

### Features

#### Network Display Unit (NDU) provides annunciation for up to 12,000 network points:

- The basic NDU is a special purpose master controller that includes a network interface module
- An NDU with a Voice Command Center (VCC) mounted in the same cabinet provides an additional separate Network node within the same cabinet for control of Network level Emergency Voice/Alarm Communications Equipment

#### NDU master controller equipment (top bay):

- Master controller assembly with operator interface
- 4100ES CPU with dual configuration programs, convenient service port access, and capacity for up to 12,000 points
- System power supply (SPS) and charger (9 A total) with on-board programmable auxiliary output
- Operator interface that is conveniently color coded with raised switches providing high confidence feedback
- Available with InfoAlarm Command Center expanded content user interface (refer to data sheet S4100-0101)

#### Standard addressable interfaces include:

- Remote annunciator module support via RUI (remote unit interface) communications port

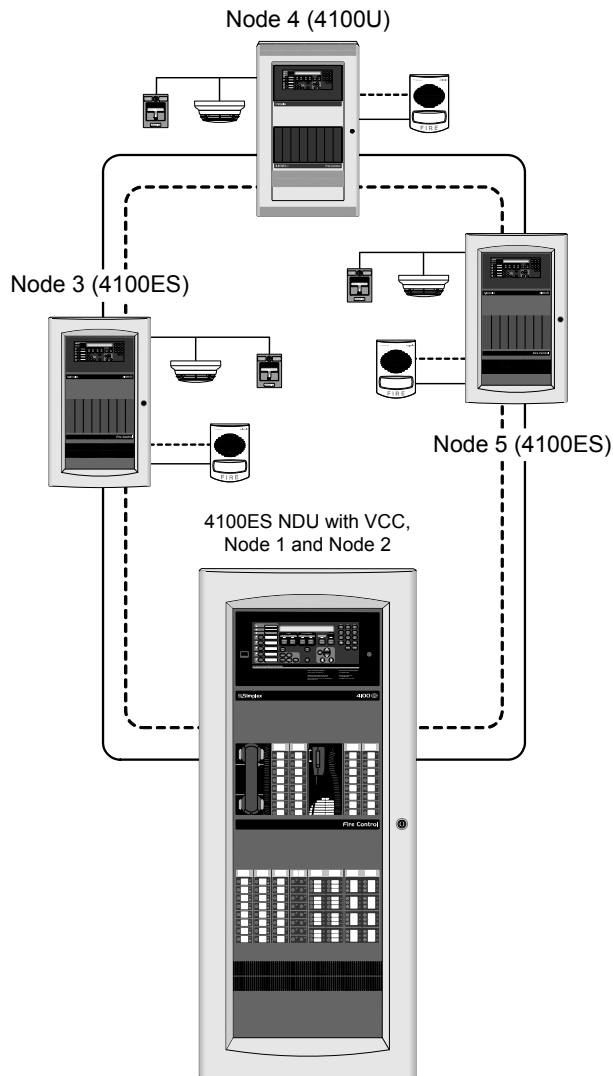
#### NDU field installed option modules include:

- DACT and City Connection
- Service modems for remote panel status inquiry
- RS-232 ports for printers or maintenance terminals
- Alarm relays and expansion power supplies
- SafeLINC Internet Interface

#### VCC equipment (second expansion bay):

- VCC include Enhanced Power Supply (EPS+) and battery charger (9 A total) with on-board **IDNAC** SLCs (signaling line circuit) for addressable appliance control, **IDNet I+** isolated addressable device control channel, and programmable function auxiliary output
- For additional information concerning EPS+ power supplies and their enhanced features, refer to 4100ES data sheet S4100-0100 and refer to additional related product data sheet list on page 9
- Voice control options are similar to a networked fire alarm control panel with an extensive list of modules available for initiating, notification, and user interface

\* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:0251 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



Network One-Line Diagram Showing an NDU with VCC

#### Listed to:

- UL Std. 864, Fire Detection and Control (UOJZ), and Smoke Control Service (UUKL)
- UL Std. 2017, Process Management Equipment (QVAX)
- UL Std. 1076, Proprietary Alarm Units-Burglar (APOU)
- UL Std. 1730, Smoke Detector Monitor (UULH)
- ULC Std. S527 Control Units for Fire Alarm Systems

### Introduction

The **4100ES NDU with VCC** is a network level annunciator and manual system/point controller with Network voice control equipment. It provides alphanumeric annunciation for up to 12,000 Network points and/or point lists and can be programmed to function as the network master controller for Alarm Silence, Trouble Acknowledge, and System Reset.

## Introduction (Continued)

**Network Overview.** When connected to other Network nodes, individual fire alarm control panels become components of a distributed intelligence system. Each panel that directly connects to the network is called a network “node” and is capable of performing individual supervision and control on its locally connected devices but has the ability to inform the 4100ES NDU (as well as other network control panels) of point status and panel condition. This allows system information to reach the proper location for appropriate system response.

