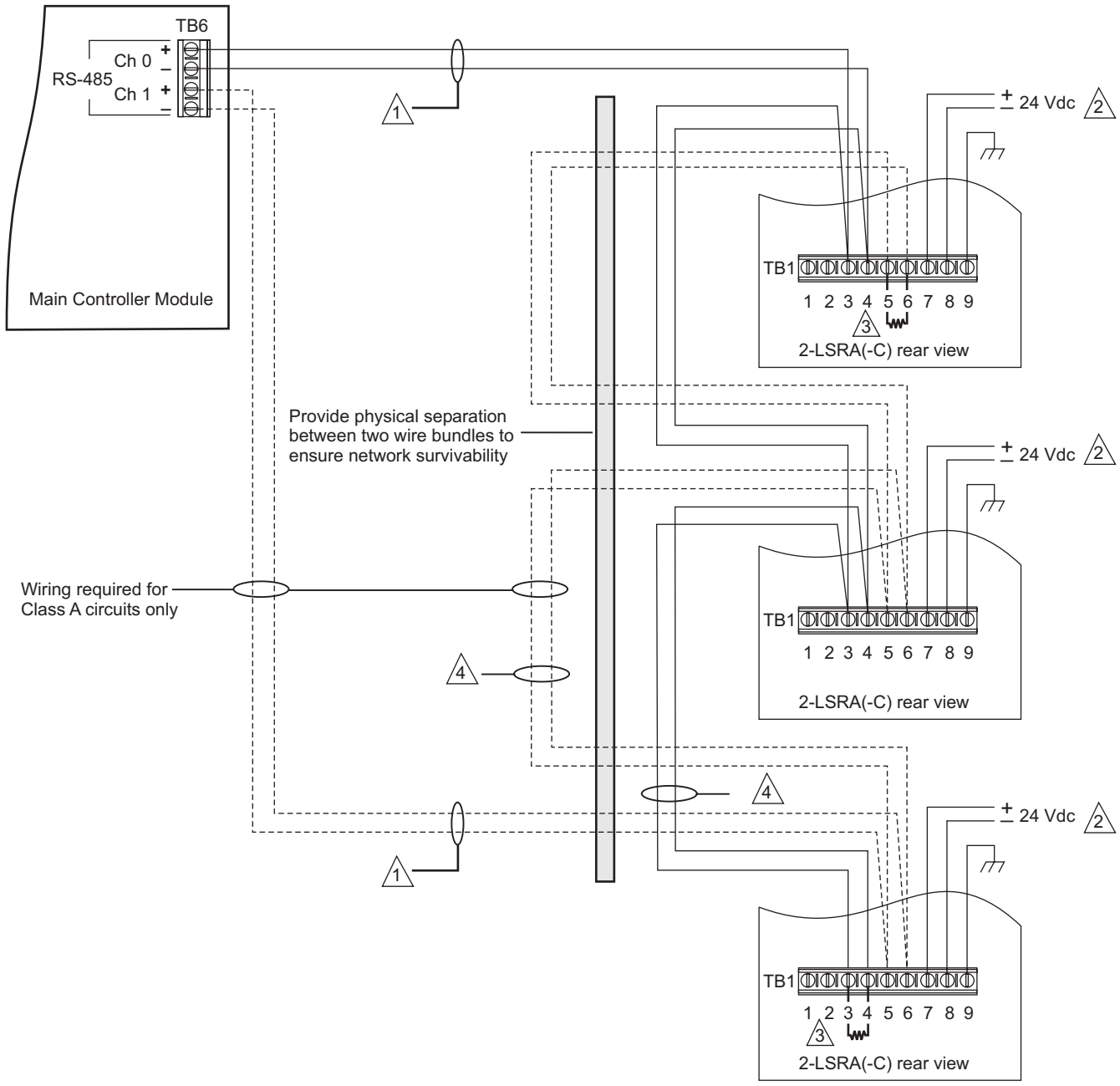
The steps below apply only to the 2-LSRA-C.

1. Remove the access door on rear of annunciator.
2. Set DIP switch S1-3 to the ON position.
3. At the control keys, enter a five (5) digit password.
4. Enter the same five digit password again.
5. Return DIP switch S1-3 to the OFF position.
6. Install the access door on the rear of the annunciator.
7. If the keyswitch is not used, connect a jumper wire from TB1-1 to TB1-2.

Note: See *Preventing unauthorized use of LSRA control switches* in the SDU online help for more instructions about LSRA passwords. More details about the 2-LSRA(-C) may be found with the keyword LSRA in the online search utility.

WIRING

Wiring the 2-LSRA(-C) to a Main Controller Module

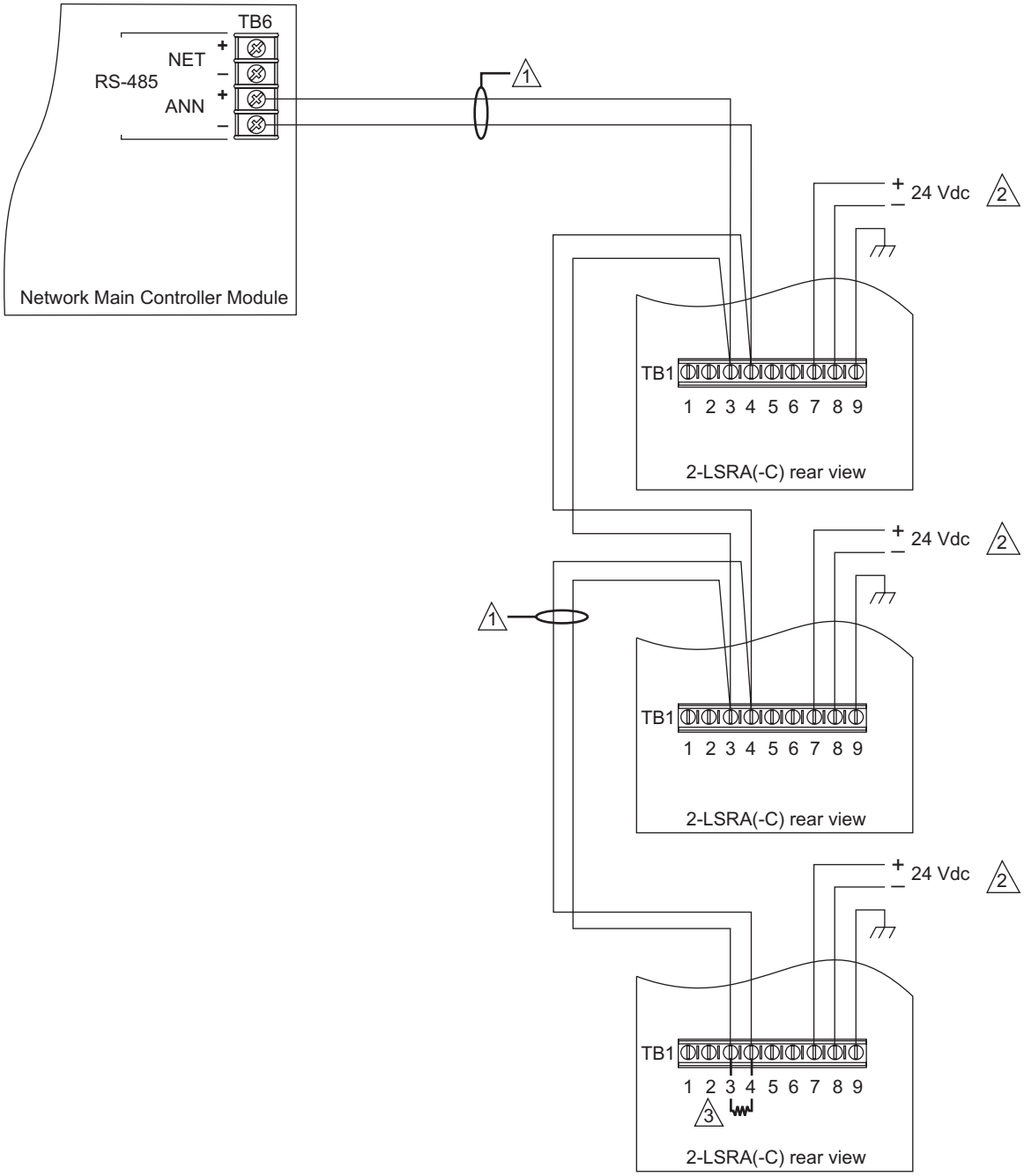


Notes

1. All wiring supervised and power-limited.
2. Power-limited when connected to a power-limited source. Remove power-limited mark if nonpower-limited.
3. 100Ω EOL resistor (P/N EOL-100) required on last device
4. To balance of RS-485 components
5. All wiring 18 AWG, twisted-pair.
6. Route power-limited wiring separate and away from nonpower-limited wiring.

WIRING

Wiring the 2-LSRA(-C) to a Network Main Controller Module



Notes

1. All wiring supervised and power-limited.
2. Power-limited when connected to a power-limited source. Remove power-limited mark if nonpower-limited.
3. 100Ω EOL resistor (P/N EOL-100) required on last device
4. All wiring 18 AWG, twisted-pair.
5. Route power-limited wiring separate and away from nonpower-limited wiring.

PRODUCT DESCRIPTION

The Main Controller Module (MCM) is the foundation of the system and contains the principal microprocessor and controls for the fire alarm system.

The MCM has two dual purpose RS-485 ports. The RS-485 port provides Class A (Style 6) or Class B (Style 4) communications for the system. Each RS-485 terminal also provides communications for 2-LSRAs, 2-SMDNs, and SAN Annunciators.

The MCM also has an RS-232 port to provide communications for printers. A modular jack provides a means for downloading programmed data from an IBM compatible computer to the MCM. All external connections are transient-protected.

The MCM provides one multiplexed Signature Data Circuit (SDC) and two Notification Appliance Circuits (NACs). The SDC and the NACs can both operate on Class A or Class B wiring. The SDC can support 96 Signature Series detectors and 94 Signature Series modules. The NACs have separate input terminals, which are rated at 24 Vdc @ 3.5 A or 100 W @ 25 Vrms or 70 Vrms audio. The NAC terminals may share power or receive it from an external source.

During alarm, supervisory, and trouble conditions the MCM relay contacts close to report the off-normal conditions. There are two Form C relays and a Form A relay. The Form C relays handle alarm and trouble conditions and operate on 24 Vdc, nominal @ 1 A. The Form A relay handles supervisory conditions and operates on 24 Vdc, nominal @ 1 A.

WIRE ROUTING

The routing of power-limited and nonpower-limited wiring differs with each cabinet. For more information on the routing of power-limited and nonpower-limited wiring, see the cabinet's installation sheet.

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

Wire Stripping Guide

Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

1/4 inch (6.4 mm)

Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.

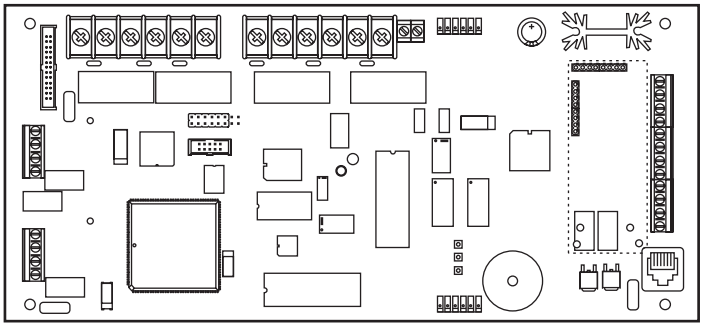
SPECIFICATIONS

Input Power	24 Vdc @ 150 mA, standby; 275 mA active
RS-485 Terminals	
Max. Line Capacity	30 addresses*
Max. line parameters	0.44 μf/100Ω
Max. Wire Size	14 AWG (1.5 mm^2)

***Note:** SAN annunciators, 2-LSRAs, 2-SMDNs, or 2-AACs.

RS-232 Terminal	Non-isolated, 50 ft. (15.2 m) max. Must be located in the same room.
NACs	
Quantity/Style	Two Class A (Style Z) or Class B (Style Y)
Voltage	24 Vdc, Nominal
Available NAC Current	3.5 A for all NACs
NAC Current Rating	3.5 A or 100 W @ 25/70 Vrms per circuit
EOL Resistor	15 kΩ , ½ W
Maximum Wire Size	12 AWG (2.5 mm^2)
SDC	
Class (Style)	Class A (Style 6) or Class B (Style 4)
Detector Capacity	96 Signature Series detectors
Module Capacity	94 Signature Series modules
Line Resistance	65 Ω max. full load
Line Capacitance	0.33 μf, max.
Maximum Wire Size	14 AWG (1.5 mm^2)
Relay Contacts	
Alarm and Trouble	Form C, rated at 24 Vdc nominal @ 1 A
Supervisory	Form A, rated at 24 Vdc nominal @ 1 A
Environmental Conditions	
Temperature Range	32 to 120 °F (0 to 49 °C)
Humidity	0 to 93%, Non-condensing

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-MCM
Main Controller Module

INSTALLATION SHEET P/N: 270210	FILE NAME: 270210.CDR
REVISION LEVEL: 3.0	APPROVED BY: B. Wanek
DATE: 24APR00	CREATED BY: B. Graham

Related documentation: Installation and Service Manual

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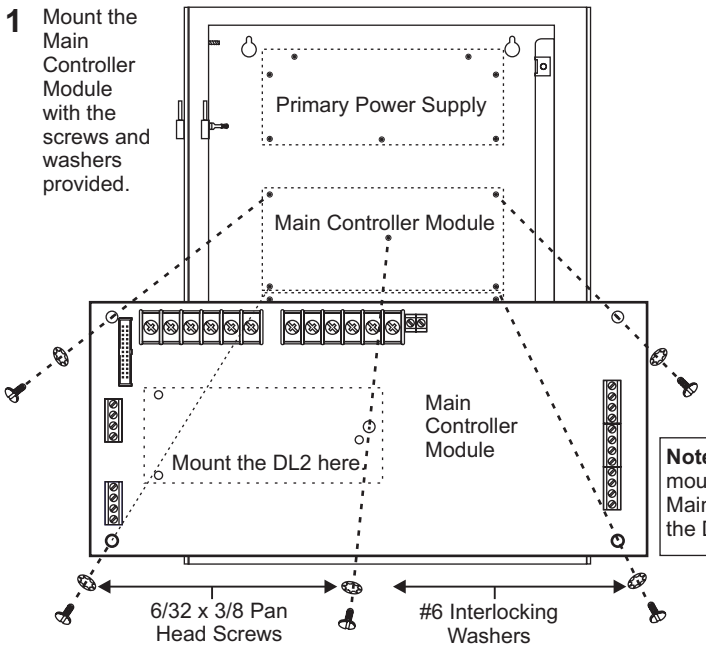
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

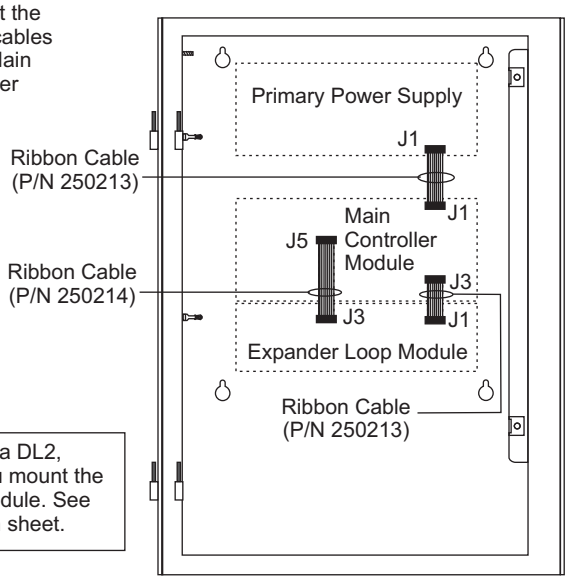
INSTALLATION

1 Mount the Main Controller Module with the screws and washers provided.



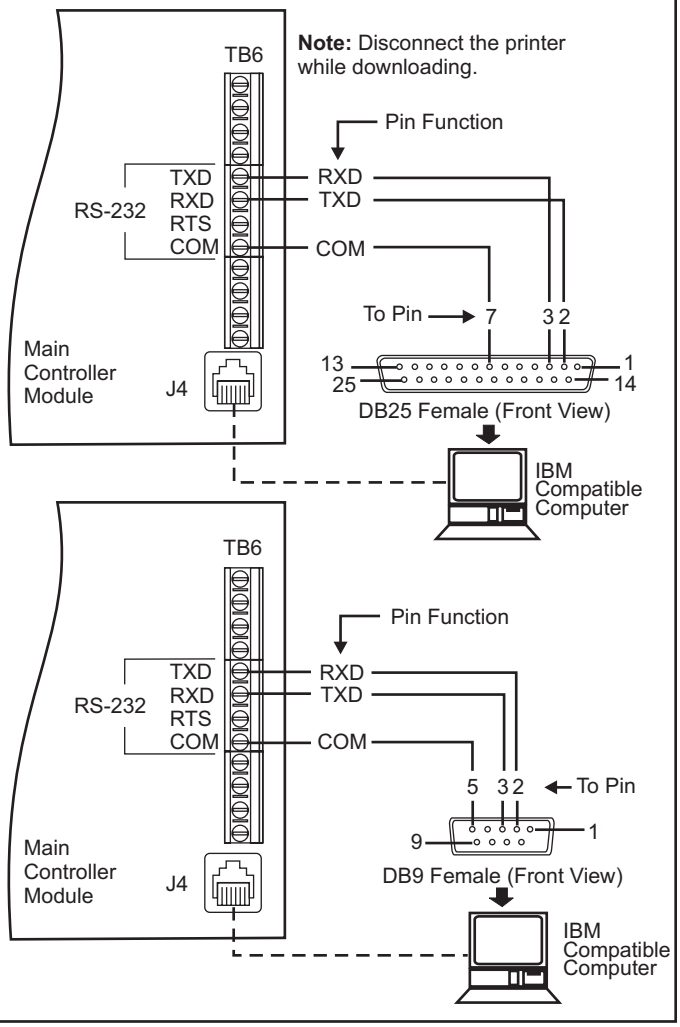
Note: If you install a DL2, mount it before you mount the Main Controller Module. See the DL2 installation sheet.

2 Connect the ribbon cables to the Main Controller Module.

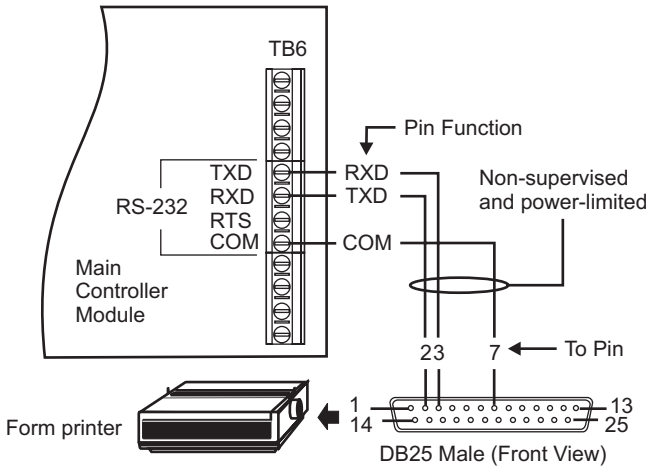


INTERNAL WIRING

Download Wiring

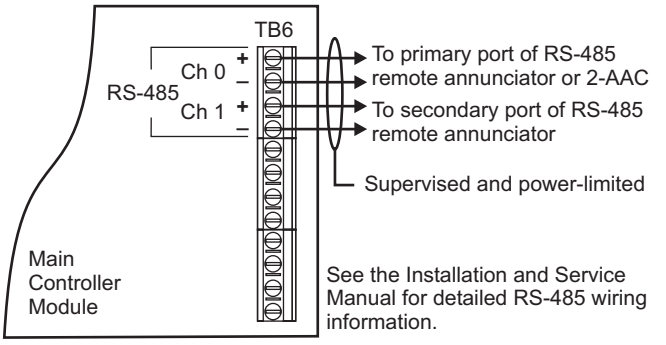


Printer Wiring



RS-485 Port Wiring

Caution: Any wiring that exits one building and enters another requires a Ditek surge protector module. See the Installation and Service Manual.



INTERNAL WIRING

RPM Wiring

Notes

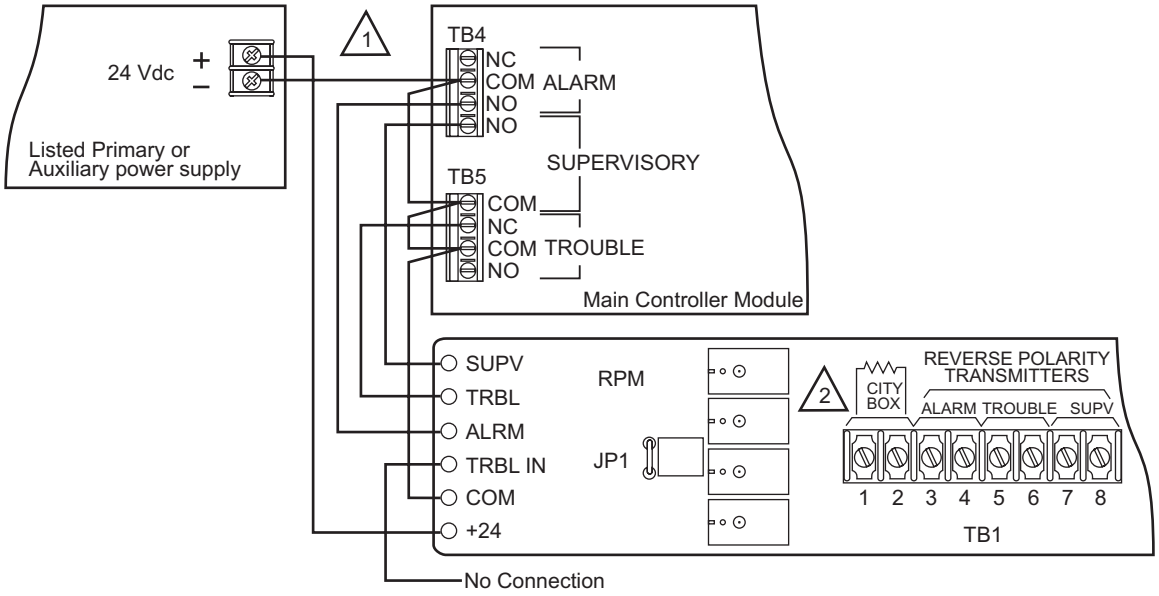
1. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.

2. UL/ULC Listed 3.9 kΩ EOL resistor (P/N 260001) required. Circuit not used.

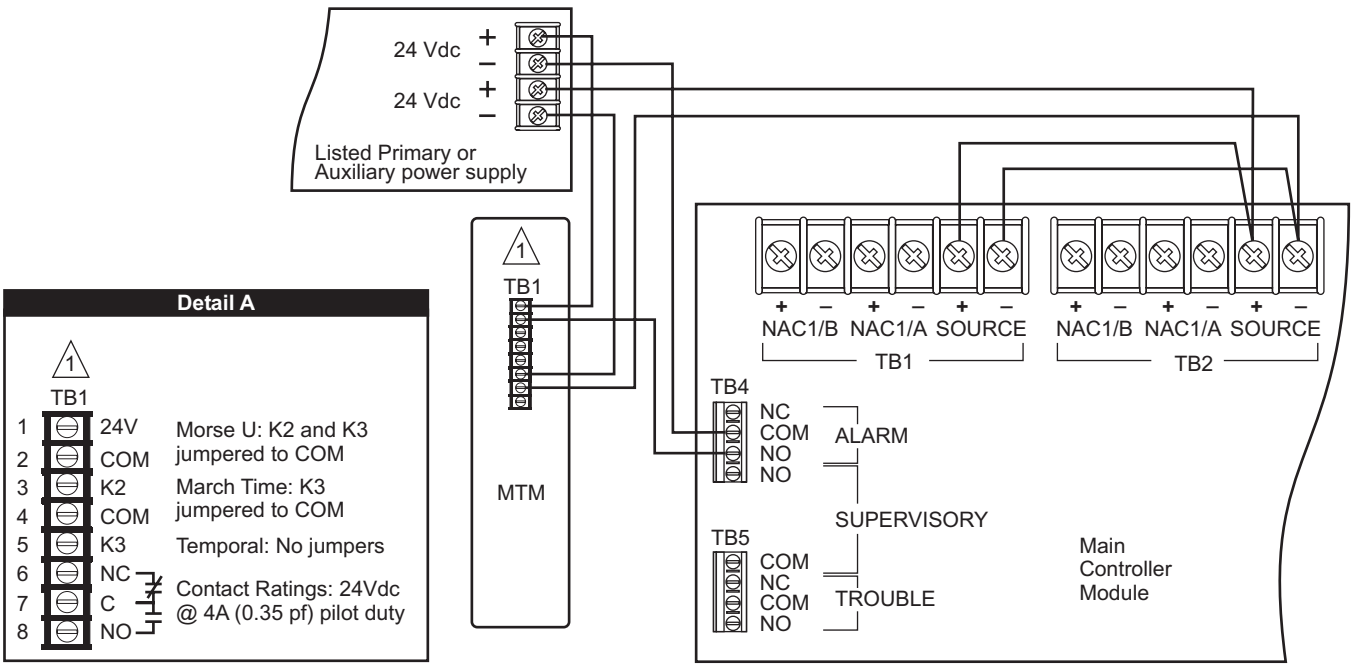
RPM Jumper Settings

Circuits*	JP1	Alarm	Supervisory	Trouble
Separate Circuits*	In	TB1-3,4: Reverse Polarity	TB1-7,8: Reverse Polarity	TB1-5,6: Reverse Polarity
Single Circuit*	Out	TB1-3,4: Reverse Polarity	TB1-3,4: 0.0 Vdc**	TB1-3,4: 0.0 Vdc**

*Alarm, Supervisory, and Trouble
** Alarm overrides supervisory and trouble.



MTM Wiring



FIELD WIRING

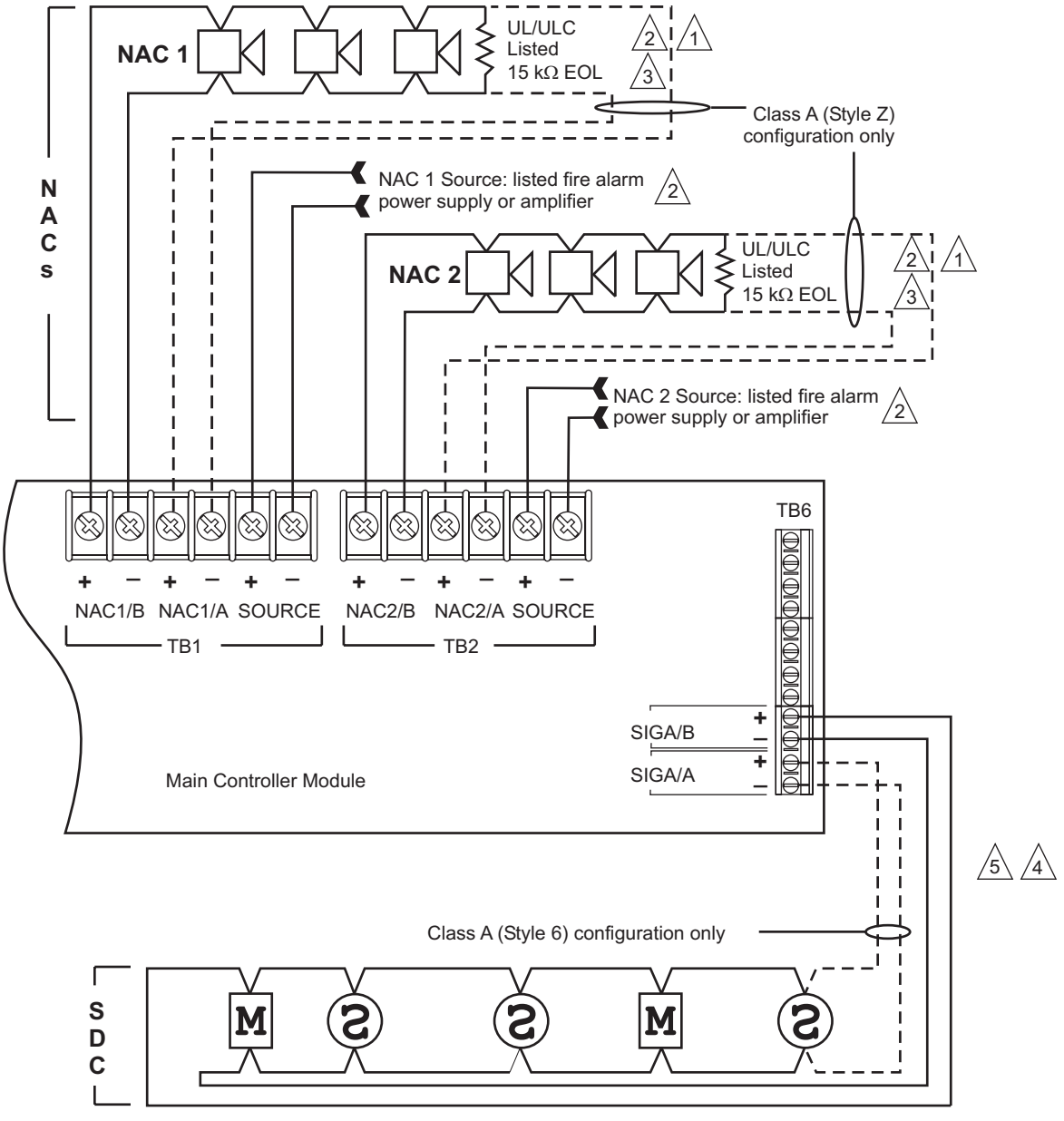
Notification Appliance Circuits (NACs) / Signature Data Circuit SDC Wiring

Notes

1. Supervised
2. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.
3. 15 kΩ EOL required for Class B (Style Y) wiring only.
4. Supervised and power-limited
5. No T-taps when wired as a Class A (Style 6) circuit.
6. For maximum wire resistance, see the Installation and Service Manual.
7. Contacts shown with system power applied.

Legend

- M — Signature Series module/pull station
- S — Signature Series smoke detector
- Notification appliance



PRODUCT DESCRIPTION

The Network Main Controller Module (MCMN) is the foundation of the network and contains the principal microprocessor and controls for the fire alarm system.

The MCMN has a dual-purpose RS-485 port. The network terminals (NET) provide Class A (Style 6) or Class B (Style 4) communications for the network. The annunciator terminals (ANN) provide communications with 2-LSRAs, 2-SMDNs, and SAN Annunciators.

The MCMN also has an RS-232 port to provide communications for printers. An RJ-11 jack provides a means for downloading programmed data from an IBM compatible computer to the MCMN. All external connections are transient-protected.

The MCMN provides one multiplexed Signature Data Circuit (SDC) and two Notification Appliance Circuits (NACs). The SDC and the NACs can both operate on Class A or Class B wiring. The SDC can support 96 Signature Series detectors and 94 Signature Series modules. The NACs have separate input terminals, which are rated at 24 Vdc @ 3.5 A or 100 W @ 25 Vrms or 70 Vrms audio. The NAC terminals may share power or receive it from an external source.

During alarm, supervisory, and trouble conditions the MCMN relay contacts close to report the off-normal conditions. There are two Form C relays and a Form A relay. The Form C relays handle alarm and trouble conditions and operate on 24 Vdc, nominal @ 1 A. The Form A relay handles supervisory conditions and operates on 24 Vdc, nominal @ 1 A.

WIRE ROUTING

The routing of power-limited and nonpower-limited wiring differs with each cabinet. For more information on the routing of power-limited and nonpower-limited wiring, see the cabinet's installation sheet.

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

Wire Stripping Guide

Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

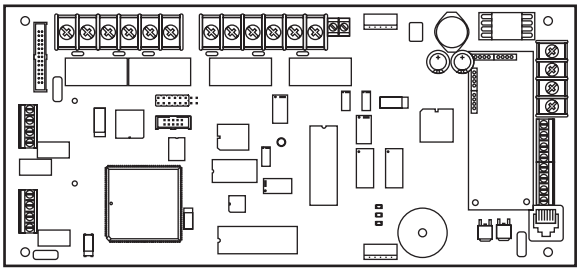
1/4 inch (6.4 mm)

Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.

SPECIFICATIONS

Input Power	24 Vdc @ 147 mA, standby; 216 mA active
Ground Fault Detection	10 kΩ to earth, all field wiring except common relay contacts
RS-485 NET Terminal	
Max. Line Capacity	10 nodes*
Max. Line Impedance	0.44 μf/100Ω
Max. Wire Size	14 AWG (1.5 mm^2)
***Note:** five 2-MCMNs and five 2-CPUs	
RS-485 ANN Terminal	
Max. Line Capacity	30 addresses*
Max. Line Impedance	0.44 μf/100Ω
Max. Wire Size	14 AWG (1.5 mm^2)
***Note:** SAN annunciators, 2-LSRAs, and 2-SMDNs.	
RS-232 Terminal	Non-isolated, 50 ft. (15.2 m) max. Must be located in the same room.
NACs	
Quantity/Style	Two Class A (Style 6) or Class B (Style 4)
Voltage	24 Vdc, Nominal
Available NAC Current	3.5 A for all NACs
NAC Current Rating	3.5 A or 100 W @ 25/70 Vrms per circuit
EOL Resistor	15 KΩ , ½ W
Maximum Wire Size	12 AWG (2.5 mm^2)
SDC	
Class (Style)	Class A (Style 7) or Class B (Style 4)
Detector Capacity	96 Signature Series detectors
Module Capacity	94 Signature Series modules
Line Resistance	65 Ω max. full load
Line Capacitance	0.33 μf, max.
Maximum Wire Size	14 AWG (1.5 mm^2)
Relay Contacts	
Alarm and Trouble	Form C, rated at 24 Vdc nominal @ 1 A
Supervisory	Form A, rated at 24 Vdc nominal @ 1 A
Environmental Conditions	
Temperature Range	32 to 100 °F (0 to 38 °C)
Humidity	93%, Non-condensing

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-MCMN
Network Main Controller Module

INSTALLATION SHEET P/N: 387472	FILE NAME: 387472.cdr
REVISION LEVEL: 2.0	APPROVED BY: K. Johnson
DATE: 22AUG00	CREATED BY: B. Graham

Related documentation: Network Supplement Manual

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
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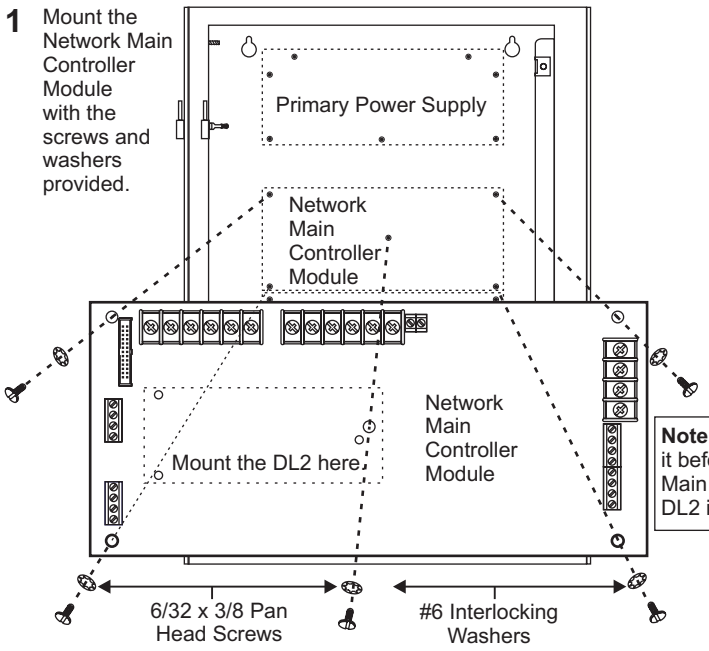
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

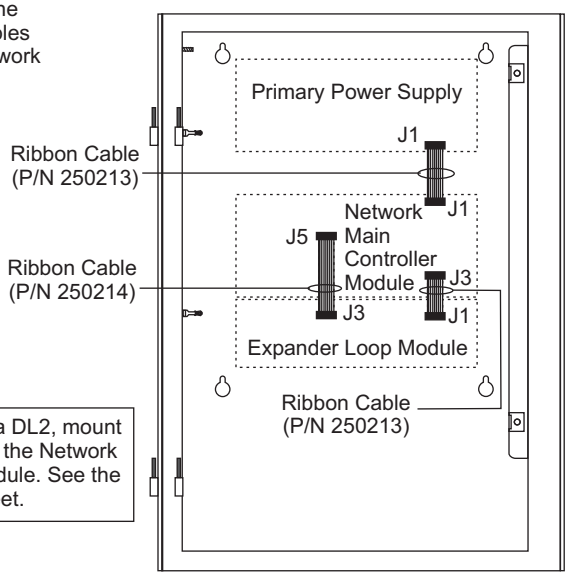
INSTALLATION

1 Mount the Network Main Controller Module with the screws and washers provided.



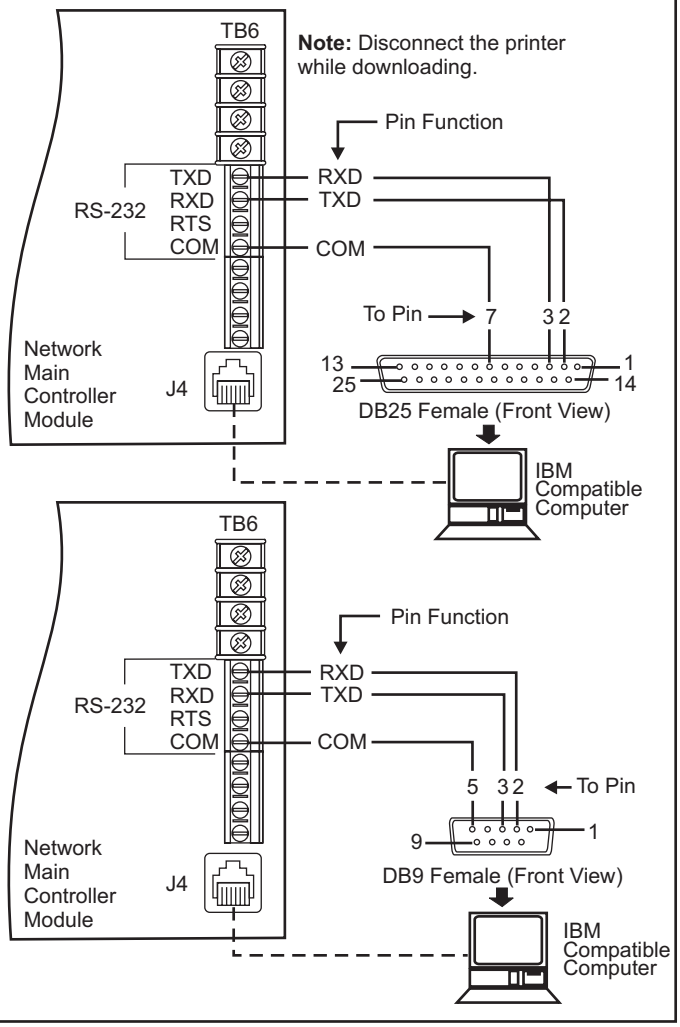
Note: If you install a DL2, mount it before you mount the Network Main Controller Module. See the DL2 installation sheet.

2 Connect the ribbon cables to the Network Main Controller Module.

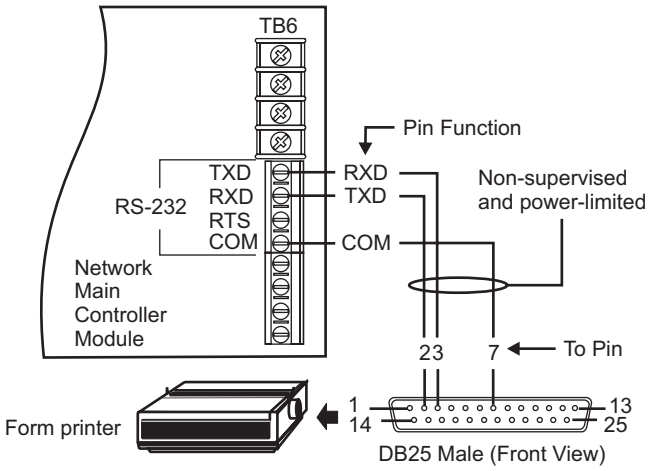


INTERNAL WIRING

Download Wiring

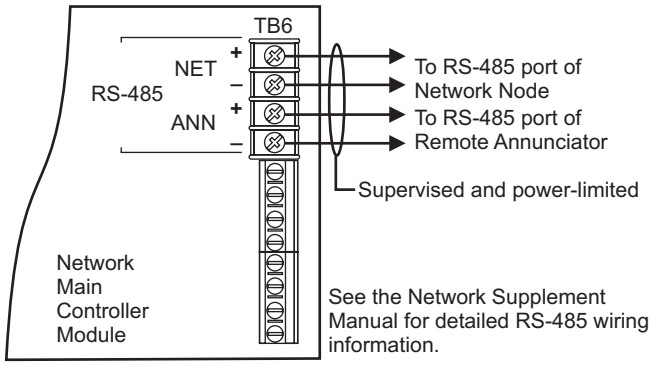


Printer Wiring



RS-485 Port Wiring

Caution: Any wiring that exits one building and enters another requires a Ditek surge protector module. See the Network Supplement Manual.



See the Network Supplement Manual for detailed RS-485 wiring information.

INTERNAL WIRING

RPM Wiring

Notes

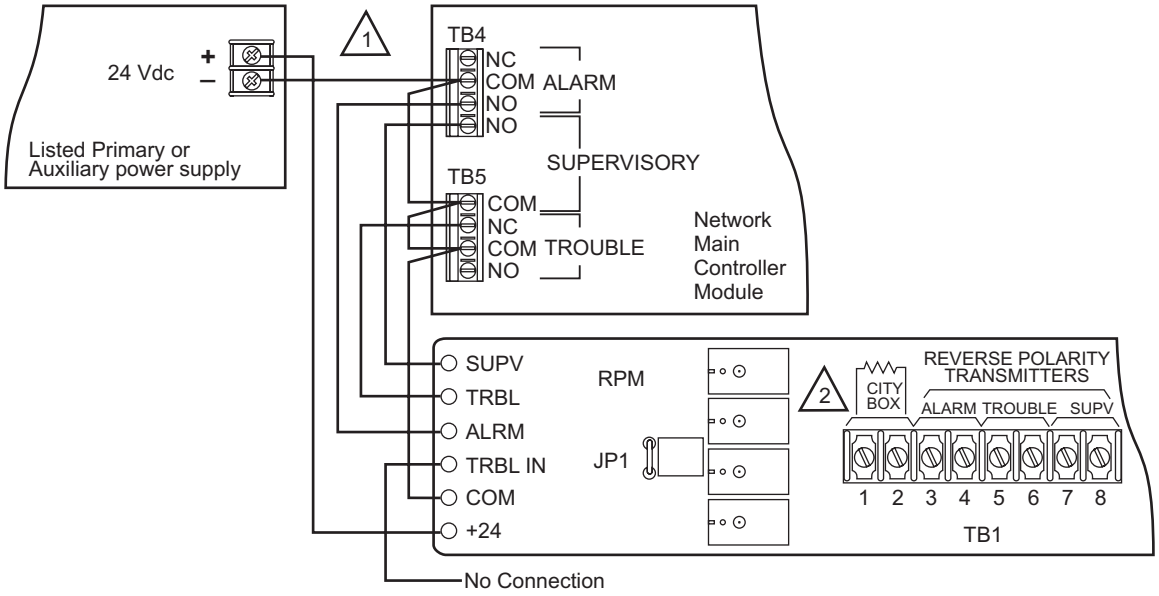
1. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.

2. UL/ULC Listed 3.9 kΩ EOL resistor (P/N 260001) required. Circuit not used.

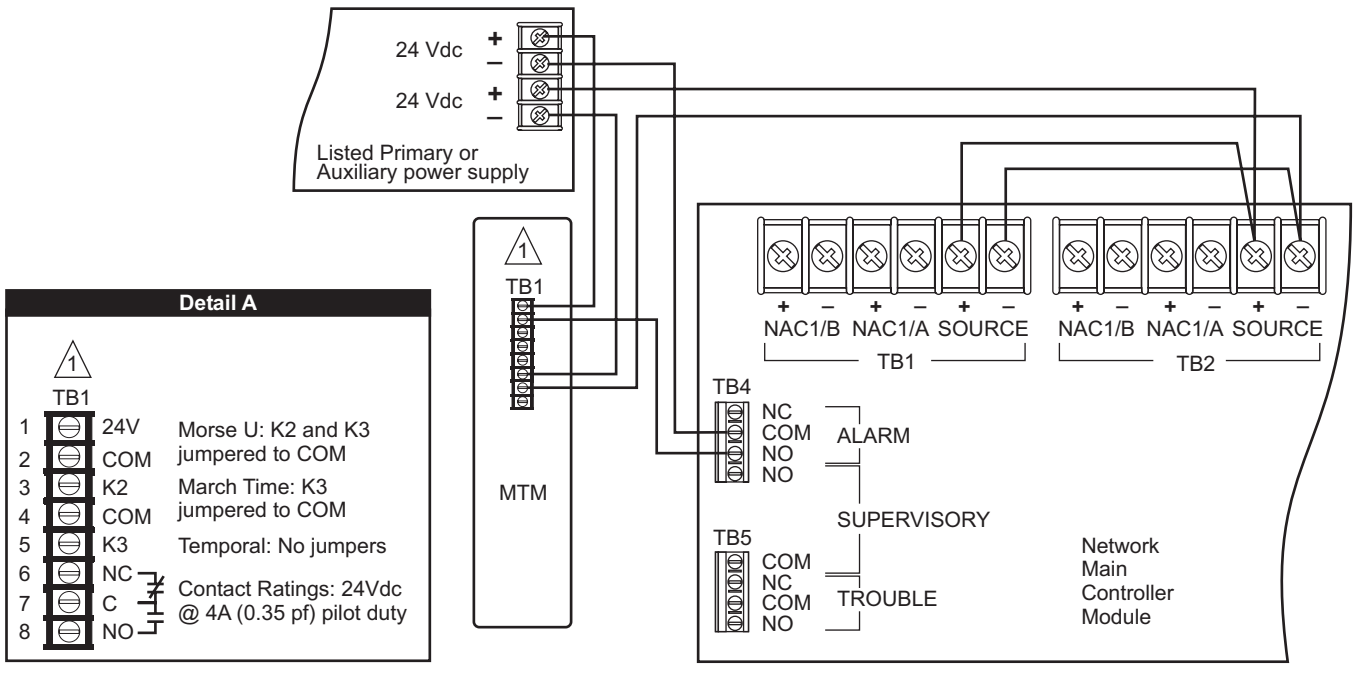
RPM Jumper Settings

Circuits*	JP1	Alarm	Supervisory	Trouble
Separate Circuits*	In	TB1-3,4: Reverse Polarity	TB1-7,8: Reverse Polarity	TB1-5,6: Reverse Polarity
Single Circuit*	Out	TB1-3,4: Reverse Polarity	TB1-3,4: 0.0 Vdc**	TB1-3,4: 0.0 Vdc**

*Alarm, Supervisory, and Trouble
** Alarm overrides supervisory and trouble.



MTM Wiring



FIELD WIRING

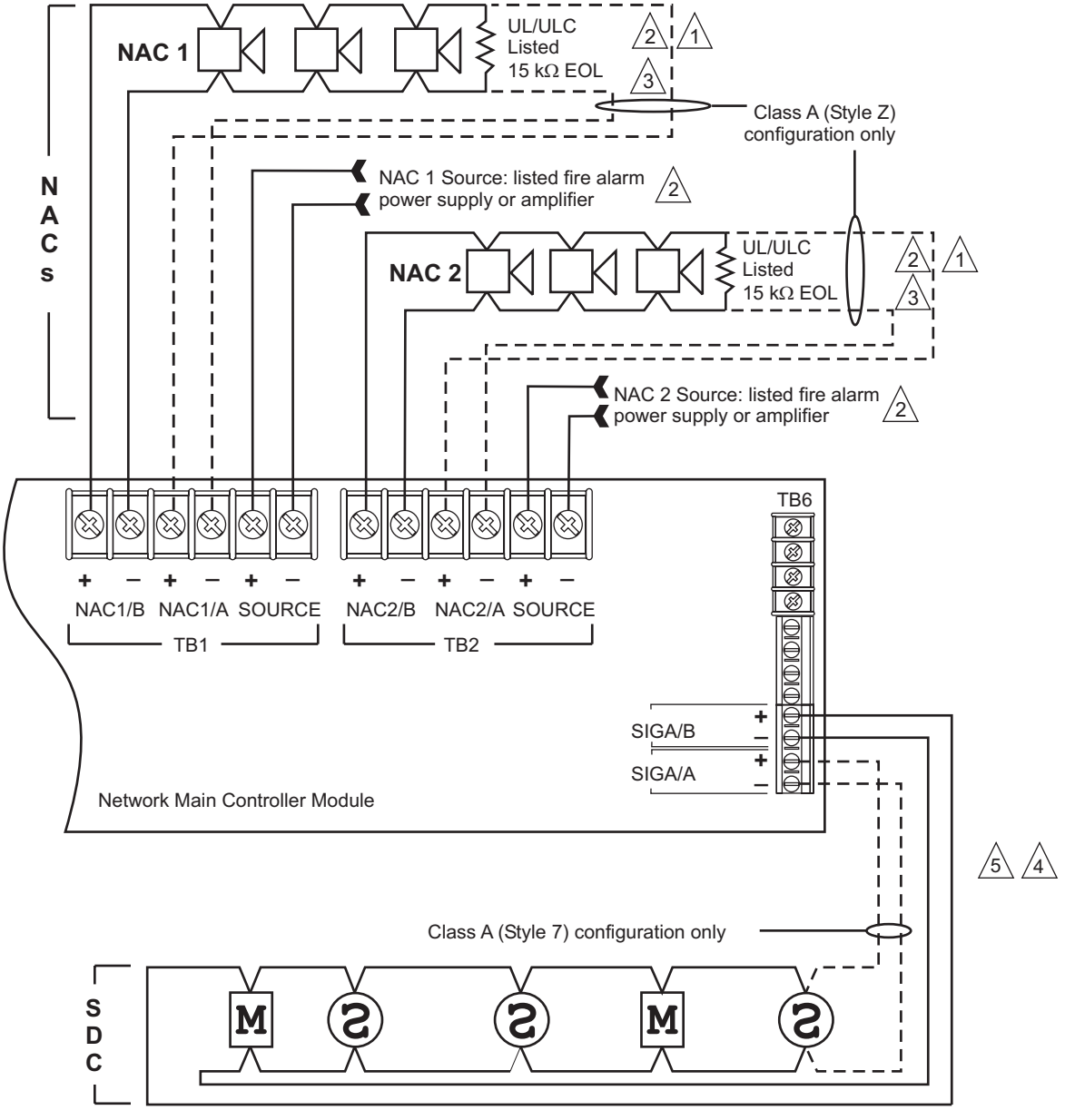
Notification Appliance Circuits (NACs) / Signature Data Circuit SDC Wiring

Notes

1. Supervised
2. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch (6.4 mm) from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.
3. 15 kΩ EOL required for Class B (Style Y) wiring only.
4. Supervised and power-limited
5. No T-taps when wired as a Class A (Style 7) circuit.
6. For maximum wire resistance, see the Installation and Service Manual.
7. Contacts shown with system power applied.

Legend

- Signature Series module/pull station
- Signature Series smoke detector
- Notification appliance



PRODUCT DESCRIPTION

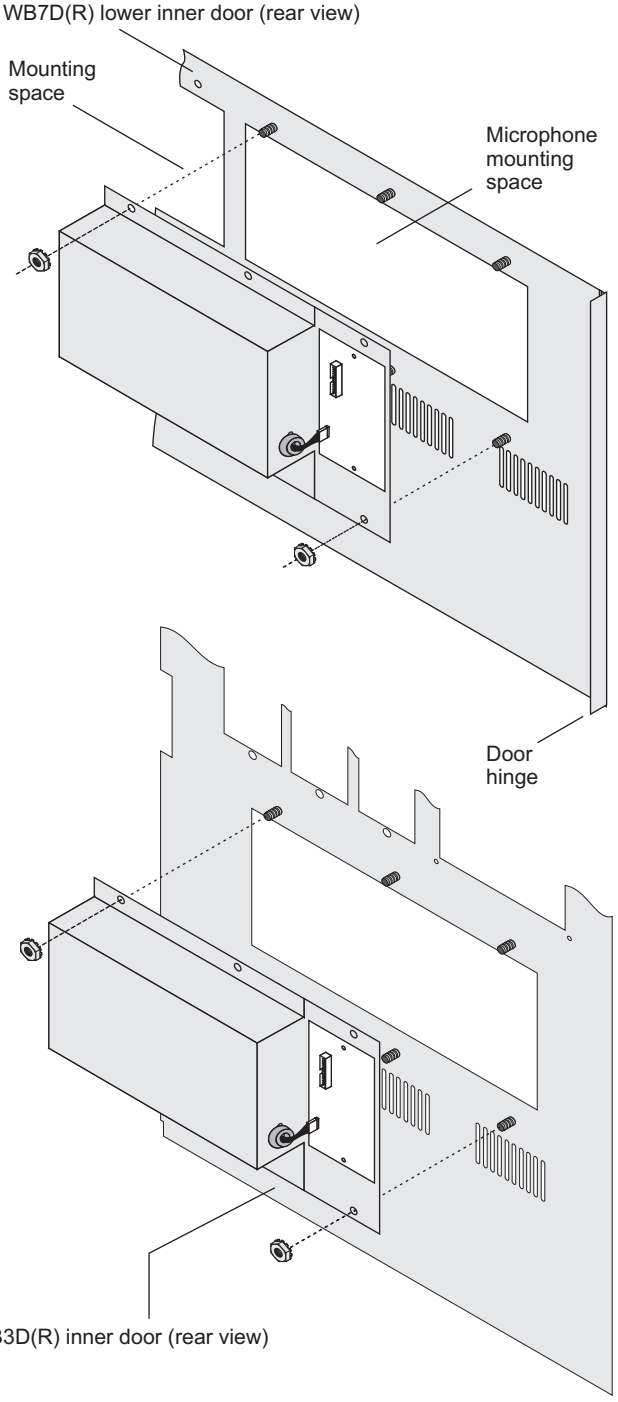
The 2-MIC is a microphone module that issues pages over the emergency communication system. The microphone module consists of a dynamic push-to-talk (PTT) microphone and the following page controls:

- Phone to Evac
- Phone to Alert
- Page to Evac
- Page to Alert
- Evac
- Alert

INSTALLATION

Mounting the Microphone Module

WB7D(R) lower inner door (rear view)



SPECIFICATIONS

Environmental conditions

Temperature	32-120 °F (0-49 °C)
Humidity	0-93%, Non-condensing

Note: See the 2-AAC installation sheet for standby and alarm currents.

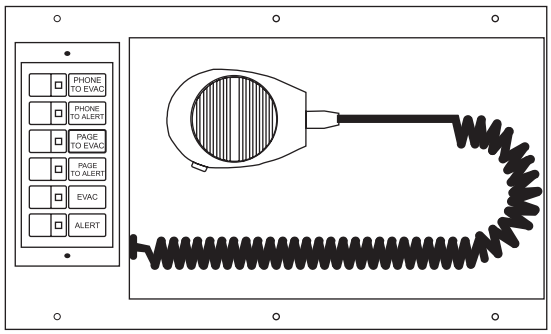
Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-MIC
Microphone Module

INSTALLATION SHEET P/N: 387562	FILE NAME: 387562.CDR
REVISION LEVEL: 1.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

EDWARDS SYSTEMS TECHNOLOGY, INC.
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CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
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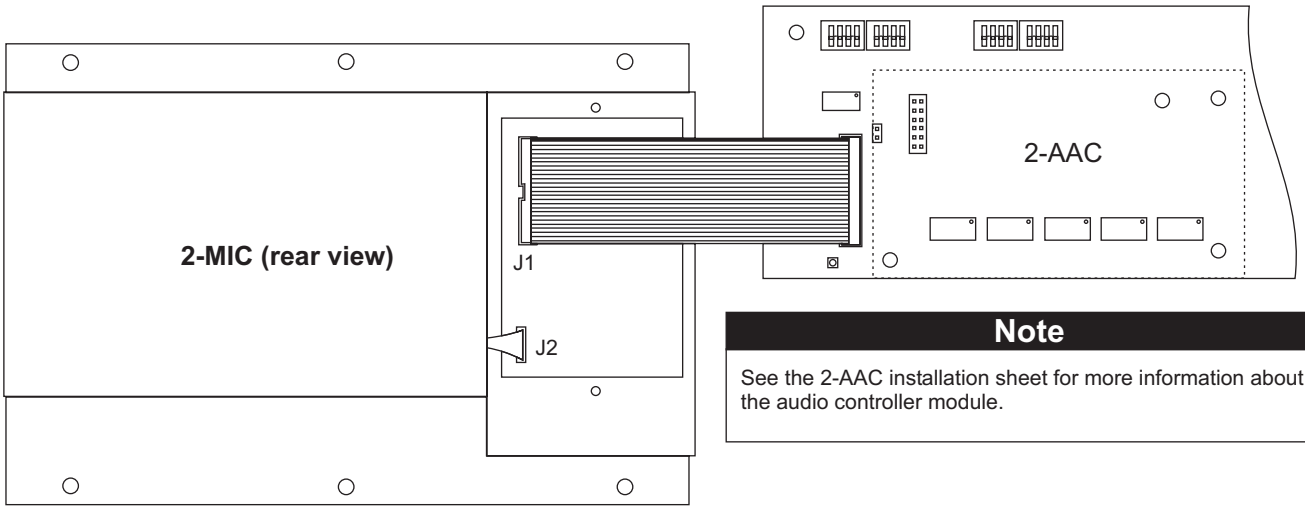
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

WIRING



Note

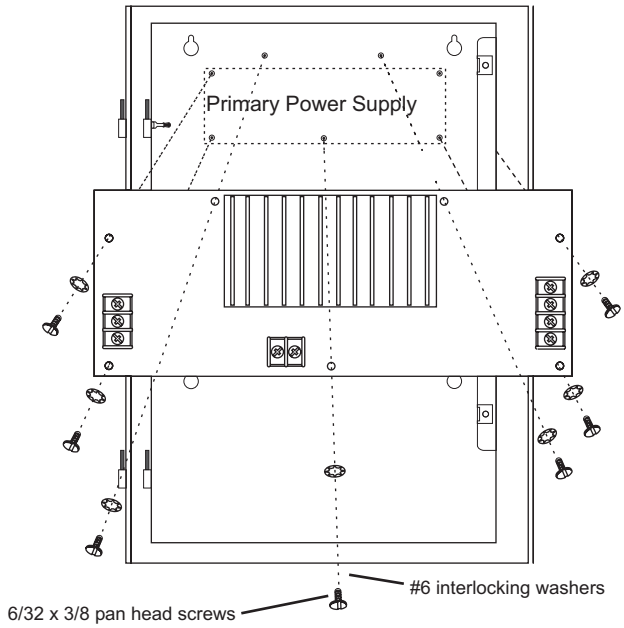
See the 2-AAC installation sheet for more information about the audio controller module.

PRODUCT DESCRIPTION

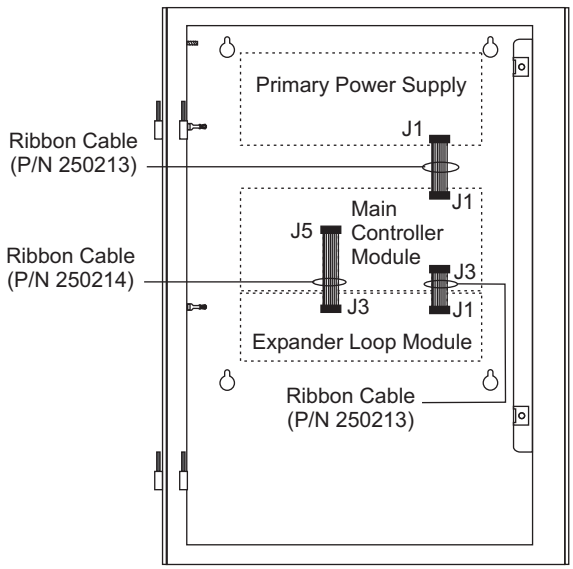
The 2-PPS(-220) Primary Power Supply is a switch-mode power source, which energizes system modules, monitors the AC line, and performs ground fault testing. In the event of a brownout or AC power failure, the primary power supply provides battery charging and automatic transfer to backup power. The power supply is designed to prevent total battery discharge, and automatically disables the battery charger during an alarm. MOVs and a common mode choke protect the AC input voltage from transient spikes. The output also provides power for Notification Appliance Circuits (NACs) and four-wire smoke detectors.

INSTALLATION

1 Mount the Primary Power Supply with the screws and washers provided.



2 Connect the ribbon cables to the Primary Power Supply.



SPECIFICATIONS

Input voltage	
2-PPS	120 Vac @ 300 W maximum, 50/60
2-PPS-220	220 Vac @ 300 W maximum, 50/60 Hz
Output voltage	24 Vdc, nominal @ 5.0 A
Battery charging	24 Ah, maximum
Smoke detector power	24 Vdc @ 500 mA maximum, reset programmable
Device capacitance	1000 μF, maximum
NAC power	
Voltage	24 Vdc, Nominal
Available NAC Current	3.5 A total for all NACs
Device capacitance	5000 μF, maximum
Maximum wire size	12 AWG (2.5 mm^2)
Environmental Conditions	
Temperature range	32 to 120 °F (0 to 49 °C)
Humidity	0 to 93%, Non-condensing

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

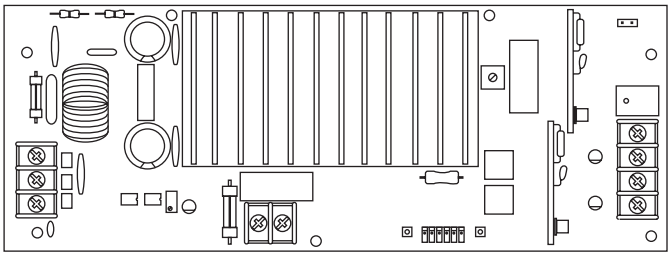
Caution!

Observe static-sensitive material handling practices.

WIRE ROUTING

The routing of power-limited and nonpower-limited wiring differs with each cabinet. For more information on the routing of power-limited and nonpower-limited wiring, see the cabinet's installation sheet.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-PPS(-220)
Primary Power Supply Module

INSTALLATION SHEET P/N: 270211	FILE NAME: 270211.CDR
REVISION LEVEL: 3.0	APPROVED BY: J. Massing
DATE: 29MAR00	CREATED BY: B. Graham

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CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
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INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

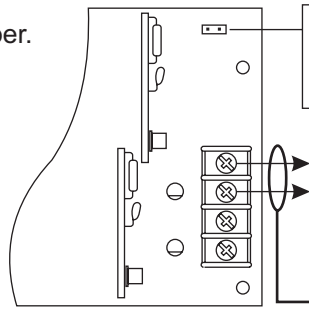
INSTALLATION

3 Set the Smoke/Aux power select jumper.

Settings

In: Maintain continuous smoke/aux. power.

Out: Interrupt smoke/aux. power upon reset.



Install the jumper for auxiliary power or 2-wire smoke detectors on Signature UM modules with 2-SMKs.

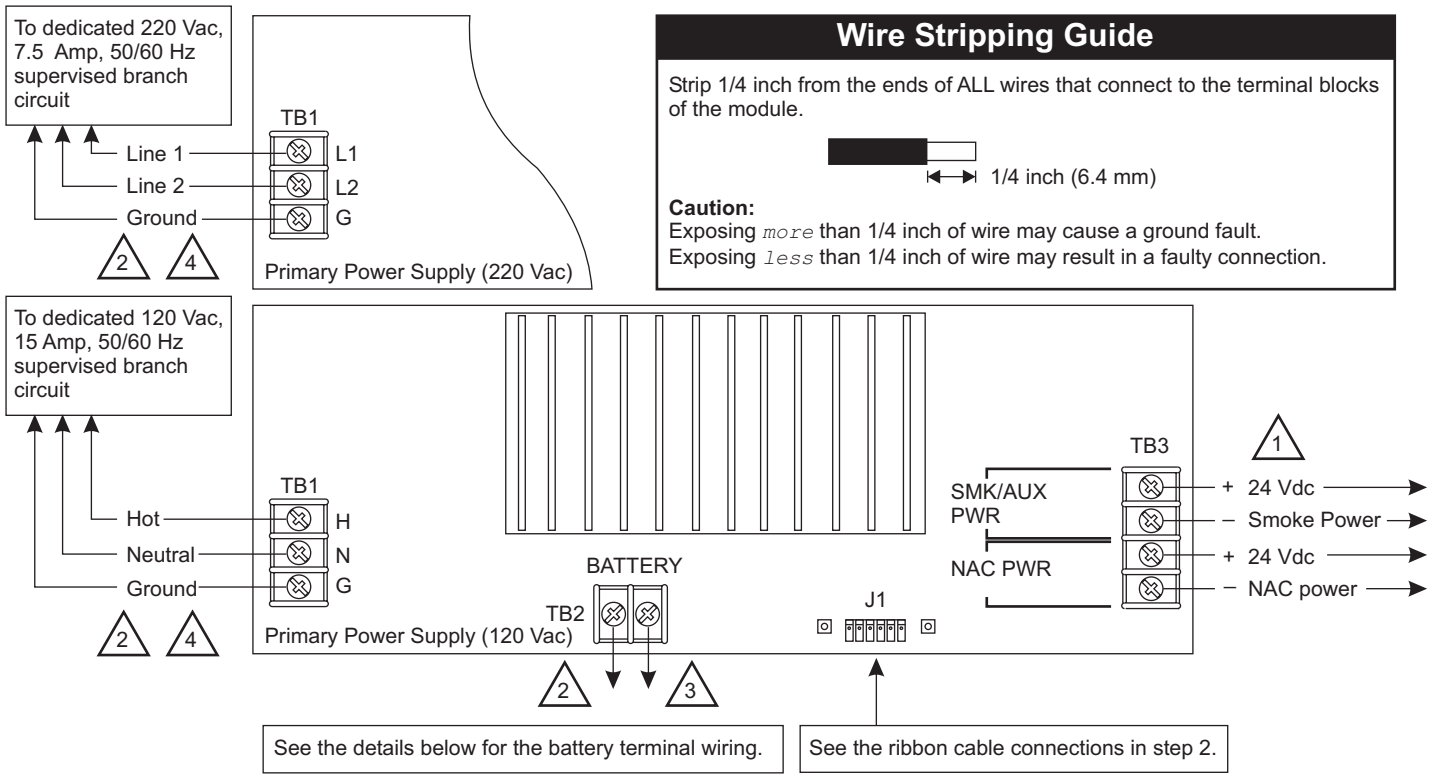
Remove the jumper for 4-wire smoke detectors.

24 Vdc Aux output to 24 Vdc terminals of 4-wire smoke detectors. Maximum current:

- 500 mA when the SMK/AUX select jumper is removed
- 1 A when the SMK/AUX select jumper is installed

Nonsupervised

WIRING



Wire Stripping Guide

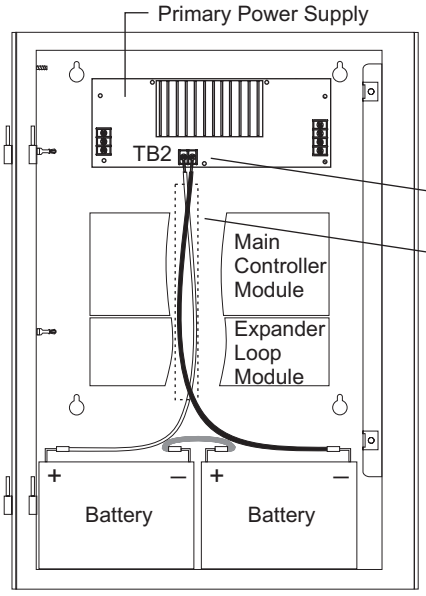
Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

1/4 inch (6.4 mm)

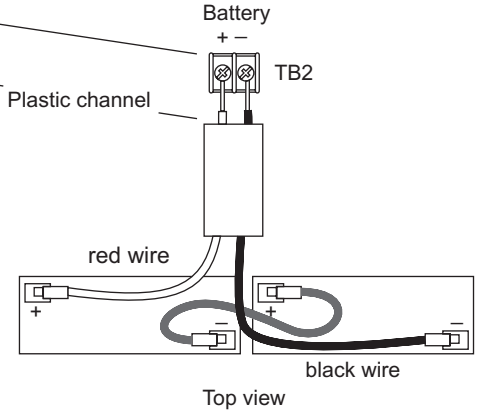
Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.

See the details below for the battery terminal wiring.

See the ribbon cable connections in step 2.



Route the battery wiring harness (P/N 250181) through the plastic channel under the Main Controller Module and the Expander Loop Module to the battery terminals.



Notes

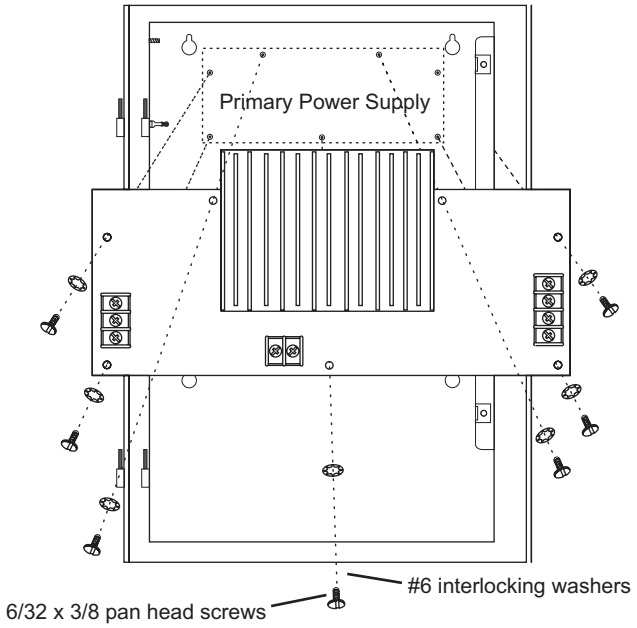
1. Power-limited
2. Nonpower-limited
3. Supervised
4. Nonsupervised

PRODUCT DESCRIPTION

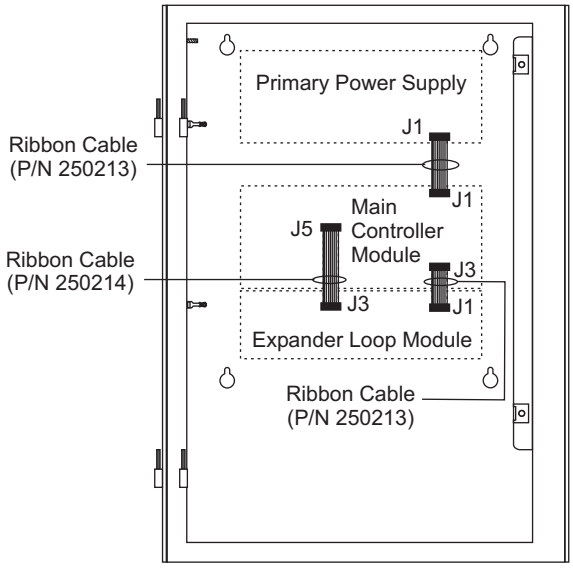
The 2-PPS/6A(-220) Primary Power Supply is a switch-mode power source, which energizes system modules, monitors the AC line, and performs ground fault testing. In the event of a brownout or AC power failure, the primary power supply provides battery charging and automatic transfer to backup power. The power supply is designed to prevent total battery discharge, and automatically disables the battery charger during an alarm. MOVs and a common mode choke protect the AC input voltage from transient spikes. The output also provides power for Notification Appliance Circuits (NACs).

INSTALLATION

1 Mount the Primary Power Supply with the screws and washers provided.



2 Connect the ribbon cables to the Primary Power Supply.



SPECIFICATIONS

Input voltage	
2-PPS/6A	120 Vac @ 300 W maximum, 50/60 Hz
2-PPS/6A-220	220 Vac @ 300 W maximum, 50/60 Hz
Output voltage	24 Vdc, nominal @ 6.4 A total
Battery charging	24 Ah, maximum
Device capacitance	1000 μF, maximum
NAC1 output	
Voltage	24 Vdc, Nominal
Available current	3.2 A maximum
Device capacitance	5000 μF, maximum
NAC2 output	
Voltage	24 Vdc, Nominal
Available current	3.2 A maximum
Device capacitance	5000 μF, maximum
Maximum wire size	12 AWG (2.5 mm^2)
Environmental Conditions	
Temperature range	32 to 120 °F (0 to 49 °C)
Humidity	0 to 93%, Non-condensing

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

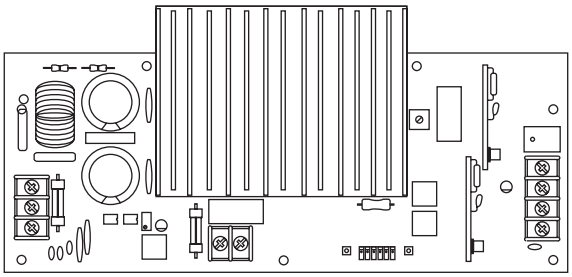
Caution!

Observe static-sensitive material handling practices.

WIRE ROUTING

The routing of power-limited and nonpower-limited wiring differs with each cabinet. For more information on the routing of power-limited and nonpower-limited wiring, see the cabinet's installation sheet.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-PPS/6A(-220)
Primary Power Supply Module

INSTALLATION SHEET P/N: 387222	FILE NAME: 387222.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

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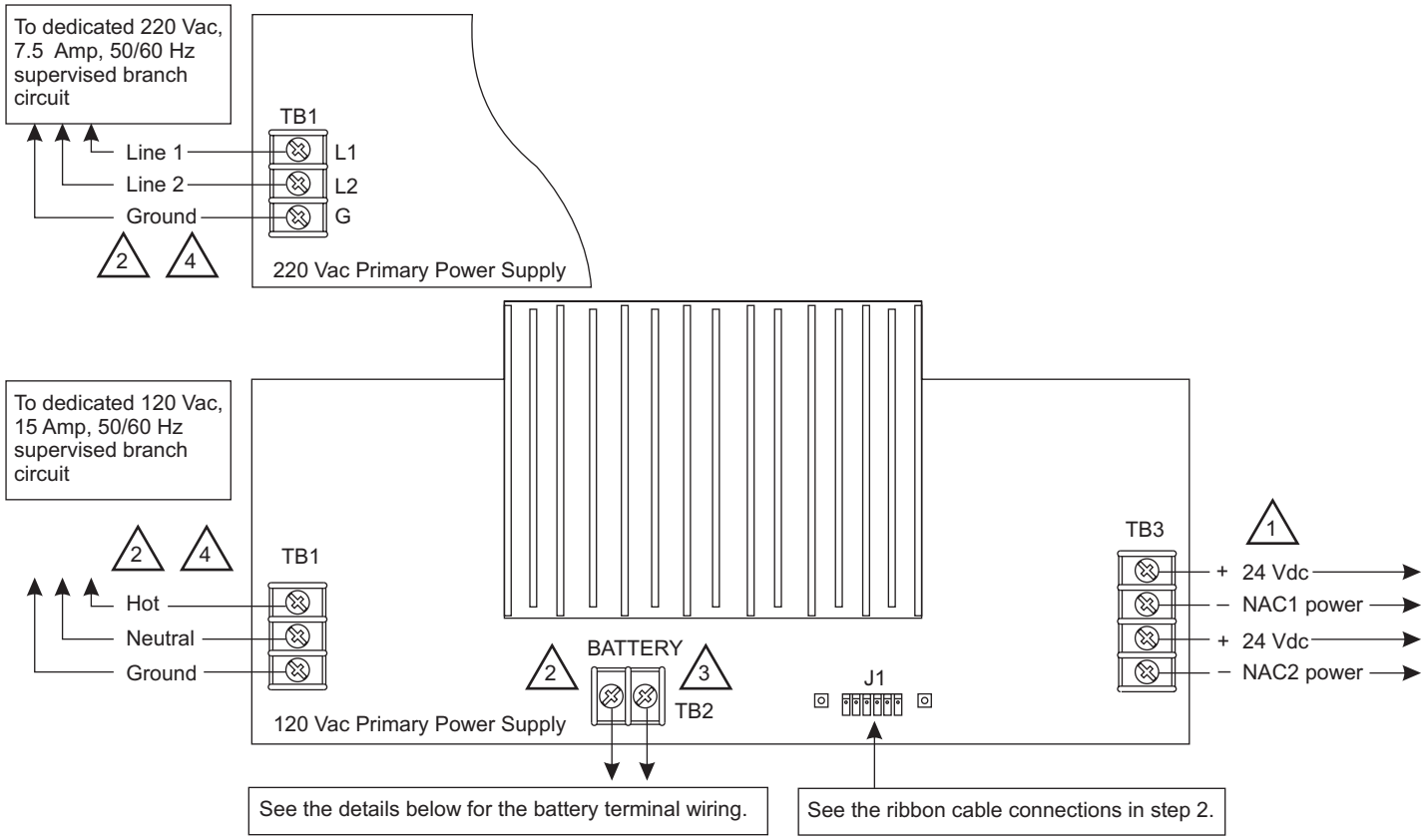
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

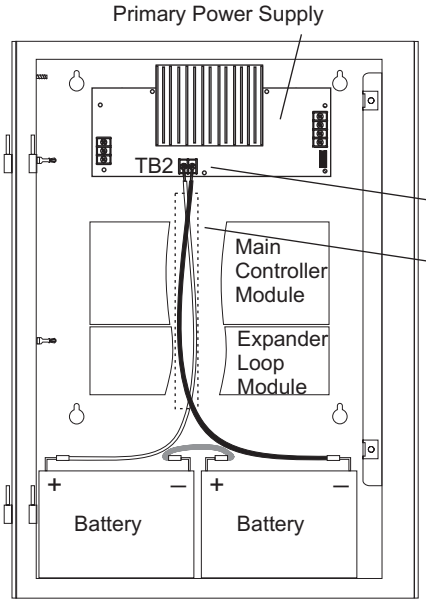
WIRING

Wire Stripping Guide

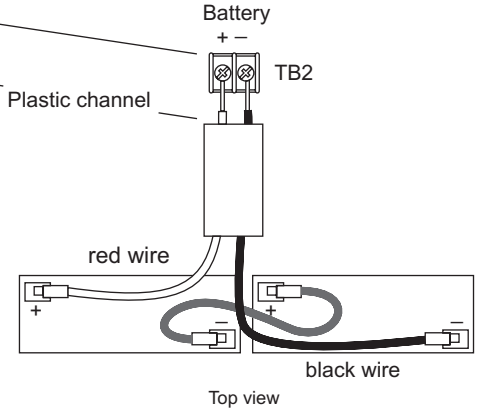
Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.





Route the battery wiring harness (P/N 250181) through the plastic channel under the Main Controller Module and the Expander Loop Module to the battery terminals.



Notes

1. Power-limited
2. Nonpower-limited
3. Supervised
4. Nonsupervised

PRODUCT DESCRIPTION

The 2-SANCOM is an operator interface, which provides indicators and controls in a SAN series package for use anywhere on the network. The 2-SANCOM requires a SAN-CPU, which is connected to it on a ribbon cable chain along with other SAN series modules. See the drawings on the reverse side of this installation sheet.

Indicators

LED	Description
Power	A green LED that functions according to position of JP3.
Alarm	A red LED that flashes to indicate system alarm conditions.
Supervisory	A yellow LED that flashes to indicate supervisory conditions.
Trouble	A yellow LED that flashes to indicate system trouble conditions.
Security	A yellow LED that flashes to indicate security conditions.
Alarm Silence	A yellow LED that indicates the silencing of audible devices.
Trouble Silence	A yellow LED that indicates the silencing of the system-wide trouble buzzer(s).
Drill/All Call	A yellow LED that indicates the activation of the drill/all call function.
Sounder	**Description**
Buzzer	Operates in conjunction with the sounder on the control panel.
Resound Trouble feature:	Activation of local silence in either location will silence the buzzer until a new condition is sensed on the system.

Controls

Switch	Description
Reset	A momentary toggle switch that resets the system.
Alarm Silence	A momentary toggle switch that silences audible circuits.
Local Silence	A momentary toggle switch that silences the system-wide trouble buzzer.
Drill/All Call	A momentary toggle switch that activates all audible/visual circuits.
Lamp Test	A maintained toggle switch that tests all indicators on SAN option modules.
Enable/Disable	A key switch that disables the 2-SANCOM controls.

JUMPER SETUP

Jumper	Function
JP1 Zone Report Jumper	
In the Enable position:	Activation of the enable/ disable keyswitch will generate a zone (xx05)
In the Disable position:	Activation of the enable/ disable keyswitch will not generate a zone.
JP2 Continuity Jumper	JP2 designates the 2-SANCOM as the last module installed in the SAN/RSAN series modules.
JP3 Region Jumper	
In the USA position:	The 2-SANCOM will light the program-driven Power LED.
In the Europe position:	The Power LED will operate in conjunction with 24 Vdc power.

SPECIFICATIONS

Power	From SAN-CPU
Current	
Stanby	22 mA
Alarm	7 mA
Trouble	15 mA
Address requirements	
Inputs	1 (1 group of eight)
Outputs	1 (1 group of eight)
Weight	3.3 oz (93.5 g)
Mounting	See the related documentation listed in the title block for the approved enclosures.

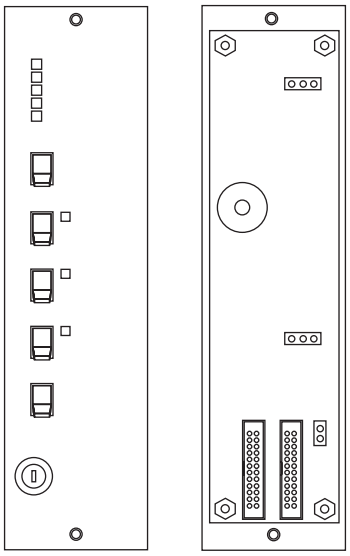
Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

PRODUCT DIAGRAM



INSTALLATION SHEET:

2-SANCOM
Remote Network Control Module

INSTALLATION SHEET P/N: 387186	FILE NAME: 387186.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

Related documentation: SAN-CPU installation sheet, SAN Series Annunciator Enclosures installation sheet

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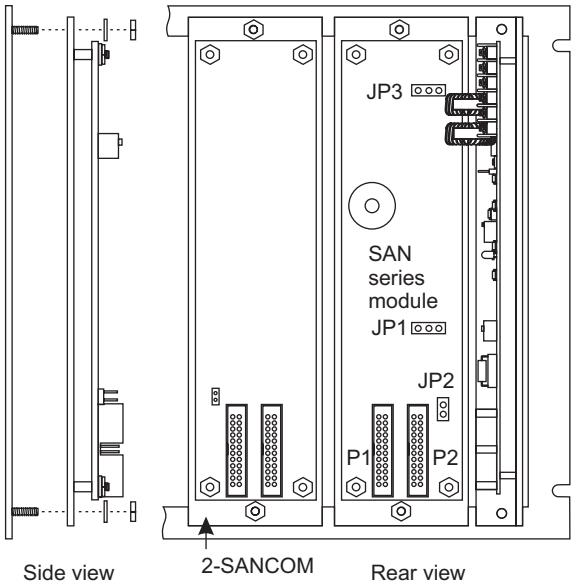
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INSTALLATION

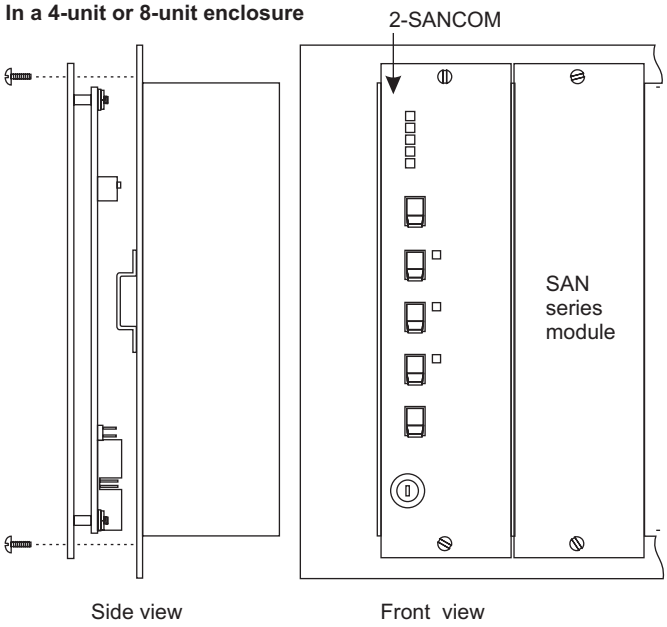
1 Mount the 2-SANCOM.

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



2 Make the ribbon cable connections.

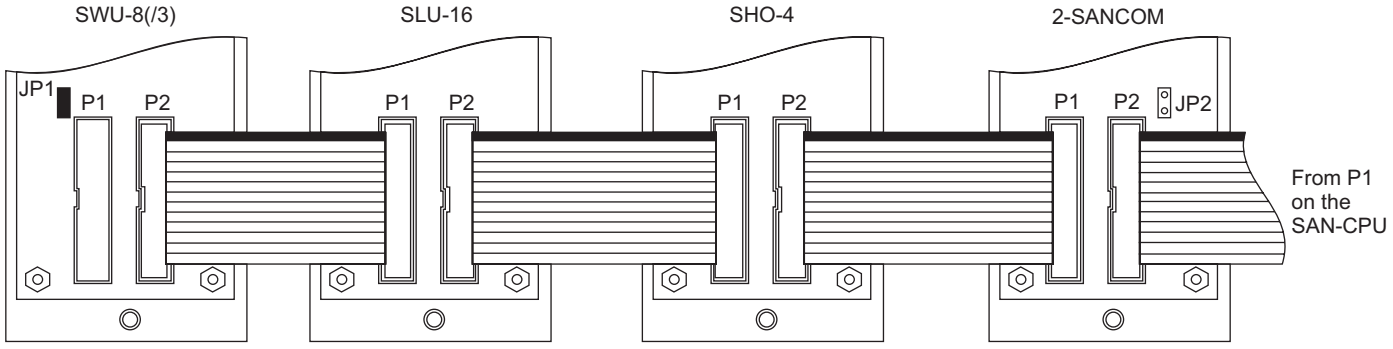
A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.

B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.

C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.

D. Install the continuity jumper on the last SAN module.

Note: If the 2-SANCOM is the last module, install the continuity jumper on JP2.



For programming purposes, remember that:

- The first input address group and the first output address group belong to the 2-SANCOM regardless of its physical location.
- Each address group consists of eight addresses.
- All other SAN modules must start at must start at address 09 for input and output groups.
- You must install J2 if the 2-SANCOM is the last module on the ribbon cable chain.

Group Number	Addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SLU-16
4	25-32	off	off	on	off	SLU-16
5	33-40	on	off	on	off	SWU-8(/3)
6	41-48	off	on	on	off	SWU-8(/3)
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

PRODUCT INFORMATION

The 2-SMK Smoke Power Module is a backup power source for 2-wire smoke circuits connected to a Signature Data Circuit. The Smoke Power Module monitors the operating power from the power supply. When power begins to degrade, the 2-SMK provides the necessary operating voltage to the 2-wire smoke detection circuits.

INSTALLATION

Note: Do *not* disassemble the 2-SMK. It is shipped from the factory as an assembled unit and contains no user-serviceable parts.

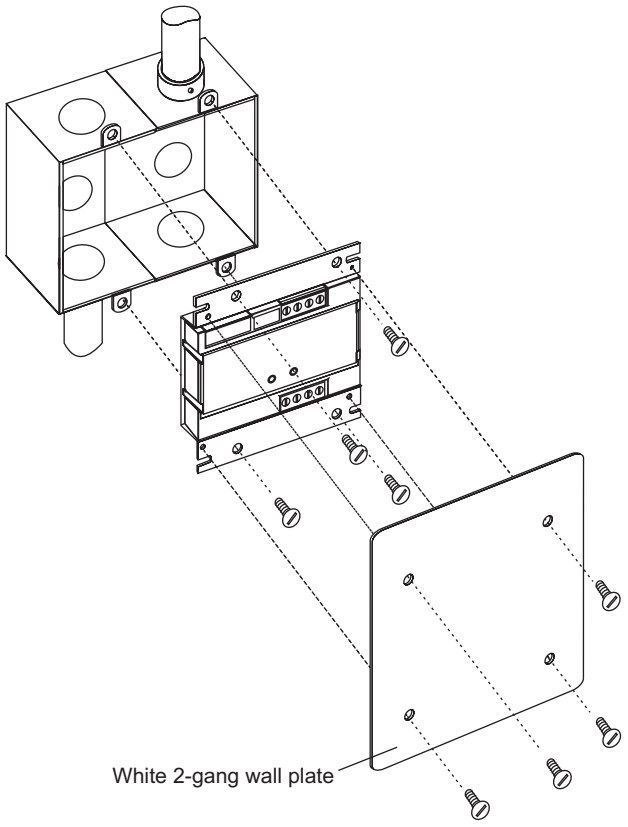
To mount the 2-SMK

1 Verify that all field wiring is free of opens, shorts, and ground faults.

2 Make all wiring connections as shown in the wiring diagrams on the reverse side of this sheet.

3 Using the four 6-32 x 3/8 inch machine screws provided, mount the module to the electrical box.

4 Using the four 4-24 x 5/16 inch self-tapping screws provided, mount the wall plate to the module.



Compatible electric boxes

North American 2-1/2 inch (64 mm) deep 2-gang box

Standard 4: Square 1-1/2 inch (38 mm) deep box
European 100 mm square box

SPECIFICATIONS

Input power	24 Vdc, nominal per UL
Output power	22.0 to 26.4 Vdc @ 425 mA, maximum
Wire size	14 AWG (1.5 mm^2) to 18 AWG (0.75 mm^2)
Environmental Conditions	
Temperature Range	32 to 120 °F (0 to 49 °C)
Humidity	0 to 93%, Non-condensing

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

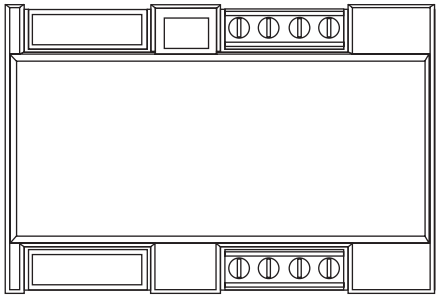
Observe static-sensitive material handling practices.

Wire Stripping Guide

Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.

PRODUCT DIAGRAM



INSTALLATION SHEET:

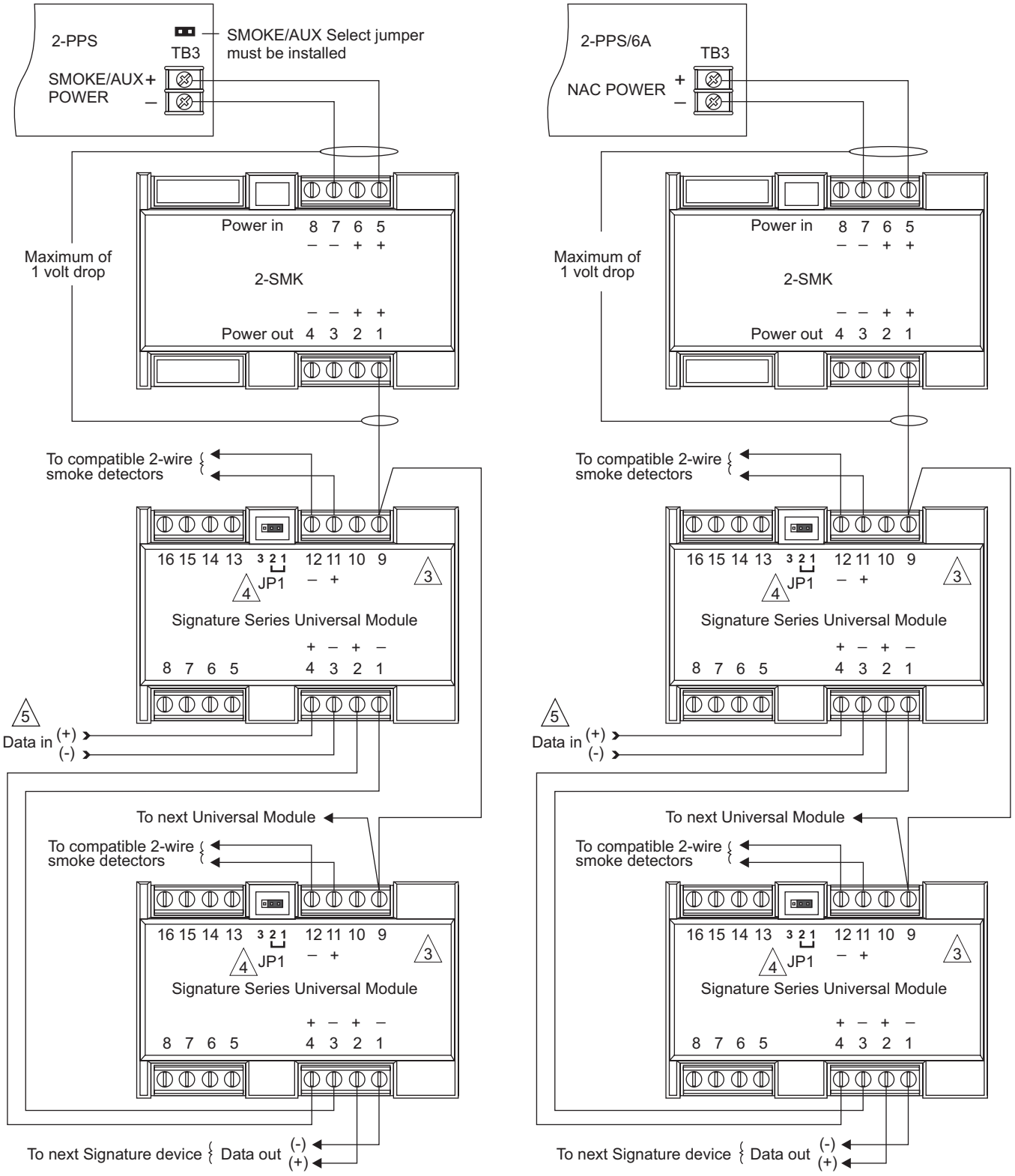
2-SMK
Smoke Power Converter Module

INSTALLATION SHEET P/N: 387199	FILE NAME: 387199.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 17APR00	CREATED BY: B. Graham

Related documentation: Signature Series Component Installation Manual

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

FIELD WIRING



Notes

1. All wiring is supervised and power-limited.
2. See the Signature Series Component Installation Manual for more information about the Universal Module and its configuration.

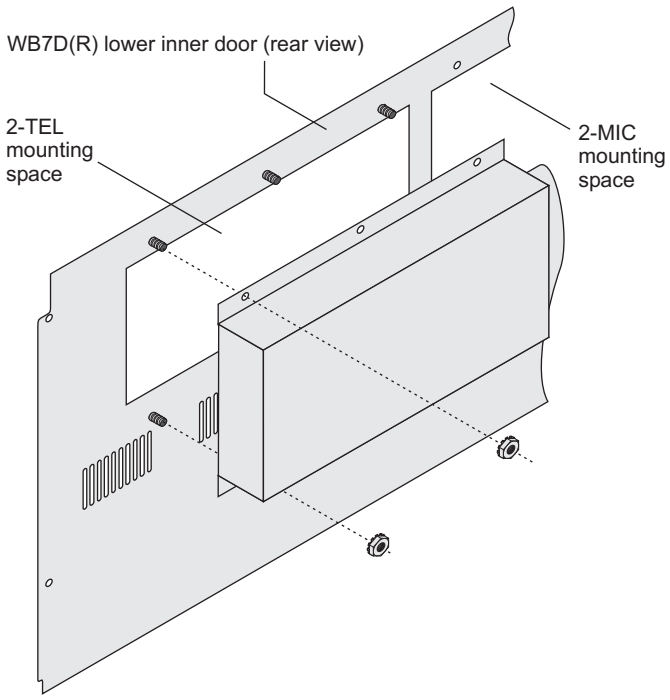
3. Signature-UMs set to personality code 13, 14, 20, or 21
4. Jump pins 1 and 2 on JP1.
5. From the Signature loop controller at the fire alarm control panel or the previous Signature device

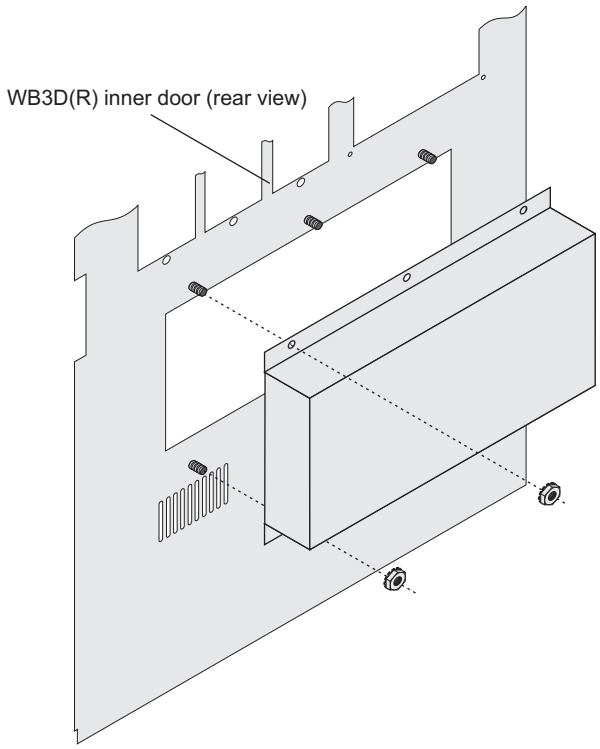
PRODUCT DESCRIPTION

The 2-TEL is the operator interface for the firefighter telephone system. The module houses the master telephone handset, the silence call-in switch, and the phone call-in silenced LED. The 2-AAC Audio Control Module with a 2-TEL option board provides the electrical terminations for the module. The module communicates with up to five handsets simultaneously. LED Annunciator/switch modules provide selection of the telephone circuits.

INSTALLATION

Mounting the 2-TEL





SPECIFICATIONS

Riser wiring configuration	Two Class B (Style Y) risers
Output voltage	18 Vdc
EOL resistor	10 kΩ
Maximum remote phones on line	Five (total) on both risers
Environmental conditions	
Temperature	32-120 °F (0-49 °C)
Humidity	0-93%, Non-condensing

Warning!

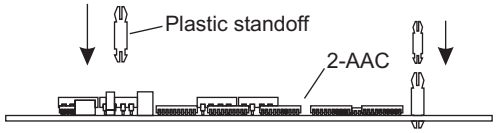
Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

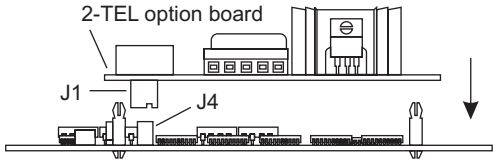
Observe static-sensitive material handling practices.

Mounting the 2-TEL option board

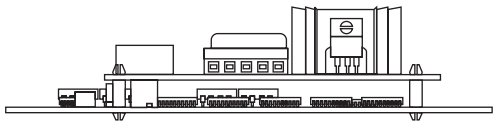
1. Snap the plastic standoffs into the appropriate holes on the 2-AAC.



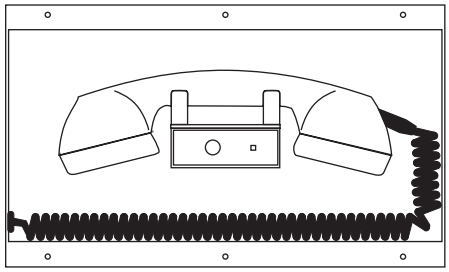
2. Align J1 of the 2-TEL option board with J4 of the 2-AAC.



3. Snap the 2-TEL option board to the plastic standoffs on the 2-ACC.



PRODUCT DIAGRAM



INSTALLATION SHEET:

2-TEL
Firefighter Telephone Module

INSTALLATION SHEET P/N: 387344	FILE NAME: 387344.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

Related documentation: 2-AAC installation sheet; Signature Series Component Installation Manual

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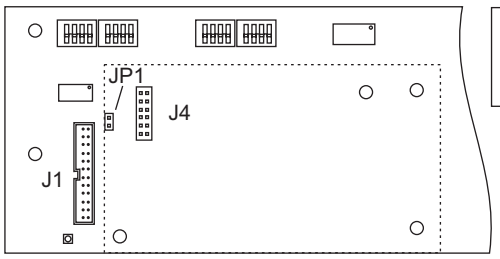
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

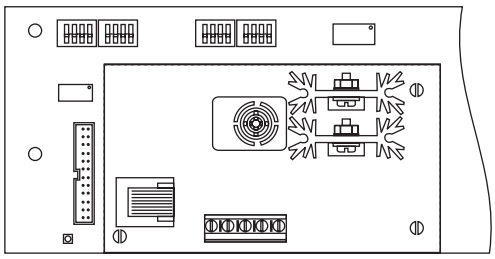
INSTALLATION

2-AAC without 2-TEL option board

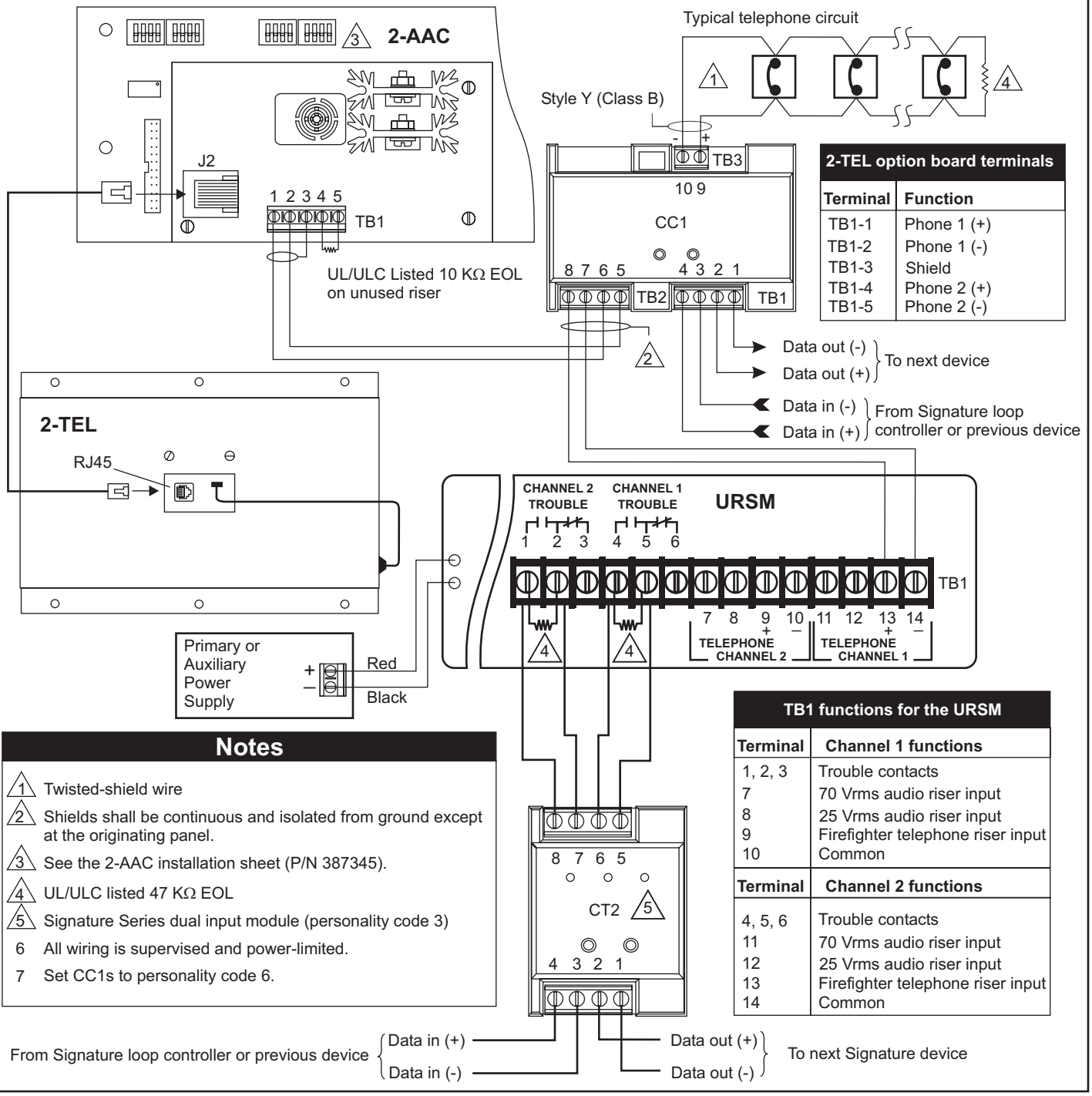


Note: Remove JP1, on the 2-AAC to enable supervision for the 2-TEL option board.

2-AAC with 2-TEL option board



WIRING



2-TEL option board terminals	
Terminal	**Function**
TB1-1	Phone 1 (+)
TB1-2	Phone 1 (-)
TB1-3	Shield
TB1-4	Phone 2 (+)
TB1-5	Phone 2 (-)

Notes

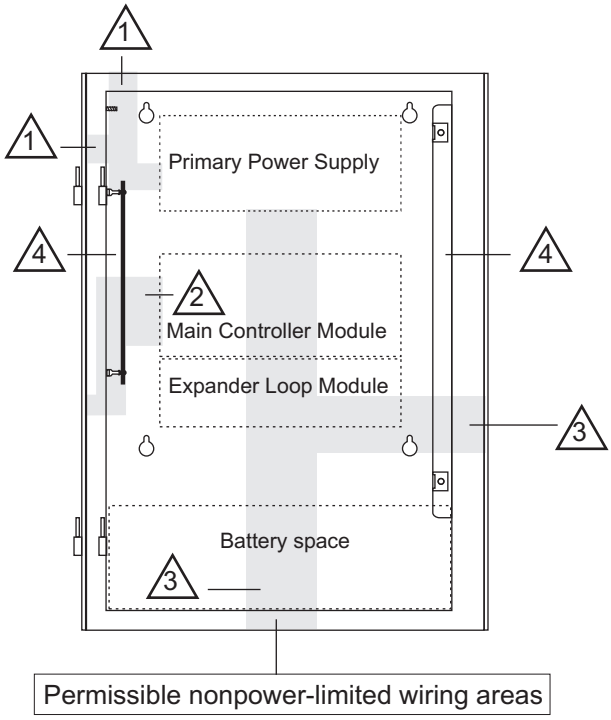
1. Twisted-shield wire
2. Shields shall be continuous and isolated from ground except at the originating panel.
3. See the 2-AAC installation sheet (P/N 387345).
4. UL/ULC listed 47 KΩ EOL
5. Signature Series dual input module (personality code 3)
6. All wiring is supervised and power-limited.
7. Set CC1s to personality code 6.

TB1 functions for the URSM	
Terminal	**Channel 1 functions**
1, 2, 3	Trouble contacts
7	70 Vrms audio riser input
8	25 Vrms audio riser input
9	Firefighter telephone riser input
10	Common
Terminal	**Channel 2 functions**
4, 5, 6	Trouble contacts
11	70 Vrms audio riser input
12	25 Vrms audio riser input
13	Firefighter telephone riser input
14	Common

PRODUCT DESCRIPTION

The 2-WB(R) is a semi-flush mount wallbox, which is available in two colors: grey or red (R).

WIRE ROUTING

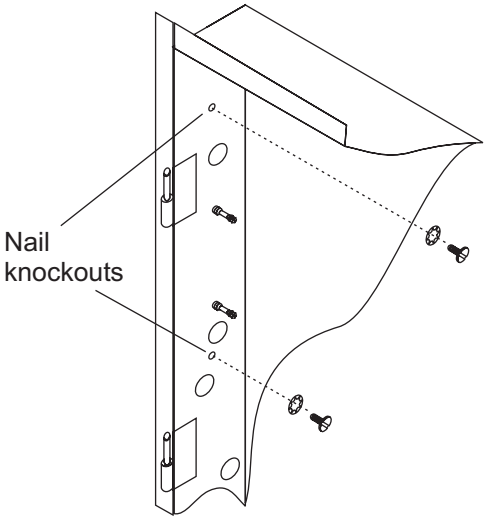


Notes

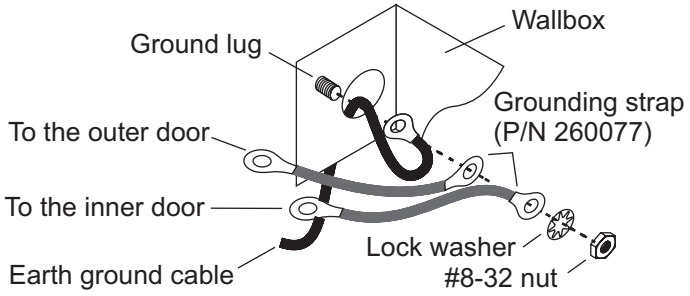
1. Run the AC power *only* through the top left knockout or top center knockout.
2. If a nonpower-limited source feeds the relay contacts, the wiring must remain within this area.
3. Route wiring to the power supply through a protective channel when using a remote battery enclosure. Nonpower-limited wiring must stay in the shaded area, and must remain ¼ inch (6.4 mm) from power-limited wiring.
4. The snap-top standoffs, located on both sides of the wallbox, can support any module that requires a one-half footprint mounting space.
5. The battery space supports up to two 12 Vdc, 17 Ah batteries. Do not install conduit in this area.
6. See the Installation and Service Manual for the mounting of modules in this equipment enclosure.

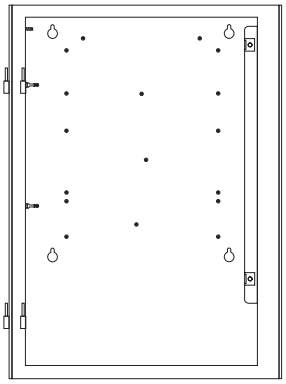
INSTALLATION

1 Mount the wallbox.



2 Connect the cabinet to earth ground.





INSTALLATION SHEET:

2-WB(R)
Semi-flush Mount Wallbox

INSTALLATION SHEET P/N:387565	FILE NAME: 387565.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

A UNIT OF GENERAL SIGNAL

GS BUILDING SYSTEMS CORPORATION

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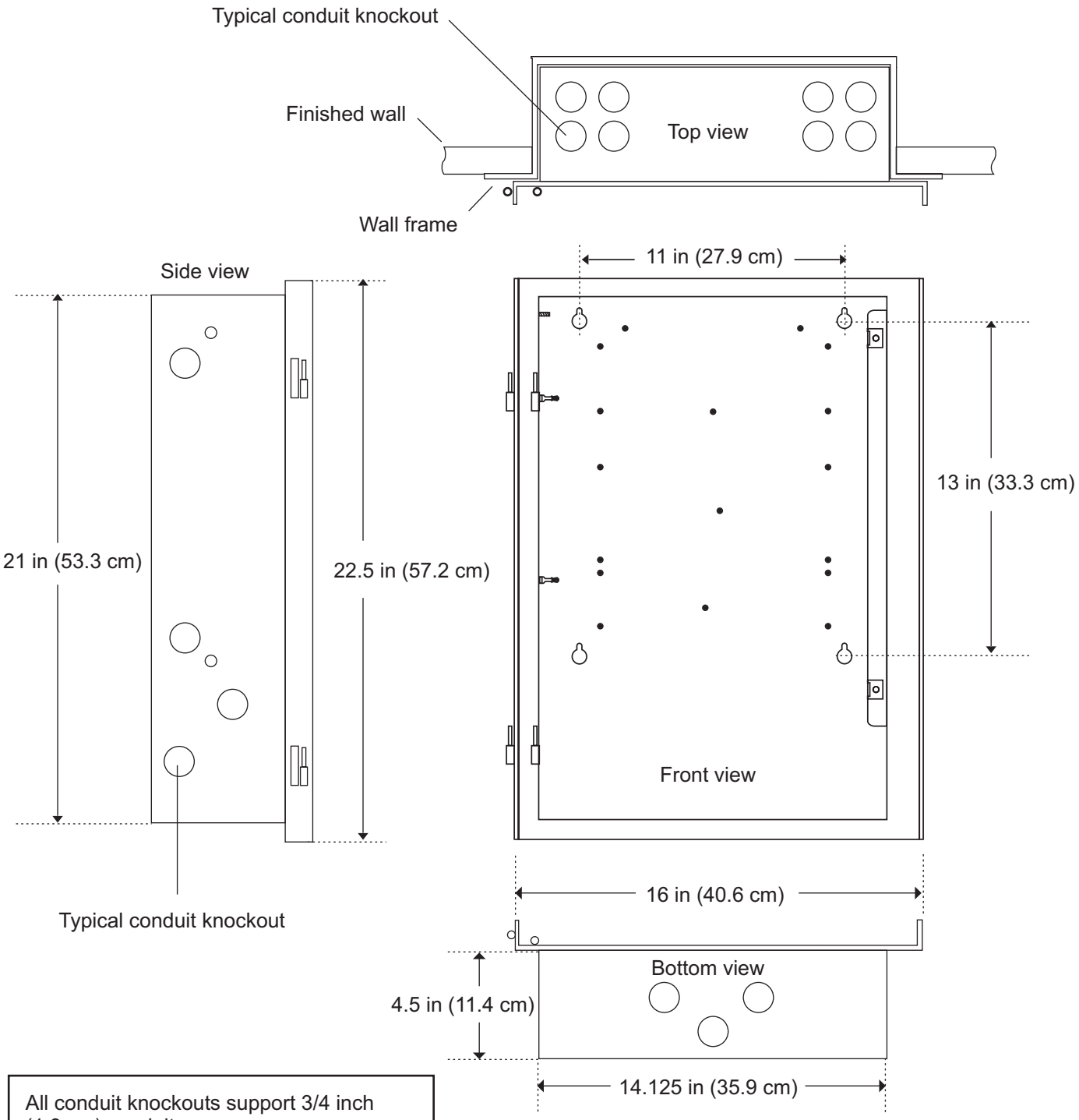
6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

DIMENSIONS



All conduit knockouts support 3/4 inch (1.9 cm) conduit.

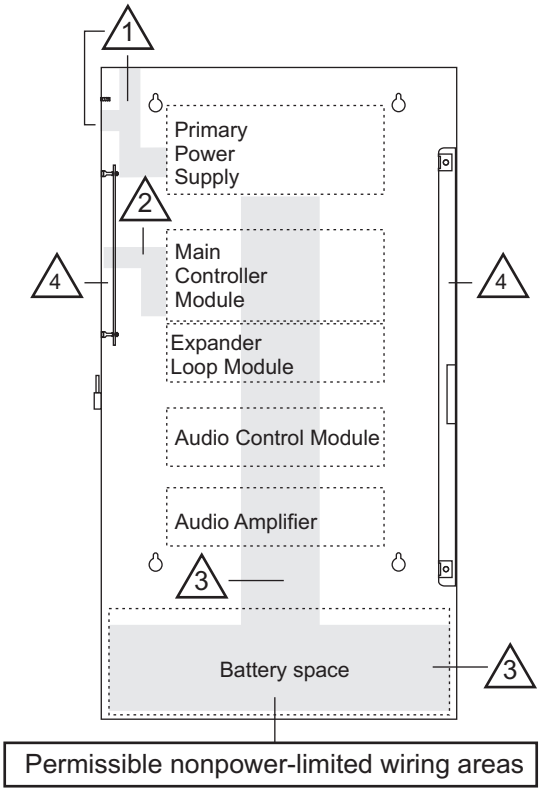
PRODUCT DESCRIPTION

The 2-WB3(R) is a surface mounted wallbox, which is available in grey or red (R). The following subassemblies may be ordered to modify the wallbox.

- 2-LFK(R) trim kit for semi-flush mounting
- 2-WB3D/DF dead front door for the (red only)

The dead front door does not include an inner door.

WIRE ROUTING

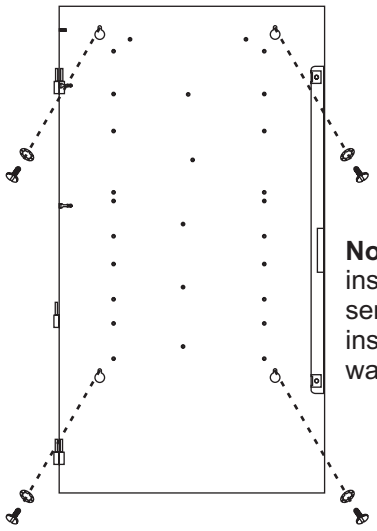


Notes

1. Run the AC power *only* through the top left knockout or top center knockout.
2. If a nonpower-limited source feeds the relay contacts, the wiring must remain within this area.
3. Route wiring to the power supply through a protective channel when using a remote battery enclosure. Nonpower-limited wiring must stay in the shaded area, and must remain 1/4 inch (6.4 mm) from power-limited wiring.
4. The snap-top standoffs, located on both sides of the wallbox, can support any module that requires a one-half footprint mounting space.
5. The battery space supports up to two 12 Vdc, 17 Ah batteries. Do not install conduit in this area.
6. See the Installation and Service Manual for the mounting of modules in this equipment enclosure.

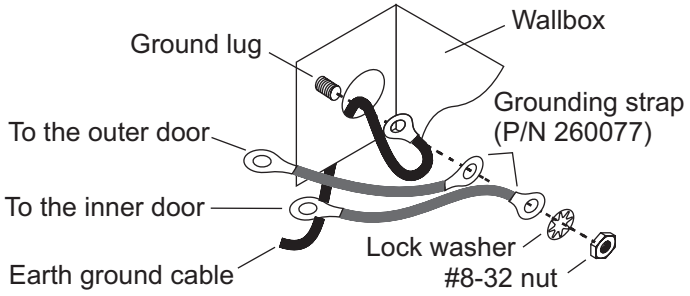
INSTALLATION

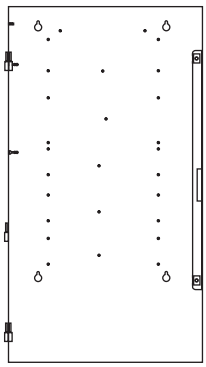
1 Mount the wallbox.



Note: See the trim kit installation sheet for semi-flush mounting instructions on this wallbox (P/N 387570).

2 Connect the cabinet to earth ground.





INSTALLATION SHEET:

2-WB3(R) Wallbox

INSTALLATION SHEET P/N:387567	FILE NAME: 387567.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

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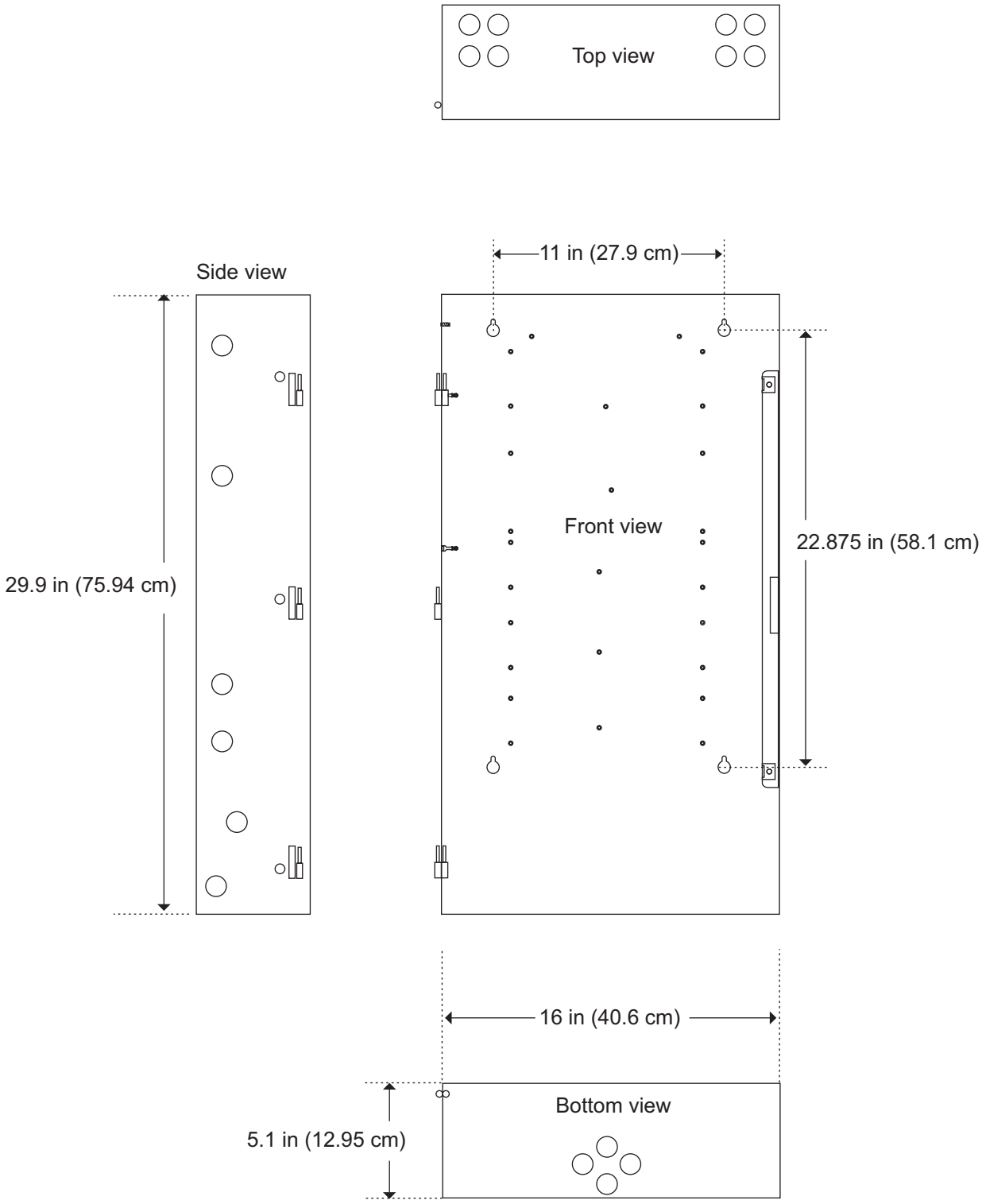
6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

DIMENSIONS



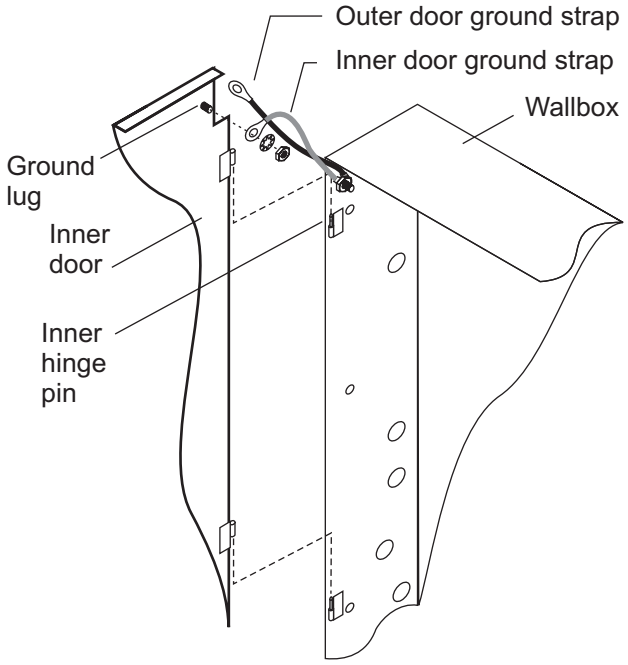
All conduit knockouts support 3/4 inch (1.9 cm) conduit.

PRODUCT INFORMATION

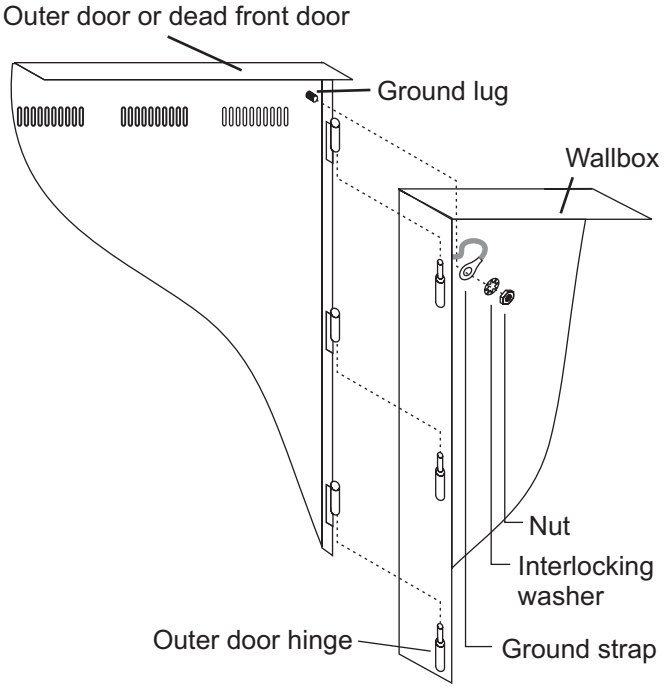
The 2-WB3D(R) is a set consisting of an outer door and two inner doors. The doors mount on a 2-WB3(R) wallbox. The outer door is available in two colors: grey or red (R), and has one Lexan™ viewing window. The inner doors are available only in grey and provide mounting space for operator interface modules and emergency communications equipment. The 2-WB3D/DF is a dead front outer door, which does not include an inner door. The dead front door is available only in red.

INSTALLATION

1 Mount the inner door.

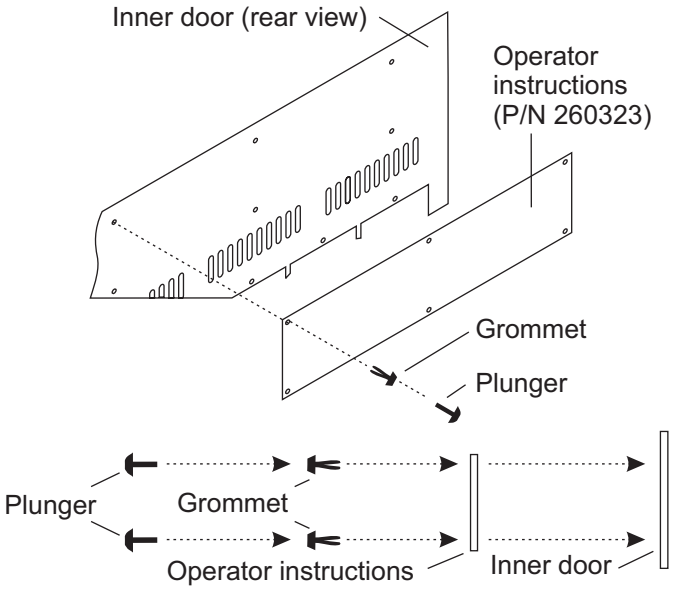


2 Mount the outer door.



INSTALLATION

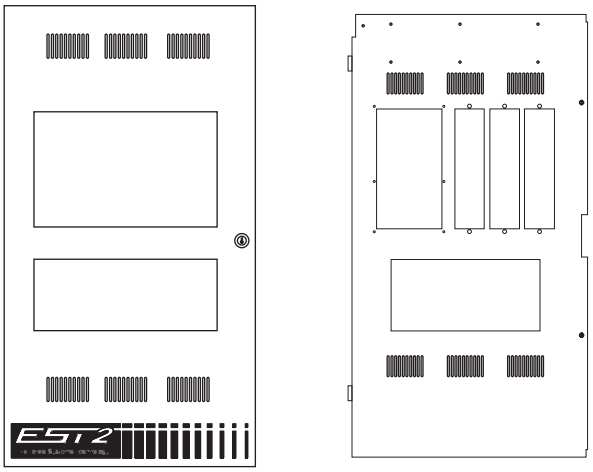
3 Mount the operator instructions.



Related Documentation

See the following installation sheets for the mounting of inner door components:

- Liquid Crystal Display (P/N 270212)
- LED/Switch modules (P/N 270214)
- Firefighter Telephone (P/N 387344)
- Microphone (P/N 387562)



INSTALLATION SHEET:

2-WB3D(R) Outer Door and Inner Door
2-WB3D/DF Dead Front Door

INSTALLATION SHEET P/N: 387339	FILE NAME: 387339.CDR
REVISION LEVEL: 2.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

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6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

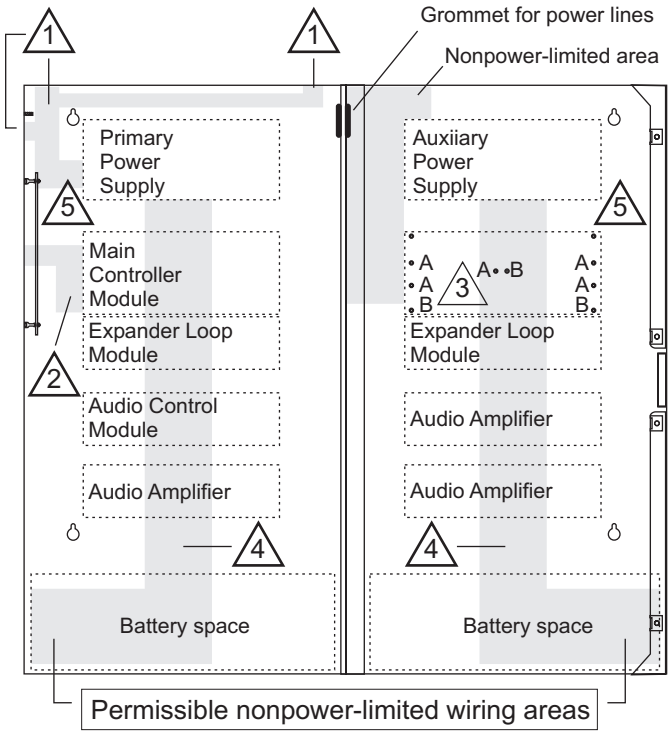
PRODUCT DESCRIPTION

The 2-WB7(R) is a surface mounted wallbox, which is available in grey or red (R). The following subassemblies may be ordered to modify the wallbox.

- 2-DFK(R) trim kit for semi-flush mounting
- 2-WB7D/DF dead front door for the (red only)

The dead front door does not include an inner door.

WIRE ROUTING



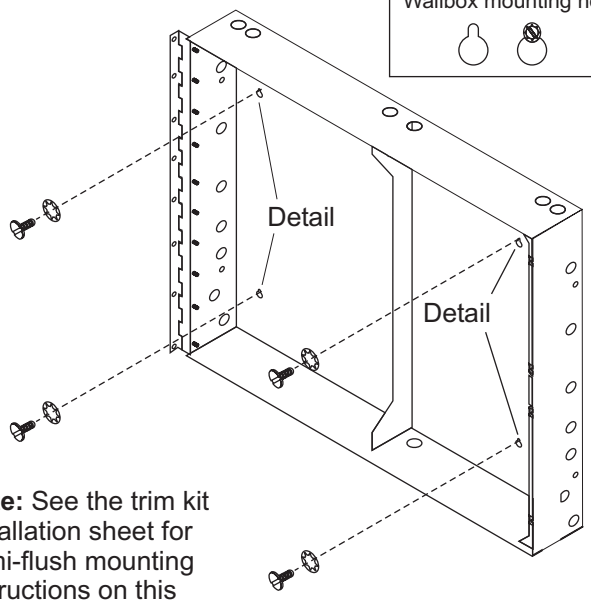
Notes

1. Run the AC power *only* through the top left knockout or top center knockout.
2. If a nonpower-limited source feeds the relay contacts, the wiring must remain within this area.
3. Install spacers on stud A to mount an Audio Amplifier Module. Install spacers on stud B to mount a Main Controller Module.
4. Route wiring to the power supply through a protective channel when using a remote battery enclosure. Nonpower-limited wiring must stay in the shaded area, and must remain 1/4 inch (6.4 mm) from power-limited wiring.
5. The snap-top standoffs, located on both sides of the wallbox, can support any module that requires a one-half footprint mounting space.
6. The battery space supports up to two 12 Vdc, 17 Ah batteries. Do not install conduit in this area.
7. See the Installation and Service Manual for the mounting of modules in this equipment enclosure.

INSTALLATION

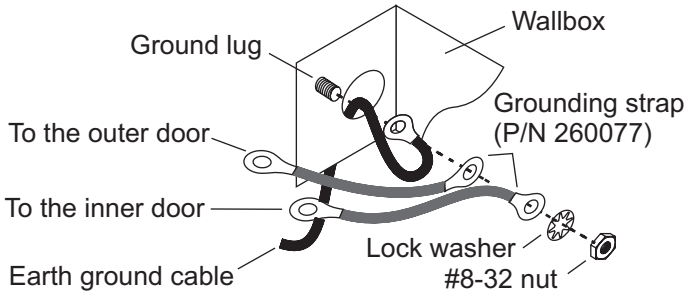
1 Mount the wallbox.

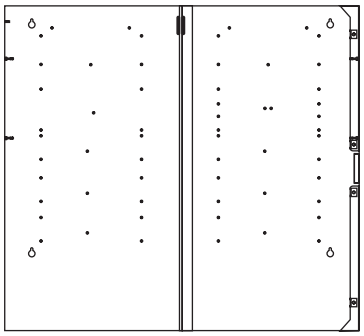
Detail
Wallbox mounting hole



Note: See the trim kit installation sheet for semi-flush mounting instructions on this wallbox (P/N 387569).

2 Connect the cabinet to earth ground.





INSTALLATION SHEET:

2-WB7(R) Double-wide Wallbox

INSTALLATION SHEET P/N:387568	FILE NAME: 387568.CDR
REVISION LEVEL: 1.0	APPROVED BY: B. Shivers
DATE: 11/19/98	CREATED BY: B. Graham

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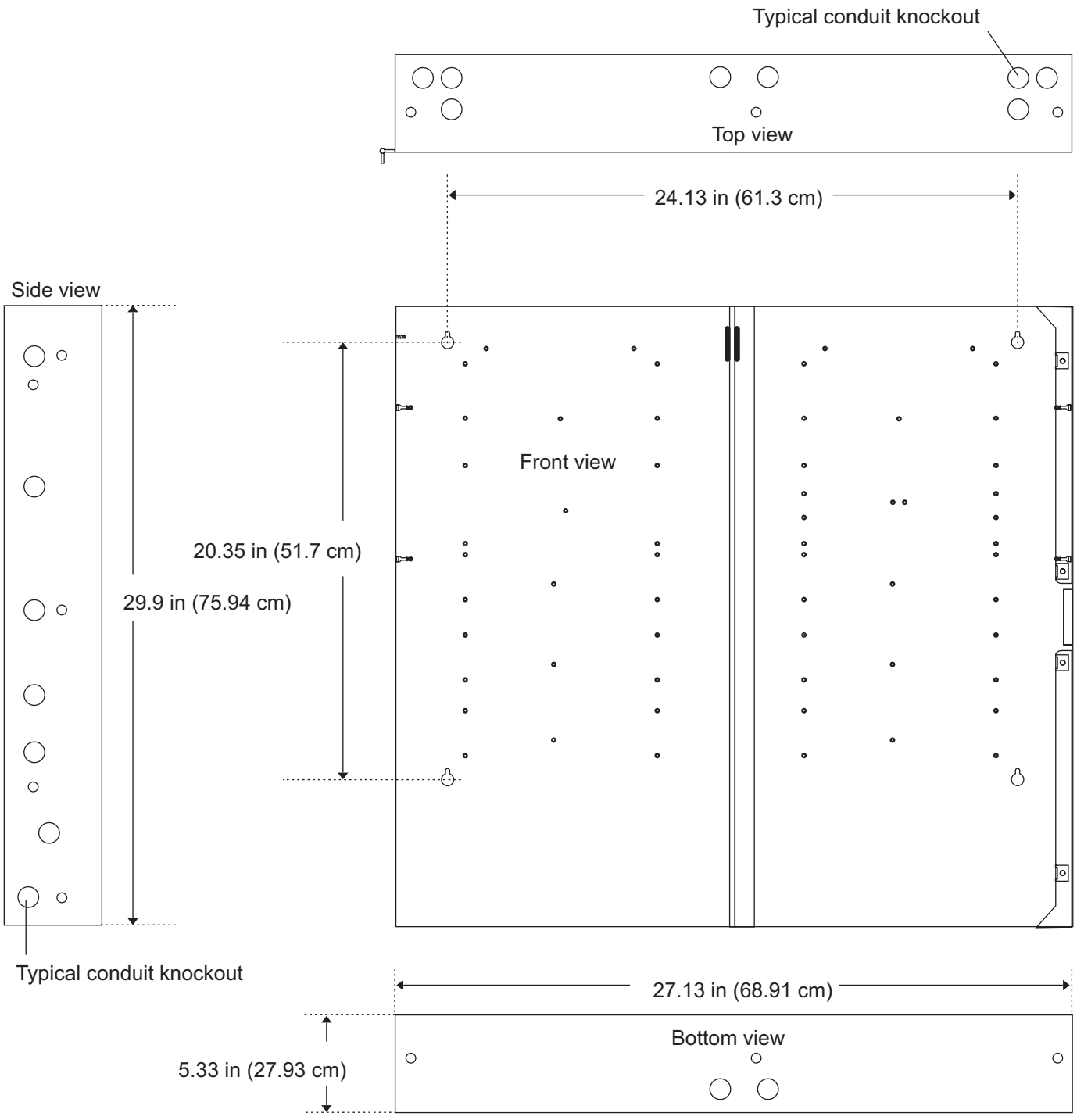
GS BUILDING SYSTEMS CORPORATION

GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

DIMENSIONS



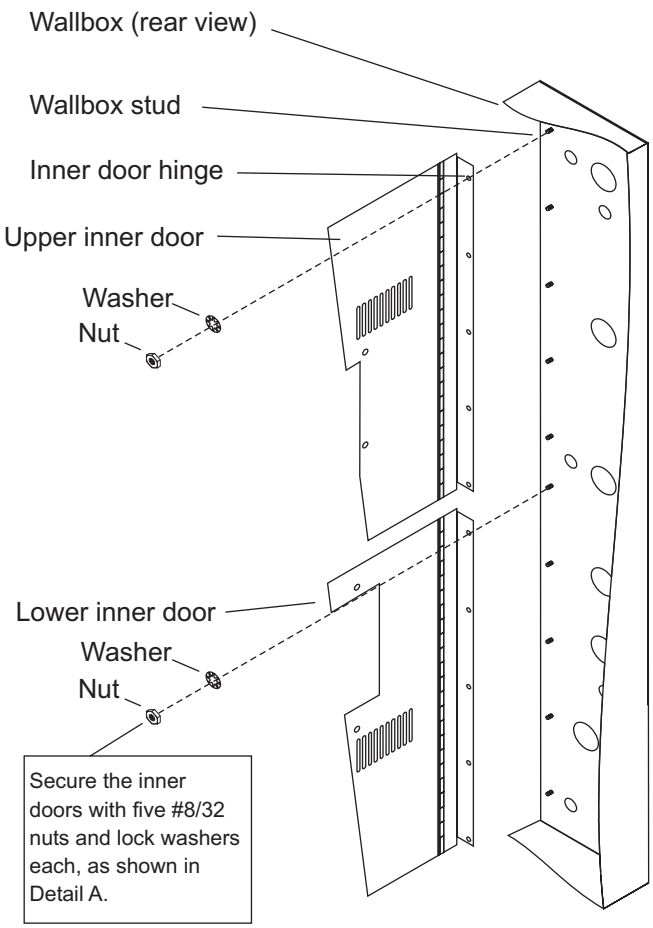
All conduit knockouts support 3/4 inch (1.9 cm) conduit.

PRODUCT DESCRIPTION

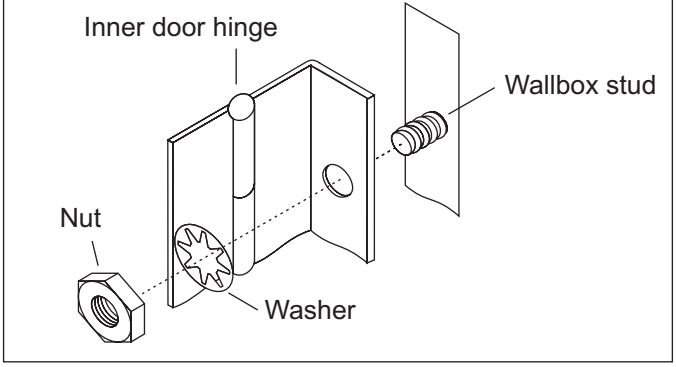
The 2-WB7D(R) is a set consisting of an outer door and two inner doors. The doors mount on a 2-WB7(R) wallbox. The outer door is available in two colors: grey or red (R), and has one Lexan™ viewing window. The inner doors are available only in grey and provide mounting space for operator interface modules and emergency communications equipment. The 2-WB7D/DF is a dead front outer door, which does not come with an inner door. The dead front door is available only in red.

INSTALLATION

1 Mount the inner doors.

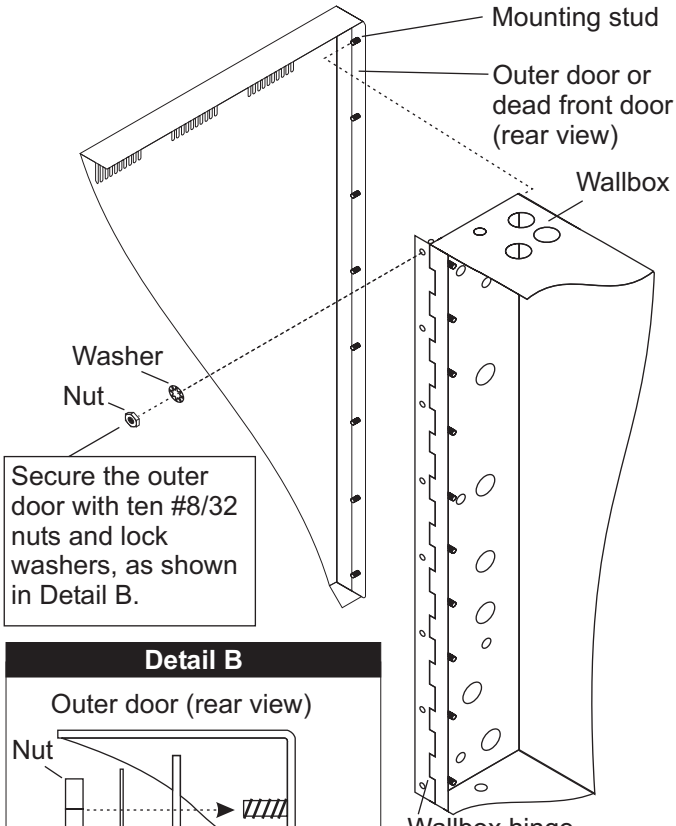


Detail A

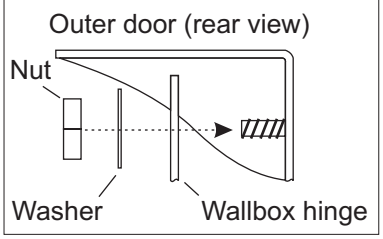


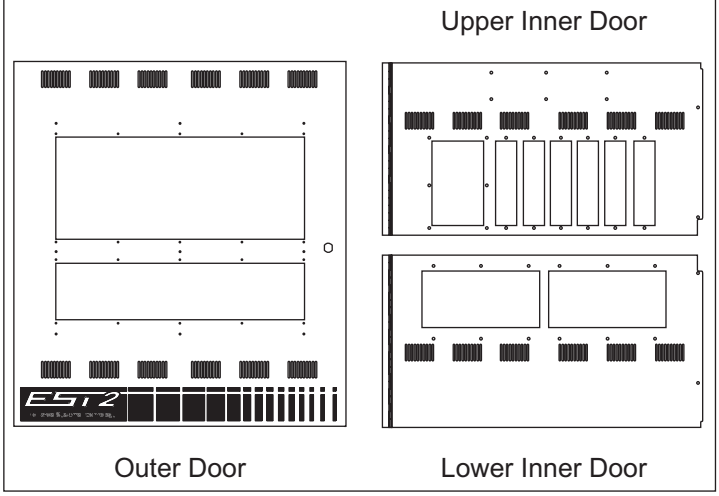
INSTALLATION

2 Mount the outer door.



Detail B





INSTALLATION SHEET:

2-WB7D(R) Outer Door and Inner Doors
2-WB7D/DF Dead Front Door

INSTALLATION SHEET P/N: 387340	FILE NAME: 387340.CDR
REVISION LEVEL: 2.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

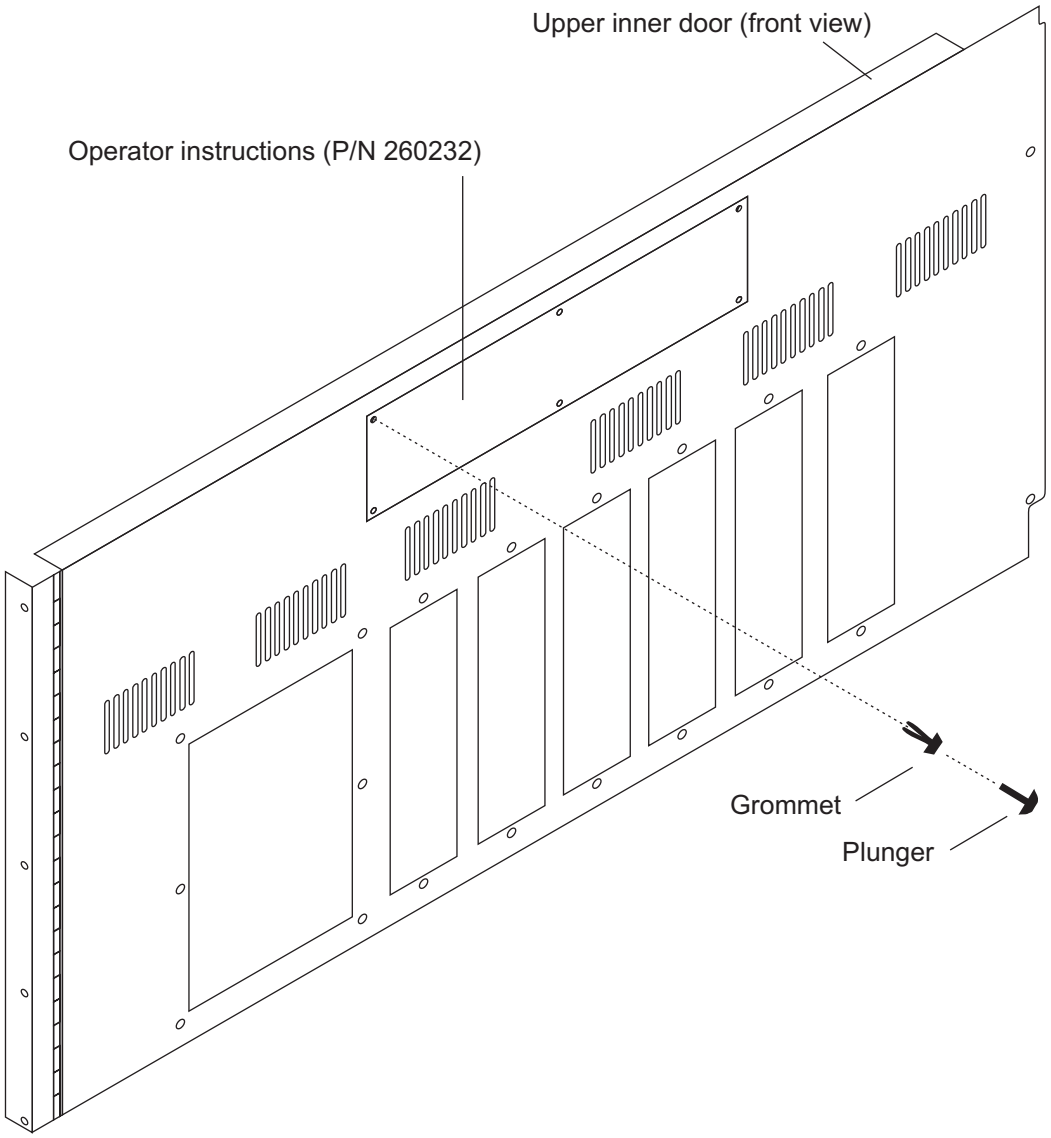
A UNIT OF GENERAL SIGNAL
GS BUILDING SYSTEMS CORPORATION

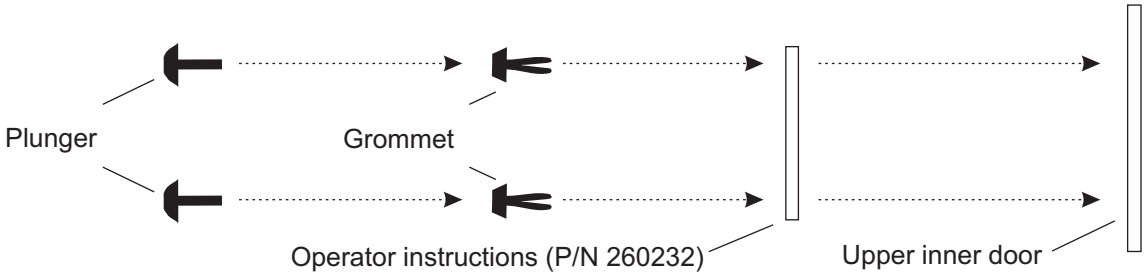
GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

3 Mount the operator instructions





Related Documentation

See the following installation sheets for the mounting of inner door components:

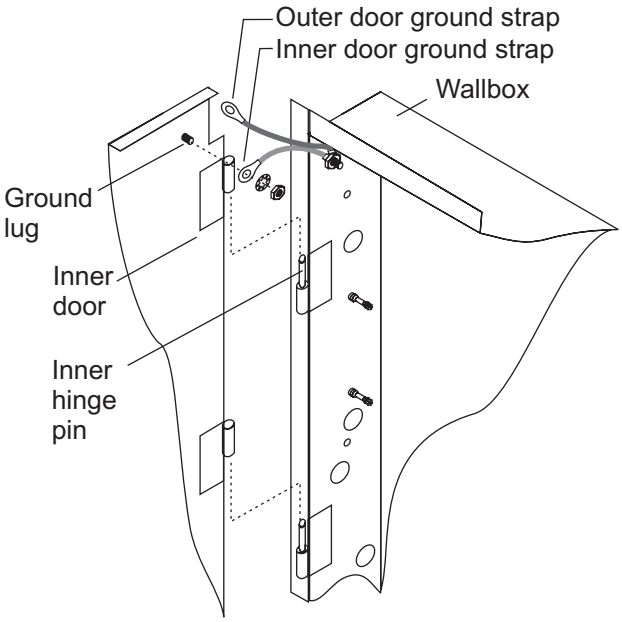
- Liquid Crystal Display (P/N 270212)
- LED/Switch modules (P/N 270214)
- Firefighter Telephone (P/N 387344)
- Microphone (P/N 387562)

PRODUCT INFORMATION

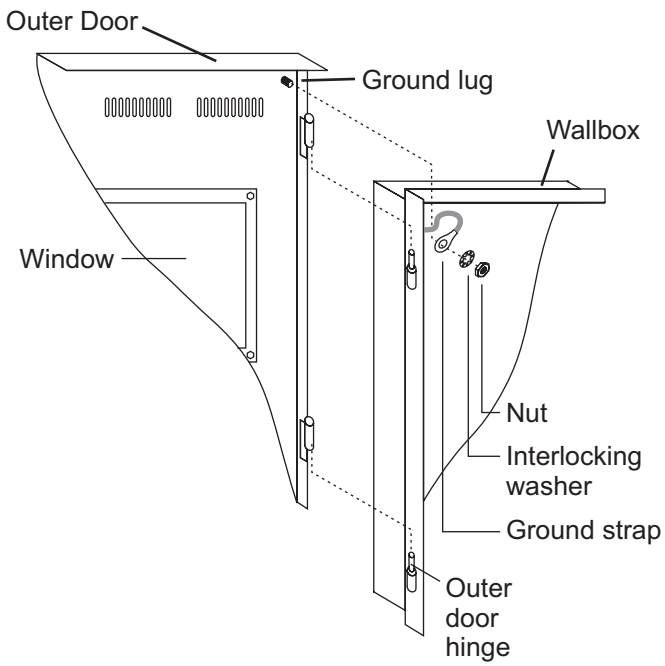
The 2-WBD(R) is a set consisting of an outer door and an inner door. Both doors mount on a 2-WB(R) wallbox. The outer door is available in two colors: grey or red (R), and has one Lexan™ viewing window. The inner door is available only in grey and provides mounting space for operator interface modules.

INSTALLATION

1 Mount the inner door.

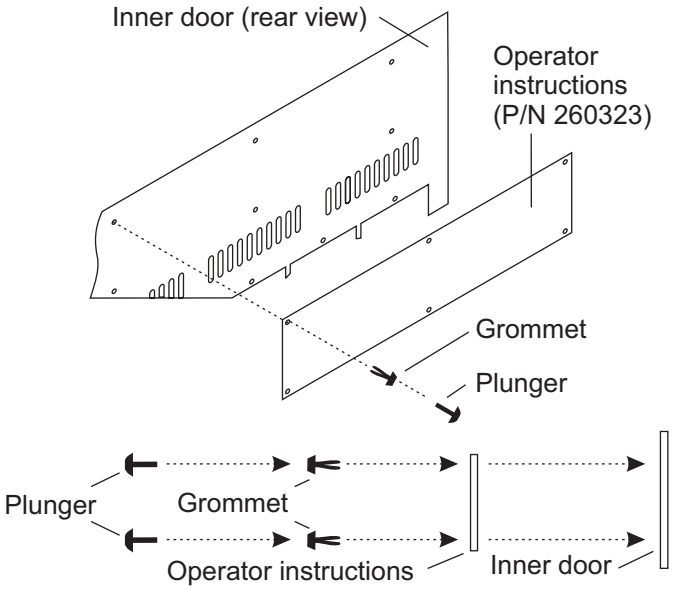


2 Mount the outer door.



INSTALLATION

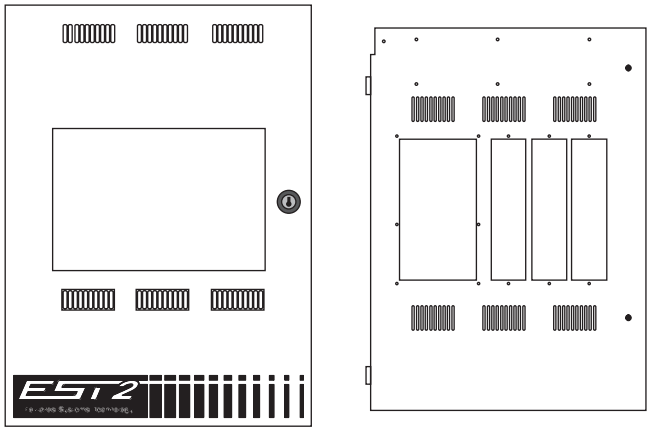
3 Mount the operator instructions.



Related Documentation

See the following installation sheets for the mounting of inner door components:

- Liquid Crystal Display (P/N 270212)
- LED/Switch modules (P/N 270214)



INSTALLATION SHEET:

2-WBD(R)
Outer Door and Inner Door

INSTALLATION SHEET P/N:270209	FILE NAME: 270209.CDR
REVISION LEVEL: 3.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

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Sarasota, FL 34243
USA

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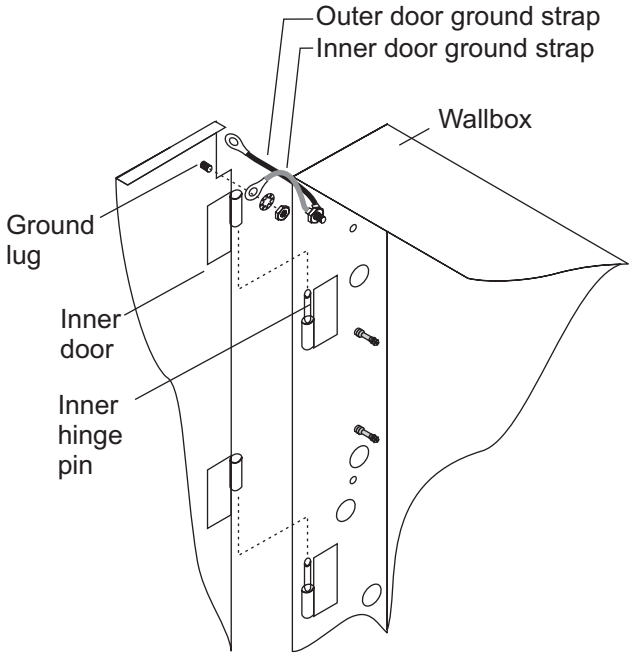
PRODUCT INFORMATION

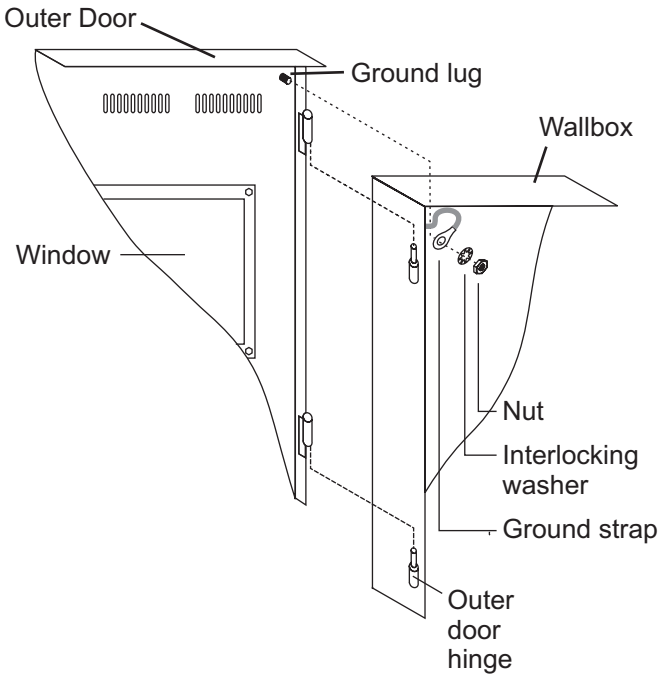
The 2-WBDS(R) is a set consisting of an outer door and an inner door. Both doors mount on a 2-WBS(R) wallbox. The outer door is available in two colors: grey or red (R), and has one Lexan™ viewing window. The inner door is available only in grey and provides mounting space for operator interface modules.

INSTALLATION

1 Mount the inner door.

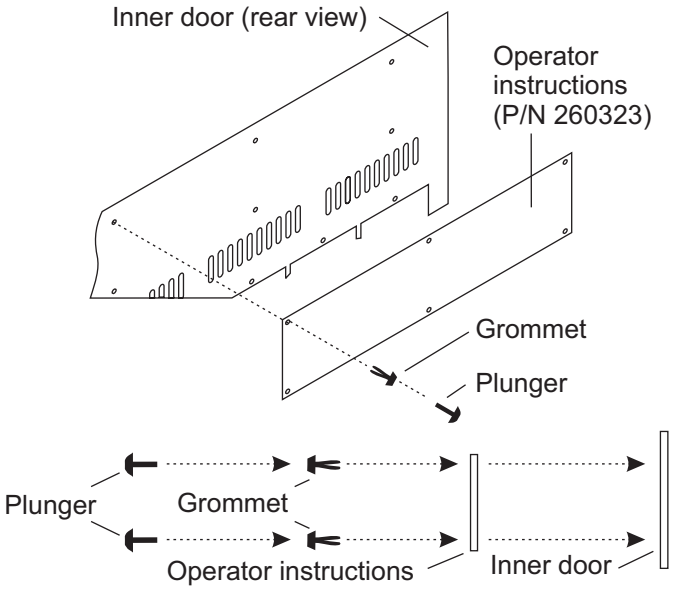


2 Mount the outer door.



INSTALLATION

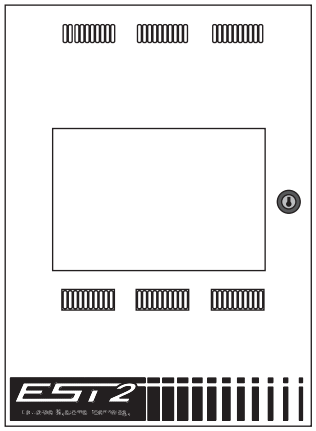
3 Mount the operator instructions.

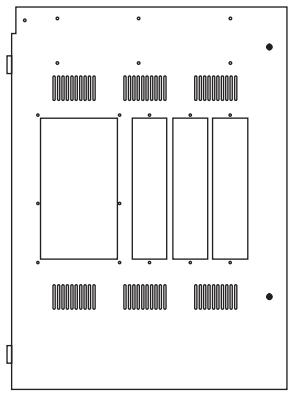


Related Documentation

See the following installation sheets for the mounting of inner door components:

- Liquid Crystal Display (P/N 270212)
- LED/Switch modules (P/N 270214)





INSTALLATION SHEET:

2-WBDS(R)
Outer Door and Inner Door

INSTALLATION SHEET P/N: 387218	FILE NAME: 387218.CDR
REVISION LEVEL: 2.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

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USA

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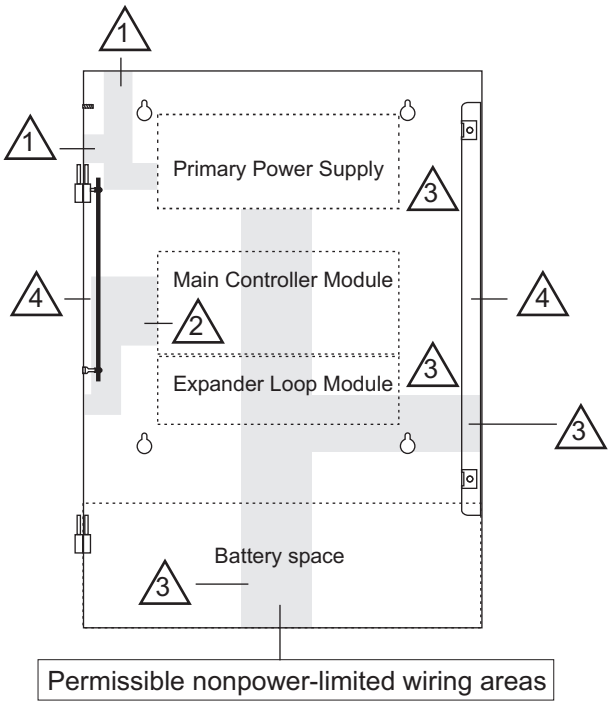
Canada N4K 5P8

PRODUCT DESCRIPTION

The 2-WBS(R) is a surface mount wallbox, which is available in two colors: grey or red (R).

WIRE ROUTING

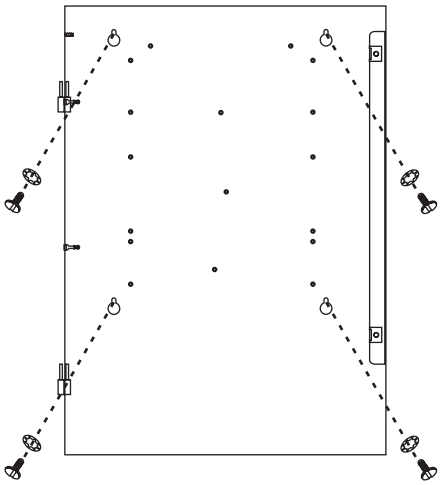


Notes

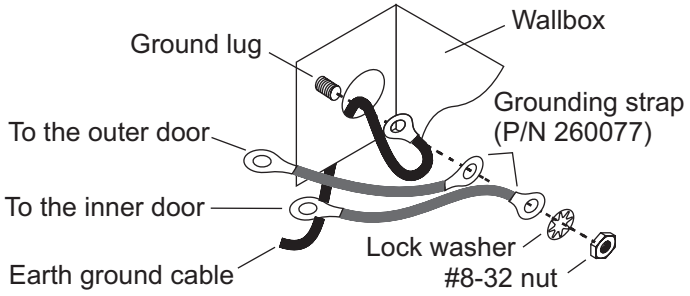
1. Run the AC power *only* through the top left knockouts.
2. If a nonpower-limited source feeds the relay contacts, the wiring must remain within this area.
3. Route wiring to the power supply through a protective channel when using a remote battery enclosure. Nonpower-limited wiring must stay in the shaded area, and must remain ¼ inch (6.4 mm) from power-limited wiring.
4. The snap-top standoffs, located on both sides of the wallbox, can support any module that requires a one-half footprint mounting space.
5. The battery space supports up to two 12 Vdc, 17 Ah batteries. Do not install conduit in this area.
6. See the Installation and Service Manual for the mounting of modules in this equipment enclosure.

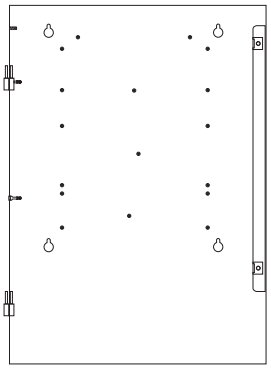
INSTALLATION

1 Mount the wallbox.



2 Connect the cabinet to earth ground.





INSTALLATION SHEET:

2-WBS(R)
Surface Mount Wallbox

INSTALLATION SHEET P/N:387566	FILE NAME: 387566.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Patterson
DATE: 02/03/99	CREATED BY: B. Graham

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GS BUILDING SYSTEMS CORPORATION

GS BUILDING SYSTEMS CORPORATION

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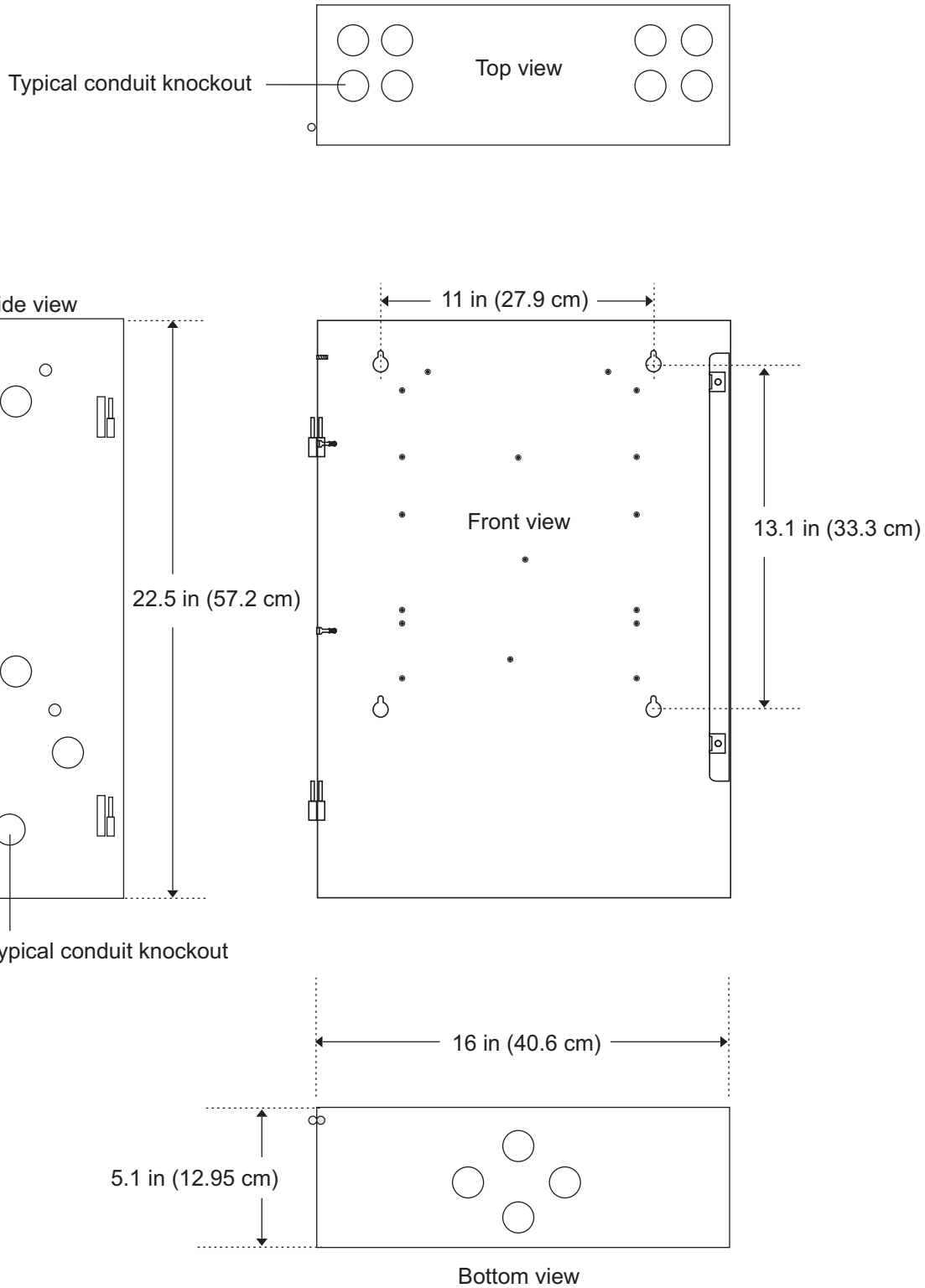
Sarasota, FL 34243
USA

625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

DIMENSIONS



All conduit knockouts support 3/4 inch (1.9 cm) conduit.

PRODUCT DESCRIPTION

The 6ANN/B(-S) and the 10ANN/B(-S) are wallboxes constructed of 16 guage steel with a textured, gray enamel finish. The wallboxes house remote annunciator CPUs and optional modules that interface with other network components.

6ANN/B(-S)

The following models identify the same wallbox:

Model	Mounting
6ANN/B	Surface
6ANN/B-S	Semi-flush

10ANN/B(-S)

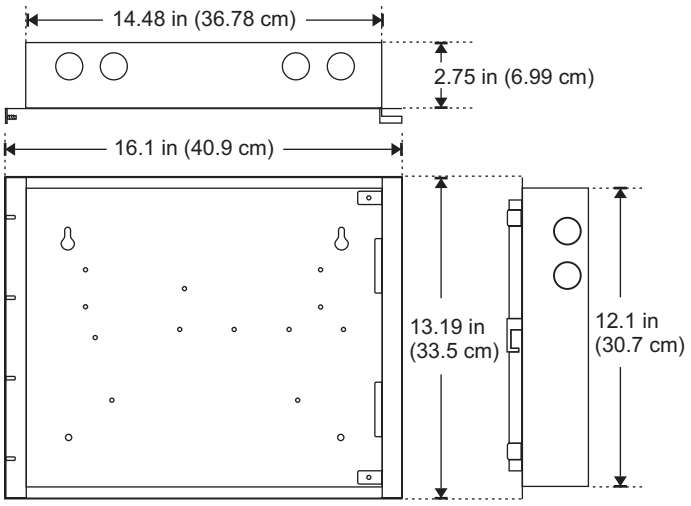
The following models identify the same wallbox:

Model	Mounting
10ANN/B	Surface
10ANN/B-S	Semi-flush

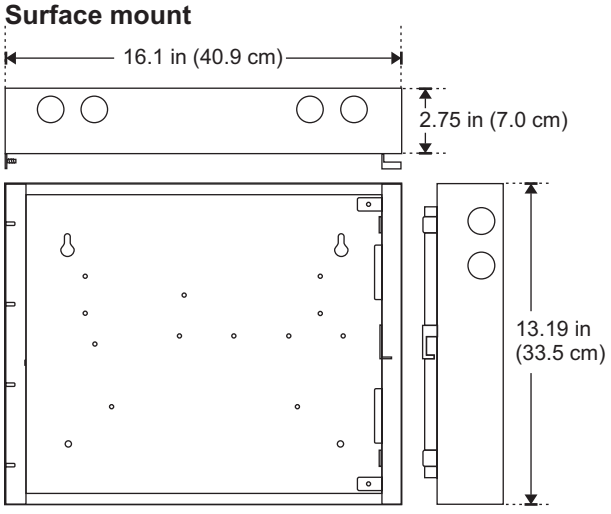
DIMENSIONS

6ANN/B(-S)

Semi-flush

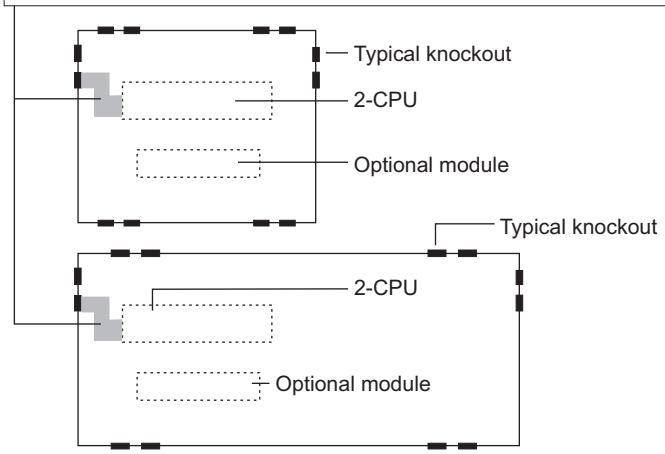


Surface mount

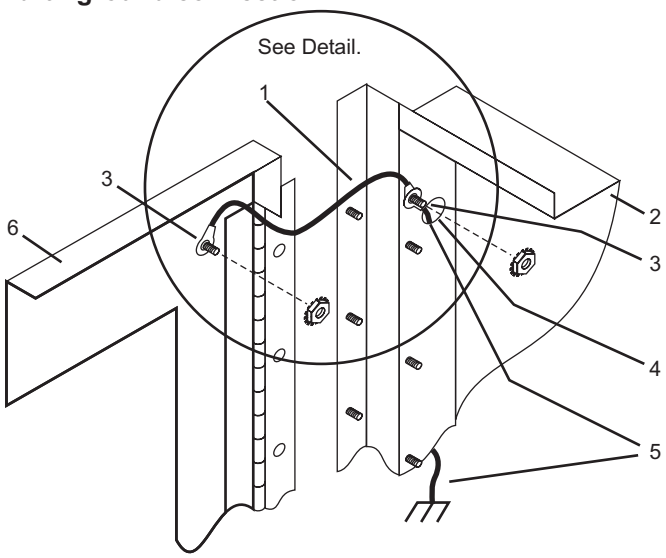


WIRE ROUTING

If a nonpower-limited source feeds the 2-CPU relay contacts, the wiring must remain within this area. All other wiring shall be power-limited.

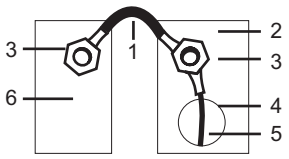


Earth ground connection



Detail

1 Ground Strap
2 Wallbox
3 Ground Lug
4 Typical Knockout
5 Earth Ground Wire
6 Outer Door



INSTALLATION SHEET:

6ANN/B(-S) and 10ANN/B(-S)
Remote Annunciator Cabinet Wallboxes

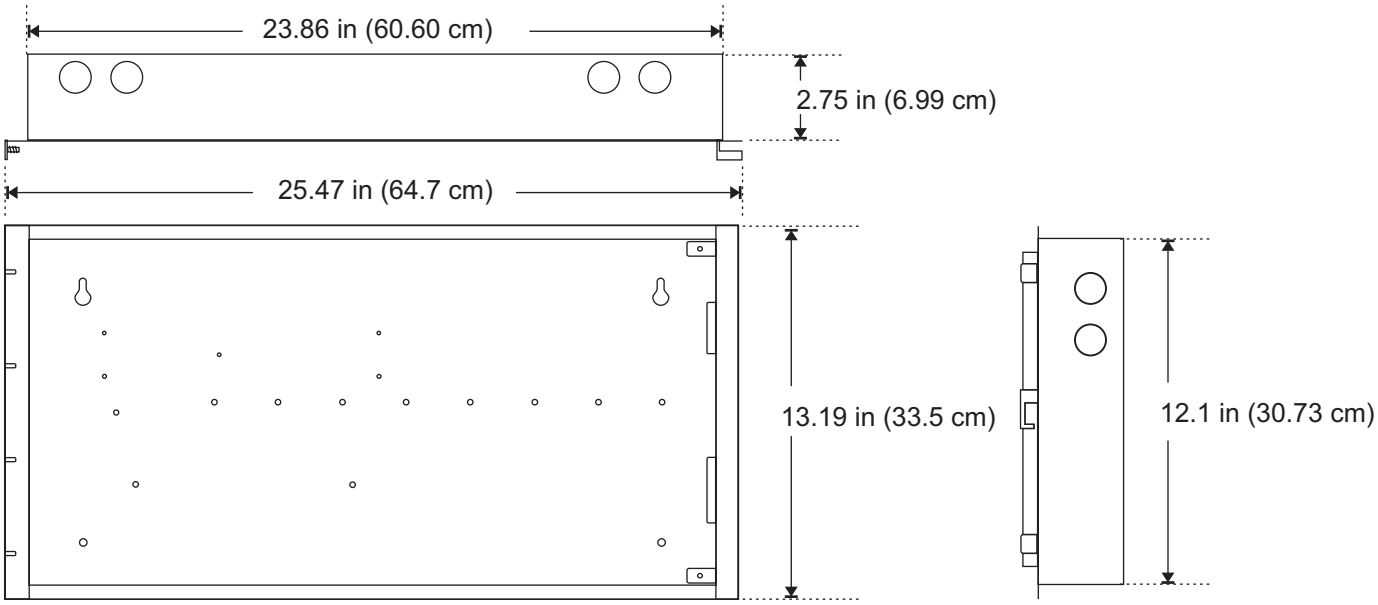
INSTALLATION SHEET P/N: 387586	FILE NAME: 387586.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Patterson
DATE: 07DEC99	CREATED BY: B. Graham

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

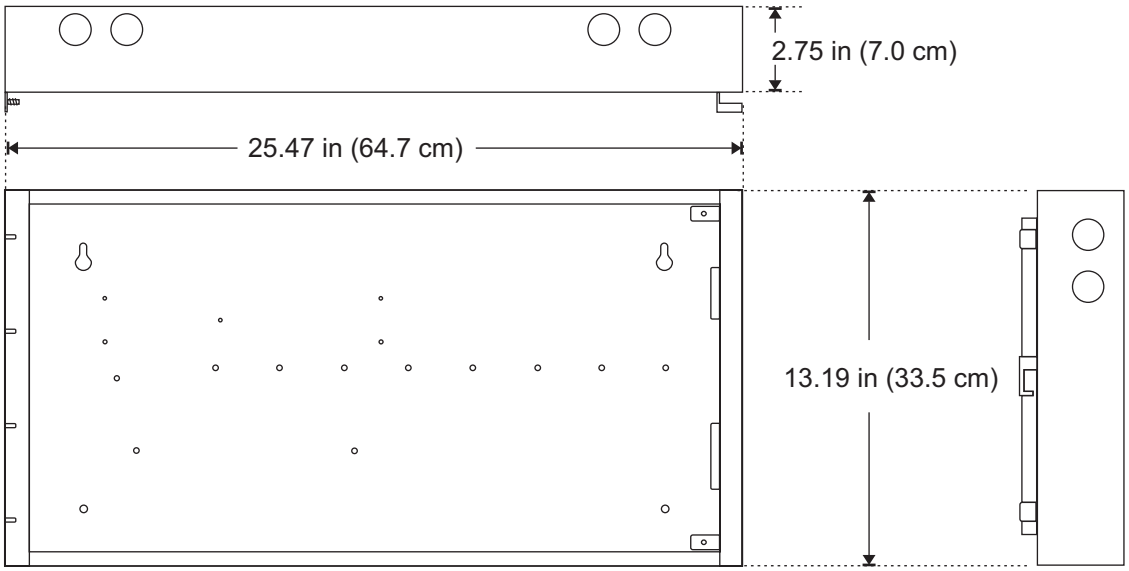
DIMENSIONS

10ANN/B(-S)

Semi-flush



Surface mount



All conduit knockouts support 3/4 inch (1.9 cm) conduit.

PRODUCT DESCRIPTION

The CDR-3 Coder is a microcomputer-based module that provides coded outputs in response to alarm conditions. The CDR-3 is used with systems that require either march time, temporal, or unique coded outputs for separate zones. The CDR-3 decodes alarm codes embedded in printer messages that it receives through its RS-232 input.

WARNINGS

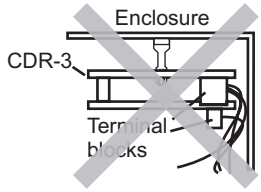
- This module will NOT operate without electrical power. As fires frequently cause power interruption, we suggest you discuss further safeguards with your local fire protection specialist.
- Disconnect power before installing or removing the module. Dangerous voltages may be present at terminals even when power is disconnected.

Caution!

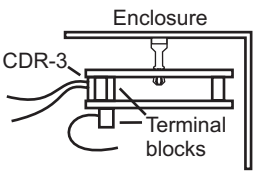
Observe static-sensitive material handling practices.

INSTALLATION INSTRUCTIONS

Note: Mount the CDR-3 so that its terminal blocks do not face the corner of the enclosure. Terminal blocks must face out for wiring to be installed and removed easily.



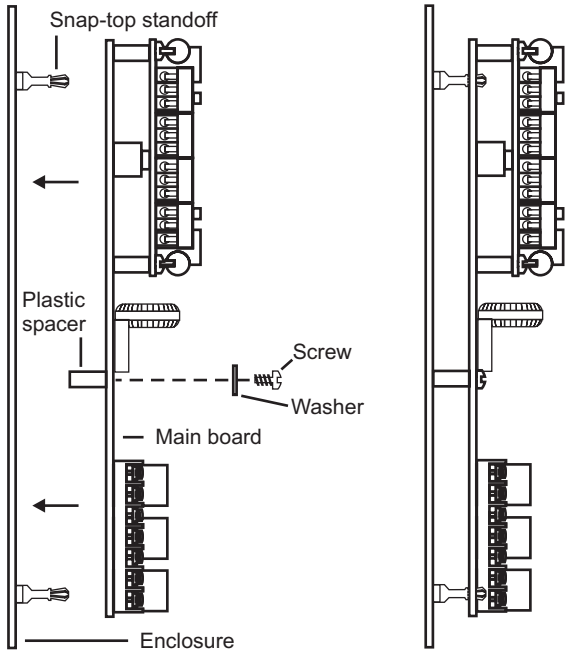
Wiring is difficult to install and remove.



Wiring is easy to install and remove.

To mount the CDR-3:

1. Secure the plastic spacers to back of the main board with the screws and washers provided.
2. Snap the main board onto the snap-top standoffs of any half footprint in the enclosure.



SPECIFICATIONS

Input voltage	24 Vdc
Standby current	60 mA
Alarm current	100 mA
Supervised tone outputs (isolated)	
Output impedance	1.2 kΩ
Output voltage	3.5 Vrms
EOL	10 kΩ
Tone outputs	
Temporal	March time (60 or 90 bpm) @ 1kHz, 10 Vrms
Coded	1 kHz @ 10 Vrms
Dry contact (coded output)	
Output rating	30 Vdc @ 4 A max (Pf .35), 25 Vrms @ 100 W max, 70 Vrms @ 100 W max
March-time	60 or 90 bpm
Normal coding range	4 rounds, 1-4 digits, 0-9 each
Extended digit range	3 rounds, 1-3 digits, 1 digit 0-15, 2 digits 0-9 each
PSNI Queue	50 most recent alarms
RS-232 Input baud rates	600, 1200, 2400, 4800
Installation	1/2 footprint mounting studs
Maximum wire size	14 AWG (1.5 mm^2)

NOTES

Printer connections

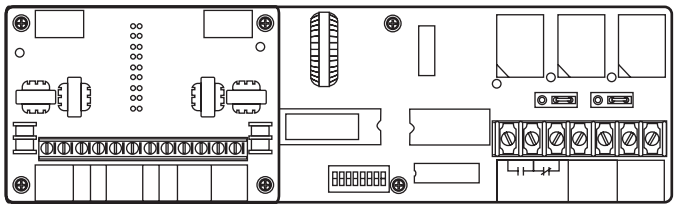
If a printer and a CDR-3 are connected to the system:

- Program both devices as enabled.
- Connect both devices in parallel or to separate ports (if available).
- Program the same baud rate for both devices when they share the same port.

Wire stripping

Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.



INSTALLATION SHEET

CDR-3 Bell Coder

INSTALLATION SHEET P/N: 3100023	FILE NAME: 3100023.CDR
REVISION LEVEL: 1.0	APPROVED BY: R. Wolf
DATE: 17APR00	CREATED BY: B. Graham

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

DIP SWITCH SETUP

Function	DIP Switch Position							
	1	2	3	4	5	6	7	8
Temporal Tone	On	On	On	[1]	[1]	[1]	[1]	[1]
March Tones								
Fast (90 beats per minute)	Off	[2]	[1]	[1]	[1]	[1]	[1]	[1]
Slow (60 beats per minute)	On	[2]	[1]	[1]	[1]	[1]	[1]	[1]
Code Operations								
Normal 4-digit code	[1]	[1]	[1]	Off	Off	[1]	[1]	[1]
Extended first digit (adds digits 1 and 2)	[1]	[1]	[1]	On	Off	[1]	[1]	[1]
Extended second digit (adds digits 2 and 3)	[1]	[1]	[1]	Off	On	[1]	[1]	[1]
Extended third digit (adds digits 3 and 4)	[1]	[1]	[1]	On	On	[1]	[1]	[1]
Baud Rates [3]								
600	[1]	[1]	[1]	[1]	[1]	[1]	Off	Off
1200	[1]	[1]	[1]	[1]	[1]	[1]	On	Off
2400 (default)	[1]	[1]	[1]	[1]	[1]	[1]	Off	On
4800	[1]	[1]	[1]	[1]	[1]	[1]	On	On
Systems								
CCS-1	[1]	[1]	[1]	[1]	[1]	On	[1]	[1]
All other systems	[1]	[1]	[1]	[1]	[1]	Off	[1]	[1]

[1] indicates that the DIP switch does not apply to the function.

[2] The On position configures the CDR-3 to generate march tones upon the receipt of an alarm signal. The Off position configures the CDR-3 to generate march tones upon power-up.

[3] Program the CDR-3 and the RS-232 to the same baud rate.

Mode of Operation	Input	Output	Code
Normal operation	1234	1234	Digit 1, Digit 2, Digit 3, Digit 4
Extended first digit	1234	0334	0, (Digit 1 + Digit 2), Digit 3, Digit 4
Extended second digit	1234	0154	0, Digit 1, (Digit 2 + Digit 3), Digit 4
Extended third digit	1234	0127	0, Digit 1, Digit 2, (Digit 3 + Digit 4)

Code Format

- For unique alarm codes, each digit can be any value between 0 and 9.
- For extended digits, the two added digits may be any values that, when added, equal the desired value.
- If the sum of two digits is greater than 15, use a value of 15.
- For a zero, insert a pause in the tone sequence.

INTERNAL WIRING

Connector	Name*	Function
TB1 connectors: main board (Figure 1)		
1-3	DURATION	Duration relay contacts
4, 5	TEMPORAL	March time code output contacts
6, 7	BELL CODE	Coded output contacts
TB1 connectors: daughter board (Figure 1)		
1, 2	TEMPORL TONE	March time or temporal tone output signal (10 kΩ EOL required)
3	EARTH GRND	Earth ground
4	24V	+ 24 Vdc power input
5, 6	COMMON	DC Common
7	RS232 INPUT	RS-232 input
8	PRINT SUPV	Printer supervision
9, 10	TRBL OUT	Module trouble relay (contacts close on trouble)
11, 12	CODED TONE	Coded tone output (10 kΩ EOL required)

*Names are listed here exactly as they appear on the board.

Terminal wiring types: main board

Wiring types	TB1 connectors
Power-limited*	1-7

Terminal wiring types: daughter board

Wiring types	TB1 connectors
Earth ground	3
Power-limited*	4, 5, 6, 9, 10
Supervised, power-limited	1, 2, 7, 8, 11, 12

*Use power-limited wiring if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.

JUMPER SETUP

The CDR-3 provides two relay jumpers: JP1 and JP2. JP1 sets Bell Code relay contacts to either normally open (NO) or normally closed (NC). JP2 sets the Temporal relay contacts to either NO or NC. See Figure 1 for the locations of JP1 and JP2.

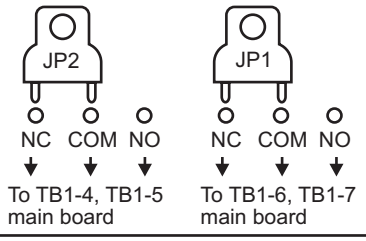
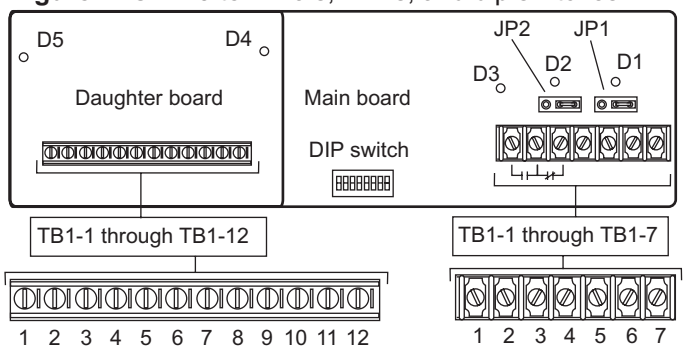


Figure 1: CDR-3 terminals, LEDs, and dip switches

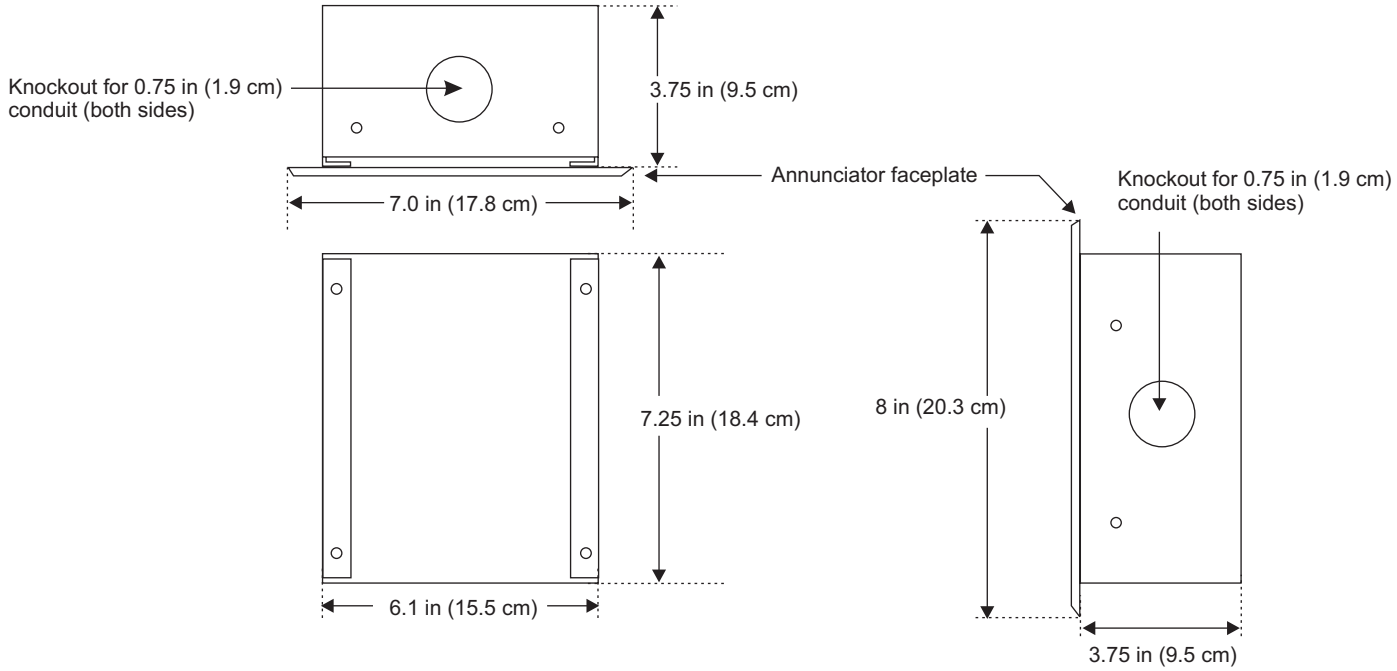


LEDs

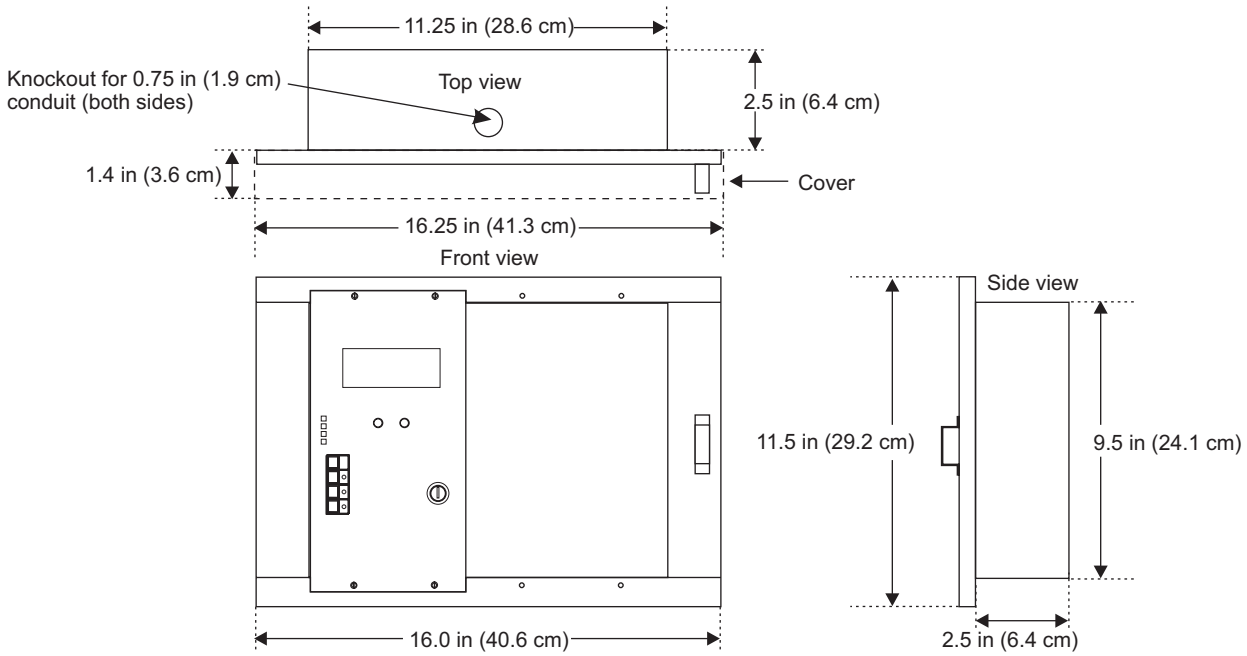
LED	Color	Status
D1	Red	Bell code relay active
D2	Red	Temporal relay active
D3	Red	Duration relay active
D4	Yellow	Module trouble
D5	Green	Power on

DIMENSIONS

Surface mount backbox



Four module enclosure



RELATED PARTS

Designator	Description
Surface Mount Backbox	CMDN housing
SAN-4	Four module enclosure
SAN-8	Eight module enclosure
RSAN-6	Six module mounting frame
BP-A	SAN blank panel

INSTALLATION SHEET:

CMDN, SMDN
2-CMDN(-C), 2-SMDN(-C)
Enclosure Installation

INSTALLATION SHEET P/N: 270650	FILE NAME: 270650.CDR
REVISION LEVEL: 2.0	APPROVED BY: K. Patterson
DATE: 30MAR00	CREATED BY: B. Graham

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CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
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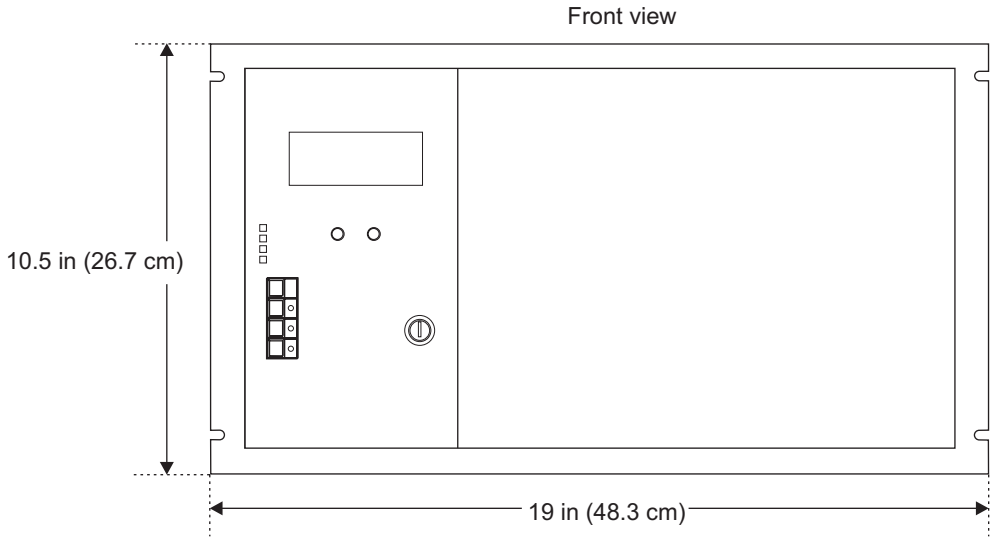
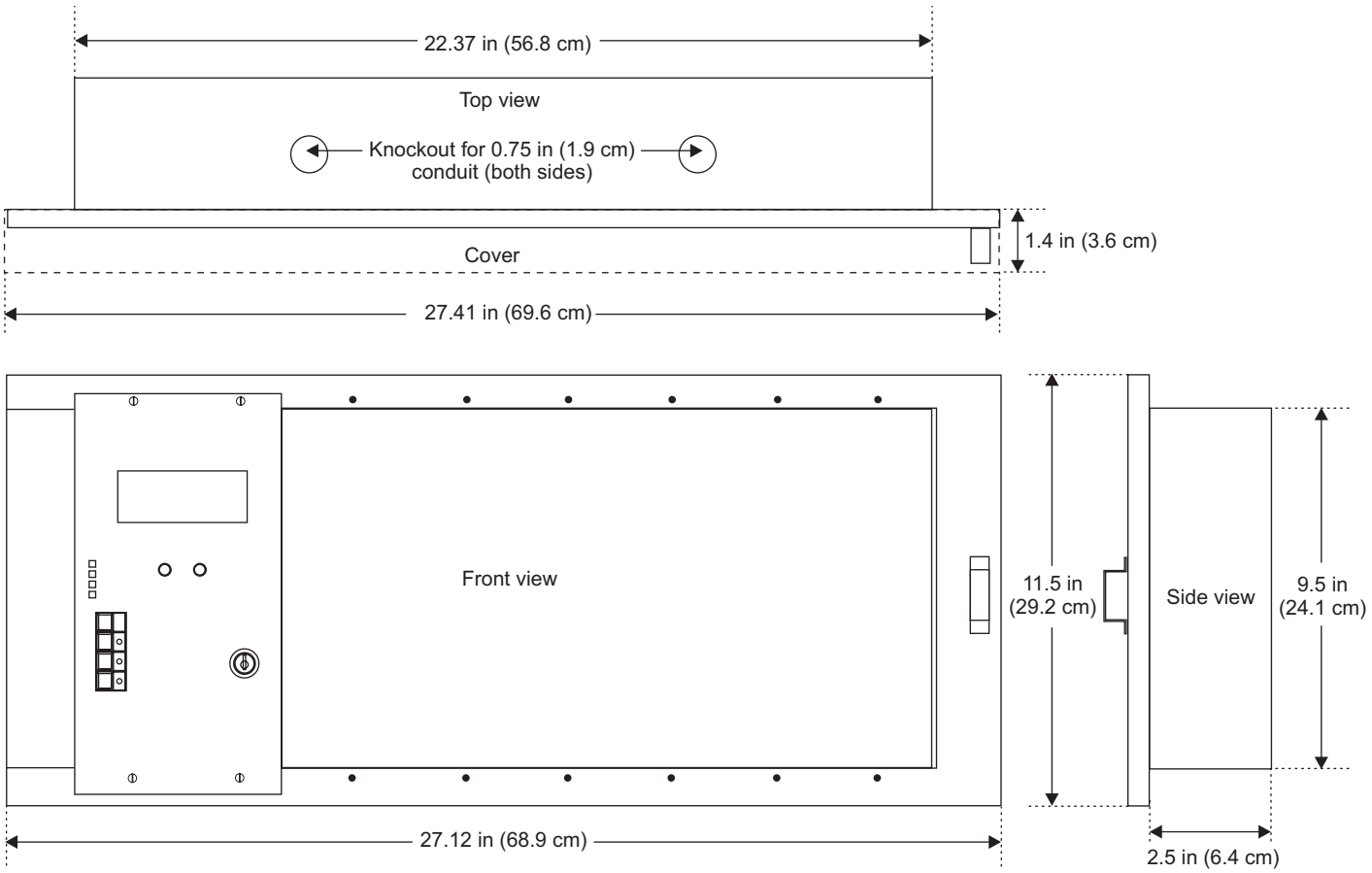
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

DIMENSIONS

Six module mounting frame



Eight module enclosure



PRODUCT DESCRIPTION

The DL2 is a dialer module, which contains a Digital Alarm Communicator Transmitter (DACT). The dialer sends alarm, supervisory, and trouble information to a compatible Digital Alarm Communicator Receiver (DACR) through one or two dial-up telephone lines (two per NFPA 72). The dialer supports 20 PPS 4/2 format and Dual Tone Multi-Frequency (DTMF) or Pulse mode dialing. Every 24 hours, the dialer performs an automatic test call to verify communications between the fire alarm panel and the Central Monitoring Station (CMS).

INSTALLATION

Warning!

Disconnect external ac power and battery power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Carefully match mounting holes up with spacers to ensure proper connector mating.

Observe static-sensitive material handling practices.

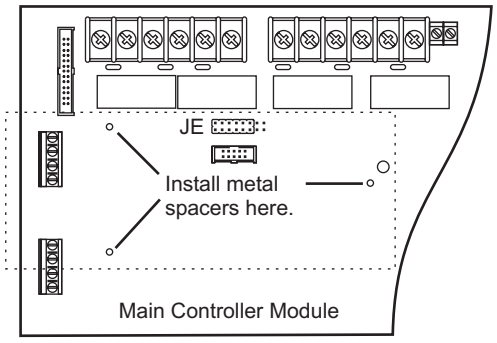
Mounting the DL2

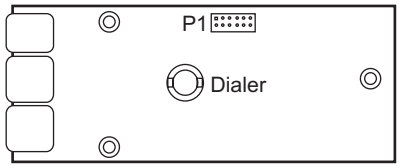
1 Install three metal spacers (P/N 362329) with the screws provided in the three locations indicated below.

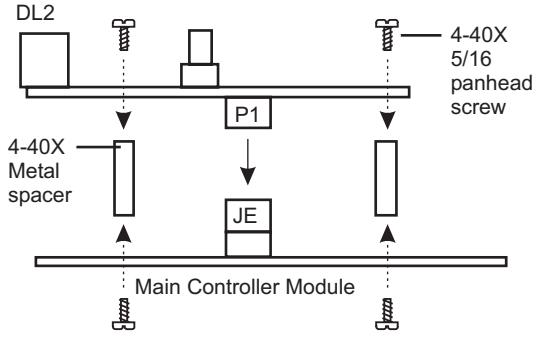
2 Mount the DL2 on the three metal spacers.

3 Mate connector P1 on the DL2 with connector JE on the Main Controller Module.

4 Secure the DL2 to the spacers with the screws provided.







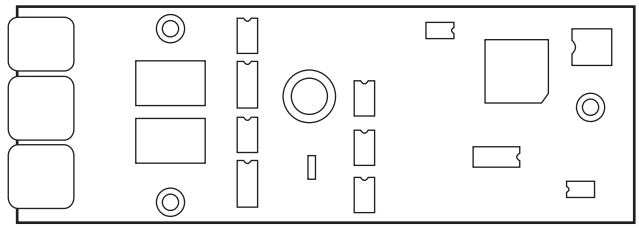
SPECIFICATIONS

Input power	
Supervisory	10 mA
Active	20 mA
Mounting	Mounts on the Main Controller Module
Phone line	One/two loop start lines on public switched telephone network, pulse or DTMF dialing. Party, ground start, and PBX start lines are not acceptable. NFPA 72 requires two phone lines.
Wall connector	Standard RJ31X or RJ38X phone jack
Line supervision	Trouble when line voltage less than 10 V and line current less than 5 mA.
Communications protocol	SIA pulse format 20 PPS 4/2 double round, 1400 Hz handshake, 1900 Hz carrier
CMS telephone numbers	Two 24-digit numbers
FCC registration number	4Z2USA-22549-AL-E
Dialing retries	five to ten
Clock accuracy	Within one hour/year
Compliance	Communications Canada, CS-03; FCC/CFR 47 parts 15 and 68; NFPA 72; UL 864; ULC S527-M87
Programming phone	Any tone dial phone with an RJ11 plug
Environmental conditions	
Temperature range	32 to 120 °F (0 to 49 °C)
Humidity range	0 to 93%, non-condensing

Dialer codes

Event	Code
Fire alarm report codes	01-32
Fire alarm restore codes	41-72
Normal 24 hr check-in	90
Abnormal 24 hr check-in	91
Supervisory alarm	92
Trouble	93
Trouble / supervisory restore	94
AC power fail	96
Battery trouble	97
Telephone line trouble	98
Dialer disabled	99

PRODUCT DIAGRAM



INSTALLATION SHEET:

DL2 Dialer Module
Digital Alarm Communicator Transmitter

INSTALLATION SHEET P/N: 387132	FILE NAME: 387132.CDR
REVISION LEVEL: 4.0	APPROVED BY: M. Slack
DATE: 24AUG00	CREATED BY: B. Graham

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SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
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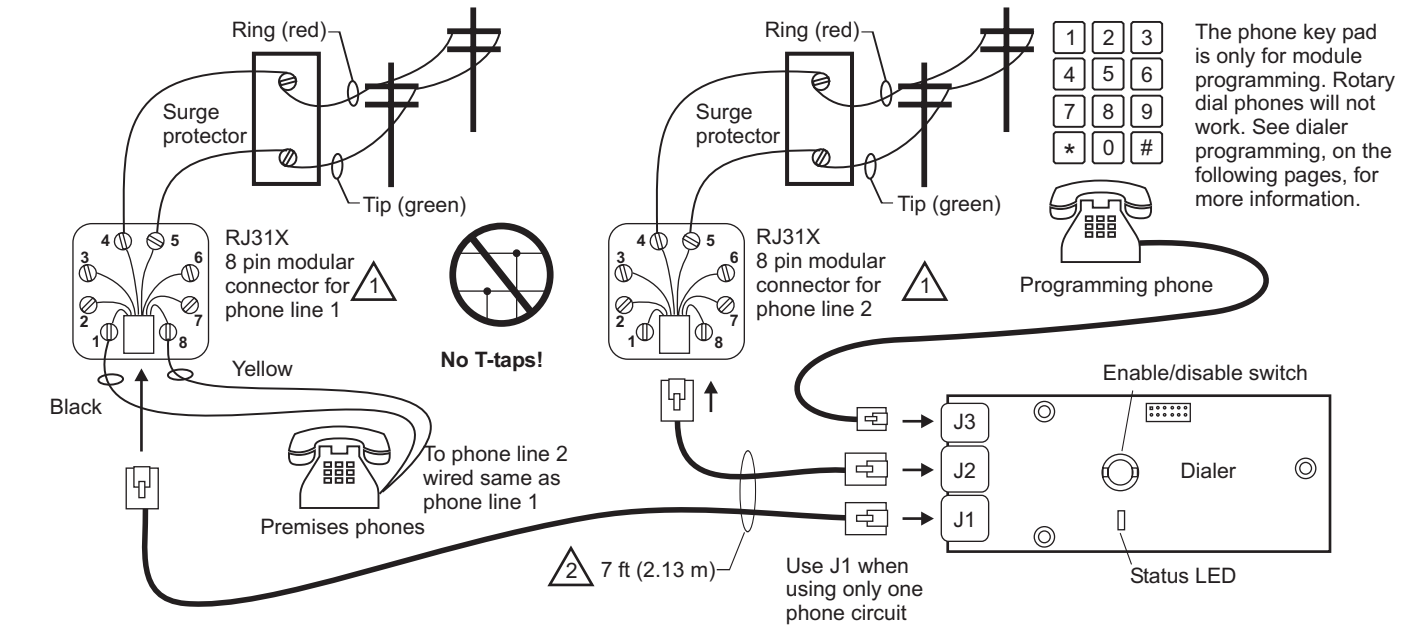
WIRING

Notes

1. Connect J1 and J2 to RJ31X or RJ38X telephone jacks installed by an authorized telephone company representative (CA31A or CA38A in Canada).
2. Install the RJ31X (RJ38X) jacks within 5 ft (1.5 m) of the control panel and allow two extra feet of cable for a total of 7 ft (2.13 m).
3. The dialer installation kit includes a protective bushing (P/N 362316) for enclosure knockouts.
4. Before programming can proceed, the dialer will notify the central monitoring station (CMS) for any previously entered numbers.



IMPORTANT INFORMATION

FCC information

1. The dialer complies with Part 68 of the FCC rules. The Dialer's FCC registration number and Ringer Equivalence Number (REN) are on the back of the dialer. This information must be provided to the telephone company if requested.
2. An FCC compliant telephone cord and modular plug cord is supplied with the dialer. The dialer is designed to be connected to the telephone network using the supplied cord and an RJ31X or RJ38X jack, which must also comply with FCC Part 68 rules.
3. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5). To be certain of the number of devices that may be connected to a line as determined by the total RENs, contact the local telephone company.
4. If the dialer causes harm to the telephone network, the telephone company will notify you an advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify you as soon as possible. You will also be advised of your right to file a complaint with the FCC, if you believe it is necessary.
5. The telephone company may make changes in it's facilities, equipment, operations, or procedures that could affect the operation of the dialer. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.
6. If trouble is experienced with the dialer, for repair or warranty information, contact GS Building Systems Corp. 6411 Parkland Drive, Sarasota, Florida USA 34243. If the dialer is causing harm to the telephone network, the telephone company may request you disconnect the dialer until the problem is resolved.
7. No repairs may be performed on the dialer by the user.
8. The dialer can not be used on public coin phones or party line service provided by the telephone company.

Canada DOC information

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Notice: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device to prevent overloading. The temination on a loop may consist of any combination of devices subject only to the requirements that the sum of the Load Numbers of all devices does not exceed 100.

DIALER PROGRAMMING

Notes

1 A confirmation tone indicates the correct entry of a program item.

2 Phone lines must be loop start on a public-switched network. PBX, party lines, and ground start lines are not acceptable.

3 The dialer does not place calls, monitor the panel, or monitor the phone lines during the programming process.

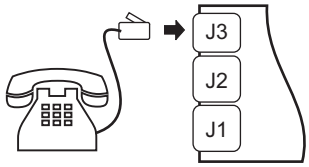
4 After initial programming, the dialer notifies the central monitoring station that it is disabled before programming can proceed.

5 Two phone lines are required to comply with NFPA 72.

6 The dialer will automatically switch to pulse dialing after three consecutive failures using tone mode. It will switch back to tone dialing after failing to connect using pulse mode, upon re-programming, or upon enabling disconnect switch.

Entering the programming mode

1 Connect the phone to J3.



2 Take the handset off the hook.

3 The status LED will display two rapid green flashes, and then turn solid green.

Entering the password

1 When the Status LED turns solid green, press 4727 (GSBS) on the telephone keypad.

2 Listen for the confirmation tone to verify that the dialer has accepted the password.

3 Before programming can proceed, the dialer will notify the CMS for any previously entered numbers. The status LED will display a slow green flash during the dialing process.

4 The status LED will display a steady green LED to indicate that the dialer is ready for programming.

Entering the dialer data

Note: Enter the required information for all 8 programming items in sequence.

Programming the primary site ID number (item 01)

1 Press the following telephone keys:
*
0
1

2 Listen for the confirmation tone to verify that you entered 01.

3 Make sure that the status LED displays a steady green pattern interrupted by amber flashes.

4 Enter the 4-digit ID number on the telephone keypad. Use leading zeroes as required.

Programming the primary CMS number (item 02)

1 Press the following telephone keys:
*
0
2

2 Listen for the confirmation tone to verify that you entered 02.

3 Make sure that the status LED displays a steady red pattern interrupted by amber flashes.

4 Enter a 7 to 24-digit number on the telephone keypad to specify the primary CMS number.

Programming the secondary site ID number (item 03)

1 Press the following telephone keys:
*
0
3

2 Listen for the confirmation tone to verify that you entered 03.

3 Make sure that the status LED displays a steady green pattern interrupted by double amber flashes.

4 Enter the 4-digit ID number on the telephone keypad. Use leading zeroes as required.

Programming the secondary CMS number (item 04)

1 Press the following telephone keys:
*
0
4

2 Listen for the confirmation tone to verify that you entered 04.

3 Make sure that the status LED displays a steady red pattern interrupted by double amber flashes.

4 Enter a 7 to 24-digit number on the telephone keypad to specify the secondary CMS number.

- Continued -

Programming 1 or 2 line operation (item 05)

1 Press the following telephone keys:
*
0
5

2 Listen for the confirmation tone to verify that you entered 05.

3 Make sure that the status LED displays a steady green pattern interrupted by rapid amber flashes.

4 Enter 01 or 02 on the telephone keypad. The default setting is 2.

Programming the number of CMS retry calls (item 06)

1 Press the following telephone keys:
*
0
6

2 Listen for the confirmation tone to verify that you entered 06.

3 Make sure that the status LED displays rapid green flashes.

4 Enter 05, 06, 07, 08, 09, or 00 on the telephone keypad. The default is 00 (10).

Programming the retry interval (item 07)

1 Press the following telephone keys:
*
0
7

2 Listen for the confirmation tone to verify that you entered 07.

3 Make sure that the status LED displays double green flashes.

4 Enter 0, 30, or 60 on the telephone keypad to specify the number of seconds. The default is 0.

Programming the daily supervision delay (item 08)

1 Press the following telephone keys:
*
0
8

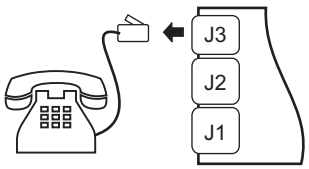
2 Listen for the confirmation tone to verify that you entered 08.

3 Make sure that the status LED displays a slow amber flash.

4 Enter a 2-digit number on the telephone keypad to specify the delay period (in hours). The default is 12.

Exiting the programming mode

1 Disconnect the phone from J3.



2 Put the handset on the hook.

Status LED indications during dialer operations

Color	Pattern	Description
Green	Rapid flash	Waiting for password entry
Green	Single flashes	Call to CMS in progress
Amber	Single flashes	Dialer in trouble
Amber	Double flashes	Dialer disabled

Restoring default values

1 Enter the password according to the preceding instructions on this installation sheet.

2 Press the following telephone keys:
*
0
0

3 Make sure that the status LED displays a steady green pattern.

The dialer resets to its default values and returns it to item 01 of the programming mode.

Verifying programmed entries

1 Enter the password according to the preceding instructions on this installation sheet.

2 Press the following telephone keys:
*
0
Programming item number
#

3 Listen for the confirmation tone to verify that it sounds the contents of the selected item through the handset.

Testing the dialer

1 Activate and open an SDC and an NAC to verify that the CMS receives the proper signal.

2 Verify that failure of the primary signal path results in the transmission of a trouble signal through the secondary signal path within 4 minutes.

3 Verify that failure of the secondary signal path results in the transmission of a trouble signal through the primary signal path within 4 minutes.

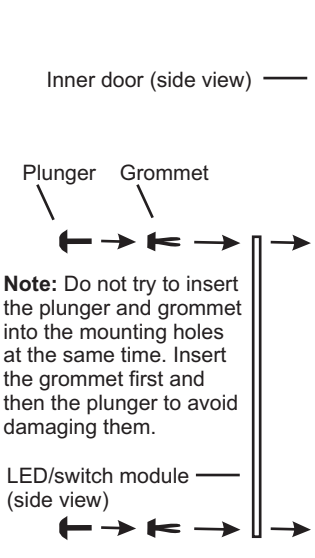
Notes

The primary signal path is along the phone line connected to J1.

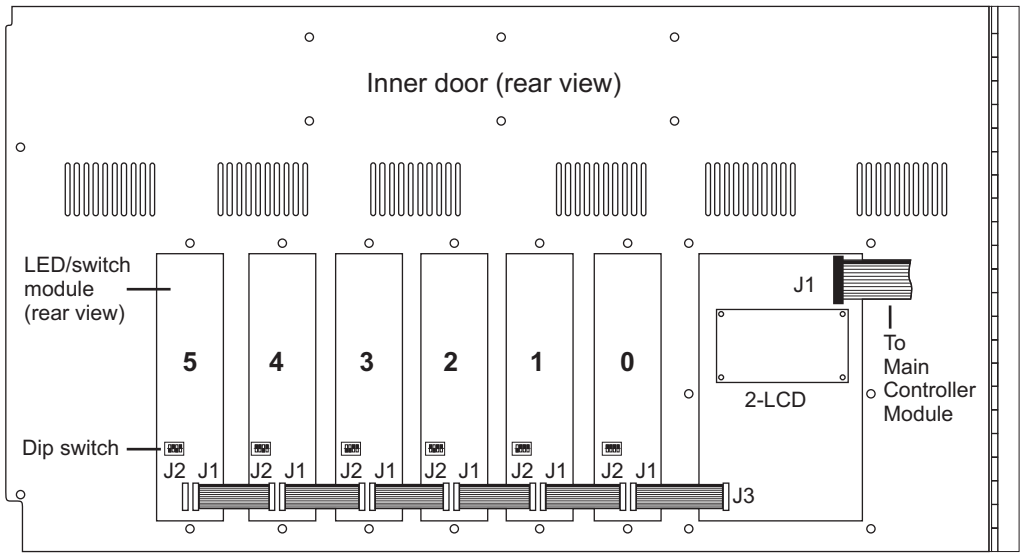
The secondary signal path is along the phone line connected to J2.

INSTALLATION

1 Mount the LED/switch modules.



Note: Do not try to insert the plunger and grommet into the mounting holes at the same time. Insert the grommet first and then the plunger to avoid damaging them.



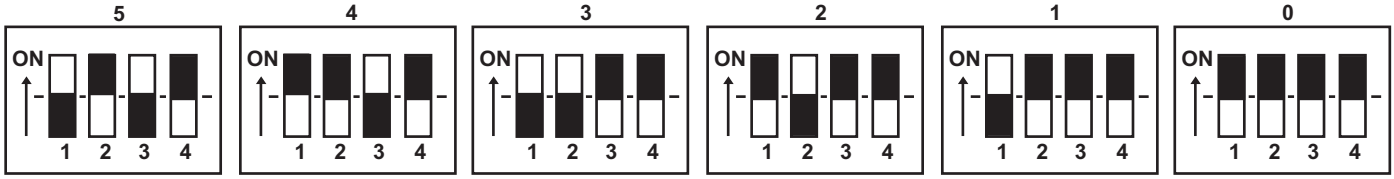
2 Connect the LED/Switch Module ribbon cables

1. Connect the ribbon cable from J3 on the 2-LCD to J1 on the first module.
2. Connect the ribbon cable from J2 on the first module to the J1 on the second module.
3. Repeat step 2 until you reach the last module.

Note: White indicates the correct dipswitch position.

3 Set the dip switches on the LED/switch modules.

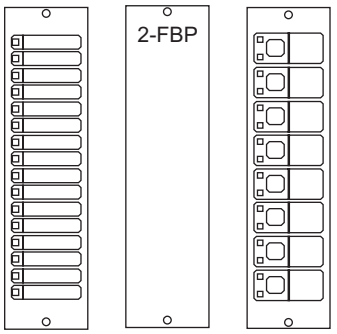
Dip switch setting	LED addresses	Switch addresses
0	01-16	01-08
1	17-32	09-16
2	33-48	16-24
3	49-64	25-32
4	65-80	33-40
5	81-96	41-48



PRODUCT DESCRIPTION

The front panel LED/switch modules consist of 16 individual LEDs for point annunciation. The LED/switch modules provide eight groups of two LEDs combined with a switch. See the specifications for available LED color options. The protected slip-in label next to each LED/switch identifies its function. Communication with the Main Controller Module requires no point to point wiring, because it is multiplexed using plug-in ribbon cables. Any combination of three annunciator and switch modules may be mounted on the panel's inner door. Blank Plates (model 2-FBP) fill unused inner door spaces.

Models
2-12R4Y
2-16G
2-16R
2-16Y
2-8RY



Models
2-16G8S
2-16R8S
2-16Y8S
2-8GYS
2-8RYS

SPECIFICATIONS

LED/switch options

Model	Description
2-12R4Y	12 red LEDs over 4 yellow LEDs
2-16G	16 green LEDs
2-16G8S	16 green LEDs and 8 switches
2-16R	16 red LEDs
2-16R8S	16 red LEDs and 8 switches
2-16Y	16 yellow LEDs
2-16Y8S	16 yellow LEDs and 8 switches
2-8RY	8 red LEDs over 8 yellow LEDs
2-8RYS	8 red / 8 yellow alternating LED/switch pairs
2-8GYS	8 green / 8 yellow alternating LED/switch pairs

Blank plate option	2-FBP
Switches	Momentary push button
Temperature range	32 to 120 °F (0 to 49 °C)
Humidity range	0 to 93%, non-condensing

INSTALLATION SHEET:

Front Panel LED(/Switch) Modules

INSTALLATION SHEET P/N: 270214	FILE NAME: 270214.CDR
REVISION LEVEL: 4.0	APPROVED BY: J. Massing
DATE: 21JUN00	CREATED BY: B. Graham
Related documentation: 2-LCD installation sheet	

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CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
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INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

PRODUCT INFORMATION

The IOP3A isolator card is designed to electrically isolate a fire alarm control panel's RS-232 ports from peripheral devices. The IOP3A provides two isolated RS232 connections, as well as a DB9 and RJ12 connector for downloading. A select mode allows both a printer and modem to be connected when used on EST2 systems.

The IOP3A should be used in ALL applications which require the connection of external devices (CCA, CGP, VDU, and external modems) to properly isolate the fire alarm control panel from earth ground connections.

INSTALLATION

The IOP3A module requires 1/2 standard module footprint.

FIELD WIRING:

To Control Module:

TB1-1	(+) 24VDC
TB1-2	(-) 24VDC
TB1-3	Port Selection/Supervision
TB1-4	Common
TB1-5	RXD IN
TB1-6	TXD OUT

To Peripheral Device:

TB2/3-1	Supervision / (+) 12VDC
TB2/3-2	Common
TB2/3-3	TXD OUT
TB2/3-4	RXD IN

Notes:

1. When in RDU mode, TB2 must be used for the modem and TB3 must be used for a printer.
2. All RS-232 connections should be within the same room or within 50 feet of the fire panel they are connected to.

SWITCH SETUP

SW1	UP	Outputs 1 and 2 enabled. RJ12 and DB9 connectors disabled.
	DOWN	Download setting. RJ12 and DB9 connectors enabled. Outputs 1 and 2 disabled.

Note diagram below for UP and DOWN switch positions.

SPECIFICATIONS

Current Requirement	60mA

JUMPER SETUP

JB1	1-2	Select Mode
	2-3	Supervision Mode
JB2	IN	Output #1 supervision disable / (+) 12VDC on TB2-1
	OUT	Output #1 supervision enable (TB2)
JB3	IN	Output #2 supervision disable / (+) 12VDC on TB3-1
	OUT	Output #2 supervision enable (TB3)
JB4	IN	Supervision Mode
	OUT	Select Mode

NOTE: JB1 and JB4 settings must agree.

IRC-3 Printer Mode:

JB1	2-3	IN
JB2		IN
JB3		IN
JB4		IN

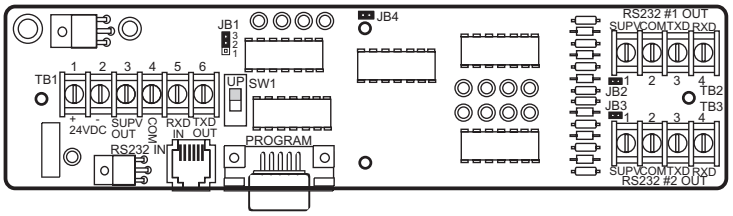
FireWorks Mode:

JB1	2-3	IN
JB2		IN
JB3		IN
JB4		IN
P1 on 2-MCM		OUT

RDU Mode:

JB1	1-2	IN
JB2		OUT
JB3		OUT
JB4		OUT
P1 on 2-MCM		IN

IOP3A



INSTALLATION SHEET:

IOP3A
Isolator RS-232 Card

INSTALLATION SHEET P/N: 270758	FILE NAME: 270758.CDR
REVISION LEVEL: 1.0	APPROVED BY: D.P.
DATE: 10/04/99	CREATED BY: DRM

A UNIT OF GENERAL SIGNAL

GS BUILDING SYSTEMS CORPORATION

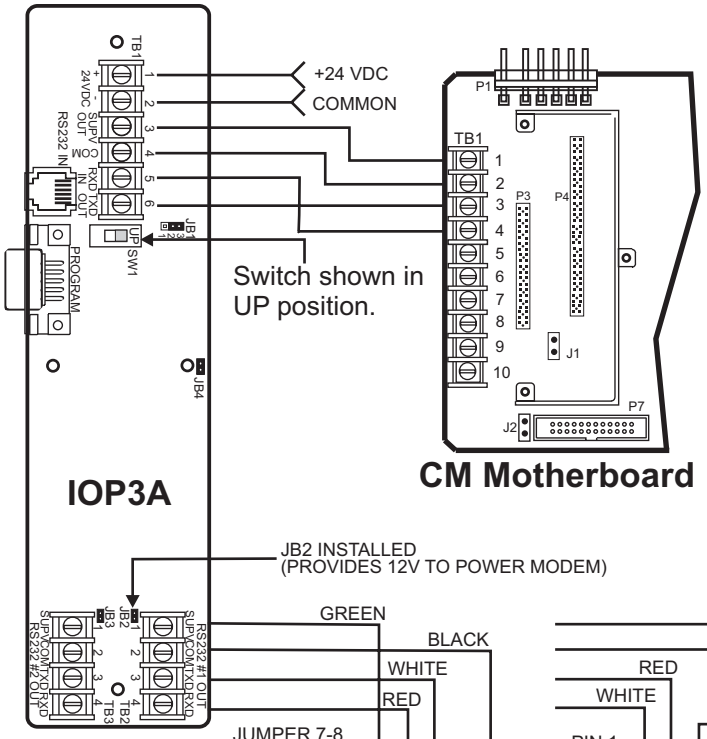
GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243
USA

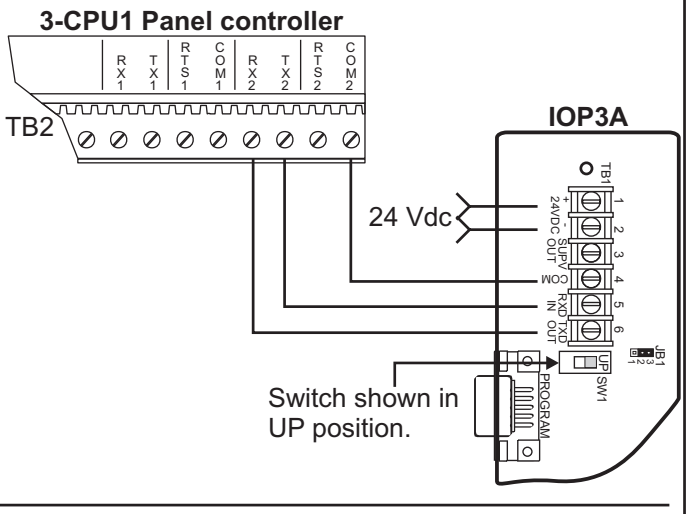
625 6th Street East
Owen Sound, Ontario
Canada N4K 5P8

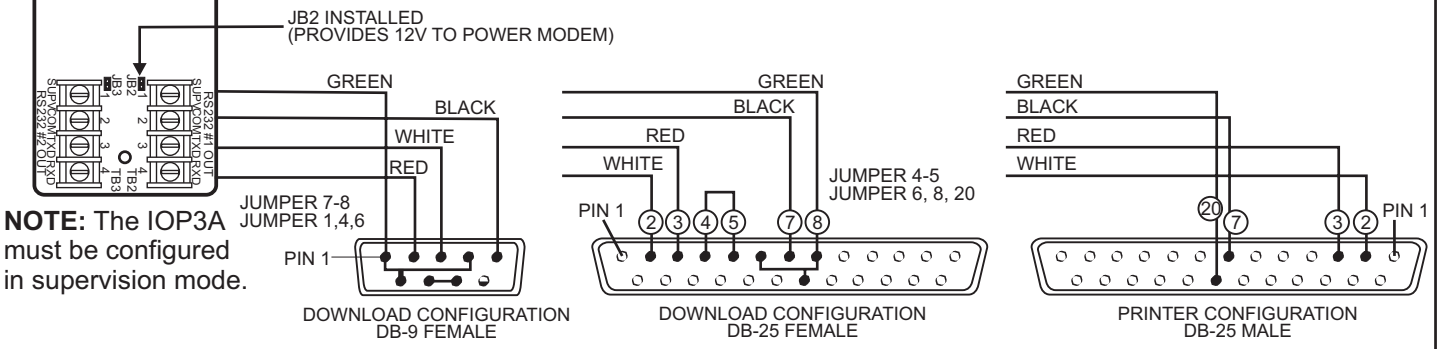
APPLICATION DRAWINGS

IOP3A to CM motherboard wiring



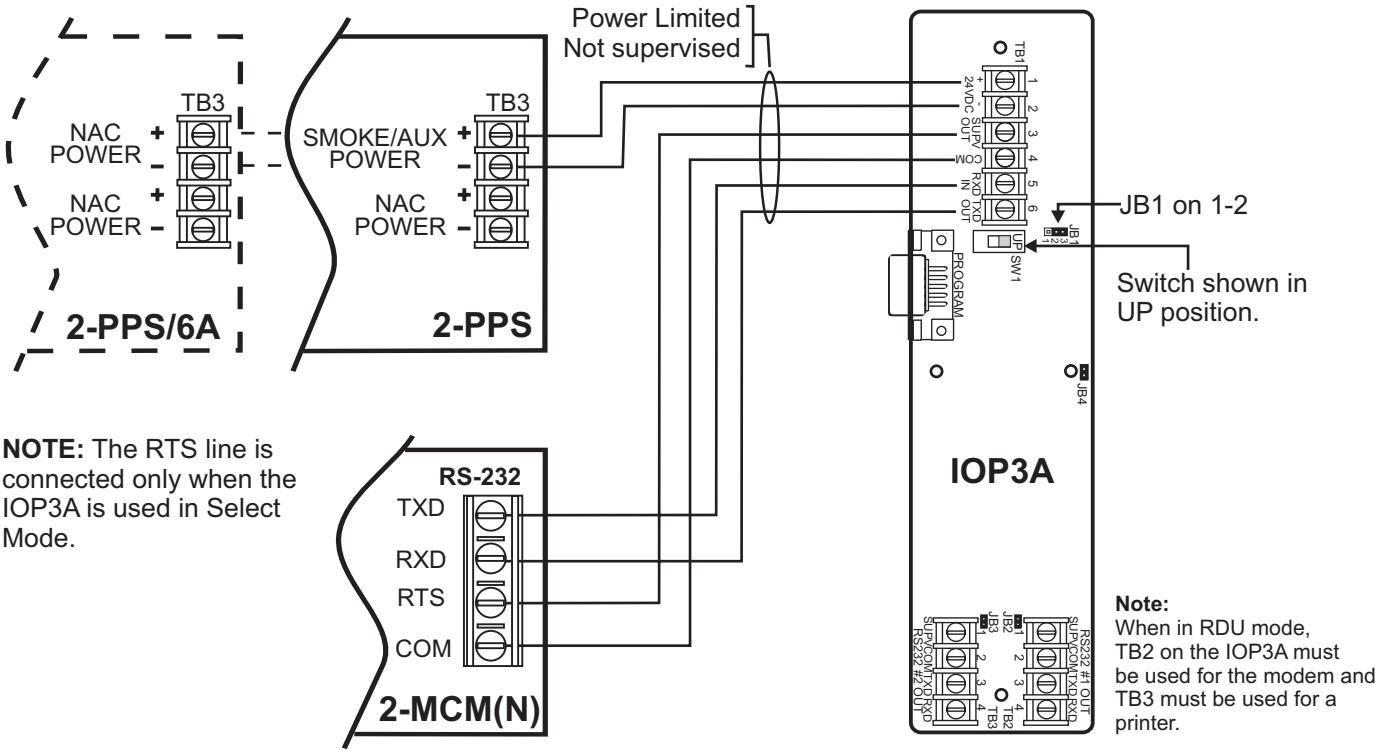
IOP3A to 3-CPU1 wiring





NOTE: The IOP3A must be configured in supervision mode.

IOP3A to 2-MCM(N) wirng



NOTE: The RTS line is connected only when the IOP3A is used in Select Mode.

Note:
When in RDU mode, TB2 on the IOP3A must be used for the modem and TB3 must be used for a printer.

PRODUCT DESCRIPTION

The ISP96 series multiplexed annunciator/switch panels consist of 48 LED/switch groups and a metal face plate that mounts to a 19-inch rack. Each LED/switch group contains one switch and two LEDs. All LEDs and switches are independently programmed and controlled.

The ISP96-2 LED/switch groups provide a two-position toggle switch for every two LEDs. The up position generates an active (off-normal) condition. The down position is the normal state. Each LED requires one output address. Each switch requires one input address.

The ISP96-3 LED/switch groups provide a three-position toggle switch for every two LEDs. The up and down positions will generate one of two active (off-normal) conditions. The center position is the normal state.

Each ISP96 series panel interfaces with the rest of the system through a dedicated SAN-CPU. It may use RS-485, 20 mA, or Fiber optic communication formats. The ISP96 panels are also fully compatible with regenerative networks that use RS-485 lines.

APPLICATIONS

ISP96 series panels provide a generic LED/switch matrix for operator interface with the system. The panels may be used for life safety functions, which require control and annunciation. Such functions include, but are not limited to:

- HVAC control
- Firefighter telephone circuits
- Audio evacuation and paging systems

In HVAC applications, the switches function as HOA (hand-off automatic) controls that override automatic control of the system. HVAC controls include fans and dampers. The LEDs indicate the status of the fans and dampers, which use monitored limit switches and run/stop contacts.

In firefighter telephone applications, the switches select incoming calls. One LED will light to indicate that a circuit is calling in. The other LED will light to indicate the circuit has been connected to the master handset.

In audio evacuation and paging systems, the switches allow the operator to control paging and silencing circuits. The LEDs indicate the silenced or active status of the speaker circuit.

SPECIFICATIONS

Voltage	24 Vdc
Standby current	60 mA
Current per active LED	6 mA, 268 mA total draw
Fully loaded current	680 mA
Temperature range	32 to 120 °F (0 to 49 °C)
Humidity	85 % non-condensing
Dimensions	
Height	5.25 in (13.3 cm)
Width	19 in (48.3 cm)
Depth	2 in (5 cm)

Warning!

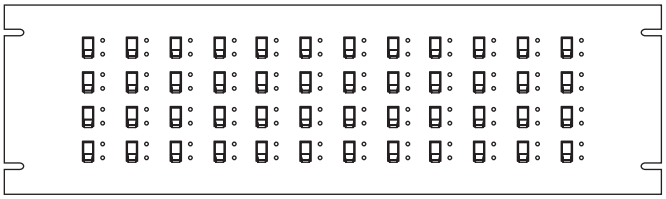
Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

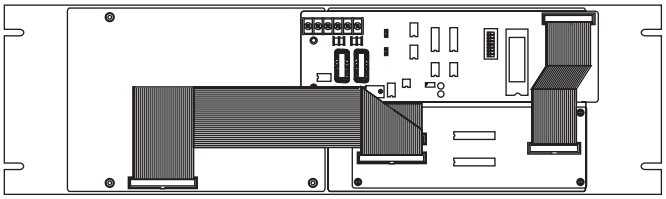
Observe static-sensitive material handling practices.

PRODUCT DIAGRAM

Front view



Rear view



INSTALLATION SHEET

ISP96-2/ISP96-3 Annunciator/Switch Panel

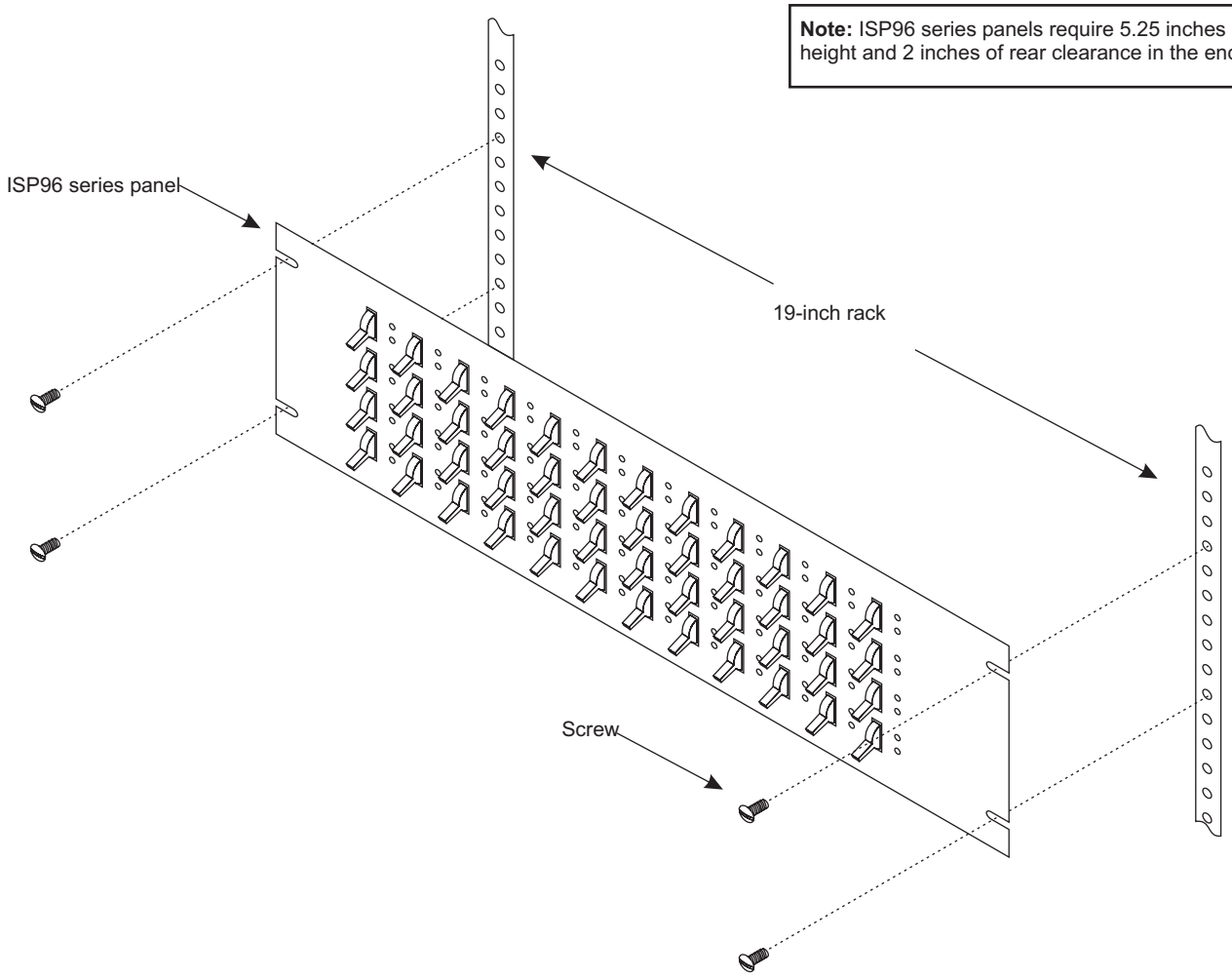
INSTALLATION SHEET P/N: 3100029	FILE NAME: 3100029.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Johnson
DATE: 22AUG00	CREATED BY: B. Graham

Related documentation: SAN-CPU installation sheet

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

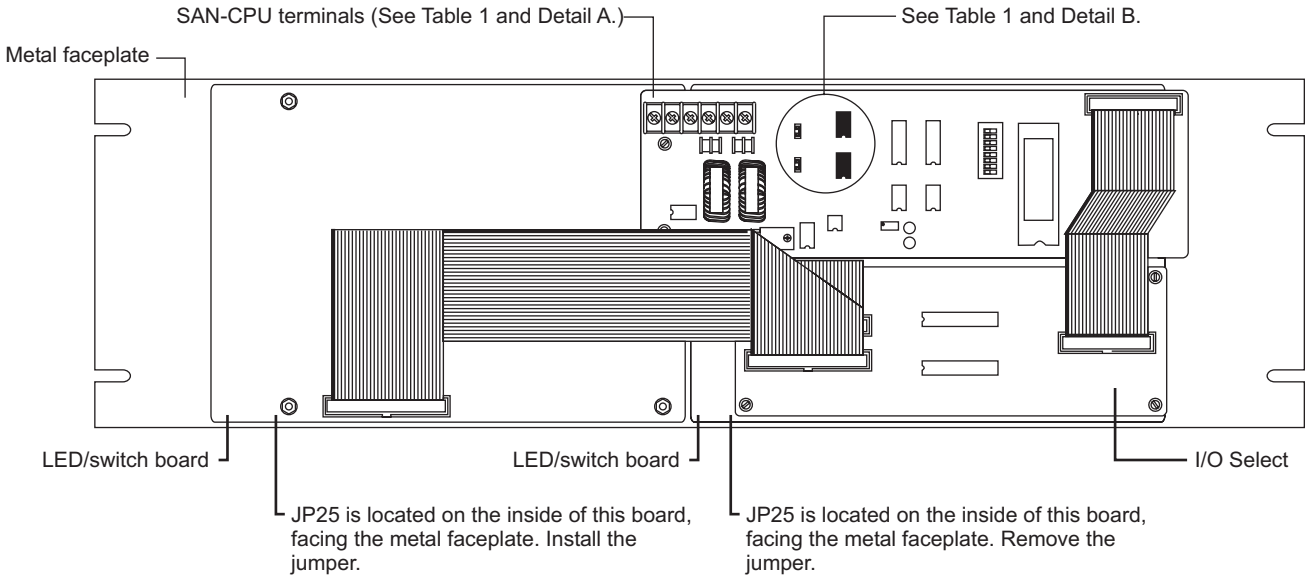
INSTALLATION INSTRUCTIONS

Note: ISP96 series panels require 5.25 inches of vertical height and 2 inches of rear clearance in the enclosure.



FIELD WIRING

ISP-96 (rear view)



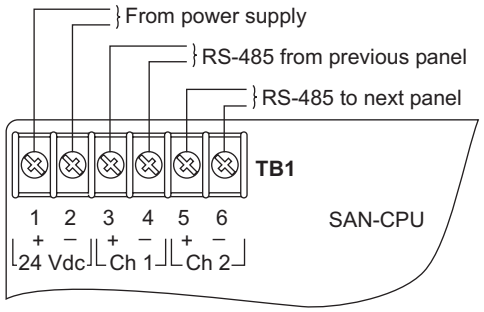
FIELD WIRING

Table 1: ISP-96 data line wiring (SAN-CPU terminals)

TB1-1 +24 Vdc
TB1-2 24 Vdc common

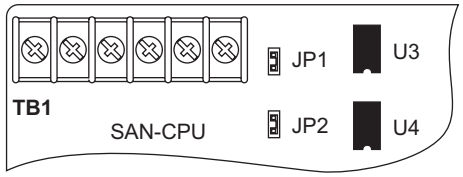
Format	Class B (Style 4)	Class A (Style 7)	Notes
RS-485	TB1-3 + RS-485 TB1-4 - RS-485	TB1-3 + RS-485 TB1-4 - RS-485 TB1-5 + RS-485 TB1-6 - RS-485	Install JP1/JP2 if the SAN-CPU is the last device on the RS-485 data line.
20 mA loop	Replace U3 with the header/ribbon cable from the SO-20D, P3.	Replace U3 with the header/ribbon cable from the SO-20D, P3. Replace U4 with the header/ribbon cable from SO-20D, P2.	Two SO-20s many be used instead of an SO-20D.
Fiber optic	Replace U3 with the header/ribbon cable from the SO-FIB, P4.	Replace U3 and U4 with the header/ribbon cable from the SO-FIB's, P4.	

Detail A



Note: All wiring is power-limited.

Detail B



JUMPER SETUP

SAN-CPU

JP1 Install JP1 when the communications format is Class B (Style 4) or Class A (Style 7) RS-485 and the ISP-96 is the last device on the data line.

JP2 Install JP2 when the communications format is Class A (Style 7) RS-485 and the ISP-96 is the last device on the data line.

LED/switch boards

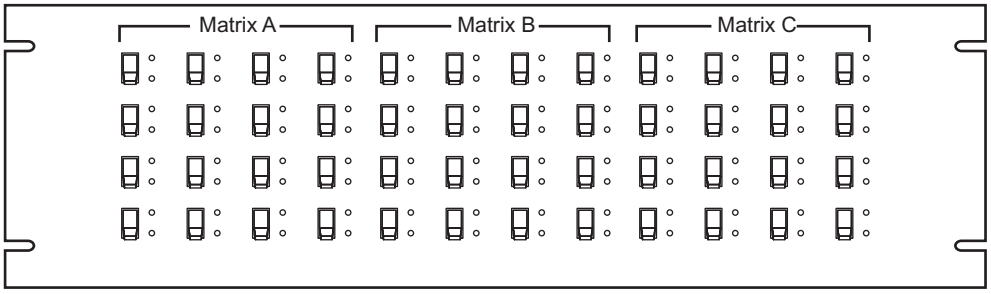
JP25 Each of the two LED/switch boards includes a continuity jumper, labeled JP25. Locate each jumper on the side of the board that faces the rear side of the metal faceplate. Install the jumper on JP25 of the right LED/switch board (rear view). Remove the jumper from JP25 of the left LED/switch board (rear view).

Note: If the jumpers are not properly installed, an xx99 open will appear at the fire alarm control panel. See the illustration of the ISP-96 (rear view) on this installation sheet.

ISP96 ADDRESSING

Notes

All switches and LEDs are independently programmed and controlled. Therefore, the addresses for the upper switch positions and the lower LEDs are different even though they appear to be the same.



Matrix A

Switches	LEDs	Switches	LEDs	Switches	LEDs	Switches	LEDs
XX02	XX01	XX10	XX09	XX18	XX17	XX26	XX25
XX01*	XX02	XX09*	XX10	XX17*	XX18	XX25*	XX26
XX04	XX03	XX12	XX11	XX20	XX19	XX28	XX27
XX03*	XX04	XX11*	XX12	XX19*	XX20	XX27*	XX28
XX06	XX05	XX14	XX13	XX22	XX21	XX30	XX29
XX05*	XX06	XX13*	XX14	XX21*	XX22	XX29*	XX30
XX08	XX07	XX16	XX15	XX24	XX23	XX32	XX31
XX07*	XX08	XX15*	XX16	XX23*	XX24	XX31*	XX32

*ISP96-3 only

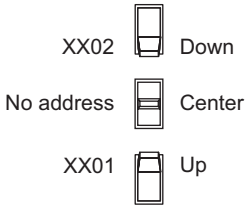
Matrix B

Switches	LEDs	Switches	LEDs	Switches	LEDs	Switches	LEDs
XX34	XX33	XX42	XX41	XX50	XX49	XX58	XX57
XX33*	XX34	XX41*	XX42	XX49*	XX50	XX57*	XX58
XX36	XX35	XX44	XX43	XX52	XX51	XX60	XX59
XX35*	XX36	XX43*	XX44	XX51*	XX52	XX59*	XX60
XX38	XX37	XX46	XX45	XX54	XX53	XX62	XX61
XX37*	XX38	XX45*	XX46	XX53*	XX54	XX61*	XX62
XX40	XX39	XX48	XX47	XX56	XX55	XX64	XX63
XX39*	XX40	XX47*	XX48	XX55*	XX56	XX63*	XX64

*ISP96-3 only

ISP96-2 switch position addresses

ISP96-3 switch position addresses



Matrix C

Switches	LEDs	Switches	LEDs	Switches	LEDs	Switches	LEDs
XX66	XX65	XX74	XX73	XX82	XX81	XX90	XX89
XX65*	XX66	XX73*	XX74	XX81*	XX82	XX89*	XX90
XX68	XX67	XX76	XX75	XX84	XX83	XX92	XX91
XX67*	XX68	XX75*	XX76	XX83*	XX84	XX91*	XX92
XX70	XX69	XX78	XX77	XX86	XX85	XX94	XX93
XX69*	XX70	XX77*	XX78	XX85*	XX86	XX93*	XX94
XX72	XX71	XX80	XX79	XX88	XX87	XX96	XX95
XX71*	XX72	XX79*	XX80	XX87*	XX88	XX95*	XX96

*ISP96-3 only

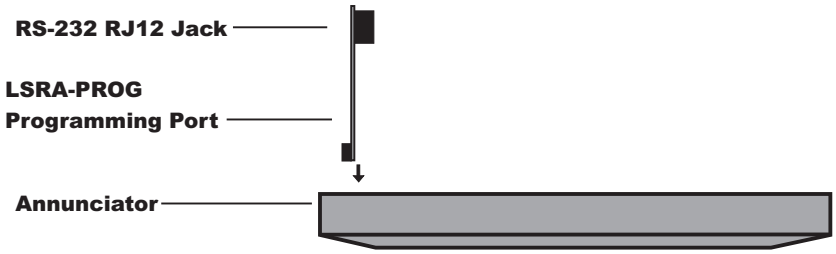
INSTALLATION

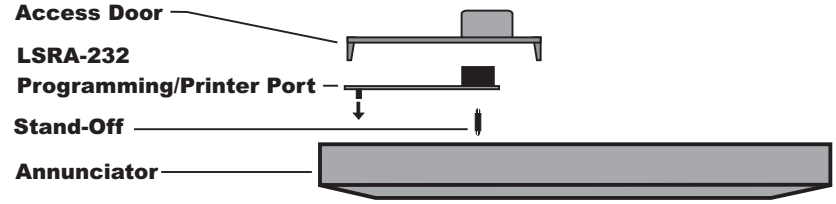
LSRA-PROG Programing Port

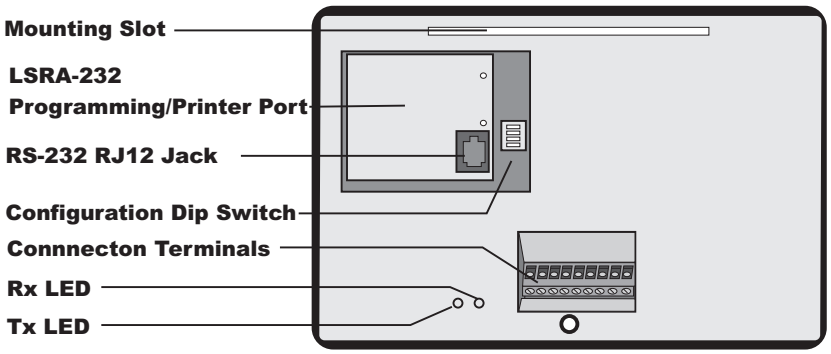
1. Remove the access door on the rear of the annunciator.
2. Firmly mate the LSRA-PROG's connector with the connector on the annunciator circuit board.
3. Connect modular cable from RJ12 jack on the LSRA-PROG to the PC adapter.
4. Connect the adapter to the PC setting the number 4 dip switch to ON and then back to OFF. Download information using the data entry program.
5. Remove the LSRA-PROG from the annunciator and re-install the access door.

LSRA-232 Printer/Programming Port

1. Remove the access door on the rear of the annunciator
2. Insert two nylon spacers in the holes in the annunciator circuit board located above and to the left of the DIP switch.
3. Firmly mate the LSRA-232 board connector with the connector on the annunciator circuit board, and secure the option board to the two nylon standoffs.
4. Remove the knockout on the access door, then re-install the door on the annunciator so the RJ12 jack is visible through the knockout.
5. Connect the modular cable from the RJ12 jack to the printer or download adapter.







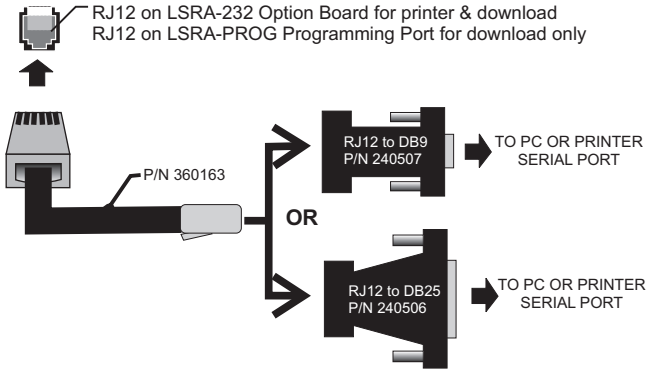
PRODUCT INFORMATION

The LSRA-232 is an optional printer/programming port board for LSRA annunciators, providing a connection to the host system or a local printer, and for down loading data into the annunciator.

The LSRA-PROG Programming Port is a tool used for downloading data from a PC, and is removed once the annunciator is configured.

WIRING

Download & Local Printer



PROGRAMING & INSTALLATION NOTE

1. PC Connection to the LSRA-232 or LSRA-PROG Port requires Modular Cable P/N 360163 and Adaptor P/N 240506 or P/N 240507.(Each ordered separately.)
2. When installing annunciator, leave enough wire to permit lowering the annunciator to facilitate programming.

SPECIFICATIONS

Port Format	RS-232
Baud Rate	2400, 4800, 9600
Maximum Wire Length	50 ft (15 M)
Connector	RJ12

INSTALLATION SHEET:

LSRA-232 Printer/Programming Port
LSRA-PROG Programming Port

INSTALLATION SHEET P/N: 387361	FILE NAME: 387361.CDR
REVISION LEVEL: 1.2	APPROVED BY: RW.
DATE: 03/11/98	CREATED BY: GJC

A UNIT OF GENERAL SIGNAL
GS BUILDING SYSTEMS CORPORATION

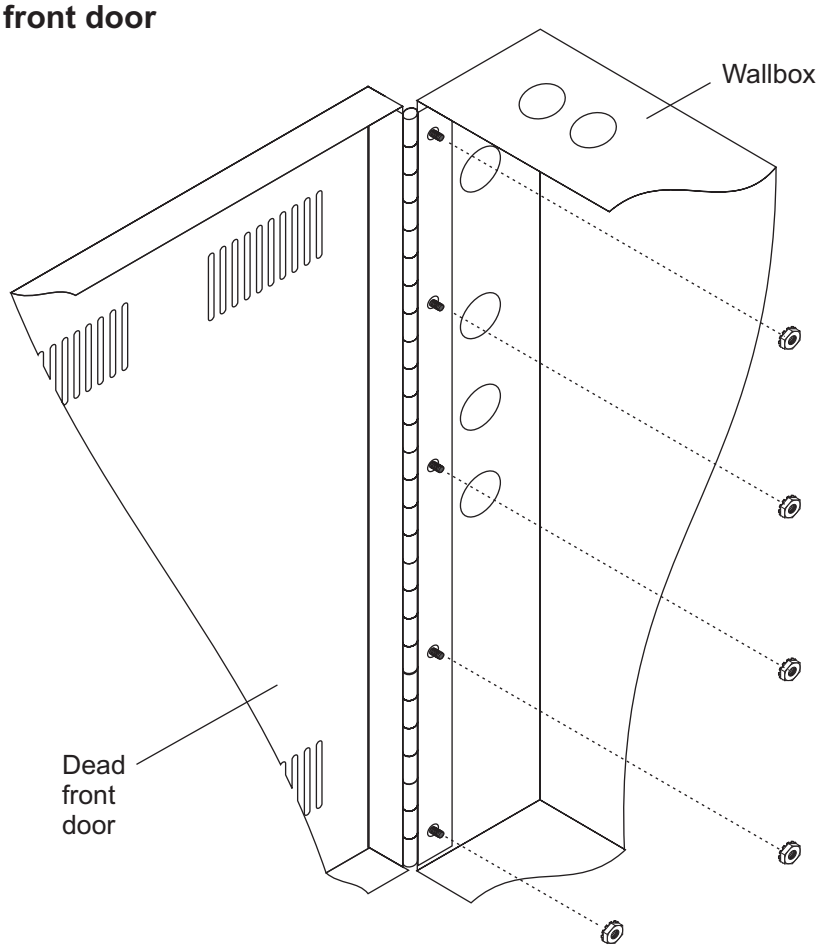
GS BUILDING SYSTEMS CORPORATION

6411 Parkland Drive
Sarasota, FL 34243

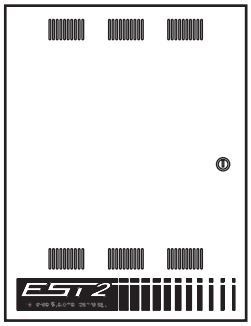
625 6th Street East
Owen Sound, ON, Canada

INSTALLATION

Mount the dead front door



PRODUCT DIAGRAM



PRODUCT DESCRIPTION

The RACCDR is a red, dead front outer door that mounts on the RACCR wallbox. The RACCDR does not include an inner door.

INSTALLATION SHEET:

RACCDR
Remote Audio Closet Cabinet Door (Red)

INSTALLATION SHEET P/N: 387341	FILE NAME: 387341.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

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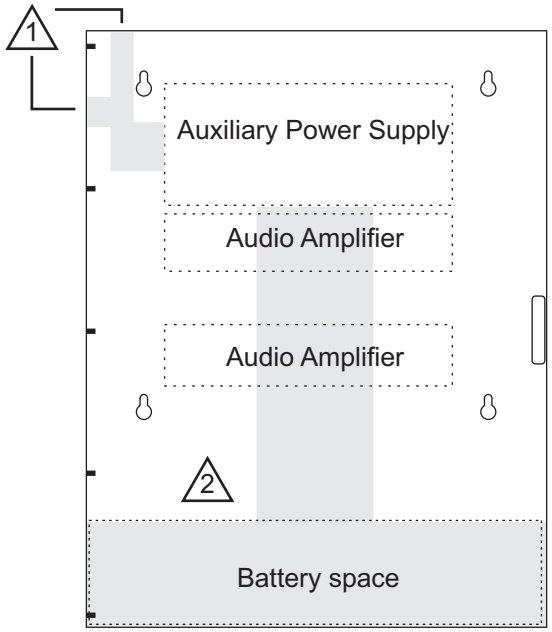
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

PRODUCT DESCRIPTION

The RACCR is a red, surface mount wallbox that houses an auxiliary power supply, up to two audio amplifiers, and up to two 10 Ah batteries.

WIRE ROUTING



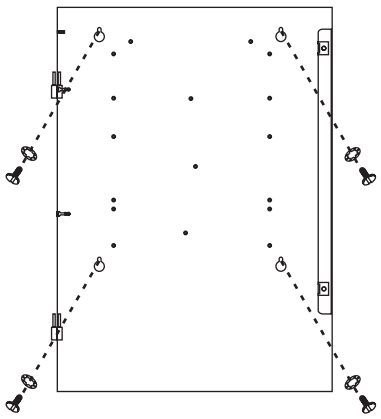
Shading represents areas that permit nonpower-limited wiring.

Notes

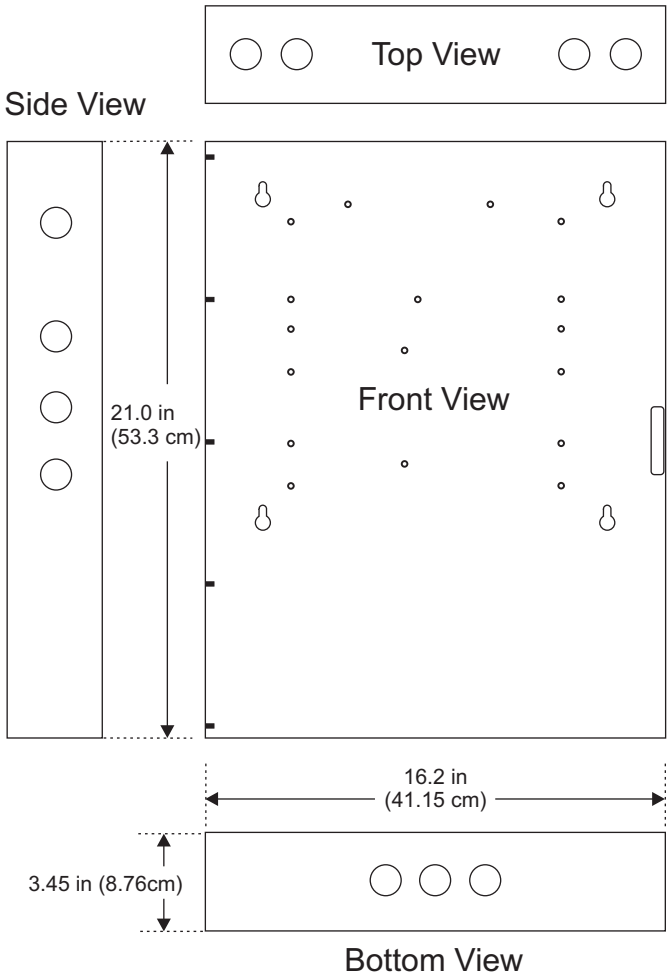
1. Run the AC power *only* through the top left knockouts.
2. Route battery wiring to the power supply through a protective channel. Wiring must stay within this area, and must remain 1/4 inch (6.4 mm) from power-limited wiring.
3. See the appropriate module installation sheets for detailed mounting and wiring instructions.
4. All conduit knockouts support 1/2 or 3/4 inch (1.3 or 1.9 cm) conduit.

INSTALLATION

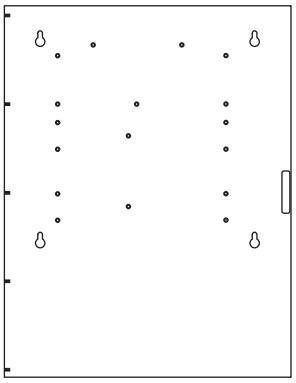
Mount the wallbox



DIMENSIONS



PRODUCT DIAGRAM



INSTALLATION SHEET:

RACCR

Remote Audio Closet Cabinet (Red)

INSTALLATION SHEET P/N: 387578	FILE NAME: 387578.CDR
REVISION LEVEL: 1.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

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SARASOTA, FL: 941-739-4300 FAX 941-753-1806
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INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

PRODUCT DESCRIPTION

The Rack Mounted Strip Printer is a supervised, two-color, 40-column impact printer that mounts to the RSAN-6 mounting rack.

Note: The Rack Mounted Strip Printer is referred to as the Printer from here forward.

APPLICATIONS

The Printer is designed for applications which require a hard copy of activity from a compact printer. Printer communication circuit distance and wiring are subject to the limitations of the port connection on the fire alarm control panel.

Note: See the Application Flowchart to determine FCOM card placement and jumper settings for the printer.

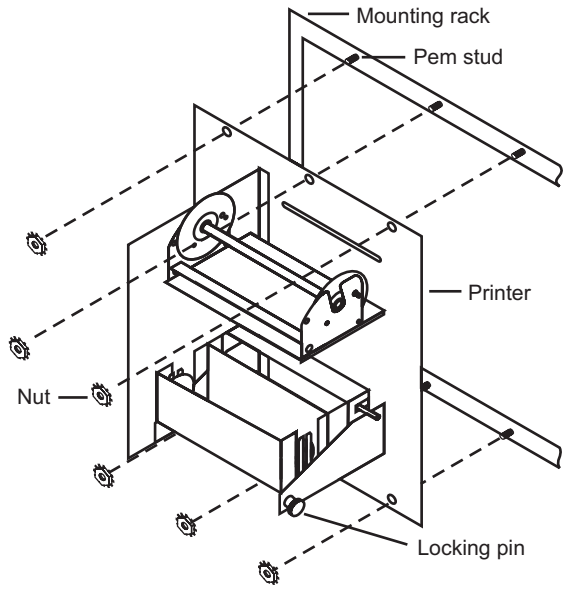
INSTALLATION INSTRUCTIONS

Mounting the printer

To mount the printer:

1. Align the mounting holes of the printer to the pem studs on the rear side of the mounting rack (Figure 1).
2. Thread and tighten the locknuts provided with the printer to the pem studs on the mounting rack.

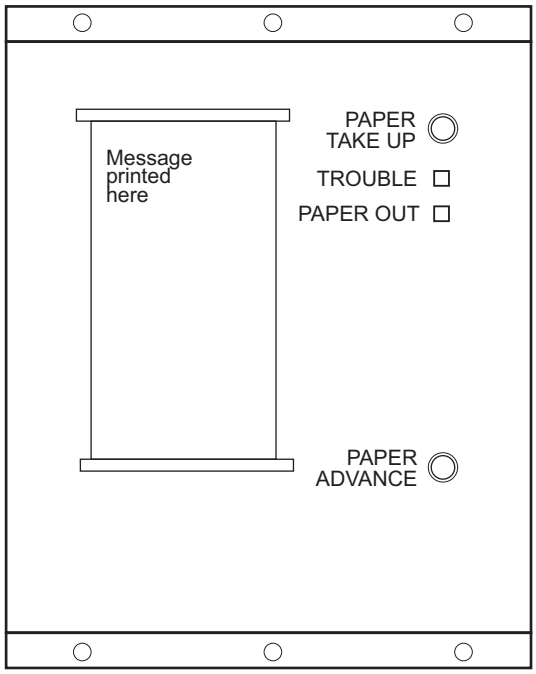
Figure 1: Mounting the printer



SPECIFICATIONS

Voltage	24 Vdc
Current	
Standby	0.057 A
Printing	1.5 A
Baud rate	1200, 2400, 4800, 9600
Print speed	2 lines per second
Print colors	Red (alarm) and black
Print format	40 column
Message buffer	32 Kbytes (200 messages)
Dimensions	
Height	10.375 in (26.4 cm)
Width	8.3125 in (21.1 cm)
Depth	5.25 in (13.3 cm)
Communications format	**Card**
RS-232	FCOM-232, 2-CPU, MCM(N) series
RS-485	FCOM-485
Fiber optic	FCOM-FIB
20 mA Loop	FCOM-20

PRODUCT DIAGRAM



INSTALLATION SHEET

RSAN-PRT
Rack Mounted Strip Printer

INSTALLATION SHEET P/N: 61000-0011	FILE NAME: 61000-0011.CDR
REVISION LEVEL: 4.0	APPROVED BY: K. Johnson
DATE: 24AUG00	CREATED BY: B. Graham

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

Figure 2: Paper replacement

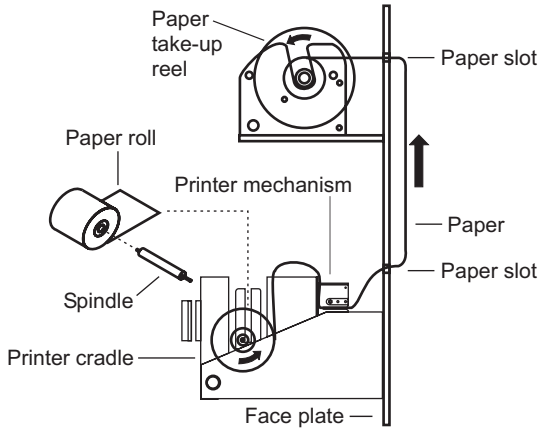
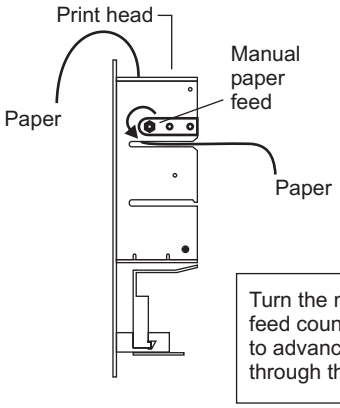


Figure 3: Printing mechanism/manual paper feed



Replacing ribbon cartridges

Warning: Remove power from the printer before replacing the ribbon cartridge. Failure to do so may result in serious injury or loss of life.

To replace the ribbon cartridge:

1. Remove the paper from the take-up reel.
2. Remove the ribbon cable from the retaining clip on the back of the printer cradle (Figure 4).
3. Pivot the printer cradle around the two silver locking pins so that the ribbon cartridge is up.
4. Lift the right edge of the ribbon cartridge to remove it from the printer mechanism (Figure 5).
5. Place the left edge of the new ribbon cartridge over the ribbon advance spindle.
6. Make sure the new ribbon enters the slot directly in front of the paper.
7. Press the right side of the ribbon cartridge down until it locks.
8. Turn the ribbon advance knob on the left side of the ribbon cartridge until the ribbon moves freely in the printer mechanism.
9. Pivot the printer mechanism around the two silver locking pins back into its normal position.
10. Insert the ribbon cable under the retaining clip on the back of the printer mechanism.
11. Re-install the paper take-up reel.

Replacing paper

Note: Do not remove power from the printer to replace paper.

To replace the paper:

1. Remove the printed paper from the take-up reel (Figure 2).
2. Remove the empty paper roll and spindle from the printer cradle.
3. Install the spindle in the new paper roll.
4. Pull out enough paper to avoid activating the Paper Out sensor until the paper is in the print head.
5. Cut or fold the end of the paper into a clean edge.
6. Set the paper roll and spindle in the printer cradle with the paper feeding from the lower front edge of the roll.
7. Insert the end of the paper into the print head (Figure 3).
8. Turn the manual paper feed to advance the paper through the print head and out the lower paper slot.
9. Press the paper advance switch to route the paper from the lower slot to the upper paper slot.
10. Insert the end of the paper into the edge of the take-up reel.
11. Press the paper take-up switch to remove any slack in the paper.

Figure 4: Pivoting the printer cradle

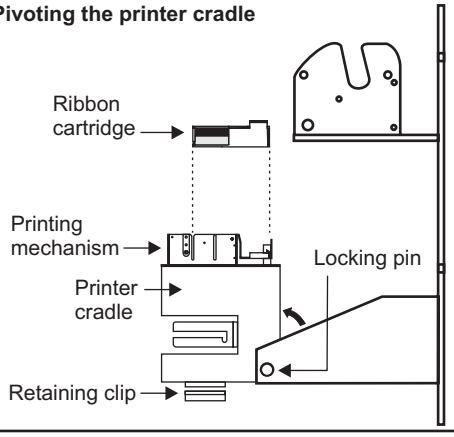
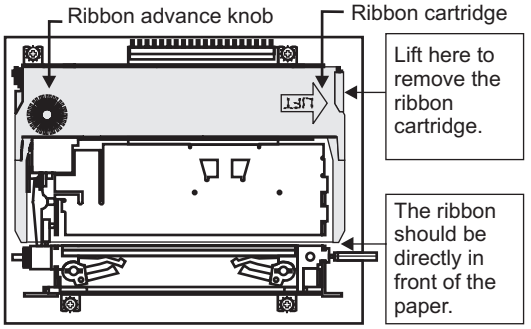
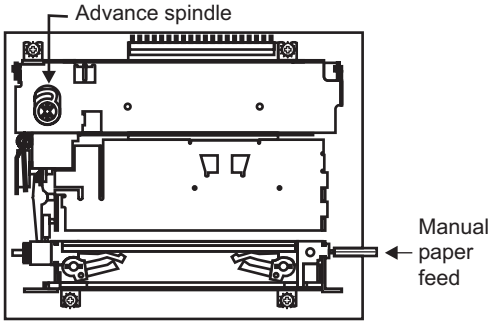


Figure 5: Printing mechanism

With printer cartridge installed



With printer cartridge removed



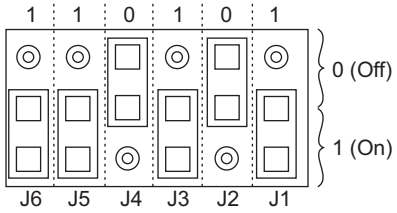
JUMPER SETTINGS

Table 1: FCOM card requirements and jumper settings

Outgoing format Incoming format	RS-232	RS-485	20 mA loop	Fiber optic
RS-232	P1: FCOM-232 P2: None Code: 000001	P1: FCOM-232 P2: FCOM-485 Code: 110101	P1: FCOM-232 P2: FCOM-20 Code: 110001	P1: FCOM-232 P2: FCOM-FIB Code: 110001
RS-485	P1: FCOM-485 P2: FCOM-232 Code: 111010	P1: FCOM-485 P2: FCOM-485 Code: 111111	P1: FCOM-485 P2: FCOM-20 Code: 111011	P1: FCOM-485 P2: FCOM-FIB Code: 111011
20 mA loop	P1: FCOM-20 P2: FCOM-232 Code: 110010	P1: FCOM-20 P2: FCOM-485 Code: 110111	P1: FCOM-20 P2: None Code: 000011	P1: FCOM-20 P2: FCOM-FIB Code: 110011
Fiber optic	P1: FCOM-FIB P2: FCOM-232 Code: 110010	P1: FCOM-FIB P2: FCOM-485 Code: 110111	P1: FCOM-FIB P2: FCOM-20 Code: 110011	P1: FCOM-FIB P2: None Code: 000011

Notes

1. Install JP1 and JP2 on FCOM-485 cards.
2. Install JP1 and JP2 on FCOM-FIB cards in position 2/3.



The example above shows the configuration of a printer that receives an RS-232 format signal and re-transmits an RS-485 formatted signal (address 110101). For more information on choosing FCOM card placement and jumper settings, see the Application Flowchart.

SWITCH SETUP

Table 2: Printer function selection switches

Switch	Position	Function
U10-1	Off* On	3.1 mm character height 2.2 mm character height
U10-2	Off* On	Handstand characters Normal character print
U10-3	See Table 2.	
U10-4	See Table 2.	
U10-5	Off* On	Normal Pulse width adjust on (factory use)
U10-6	Off* On	Even parity (future use) Odd parity (future use)
U10-7	Off* On	1 stop bits (future use) 2 stop bits (future use)

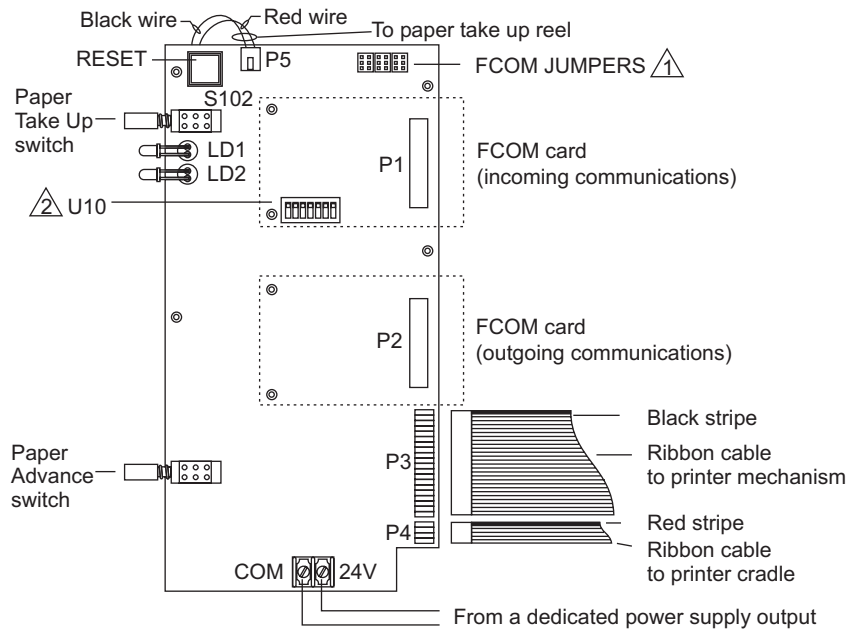
*Factory default

Table 3: Baud rate selection switches

Switch	1200	2400	4800	9600
U10-3	Off	Off*	On	On
U10-4	Off	On*	Off	On

*Factory default

INTERNAL WIRING



Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

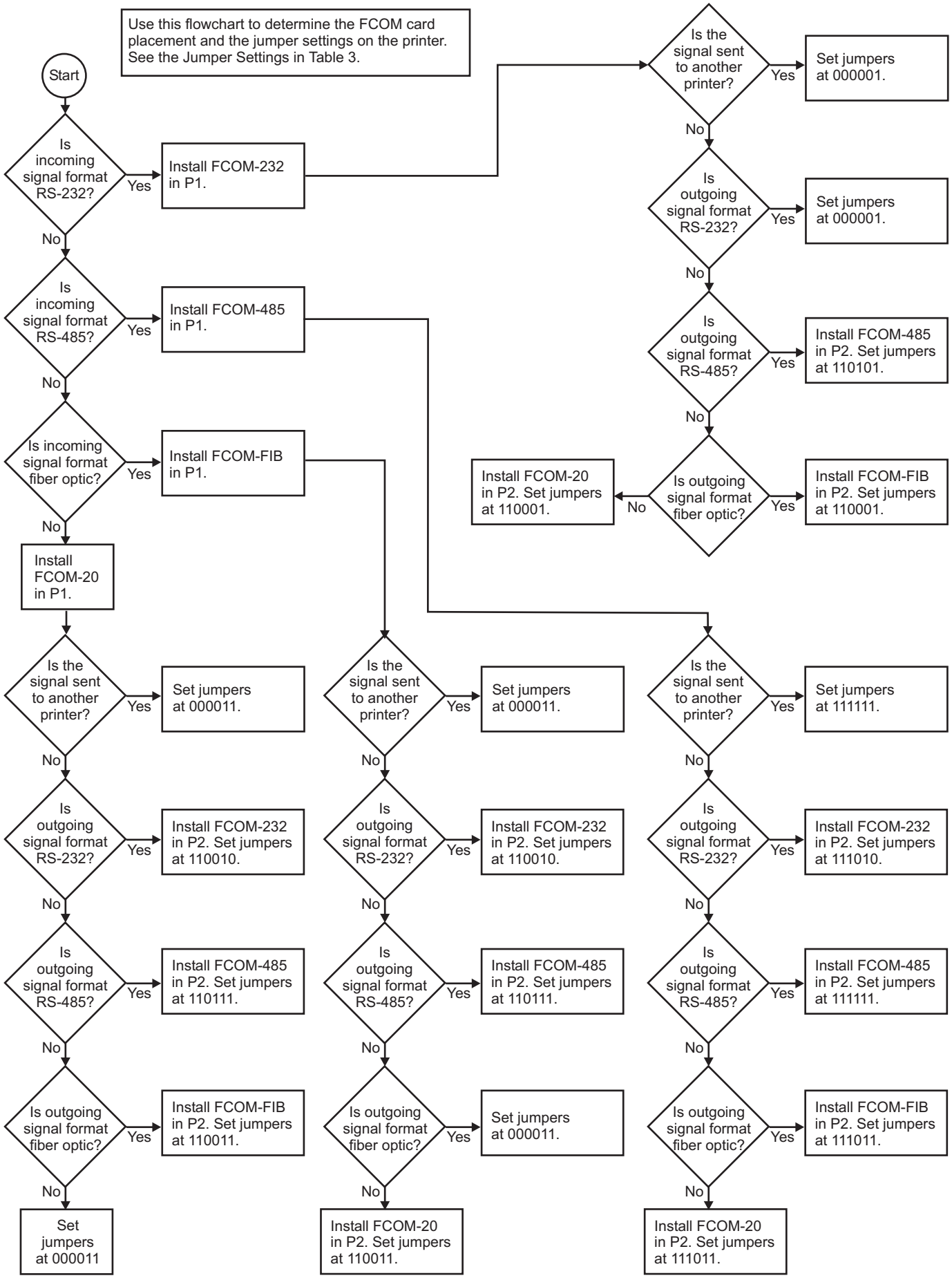
Observe static-sensitive material handling practices.

Notes

1 See Jumper settings in Table 1.

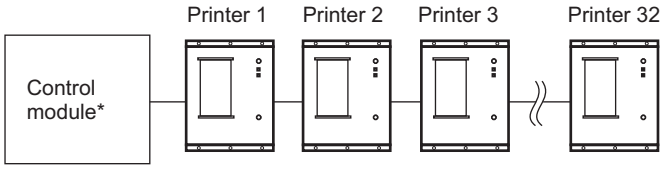
2 See Switch setup in Tables 2 and 3.

APPLICATION FLOWCHART



FIELD WIRING

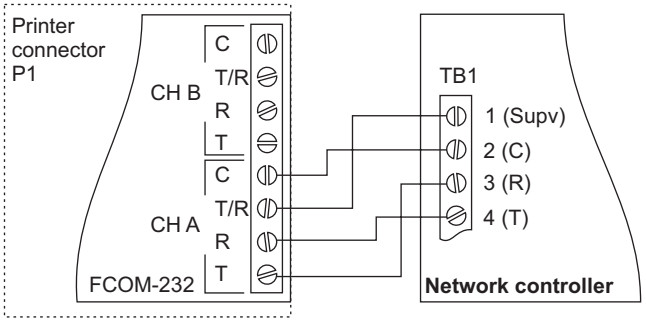
Printer-to-printer connection



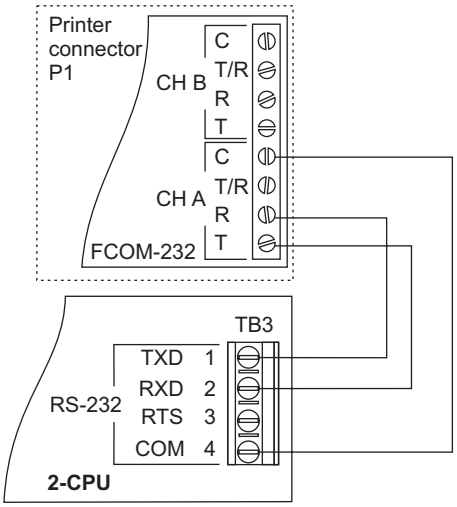
*Control modules include network controllers (CM1[N]/CM2[N][D]), 2-CPU modules, and main controller modules (MCM[N] series). Control modules provide only RS-232 format.

The first printer connected to a control module must have an FCOM card installed in connector P1.

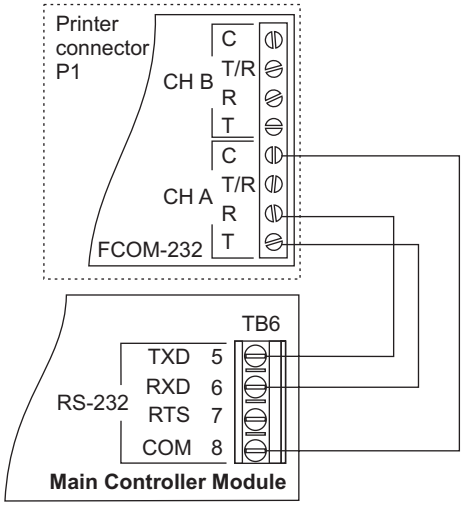
Network controller connection



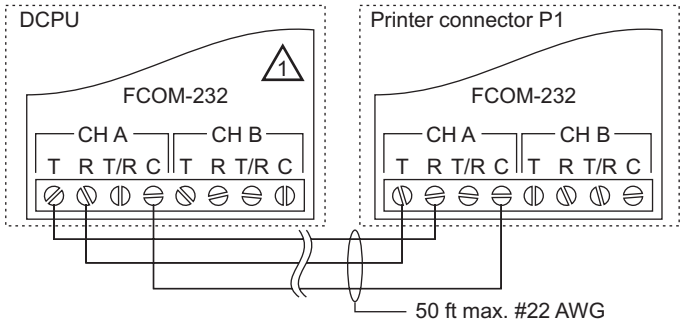
2-CPU connection

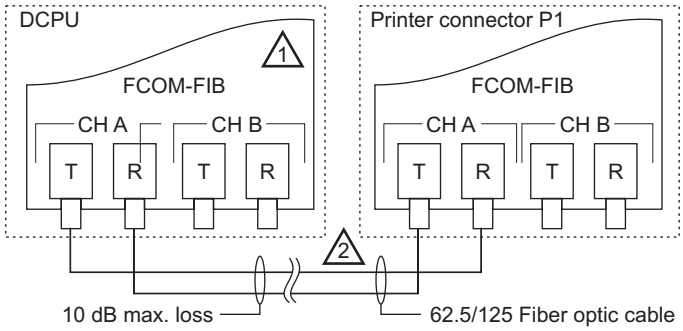


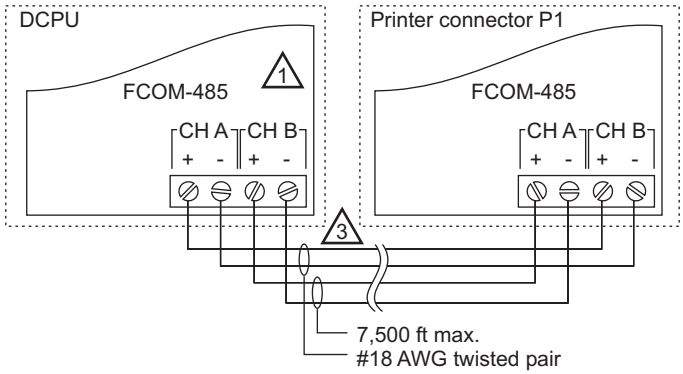
Main Controller Module connection

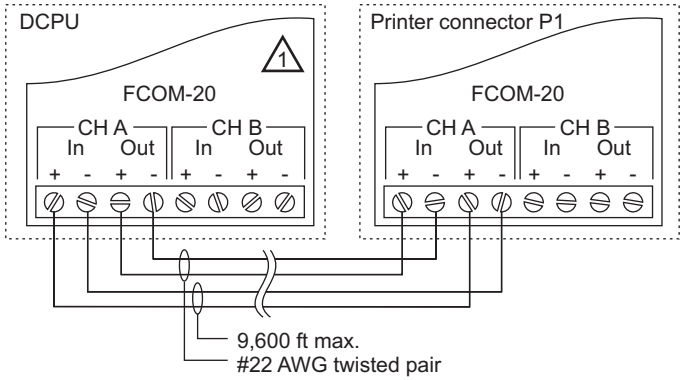


DCPU to printer







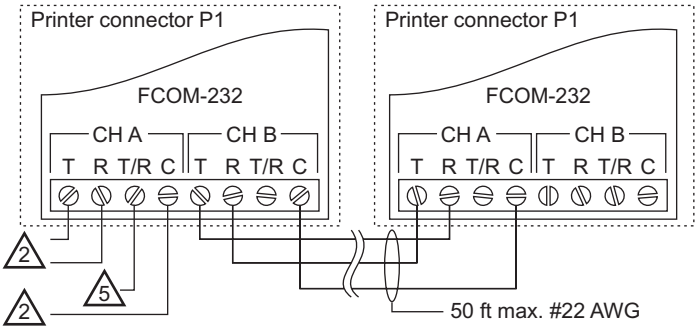


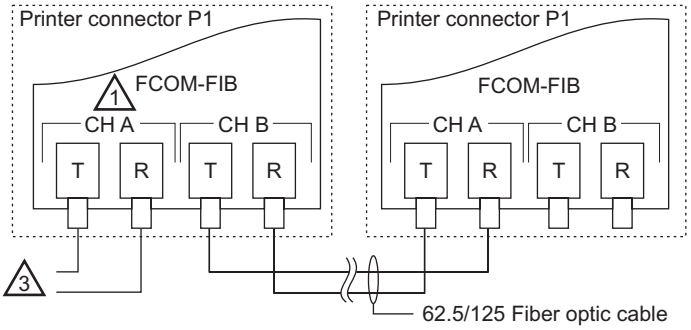
DCPU to printer notes

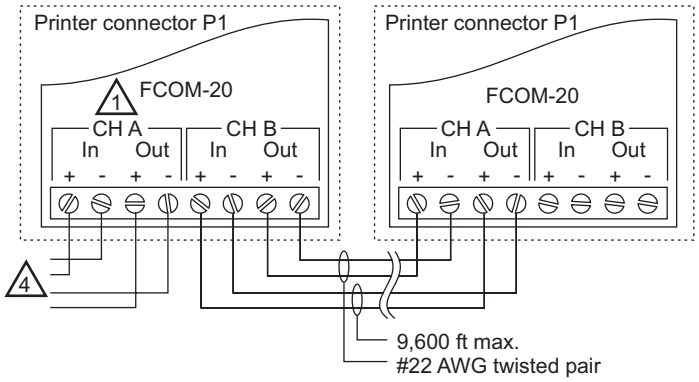
1. Channel A or B may be used for DCPU connections.
2. Install JP1 and JP2 in position 2/3 on both cards.
3. Install JP1 and JP2 on both cards.
4. Wiring is supervised and power-limited.
5. The wiring diagrams do not reflect the physical placement of the FCOM cards. See Internal Wiring for the physical placement of the cards.

FIELD WIRING

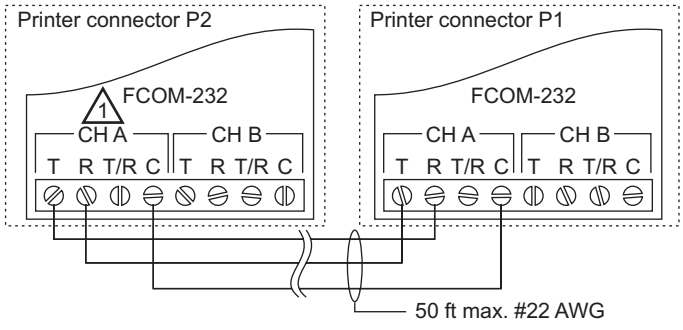
Printer to printer (no format change)

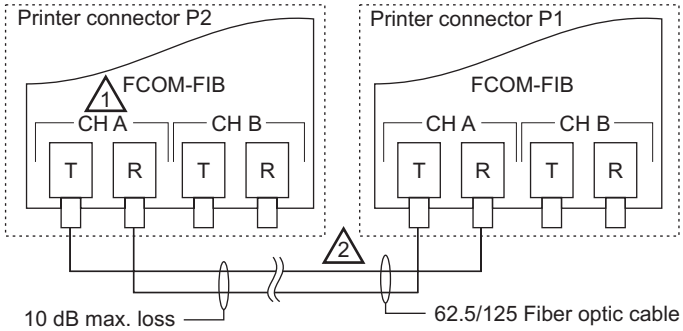


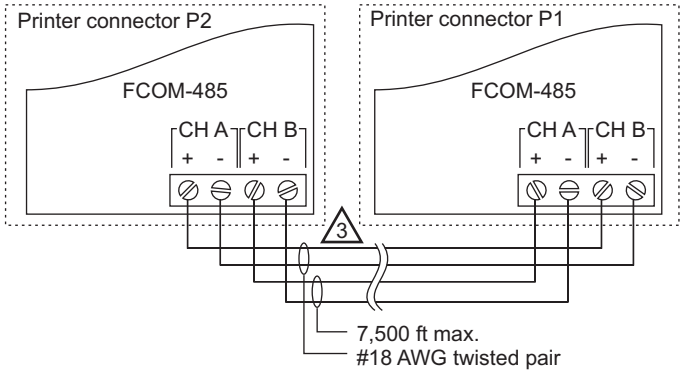


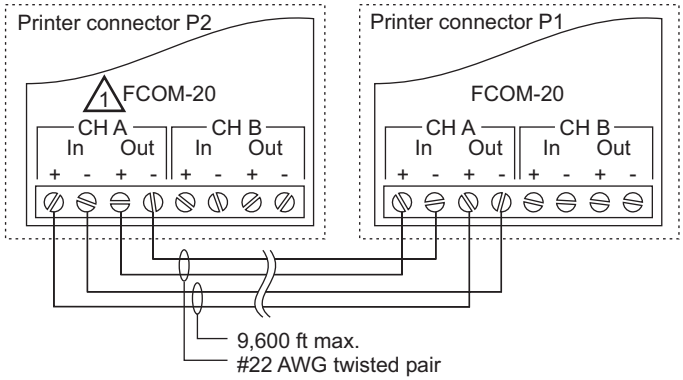


Printer to printer (format change)









Printer to printer (no format change) notes

1. Control module only. Control modules include network controllers, 2-CPUs, and main controller modules.
2. Control module or FCOM-232
3. FCOM-FIB
4. FCOM-20
5. For supervision of IRC-3 devices only
6. Wiring is supervised and power-limited.
7. The wiring diagrams do not reflect the physical placement of the FCOM cards. See Internal Wiring for the physical placement of the cards.

Printer to printer (format change) notes

1. Use only Channel A for printer-to-printer connections.
2. Install JP1 and JP2 in position 2/3 on both cards.
3. Install JP1 and JP2 on both cards.
4. Wiring is supervised and power-limited.
5. The wiring diagrams do not reflect the physical placement of the FCOM cards. See Internal Wiring for the physical placement of the cards.

PRODUCT DESCRIPTION

The semi-flush enclosures are assemblies that consist of a wallbox and a front door. The 4 module enclosure supports four SAN series modules and a SAN-CPU. The 8 module enclosure supports eight SAN series modules and a SAN-CPU. Both wallboxes are constructed of 16 gauge steel and feature doors with key locks and Lexan™ viewing windows.

The 6 module mounting frame mounts to a 19-inch rack and is constructed of 0.125 inch aluminum. The mounting frame supports six SAN series modules and a SAN-CPU.

A special L-bracket is mounts the SAN-CPU to the 6 module mounting frame. See the SAN-CPU(F) installation sheet for more information.

Note: All wiring shall be power-limited.

INSTALLATION

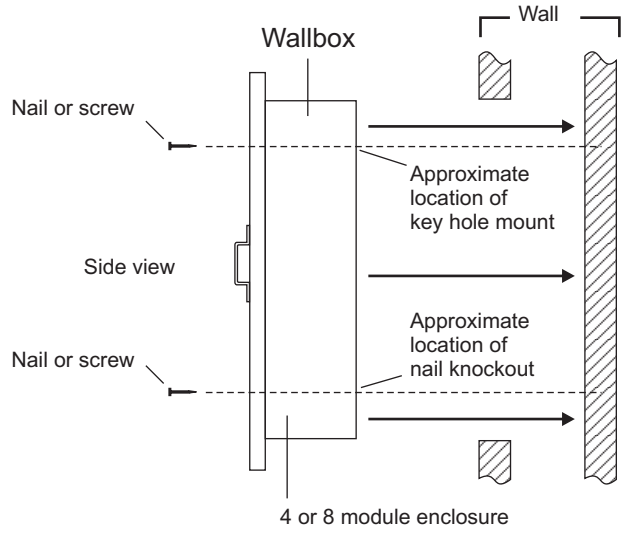
Semi-flush enclosures

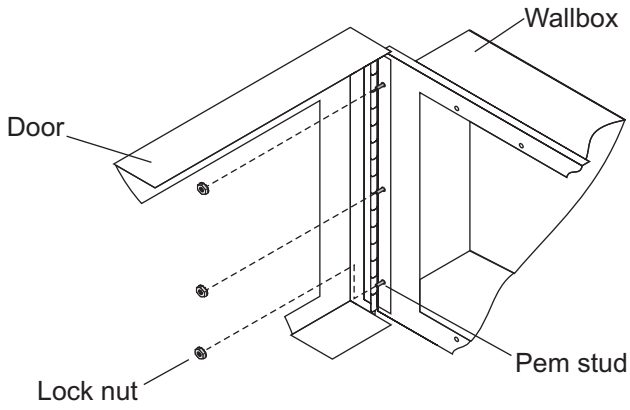
To mount a semi-flush enclosure:

1. Drive nails or screws through the designated mounts to secure the wallbox to the wall.
2. Secure the door to the wallbox with the hardware provided.

Note: See the reverse side of this installation sheet for the location of the wallbox mounts.

Wallbox mounts
Key hole mount
Nail knockout



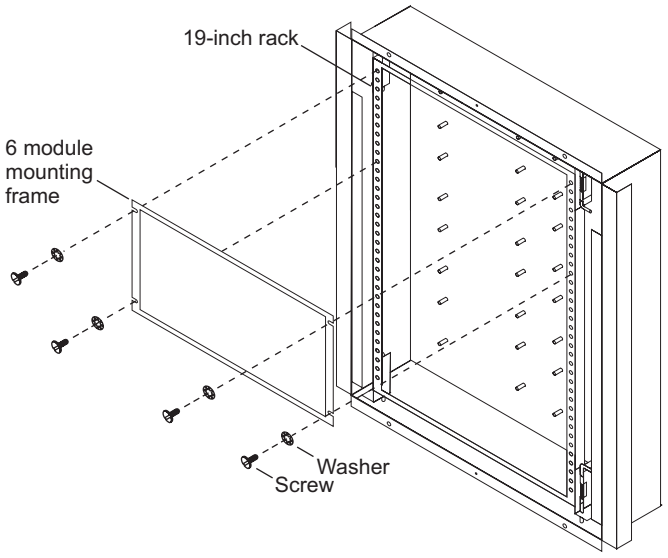


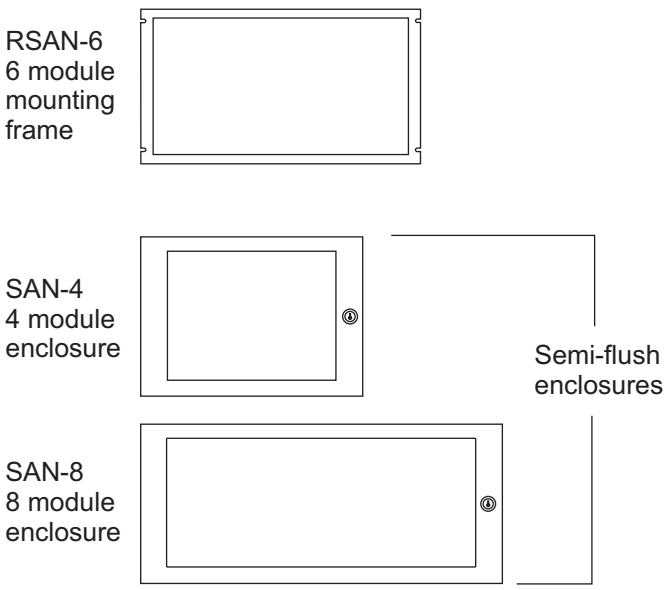
INSTALLATION

6 module mounting frame

To mount the 6 module mounting frame:

1. Align the mounting frame to the mounting holes on the 19-inch rack.
2. Secure the frame to the 19-inch rack with the hardware provided.





INSTALLATION SHEET

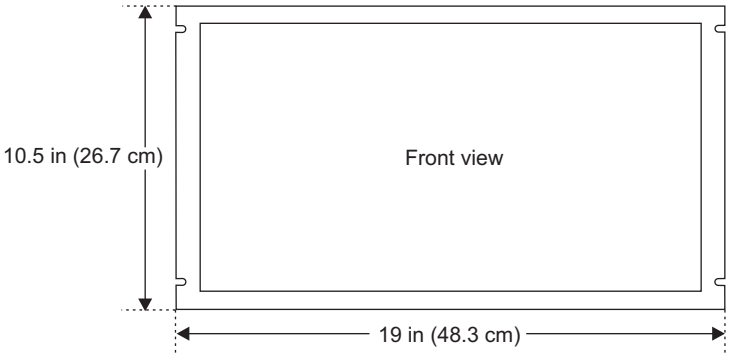
SAN Series Remote Annunciator Enclosures

INSTALLATION SHEET P/N: 3100046	FILE NAME: 3100046.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Patterson
DATE: 30MAR00	CREATED BY: B. Graham

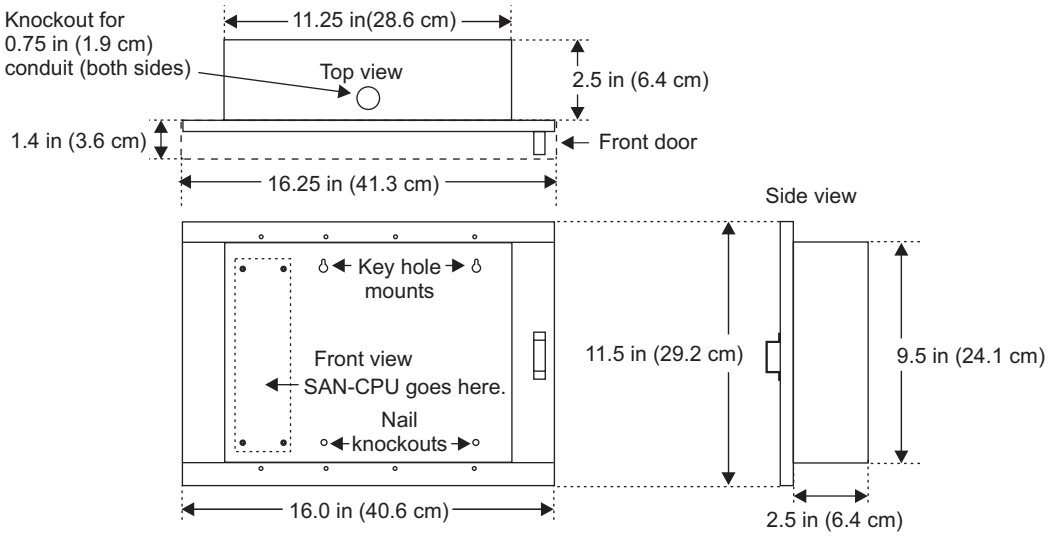
EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

DIMENSIONS

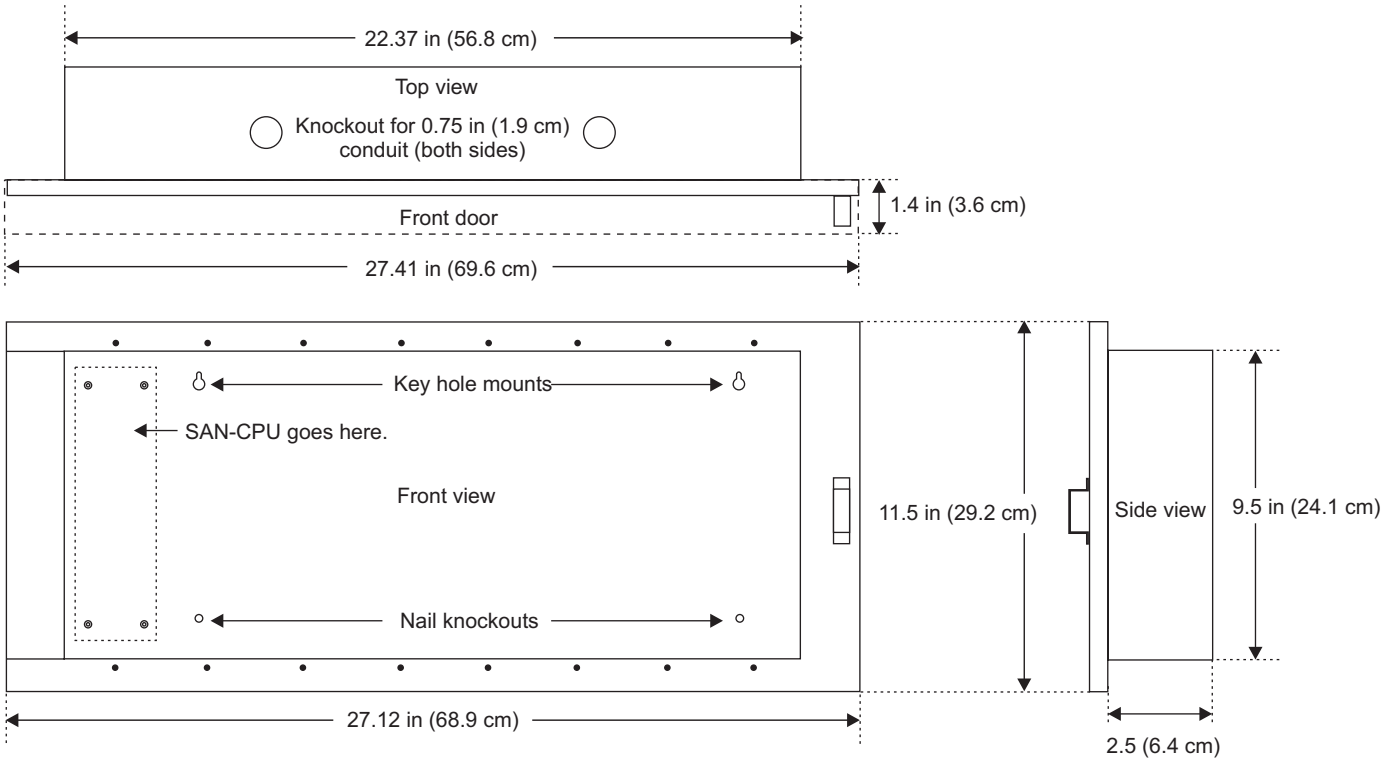
Six module mounting frame



Four module enclosure



Eight module enclosure



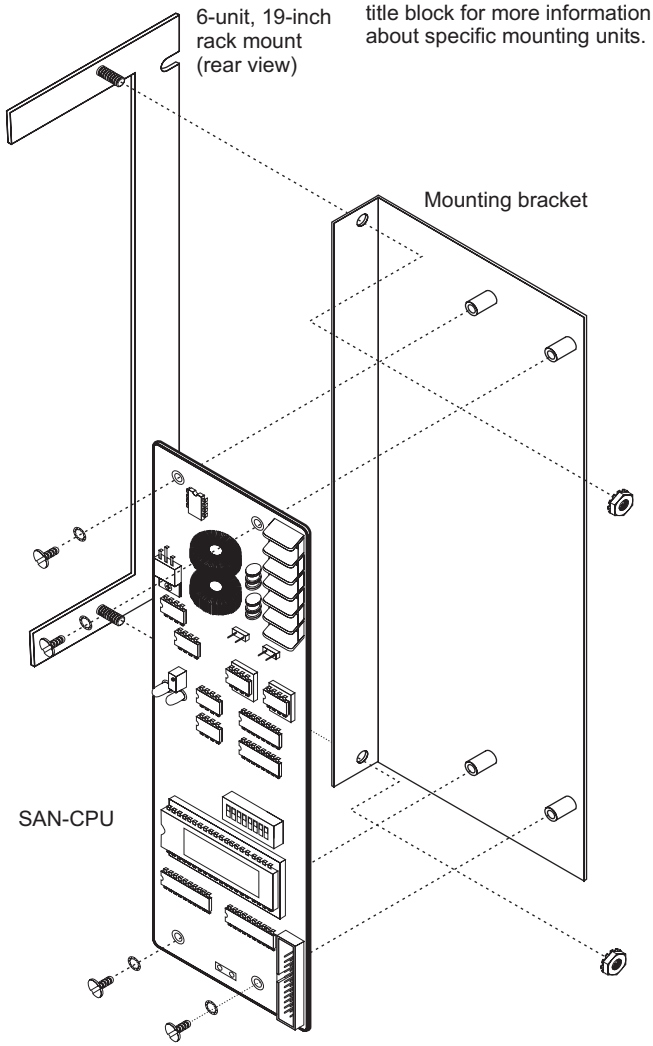
PRODUCT DESCRIPTION

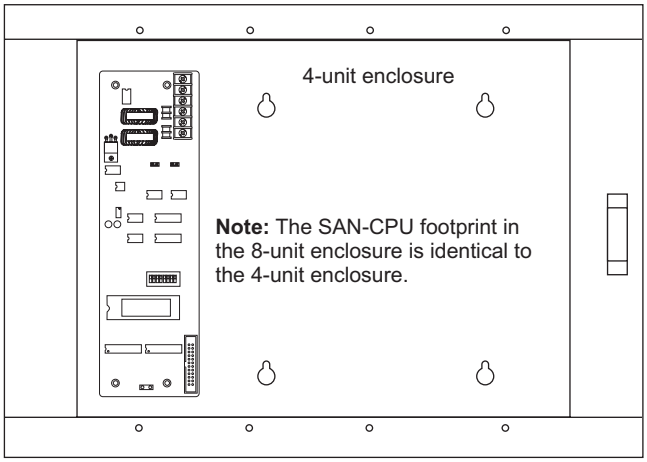
The SAN-CPU(F) is an Annunciator Controller. All SAN series annunciator modules require the SAN-CPU to provide an interface to the network data lines. The SAN-CPU features Class A (Style 7) and Class B (Style 4) communication circuits. Communications formats for RS-485, fiber optic, and 20 mA Loop are also available with the SAN-CPU. The SAN-CPUF comes with a blank face plate and a blank filler plate for jobs with limited mounting depth.

INSTALLATION

Mounting the SAN-CPU

Note: See the related documentation listed in the title block for more information about specific mounting units.



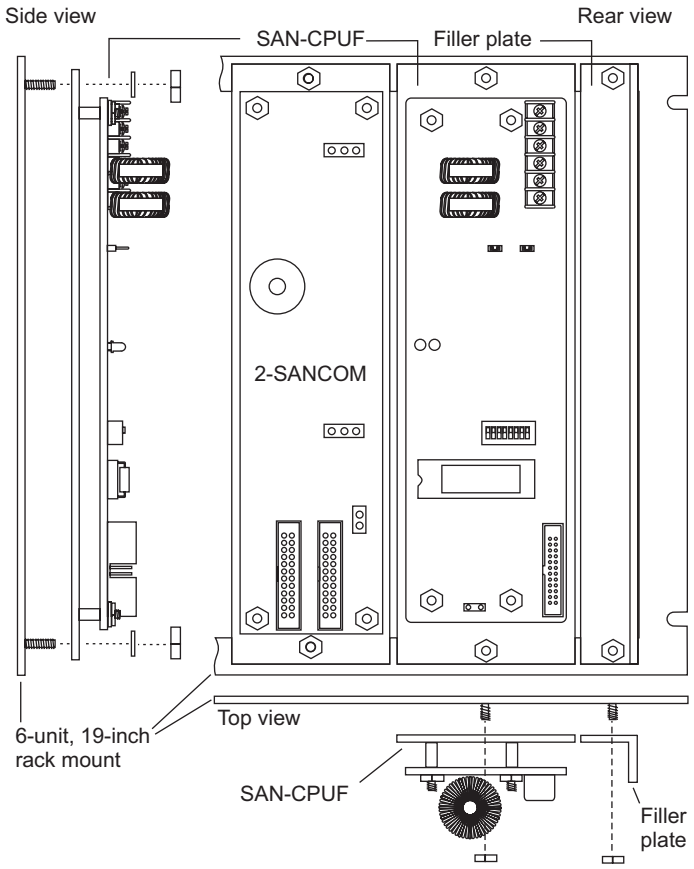


SPECIFICATIONS

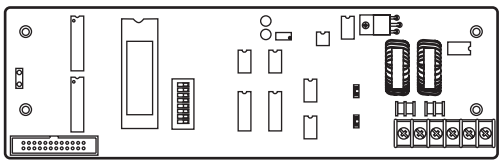
Power requirements	24 Vdc @ 54 mA
Communications formats	RS-485, Fiber optics, 20 mA current loop
Data line wiring	Class A (Style 7) or Class B (Style 4)
Network capacity	96 inputs or outputs
Network requirement	1 panel address
Mounting	See the related documentation listed in the title block for the approved enclosures.

INSTALLATION

Mounting the SAN-CPUF and blank plate



PRODUCT DIAGRAM



INSTALLATION SHEET:

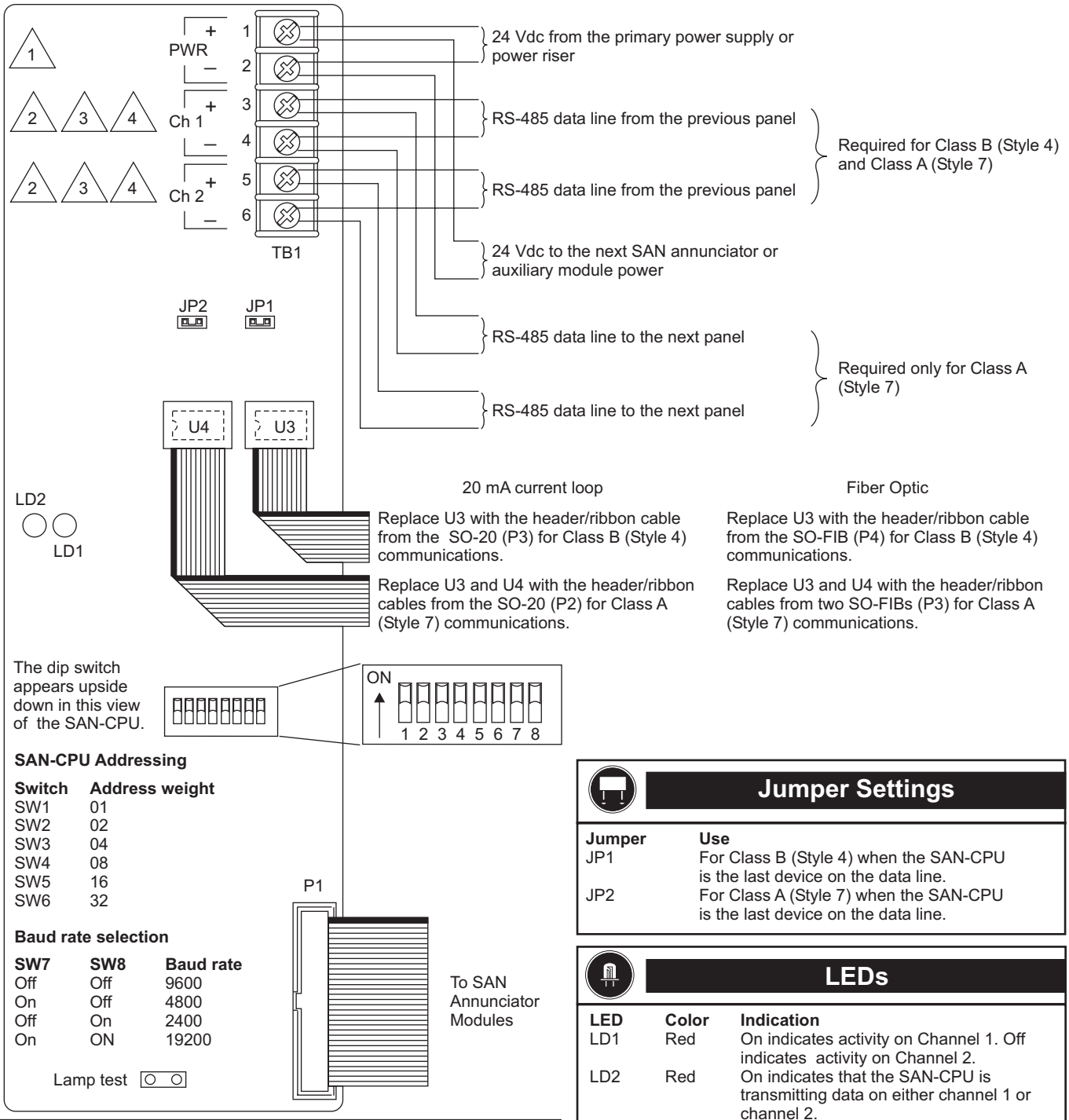
SAN-CPU(F) Annunciator Contoller

INSTALLATION SHEET P/N: 387200	FILE NAME: 387200.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE:30MAR00	CREATED BY: B. Graham

SAN Series Annunciator Enclosures installation sheet

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

WIRING



SAN-CPU Addressing

Switch	Address weight
SW1	01
SW2	02
SW3	04
SW4	08
SW5	16
SW6	32

Baud rate selection

SW7	SW8	Baud rate
Off	Off	9600
On	Off	4800
Off	On	2400
On	ON	19200

Jumper Settings

Jumper	Use
JP1	For Class B (Style 4) when the SAN-CPU is the last device on the data line.
JP2	For Class A (Style 7) when the SAN-CPU is the last device on the data line.

LEDs

LED	Color	Indication
LD1	Red	On indicates activity on Channel 1. Off indicates activity on Channel 2.
LD2	Red	On indicates that the SAN-CPU is transmitting data on either channel 1 or channel 2.

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

Notes

1. Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch from power-limited wiring or use FPL, FPLP, FPLR, or equivalent in accordance with the National Electric Code.
2. Use twisted pair wires.
3. 20 mA current loop and fiber optics do not require TB1-3 through TB1-6.
4. Supervised and power-limited

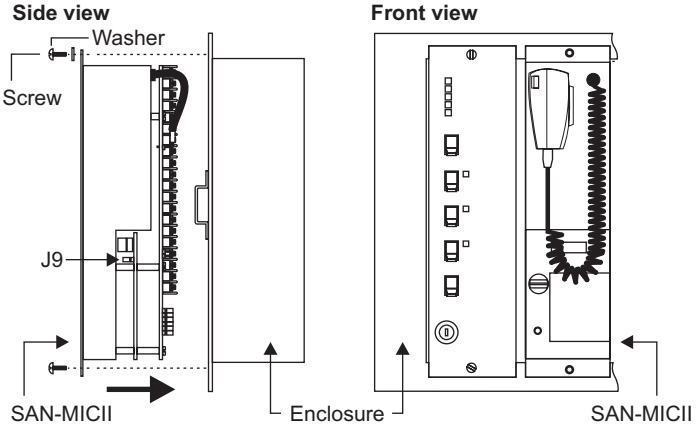
PRODUCT DESCRIPTION

The SAN-MICII module is a supervised microphone and tone generator capable of operating remotely from the audio power amplifier. The SAN-MIC II provides a pre-amp level signal, which may be transmitted over 2,000 feet of shielded cable. In addition, the SAN-MICII provides a PTT (Push-to-talk) dynamic microphone, three tone generators, an auxiliary audio input, a solid state VU meter, and a supervisory pulse generator.

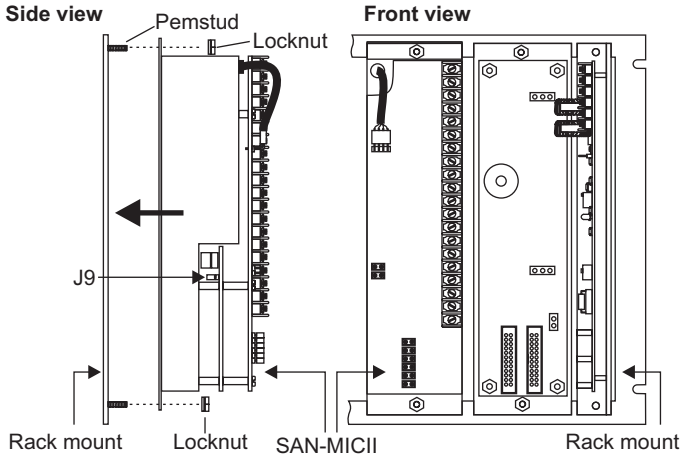
INSTALLATION

Note: See the related documentation listed in the title block for more information about specific mounting units.

Installation in a 4-unit or 8-unit enclosure



Installation in a 6-unit, 19-inch rack mount



SPECIFICATIONS

Voltage	24 Vdc
Current	
Standby	0.0 mA
Active	90 mA
Audio input	0.25 Vrms or 2.0 Vrms into 600 Ω
Audio output	0.25 Vrms or 2.0 Vrms into 600 Ω
EOL resistors	1.8 kΩ, 1/2 W
Wiring	2000 ft of 18 AWG twisted pair, shielded max.
Relay contacts	120 Vac @0.5 A, resistive
Dimensions	
Height	8.875 in (22.5 cm)
Width	2.75 in (7.0 cm)
Depth	2.75 in (7.0 cm)

JUMPER SETTINGS

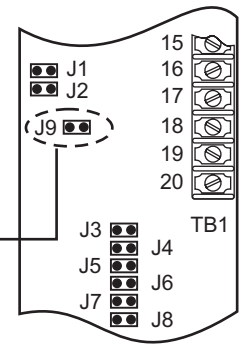
Switch activation	Supervisory tone	Slow whoop	Steady 1 kHz
Alarm/Activate switch tone	J5 out J6 out	J5 in J6 out	J5 out J6 in
Emergency tone 1	J7 out J8 out	J7 in J8 out	J7 out J8 in
Emergency tone 2	J3 out J4 out	J3 in J4 out	J3 out J4 in

Switch activation	90 bpm for 1 kHz march time	120 bpm for 1 kHz march time
Alarm/Activate switch tone	J5 in J6 in	J5 in J6 in
Emergency tone 1	J7 in J8 in	J7 in J8 in
Emergency tone 2	J3 in J4 in J9 out	J3 in J4 in J9 in

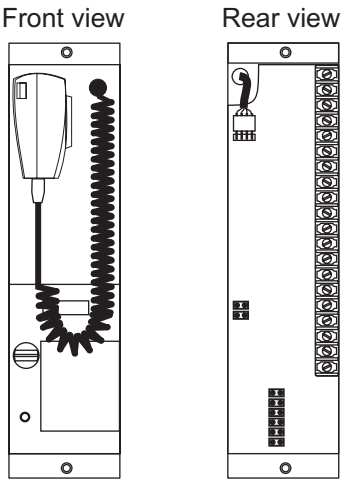
J1: Install for 0.25 Vrms level pre-amp audio output on TB1-14 and TB1-15. Remove 2.0 Vrms output level.

J2: Install for 0.25 Vrms level pre-amp audio output on TB1-16 and TB1-17. Remove 2.0 Vrms intput level.

J9 is located on the small, forward PC board assembly. Remove power from the microphone and use a pair of needle nose pliers to remove or replace the jumper. Observe static-sensitive material handling practices.



PRODUCT DIAGRAM



INSTALLATION SHEET

SAN-MICII
Remote Microphone

INSTALLATION SHEET P/N: 3100028	FILE NAME: 3100028.CDR
REVISION LEVEL: 1.0	APPROVED BY: K. Johnson
DATE: 30MAR00	CREATED BY: B. Graham

Related documentation: SAN-CPU installation sheet

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OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INTERNAL WIRING

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

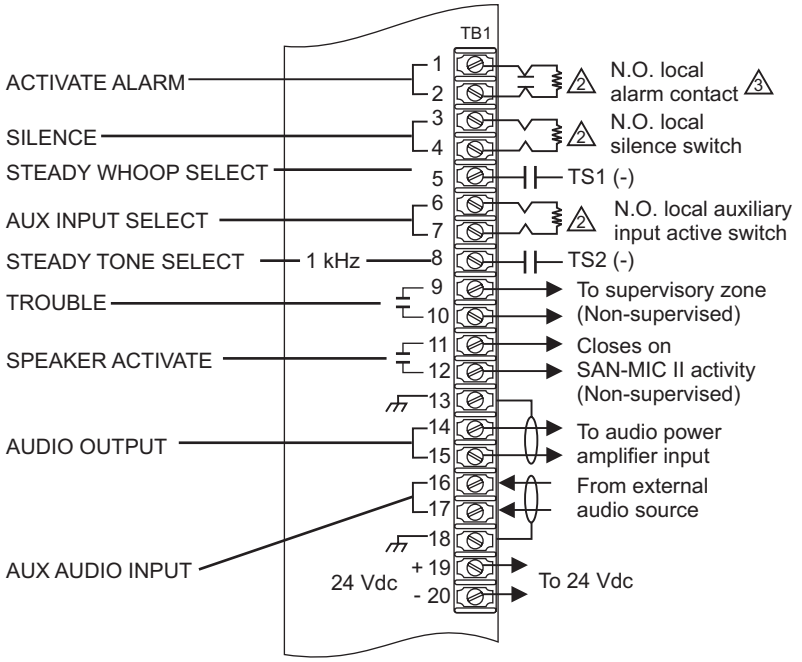
Notes

1 All circuits are supervised and power-limited unless otherwise noted.

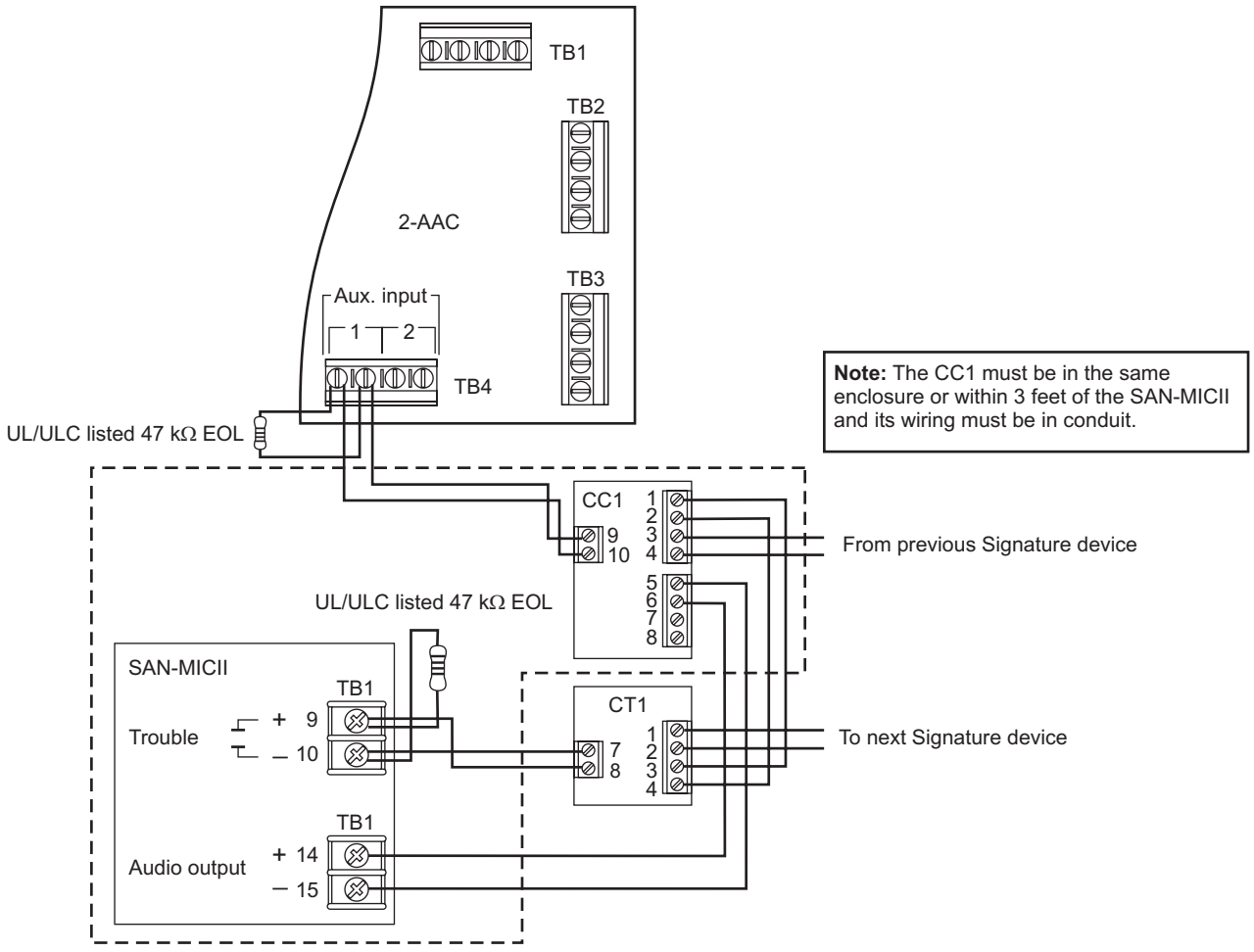
2 1.8 kΩ EOL P/N 260044

3 Tone select must be connected to dc common during external alarm activation

4 Jump TB1-5 and TB1-8 for March Time.



FIELD WIRING



Note: The CC1 must be in the same enclosure or within 3 feet of the SAN-MICII and its wiring must be in conduit.

PRODUCT DESCRIPTION

The SDR-32 is a remote annunciator lamp driver module, which comes in four models and consists of 32 open collector driver circuits. The SDR-32, the SDR-32K, the SDR-32C, and the SDR-32KC are designed for remote annunciator applications with the SAN-CPU or RSA4-CPU. All SDR-32 models provide lamp drivers for LED or incandescent lamp annunciators. The high circuit density makes the SDR-32 modules ideal for driving graphic annunciators.

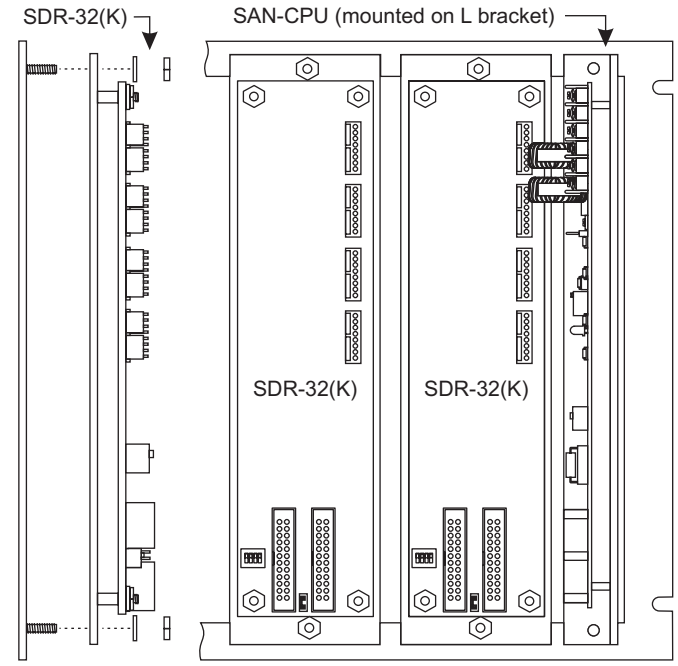
The SDR-32 features current-limited outputs with LEDs. The SDR-32K provides no current limiting for use as an external relay driver. The SDR-32C and the SDR-32KC consist of the circuit card only with the option of mounting in graphic annunciators.

INSTALLATION

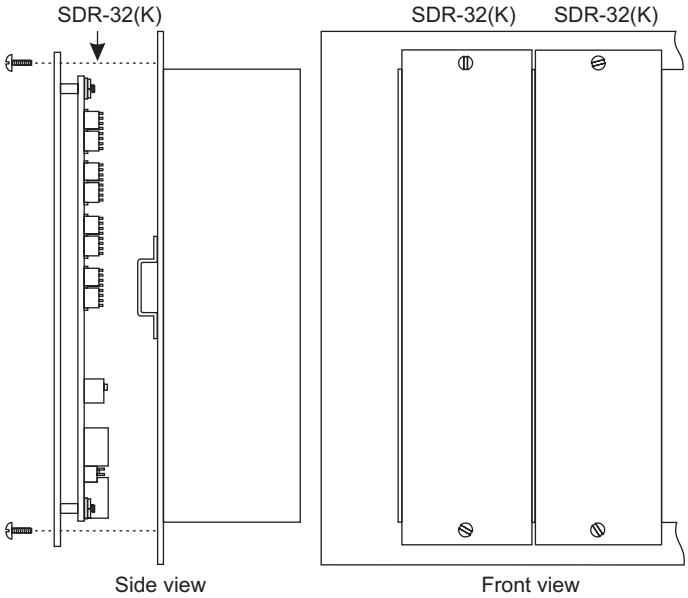
1 Mount the SDR-32(K).

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



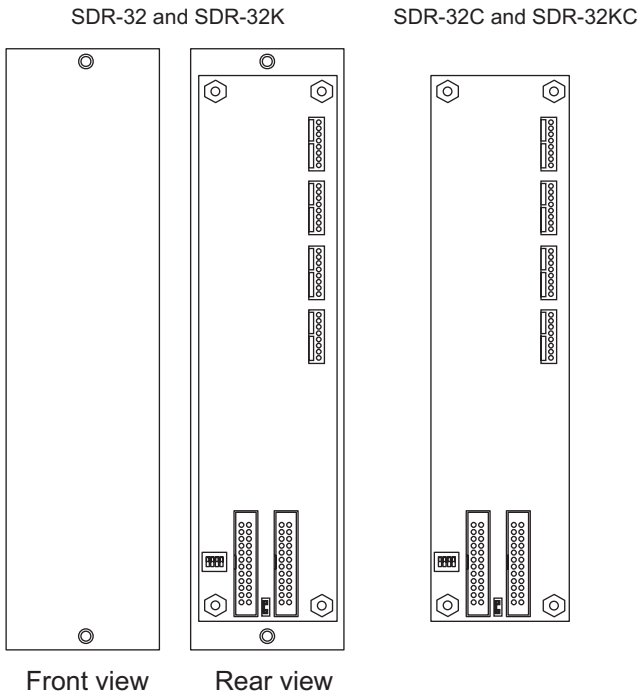
SPECIFICATIONS

Power	From SAN-CPU
Standby current	1 mA
Current sink	
SDR-32	16 mA maximum
SDR-32K	100 mA maximum
Lamp supply	24 Vdc, maximum
Address requirements	
Inputs	None
Outputs	32 (4 groups of eight)
Weight	3.3 oz (93.5 g)
Mounting	See Related documentation.

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SDR-32
Remote Annunciator Relay Module

INSTALLATION SHEET P/N: 387208	FILE NAME: 387208.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

Related documentation: SAN Series Remote Annunciator Enclosures installation sheet

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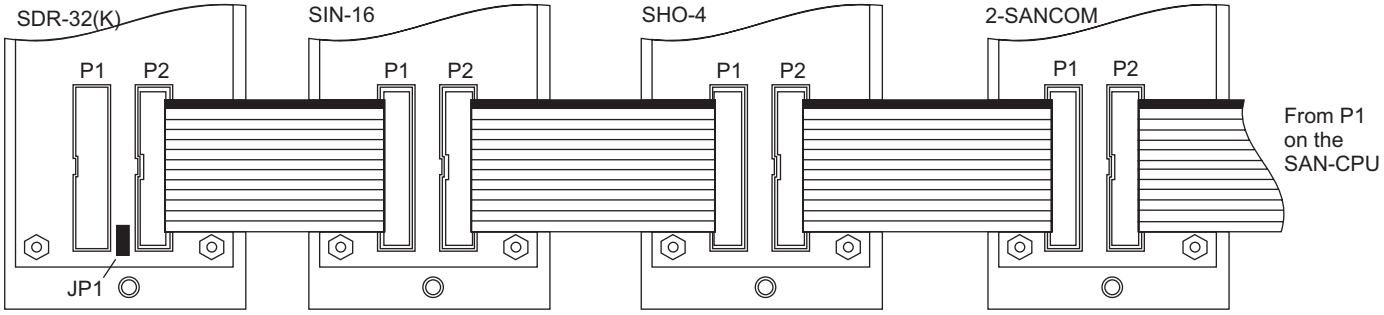
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INSTALLATION

2 Make the ribbon cable connections.

A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.
B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.
C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.
D. Install the continuity jumper on the last SAN module.

Note: If the SDR-32(K) is the last module, install the continuity jumper on JP1.



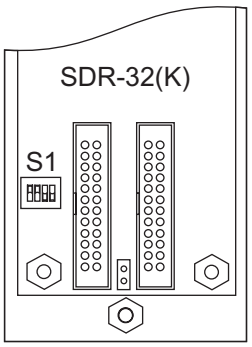
3 Set the SDR-32(K) dip switches.

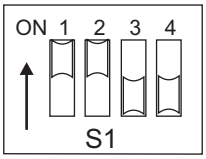
Remember that the SDR-32(K):

- Cannot occupy the 2-SANCOM addresses (01 through 09).
- Requires four output address groups, which consist of eight addresses each.

To set the dip switches:

A. Configure the SAN-CPU in the system programming utility.
B. Note the start output address of the SDR-32(K) in the programming utility (09 to 65).
C. Set the dip switches on S1 to the group number of the SDR-32(K)'s start output address.

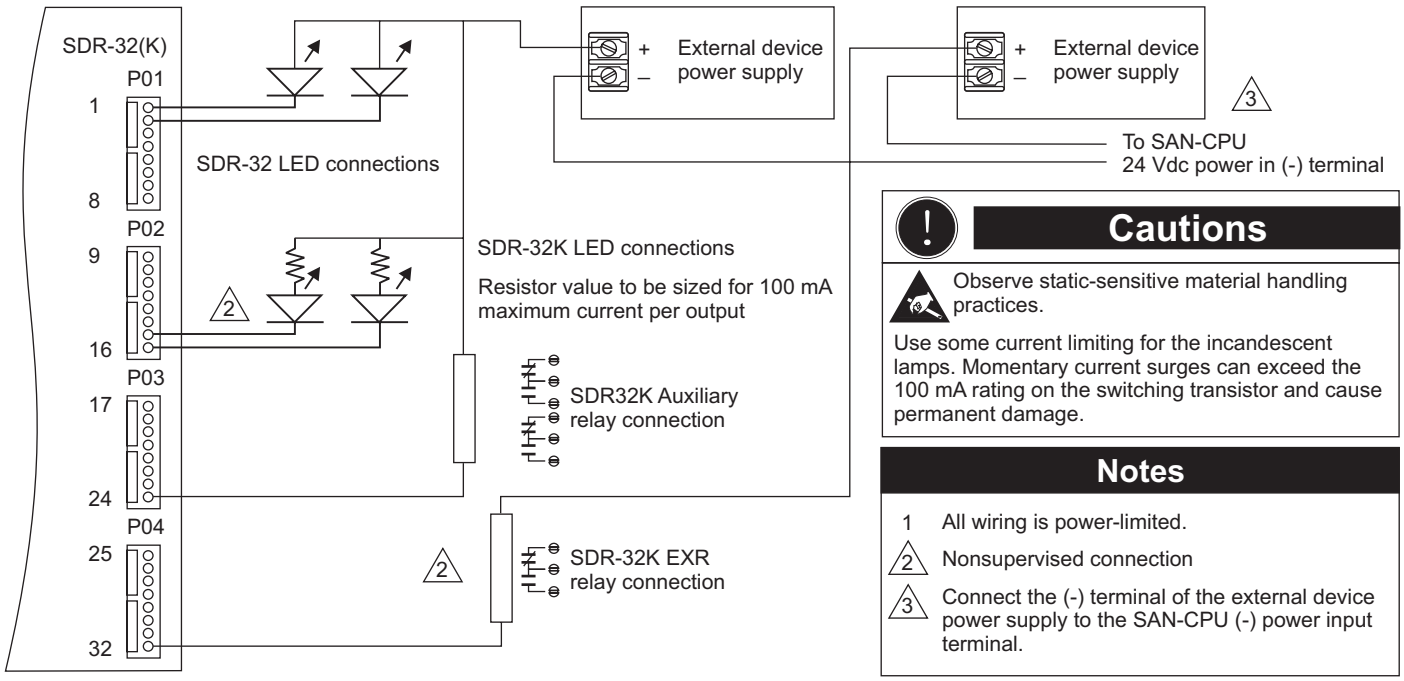




In this example, the SIN-16 does not require any output addresses. The SDR-32(K) start address is 17 and the dip switches are set to a binary 3.

Group number	Output addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SDR-32(K)
4	25-32	off	off	on	off	SDR-32(K)
5	33-40	on	off	on	off	SDR-32(K)
6	41-48	off	on	on	off	SDR-32(K)
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

FIELD WIRING



Cautions

Observe static-sensitive material handling practices.

Use some current limiting for the incandescent lamps. Momentary current surges can exceed the 100 mA rating on the switching transistor and cause permanent damage.

Notes

1 All wiring is power-limited.

2 Nonsupervised connection

3 Connect the (-) terminal of the external device power supply to the SAN-CPU (-) power input terminal.

PRODUCT DESCRIPTION

The SHO-4 is a remote annunciator LED/Switch module, which consists of four rotary switches and twelve LEDs. The SHO-4 is designed for remote switching and annunciator applications with the SAN-CPU or RSA4-CPU.

Each rotary switch has three positions and sits next to three LEDs to form a functional group. The center LED is green; the upper and lower LEDs are yellow. The front panel protects a slip-in legend sheet, which identifies individual switch and LED functions.

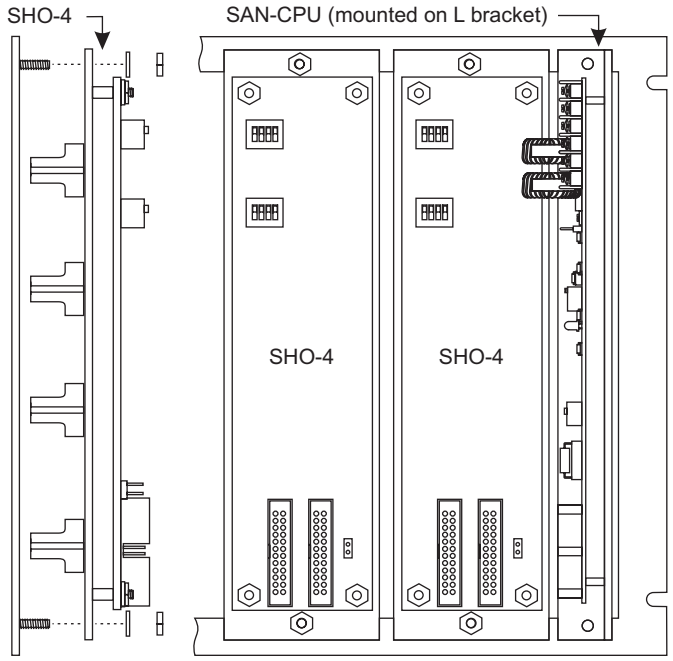
The SHO-4 provides point status indication and switching functions at a location remote from the main control panel. Typical applications include "hands-off-automatic" control/override of automatic systems.

INSTALLATION

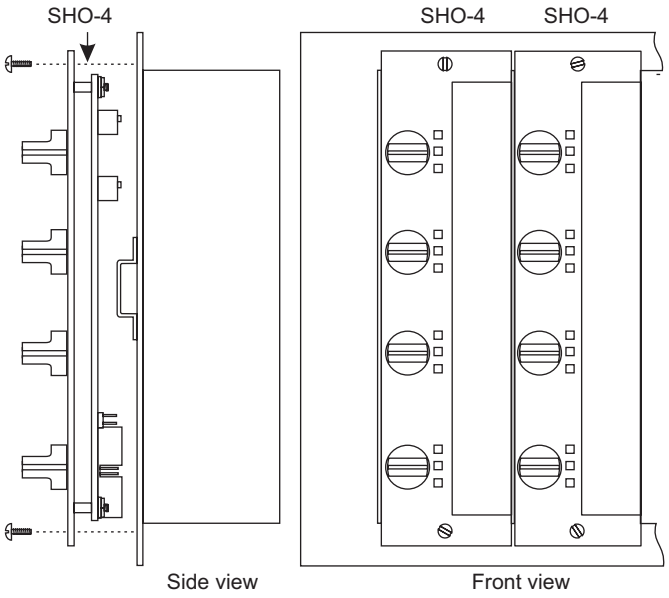
1 Mount the SHO-4

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



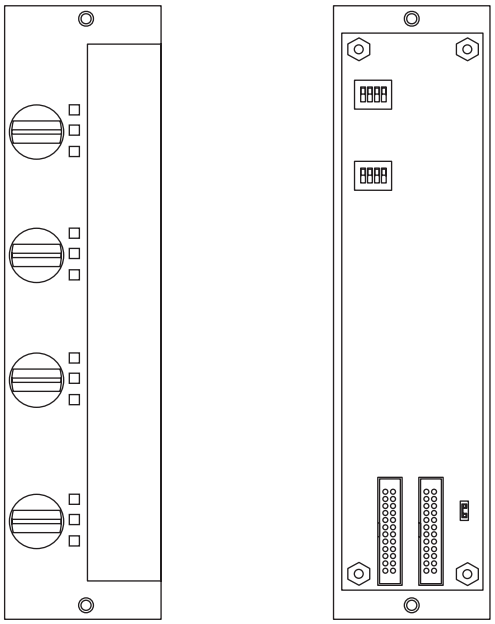
SPECIFICATIONS

Power	From SAN-CPU
Standby current	25 mA
Active LED current	
Per LED	6 mA
Full load	96 mA
Address requirements	
Inputs	8 (1 group of eight)
Outputs	8 (1 group of eight)
Weight	3.3 oz (93.5 g)
Mounting	See Related documentation.

LEDs

The LEDs indicate programmed points and functions. Operation of the switches is independent of the LEDs, both being under control of the system program.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SHO-4
Remote Annunciator LED/Switch Module

INSTALLATION SHEET P/N: 387205	FILE NAME: 387205.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

Related documentation: SAN Series Remote Annunciator Enclosures installation sheet

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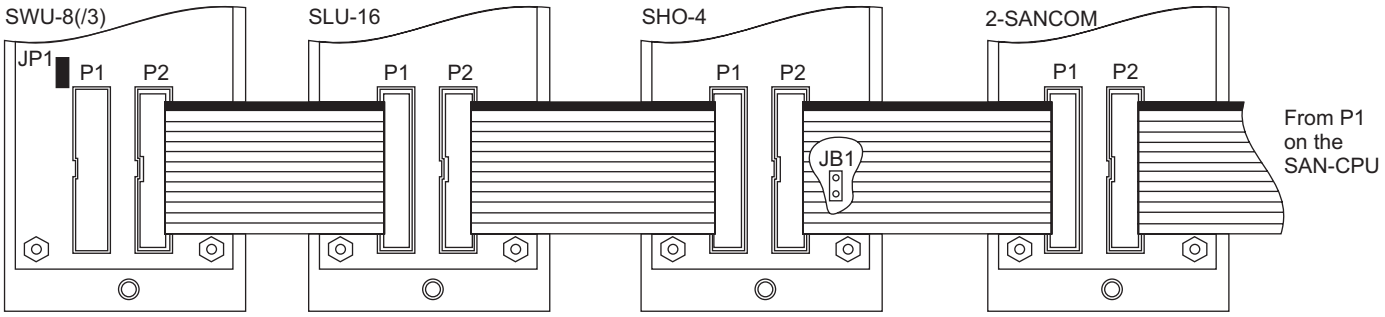
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

2 Make the ribbon cable connections.

A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.
B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.
C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.
D. Install the continuity jumper on the last SAN module.

Note: If the SHO-4 is the last module, install the continuity jumper on JB1.



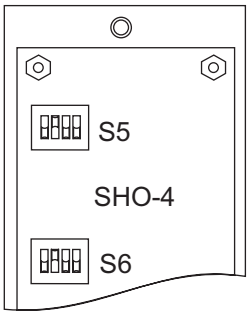
3 Set the SHO-4 dip switches

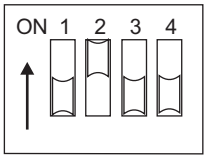
Remember that the SHO-4:

- Cannot occupy addresses 01 through 09 because they belong to the 2-SANCOM.
- Requires one input address group and one output address group, which consist of eight addresses each.

To set the dip switches:

A. Configure the SAN-CPU in the system programming utility.
B. Note the start input and output addresses of the SHO-4 in the programming utility (09 to 81).
C. Set the dip switches on S5 and S6 to match the group numbers of the SHO-4's start input and start output addresses.

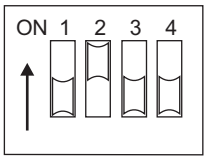




S5

In this example, the start address is 09 for inputs and outputs, so both dip switches are set to a binary 2.

Group number	Input addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SLU-16
4	25-32	off	off	on	off	SLU-16
5	33-40	on	off	on	off	SWU-8/3
6	41-48	off	on	on	off	SWU-8/3
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	



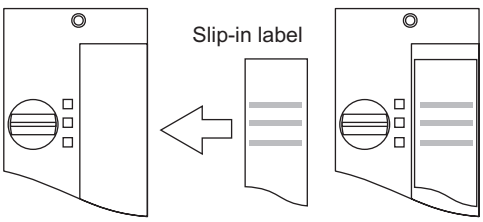
S6

Group number	Output addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SWU-8/3
4	25-32	off	off	on	off	SWU-8/3
5	33-40	on	off	on	off	
6	41-48	off	on	on	off	
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

4 Label the SHO-4 switches and LEDs

To label the SHO-4:

A. Identify each LED/switch group on the SHO-4 according to its programmed function.
B. Write the functions on the slip-in legend sheet next to the appropriate LED/switch group.
C. Insert the label under the SHO-4 face plate.



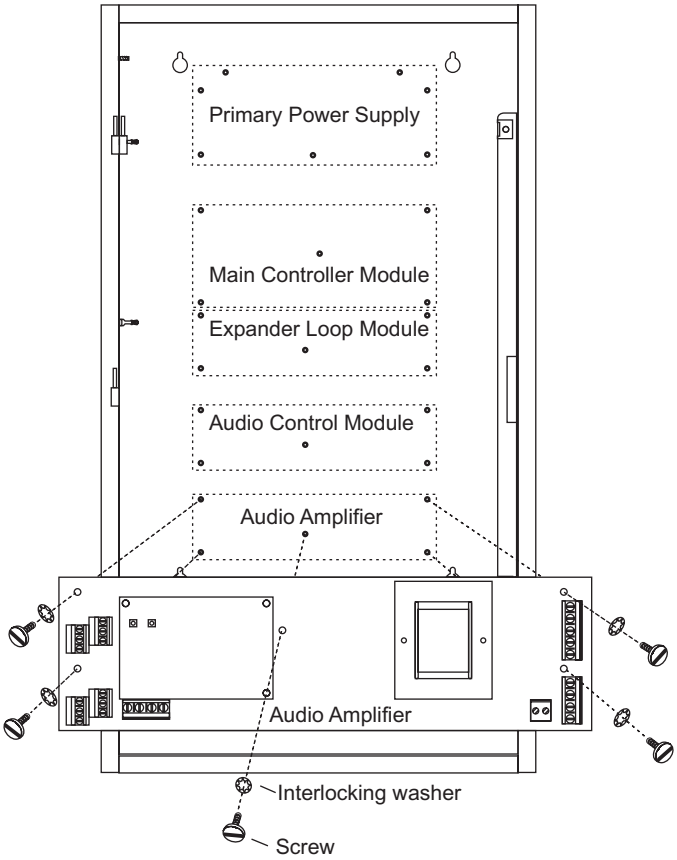
PRODUCT DESCRIPTION

The SIGA-AAXX is a high-efficiency, dual-input, switch-mode audio amplifier. The amplifier comes in two versions: 30 watt (SIGA-AA30) and 50 watt (SIGA-AA50), and has both 1 V and 25 V input levels. The output is supervised, power-limited, and user-selectable for 25 Vrms or 70 Vrms output voltage.

An integral Signature module under software control selects the amplifier input channel. The amplifier reports its status to the Main Controller Module to reduce the need for additional field wiring. The amplifier also features a backup amplifier connection, which supports one-to-one or banked backup amplifiers.

INSTALLATION

1 Mount the amplifier with the screws and washers provided.



Note: See the installation sheets listed in the title box for other places to mount the Audio Amplifier.

2 Configure the amplifier

a. Set JP2 (output voltage) to 25 Vrms or 70 Vrms as required.

b. Set JP3 on the back of the daughter board for the backup mode.

Jumper Settings

JP2	Pins 1 and 2: 70 Vrms Pins 2 and 3: 25 Vrms
JP3	In: TB5 signal before 1 kHz backup tone Out: 1 kHz backup tone before TB5 signal

SPECIFICATIONS

Power requirements	
Standby	1 mA @ 24 Vdc
Active SIGA-AA30	1.7 A @ 24 Vdc
Active SIGA-AA50	3.2 A @ 24 Vdc
Frequency response	400 Hz to 4 kHz at -3 dB (ULC) 800 Hz to 2.8 kHz (ULI)
Harmonic distortion	< 5%
Input	
Channel 1 dual input	1 Vrms or 25 Vrms maximum
Channel 2 dual input	1 Vrms or 25 Vrms maximum
Output	
SIGA-AA30	30 watts @ 25 Vrms or 70 Vrms
SIGA-AA50	50 watts @ 25 Vrms or 70 Vrms
Configuration	Class B (Style Y) or Class A (Style Z)
EOL resistor	47 kΩ
Signature Data Circuit	
Addresses	2 module addresses
Emulation	Signature series CC2 module
Maximum wire size	12 AWG (2.5 mm^2)
Backup tone	1 kHz
Operating temperature	32 to 120 °F (0 to 49 °C)
Humidity	0 to 93%, noncondensing

Warning!

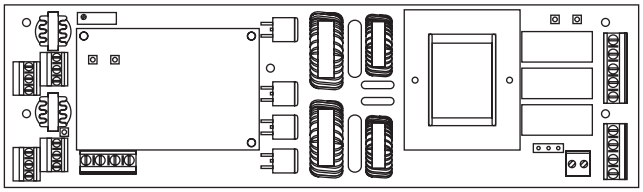
Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

LED indicators

LED	Color	Pattern	Description
DS1	Green	Steady	Power amp disabled
DS2	Yellow	Steady	Backup mode
DS3	Green	Steady	Amplifier active
DS4	Green	Flashing	Normal communications (daughterboard)
DS5	Red	Flashing	Active condition (daughterboard)



INSTALLATION SHEET:

SIGA-AA30/SIGA-AA50 Audio Amplifiers

INSTALLATION SHEET P/N: 387343	FILE NAME: 387343.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

Related documentation: WB3(R) Wallbox installation sheet, WB7(R) Wallbox installation sheet, RACCR Remote Audio Closet Cabinet installation sheet

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WIRING

3 Wire the amplifier

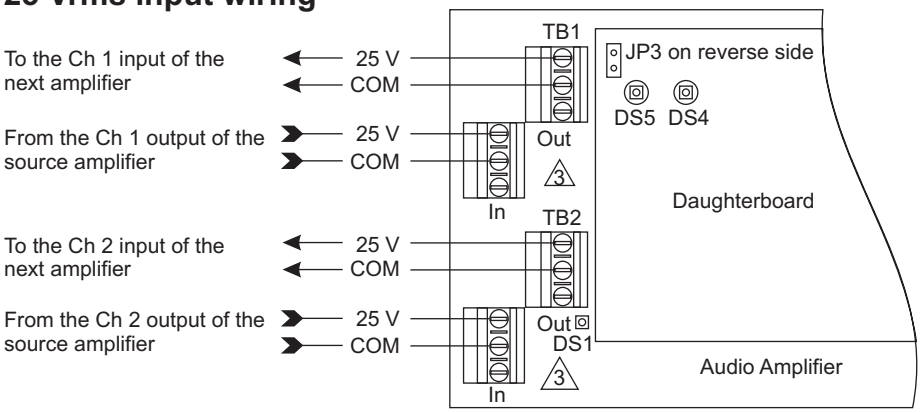
a. Connect the power, the Signature Data Circuit (SDC) , the input risers, and the backup risers as required.

b. Test the circuit before you connect the amplifier to the output wiring.

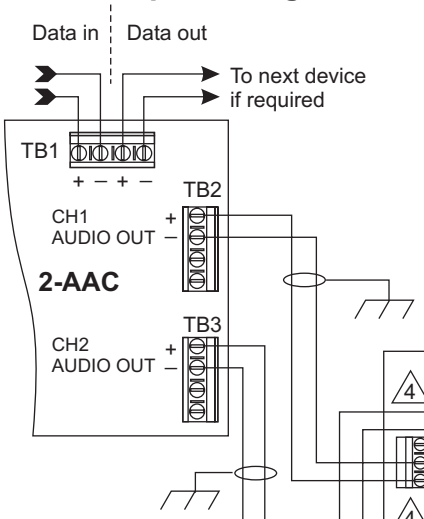
c. Connect the circuits that check out good to the appropriate amplifier terminals.

Note: The terminal blocks indicate the polarity for normal monitoring of the circuit's electrical integrity.

25 Vrms input wiring



1 Vrms input wiring

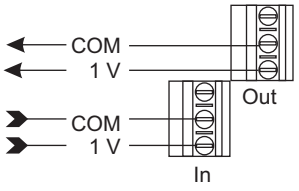


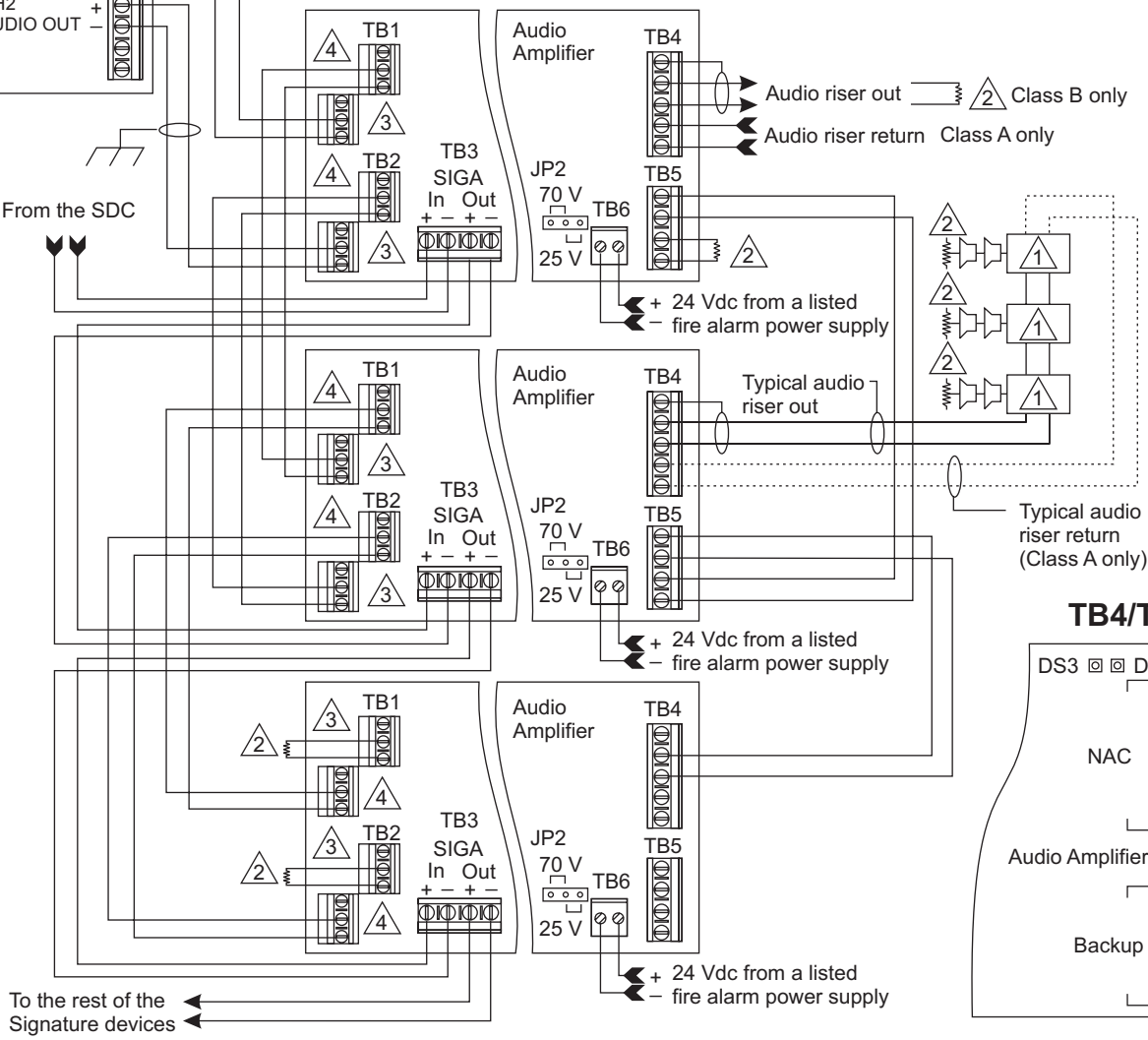
Notes

1. Signature series module: CC1, CC2, or UM
2. UL/ULC Listed 47 kΩ EOL
3. The actual placement of the TB1 and TB2 output terminals is almost directly behind the input terminals. Note also that the output terminals are taller than the input terminals.
4. See the detail for 1 volt connections.
5. All wiring is supervised and power-limited.

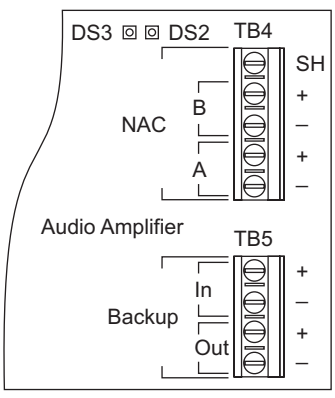
Detail

1 volt connections





TB4/TB5 wiring



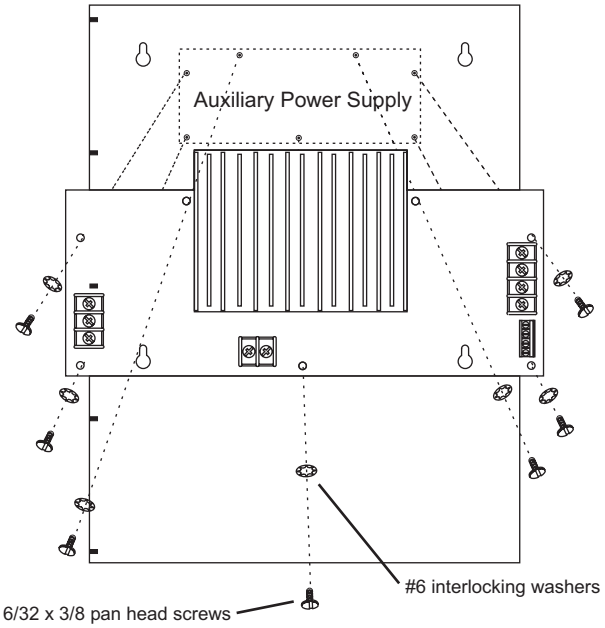
PRODUCT DESCRIPTION

The SIGA-APS is a switch-mode auxiliary power supply designed to provide additional power for audio components and external Notification Appliance Circuits (NACs). The power supply monitors the AC line, performs ground fault testing, and charges batteries (up to 10 Ah). The SIGA-APS also provides a smooth and uninterrupted transition to batteries in the event of an AC power loss.

All trouble conditions detected by the SIGA-APS are transmitted to the fire alarm control panel through its connection to the Signature Data Circuit (SDC), eliminating the need for additional devices. All connections intended to leave the cabinet are fully protected against direct and induced transient voltage conditions.

INSTALLATION

Mount the SIGA-APS with the screws and washers provided.



SPECIFICATIONS

AC Input voltage

SIGA-APS	120 Vac @ 300 W maximum, 50/60 Hz
SIGA-APS-220	220 Vac @ 300 W maximum, 50/60 Hz
Maximum wire size	12 AWG (2.5 mm^2)

Output voltage

Nominal rating	24 Vdc @ 6.75 A total
Output circuits	Two power-limited circuits rated at 24 Vdc @ 3.2 A each
Maximum wire size	12 AWG (2.5 mm^2)

Battery charging

Charge current	1.0 A
Charge capacity	10 Ah

Signature

Addressing	Two module addresses
Personality Code	03 (Emulates SIGA-CT2)
Maximum wire size	14 AWG (1.5 mm^2)

Environmental Conditions

Temperature range	32 to 120 °F (0 to 49 °C)
Humidity	93%, Non-condensing

Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

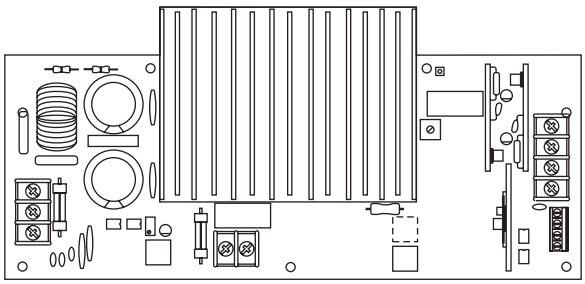
Caution!

Observe static-sensitive material handling practices.

WIRE ROUTING

The routing of power-limited and nonpower-limited wiring differs with each cabinet. For more information on the routing of power-limited and nonpower-limited wiring, see the cabinet's installation sheet.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SIGA-APS (-220)
Auxiliary Power Supply Module

INSTALLATION SHEET P/N: 387342	FILE NAME: 387342.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 30MAR00	CREATED BY: B. Graham

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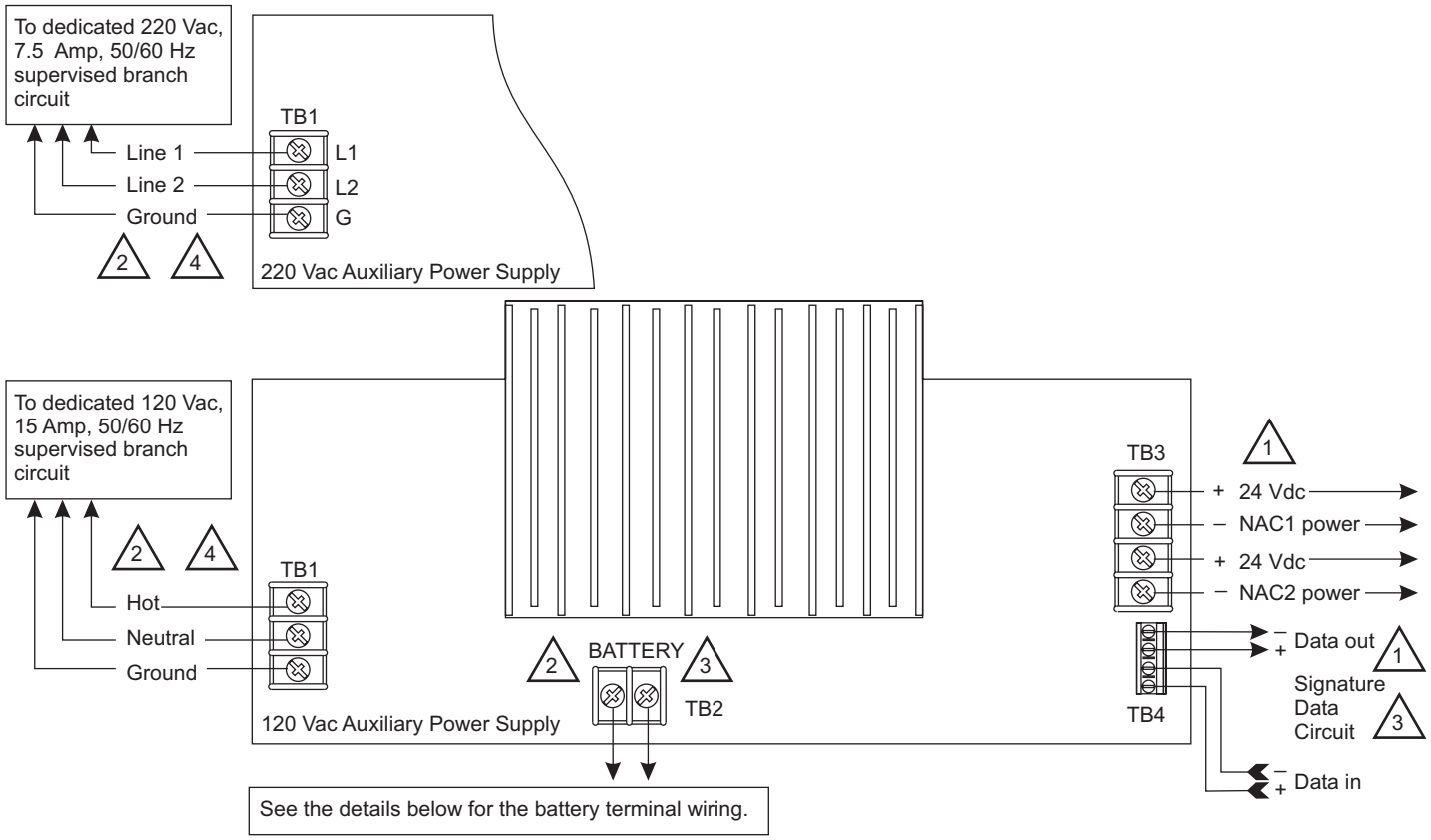
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

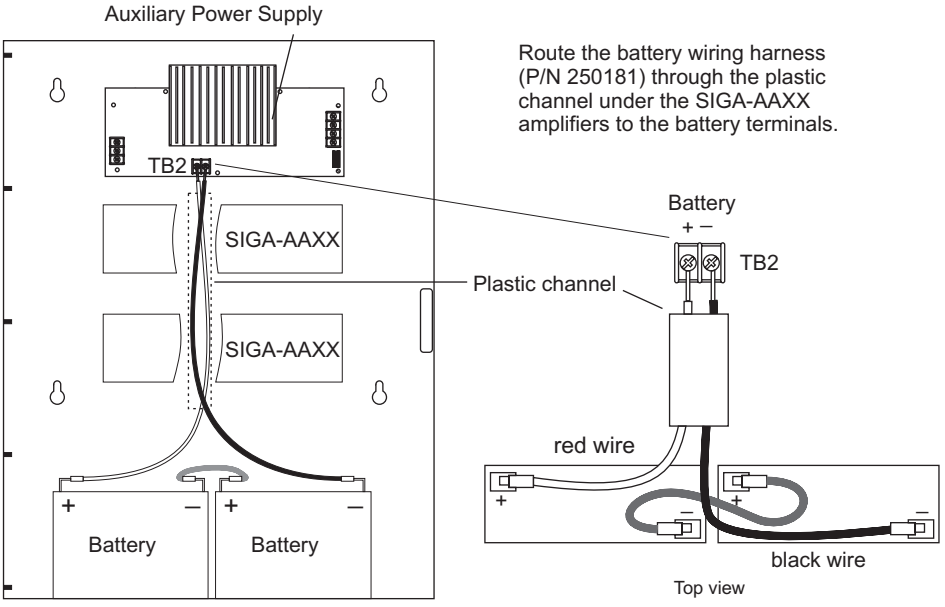
WIRING

Wire Stripping Guide

Strip 1/4 inch from the ends of ALL wires that connect to the terminal blocks of the module.

Caution:
Exposing *more* than 1/4 inch of wire may cause a ground fault.
Exposing *less* than 1/4 inch of wire may result in a faulty connection.





Notes

1. Power-limited
2. Nonpower-limited
3. Supervised
4. Nonsupervised

PRODUCT DESCRIPTION

The SIN-16 is a remote annunciator input receiver module, which consists of sixteen optically isolated, unsupervised input circuits. The SIN-16 is designed for remote annunciator applications with the SAN-CPU or RSA4-CPU.

The SIN-16 provides input circuits for normally-open dry relay contacts or open collector transistor inputs. The high circuit density makes the SIN-16 module ideal for connecting multiple switching functions from graphic annunciators or interfacing to outside systems.

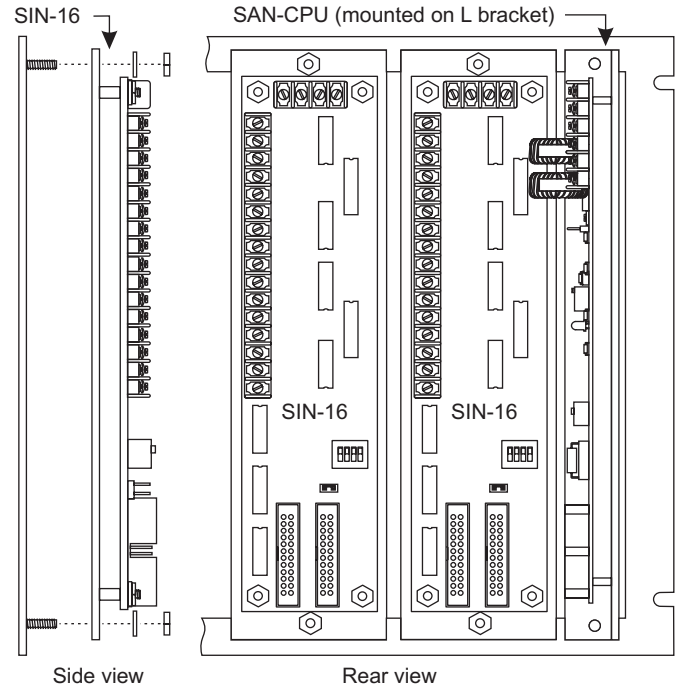
Note: Active SIN-16 inputs generate a supervisory open condition.

INSTALLATION

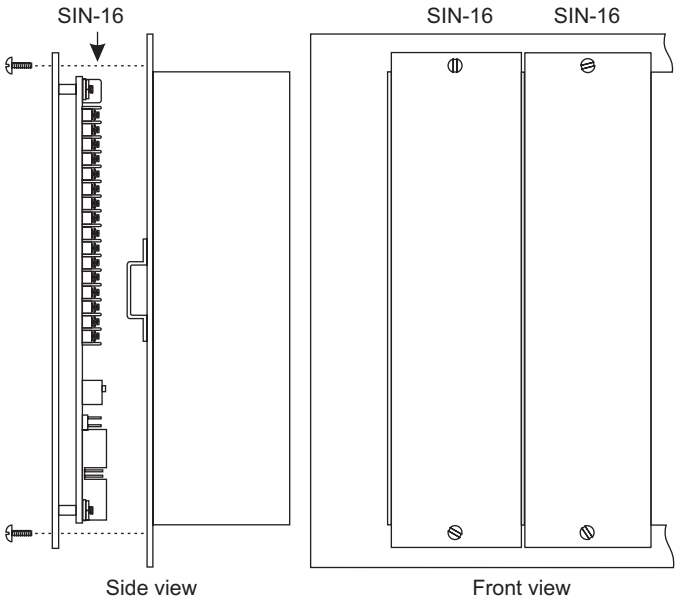
1 Mount the SIN-16.

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



SPECIFICATIONS

Power	From SAN-CPU
Standby current	1 mA
Input current	7 mA per circuit
Input voltage	24 Vdc, maximum
Address requirements	
Inputs	16 (2 groups of eight)
Outputs	None
Weight	3.3 oz (93.5 g)
Mounting	See Related documentation.

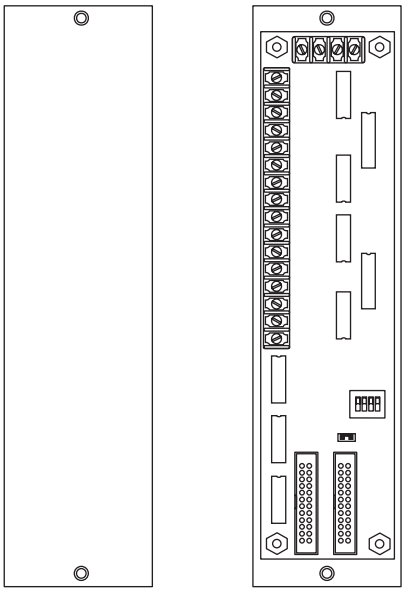
Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SIN-16
Remote Annunciator Input Receiver Module

INSTALLATION SHEET P/N: 387206	FILE NAME: 387206.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

Related documentation: SAN Series Remote Annunciator Enclosures installation sheet

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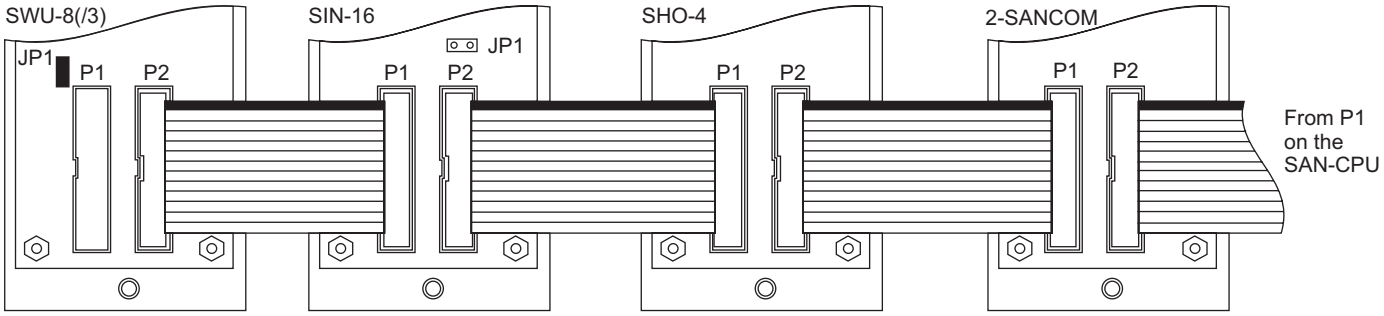
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INSTALLATION

2 Make the ribbon cable connections.

A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.
B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.
C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.
D. Install the continuity jumper on the last SAN module.

Note: If the SIN-16 is the last module, install the continuity jumper on JP1.



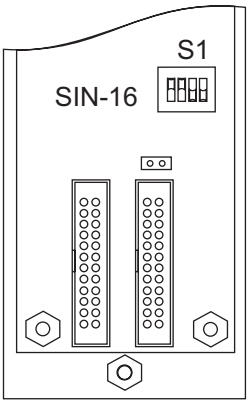
3 Set the SIN-16 dip switches.

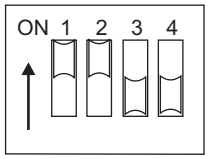
Remember that the SIN-16:

- Cannot occupy the 2-SANCOM addresses (01 through 09).
- Requires two input address groups, which consist of eight addresses each.

To set the dip switches:

A. Configure the SAN-CPU in the system programming utility.
B. Note the start input address of the SIN-16 in the programming utility (09 through 81).
C. Set the dip switches on S1 to the group number of the SIN-16's start input address.



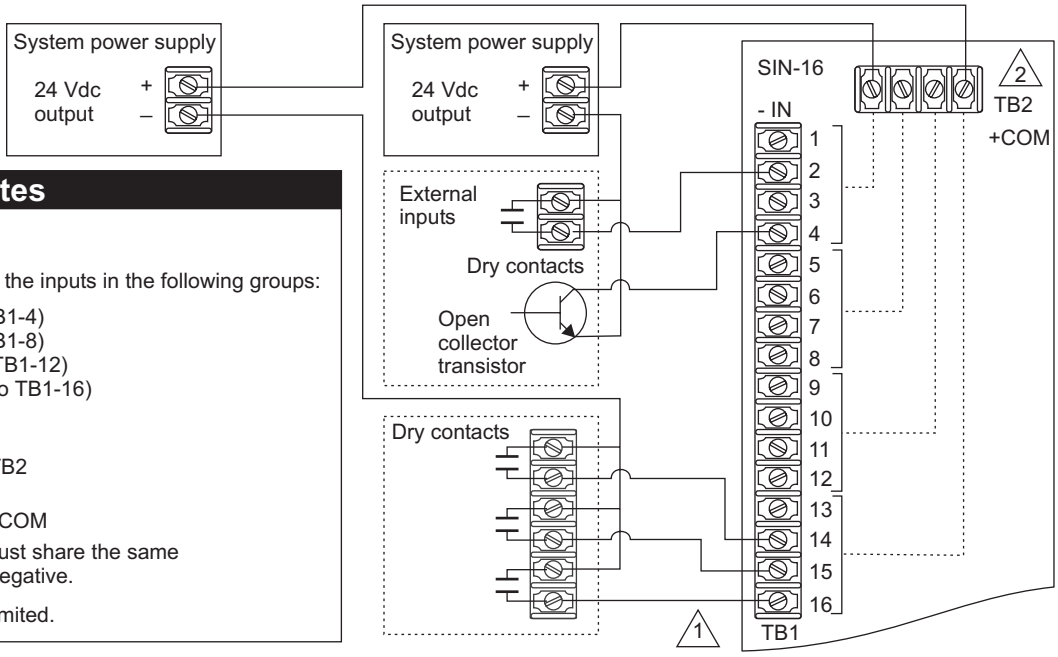


S1

In this example, the start address is 17 and the dip switches are set to a binary 3.

Group number	Input addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SIN-16
4	25-32	off	off	on	off	SIN-16
5	33-40	on	off	on	off	SWU-8(/3)
6	41-48	off	on	on	off	SWU-8/3
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

FIELD WIRING

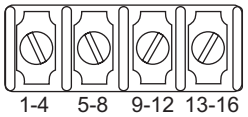


Notes

1 Nonsupervised inputs.

2 TB2 provides + common for the inputs in the following groups:

- Inputs 1-4 (TB1-1 to TB1-4)
- Inputs 5-8 (TB1-5 to TB1-8)
- Inputs 9-12 (TB1-9 to TB1-12)
- Inputs 13-16 (TB1-13 to TB1-16)



3 Each group of four inputs must share the same power supply positive and negative.

4 All connections are power-limited.

PRODUCT DESCRIPTION

The SLU-16 is a remote annunciator, which provides individual point status indications. The front panel consists of 16 LEDs and a slip-in legend sheet to identify LED functions. The SLU-16 comes in three models:

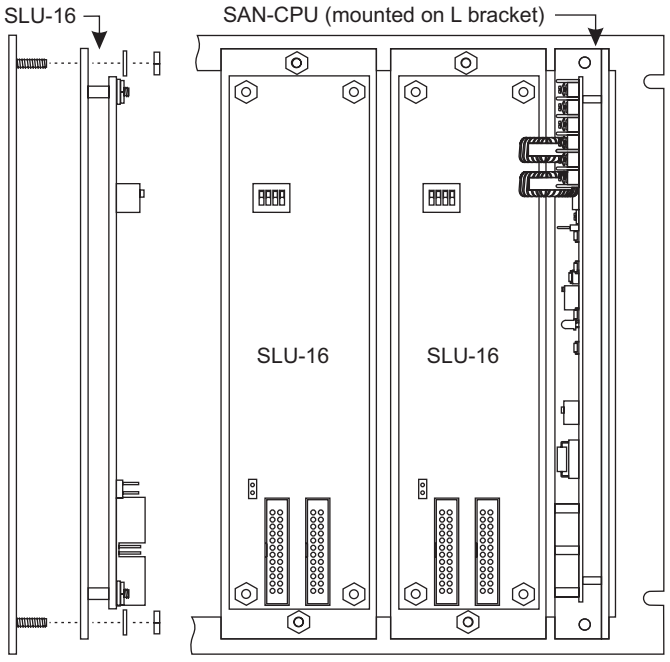
Model	Description
SLU-16R	16 red LEDs
SLU-16Y	16 yellow LEDs
SLU-16R/Y	8 red LEDs/8 yellow LEDs

INSTALLATION

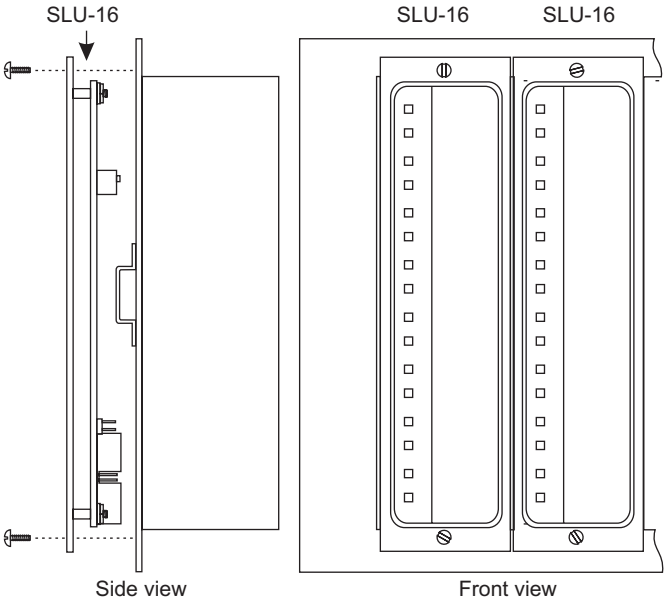
1 Mount the SLU-16.

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



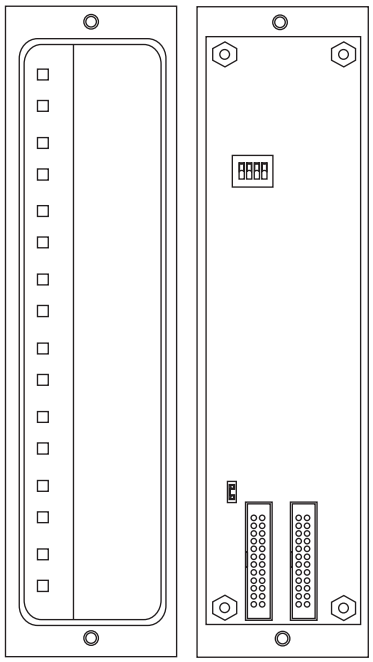
SPECIFICATIONS

Power	From SAN-CPU
Standby current	1 mA
Active LED current	
Per LED	6 mA
Full load	96 mA
Address requirements	
Inputs	None
Outputs	16 (2 groups of eight)
Weight	3.3 oz (93.5 g)
Mounting	See Related documentation.

LEDs

The LEDs indicate programmed points and functions. Operation of the switches is independent of the LEDs, both being under control of the system program.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SLU-16R/Y
Remote Annunciator

INSTALLATION SHEET P/N: 387203	FILE NAME: 387203.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

Related documentation: SAN Series Remote Annunciator Enclosures installation sheet

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INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

2 Make the ribbon cable connections.

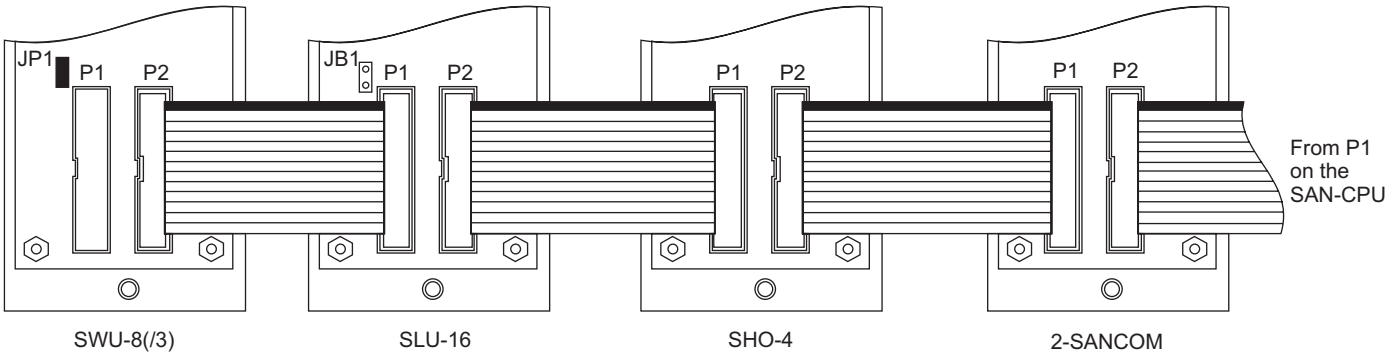
A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.

B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.

C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.

D. Install the continuity jumper on the last SAN module.

Note: If the SLU-16 is the last module, install the continuity jumper on JB1.



3 Set the SLU-16 dip switches.

Remember that the SLU-16:

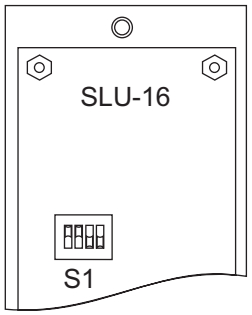
- Cannot occupy addresses 01 through 09 because they belong to the 2-SANCOM.
- Requires two address groups, which consist of eight points each.

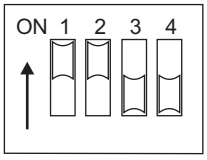
To set the dip switches:

A. Configure the SAN-CPU in the system programming utility.

B. Note the start output address of the SLU-16 in the programming utility (09 to 81).

C. Set the dip switches on S1 to match the group number of the SLU-16's output start address.





In this example, the start address is 17 and the dip switch is set to a binary 3.

Group Number	Output addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SLU-16
4	25-32	off	off	on	off	SLU-16
5	33-40	on	off	on	off	SWU-8(/3)
6	41-48	off	on	on	off	SWU-8(/3)
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

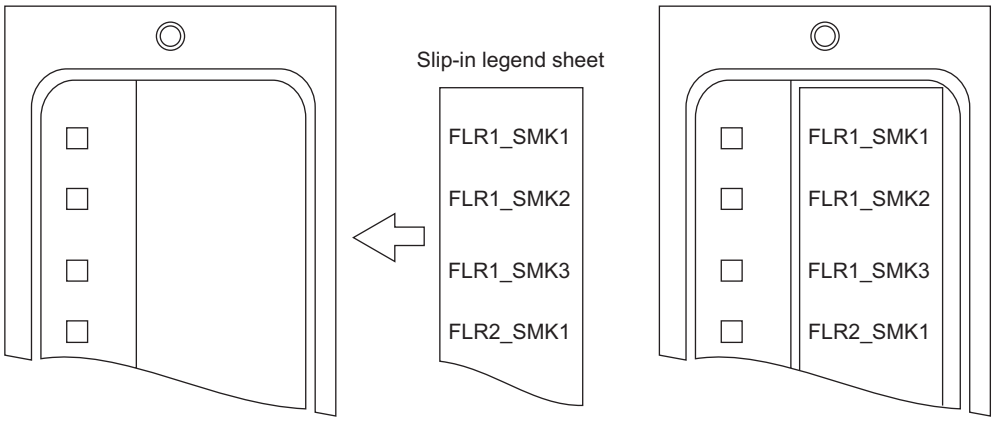
4 Label the SLU-16.

To label the SLU-16:

A. Identify each LED on the SLU-16 according to its programmed function.

B. Write the functions on the slip-in legend sheet next to the appropriate LEDs.

C. Insert the label under the SLU-16 face plate.



PRODUCT DESCRIPTION

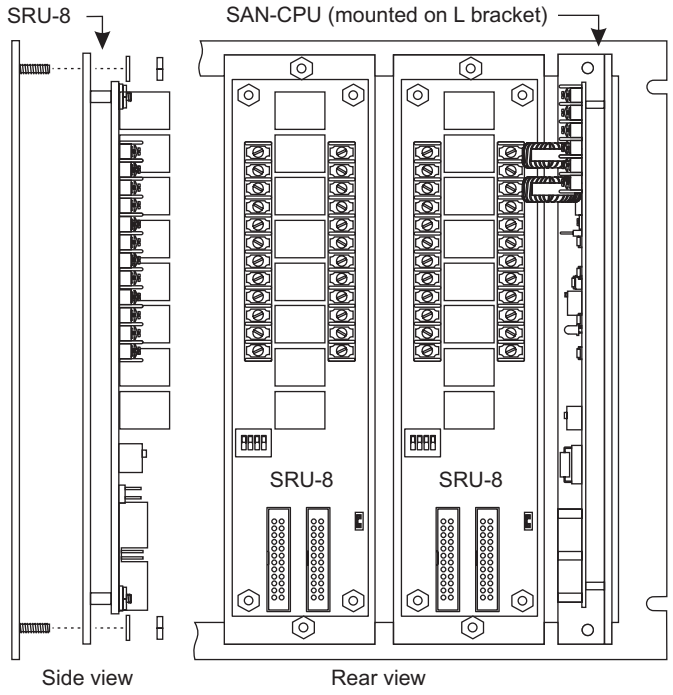
The SRU-8 is a remote annunciator relay module, which consists of eight single pole double throw (SPDT) relays. These dry contact relays are normally open/normally closed. See the reverse side of this installation sheet for more detail. The SRU-8 is designed for applications with the SAN-CPU or RSA4-CPU.

INSTALLATION

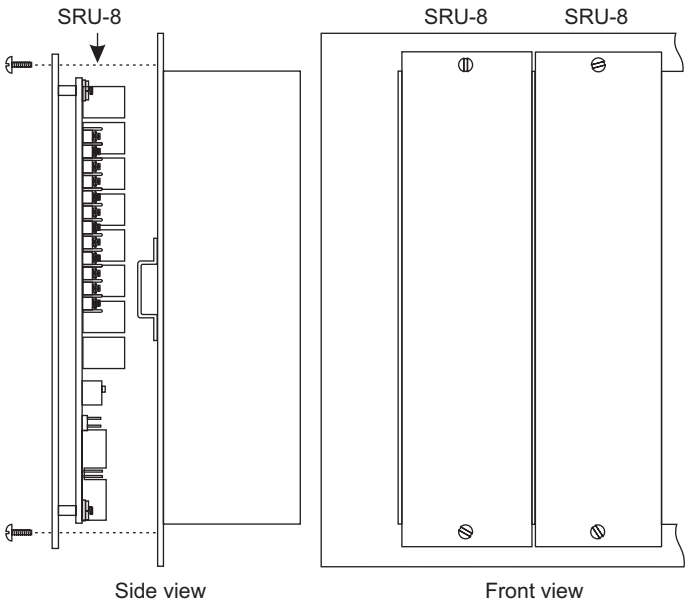
1 Mount the SRU-8.

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



SPECIFICATIONS

Power	From SAN-CPU
Standby current	1 mA
Input current	20 mA per circuit
Input voltage	24 Vdc, maximum
Address requirements	
Inputs	None
Outputs	8 (1 group of eight)
Weight	3.3 oz (93.5 g)
Mounting	See Related documentation.

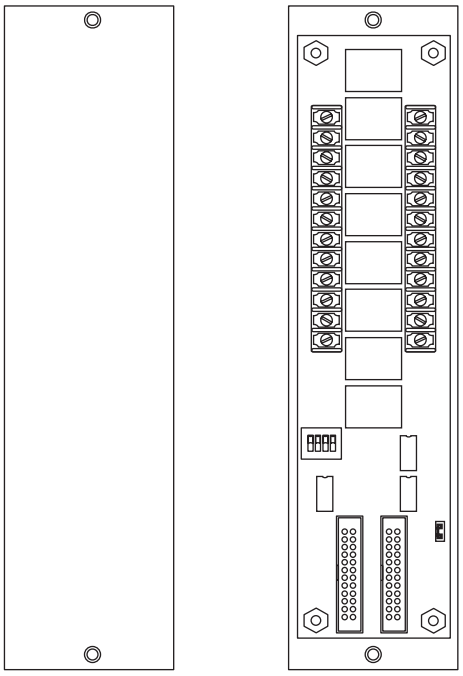
Warning!

Disconnect power to cabinets before installing or removing components. Failure to do so may result in serious injury or loss of life.

Caution!

Observe static-sensitive material handling practices.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SRU-8
Remote Annunciator Relay Module

INSTALLATION SHEET P/N: 387207	FILE NAME: 387207.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

Related documentation: SAN Series Remote Annunciator Enclosures installation sheet

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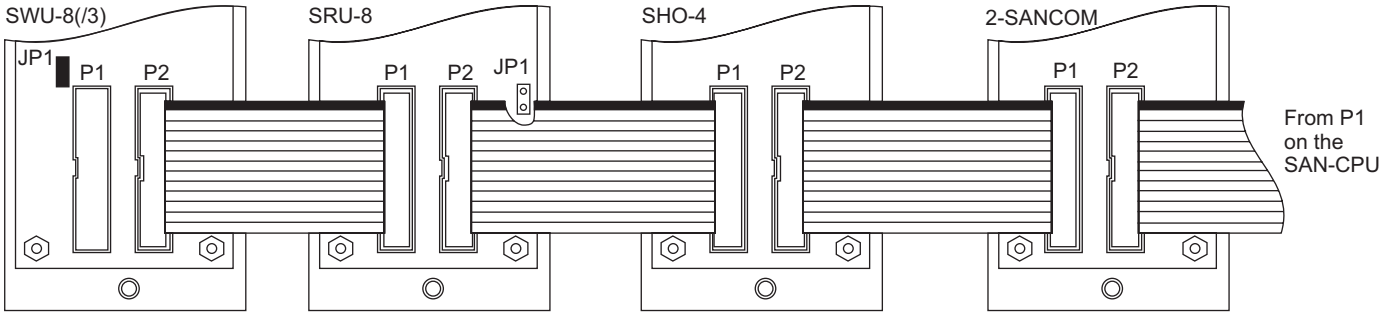
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

INSTALLATION

2 Make the ribbon cable connections.

A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.
B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.
C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.
D. Install the continuity jumper on the last SAN module.

Note: If the SIN-16 is the last module, install the continuity jumper on JP1.



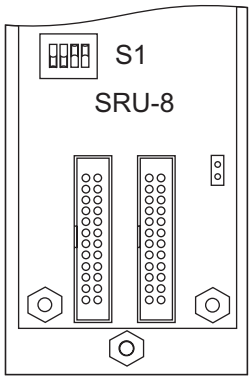
3 Set the SRU-8 dip switches.

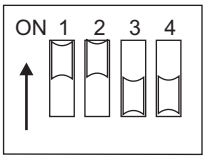
Remember that the SRU-8:

- Cannot occupy the 2-SANCOM addresses (01 through 09).
- Requires one output address group, which consists of eight addresses.

To set the dip switches:

A. Configure the SAN-CPU in the system programming utility.
B. Note the start output address of the SRU-8 in the programming utility (09 to 89).
C. Set the dip switches on S1 to the group number of the SRU-8's start output address.





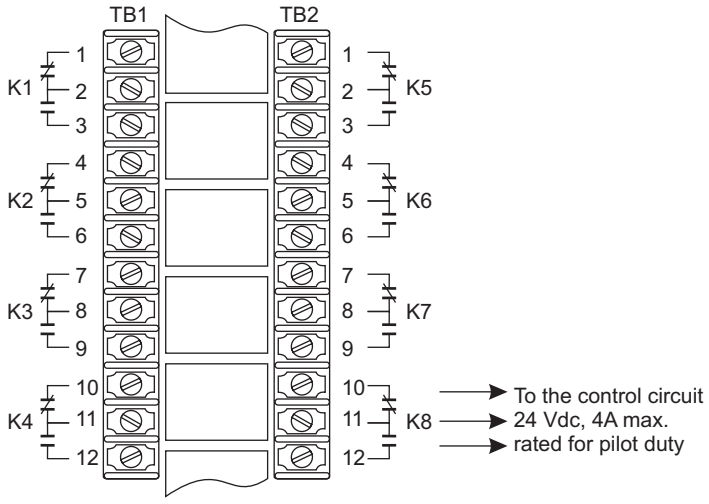
S1

In this example, the start address is 17 and the dip switches are set to a binary 3.

Group number	Output addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SRU-8
4	25-32	off	off	on	off	SWU-8(/3)
5	33-40	on	off	on	off	SWU-(8/3)
6	41-48	off	on	on	off	
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

FIELD WIRING

Note: Power-limited if the source is power-limited. If the source is nonpower-limited, maintain a space of 1/4 inch from power-limited wiring. Otherwise, use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electric Code.

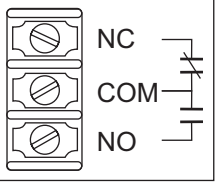


SRU-8 Relay Table

Terminal	Relay	Description	Terminal	Relay	Description
TB1-1	K1	NC	TB2-1	K5	NC
TB1-2	K1	COM	TB2-2	K5	COM
TB1-3	K1	NO	TB2-3	K5	NO
TB1-4	K2	NC	TB2-4	K6	NC
TB1-5	K2	COM	TB2-5	K6	COM
TB1-6	K2	NO	TB2-6	K6	NO
TB1-7	K3	NC	TB2-7	K7	NC
TB1-8	K3	COM	TB2-8	K7	COM
TB1-9	K3	NO	TB2-9	K7	NO
TB1-10	K4	NC	TB2-10	K8	NC
TB1-11	K4	COM	TB2-11	K8	COM
TB1-12	K4	NO	TB2-12	K8	NO

Detail

Typical layout for a single pole double throw (SPDT) relay terminal



PRODUCT DESCRIPTION

The SWU-8 and the SWU8/3 are remote annunciator LED/Switch modules, which consist of eight switches and sixteen yellow LEDs. Both models are designed for remote switching and annunciator applications with the SAN-CPU or RSA4-CPU.

The SWU-8 provides two-position toggle switches; the SWU-8/3 provides three-position toggle switches. Two LEDs sit next to each switch to form a functional group. The front panel protects a slip-in legend sheet, which identifies individual switch and LED functions.

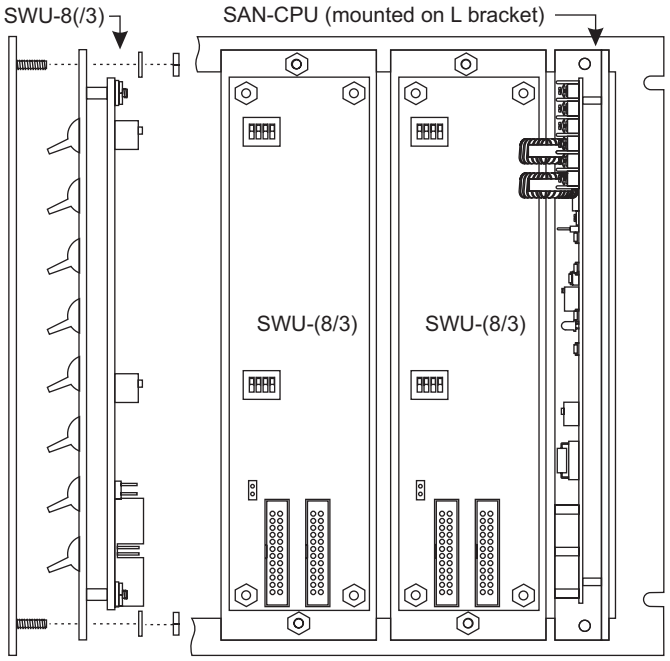
The SWU-8 provides point status indication and switching functions at a location remote from the main control panel. Typical applications include audio or fire fighter telephone zone select, audio zone silence, and manual control/override of automatic systems.

INSTALLATION

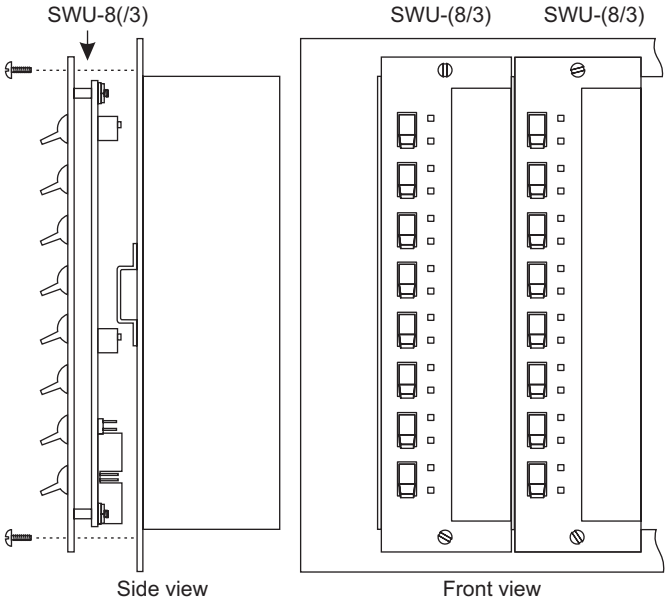
1 Mount the SWU-8(/3).

Note: See the related documentation listed in the title block for more information about specific mounting units.

On a 6-unit, 19-inch rack mount



In a 4-unit or 8-unit enclosure



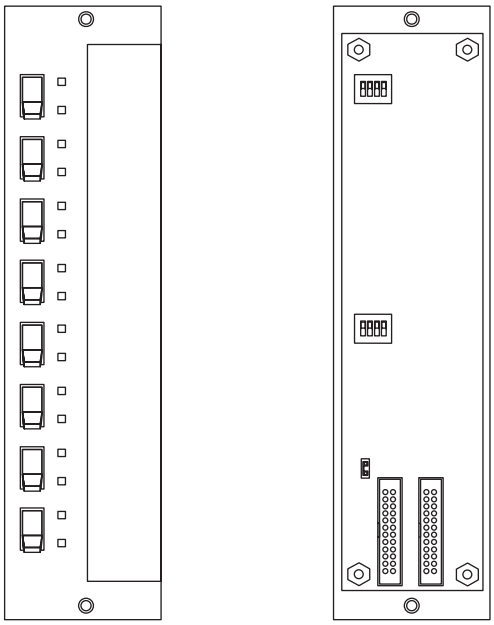
SPECIFICATIONS

Power	From SAN-CPU
Standby current	1 mA
Active LED current	
Per LED	6 mA
Full load	96 mA
Address requirements	
SWU-8 inputs	8 (1 group of eight)
SWU-8 outputs	16 (2 groups of eight)
SWU-8/3 inputs	16 (2 groups of eight)
SWU-8/3 outputs	16 (2 groups of eight)
Weight	3.3 oz (93.5 g)
Mounting	See Related documentation.

LEDs

The LEDs indicate programmed points and functions. Operation of the switches is independent of the LEDs, both being under control of the system program.

PRODUCT DIAGRAM



INSTALLATION SHEET:

SWU-8 / SWU-8/3

Remote Annunciator LED/Switch Module

INSTALLATION SHEET P/N: 387204	FILE NAME: 387204.CDR
REVISION LEVEL: 2.0	APPROVED BY: J. Massing
DATE: 31MAR00	CREATED BY: B. Graham

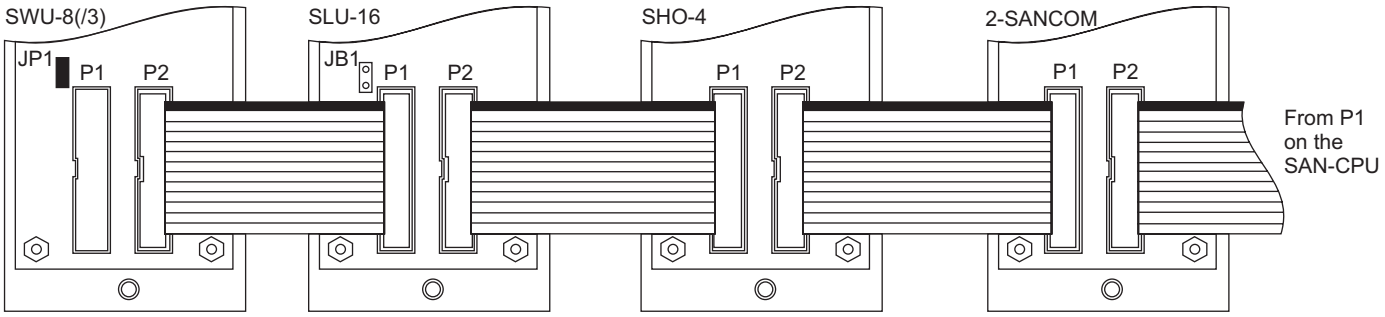
Related documentation: SAN Series Remote Annunciator Enclosures installation sheet

EDWARDS SYSTEMS TECHNOLOGY, INC.
SARASOTA, FL: 941-739-4300 FAX 941-753-1806
CHESHIRE, CT: 203-699-3000 FAX 203-699-3075
OWEN SOUND, CANADA: 519-376-2430 FAX 519-376-7258
INTERNATIONAL, CANADA: 905-270-1711 FAX 905-270-9553

2 Make the ribbon cable connections.

A. Plug the ribbon cable assembly (P/N 250080) from P1 of the SAN-CPU into P2 of the 2-SANCOM.
B. Plug the ribbon cable from P1 of the 2-SANCOM to P2 of the next SAN series module.
C. Plug the ribbon cable from P1 of each SAN module to P2 of the next SAN module until you reach the last one.
D. Install the continuity jumper on the last SAN module.

Note: If the SWU-8(/3) is the last module, install the continuity jumper on JP1.



3 Set the dip switches.

Remember that the SWU-8:

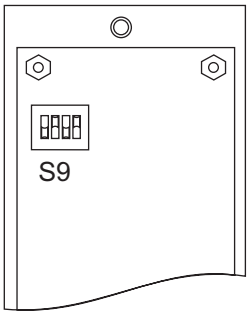
- Cannot occupy the 2-SANCOM addresses (01 through 09).
- Requires one input address group and two output address groups, which consist of eight addresses each.

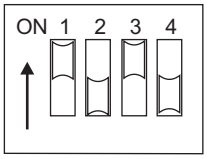
Remember that the SWU-8/3:

- Cannot occupy the 2-SANCOM addresses (01 through 09).
- Requires two input address groups and two output address groups, which consist of eight addresses each.

To set the dip switches:

A. Configure the SAN-CPU in the system programming utility.
B. Note the start input and output addresses of the SWU-8(/3) in the programming utility (09 to 81).
C. Set the dip switches on S9 and S10 to match the group numbers of the SWU-8's start input and start output addresses.



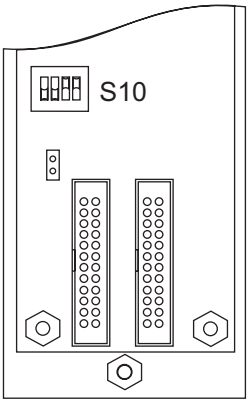


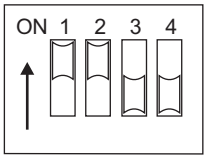
S9

In this example, the start address is 33 and the dip switch is set to a binary 5.

Group number	Output addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SLU-16
4	25-32	off	off	on	off	SLU-16
5	33-40	on	off	on	off	SWU-8(/3)
6	41-48	off	on	on	off	SWU-8(/3)
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

SWU-8(/3)





S10

In this example, the start address is 17 and the dip switch is set to a binary 3.

Note: The SWU-8 only requires addresses 17 to 24.

Group number	Input addresses	S1 dip switch settings 1	2	3	4	Module
1	01-08	on	off	off	off	2-SANCOM
2	09-16	off	on	off	off	SHO-4
3	17-24	on	on	off	off	SWU-8(/3)
4	25-32	off	off	on	off	SWU-8/3
5	33-40	on	off	on	off	
6	41-48	off	on	on	off	
7	49-56	on	on	on	off	
8	57-64	off	off	off	on	
9	65-72	on	off	off	on	
10	73-80	off	on	off	on	
11	81-88	on	on	off	on	
12	89-96	off	off	on	on	

4 Label the SWU-8(/3).

To label the SWU-8(/3):

A. Identify each LED/switch group on the SWU-8(/3) according to its programmed function.
B. Write the functions on the slip-in legend sheet next to the appropriate LED/switch group.
C. Insert the label under the SWU-8(/3) face plate.