Multiple 4100ES NDUs (separately packaged) can be connected to a Network to duplicate common information at separate locations, or direct selected information by type such as troubles, alarms, control, etc.

## NDU Module Bay Description

**The NDU Master Controller Bay (top)** includes a special purpose system power supply with battery charger (SPS), the master controller board, a Network Interface Module, and operator interface equipment similar to that used on the standard fire alarm control modules. Slots 1 and 2 are available for single slot panel mounted modules.

**The VCC** includes an expansion bay with *separate*: master controller board, Network Interface Module, and an EPS+ power supply. This results in two separate Network nodes residing within the same cabinet.

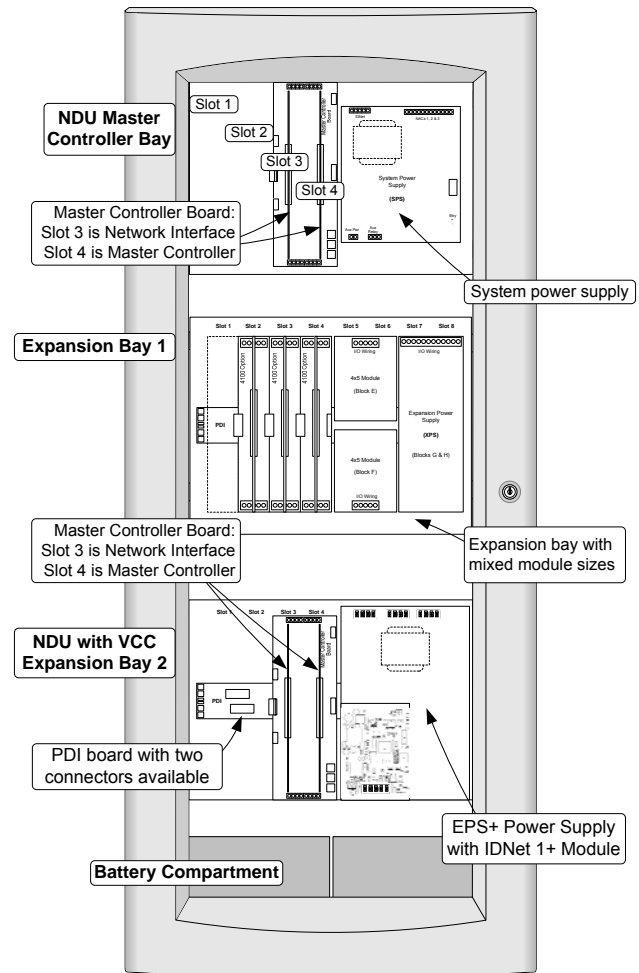
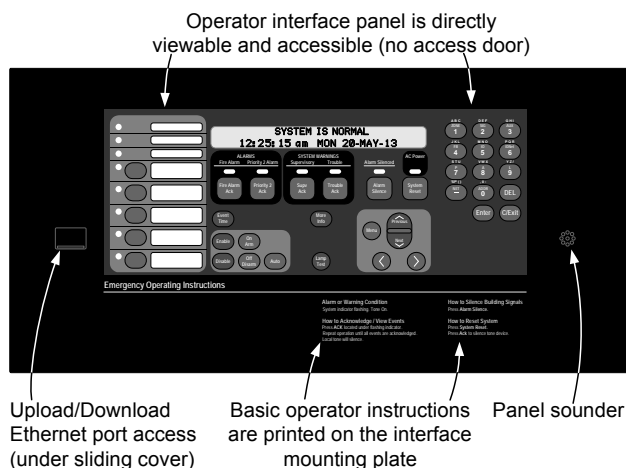
In the VCC bay, a dual PDI connection is available for either a dual slot module, or one or two block modules. Optional LED/switch modules can also be mounted. For 2-bay cabinets, the VCC mounts in bay 2. For 3-bay cabinets as shown to the right, the VCC mounts in the second expansion bay, bay 3.

**The Battery Compartment (bottom)** accepts two batteries, up to 50 Ah, to be mounted within the cabinet without interfering with module space.

Refer to the NDU with VCC internal module bay reference illustration for typical three bay cabinet module location.

## Operator Interface Detail Reference

The following illustration identifies the primary functions of the operator interface.



NDU with VCC Internal Module Bay Reference (exact layout is determined by specific system requirements)

## Packaging Availability

- Modules are power-limited (unless specifically noted otherwise)
- Enclosure are available for one, two, or three bay sizes or for cabinet rack mounting
- Additional cabinets can be mounted close-nipped for module expansion
- Boxes, doors with tempered glass inserts, and dress panels are available in beige or red (ordered separately)
- Refer to data sheet S4100-0037 for enclosure details

## Software Feature Summary

- Selectable service override allows authorized operators to clear alarm conditions during System Reset even if status has gone to trouble before reset occurred
- Duplicate address error detection
- Convenient PC programming using a Microsoft Windows user interface based program

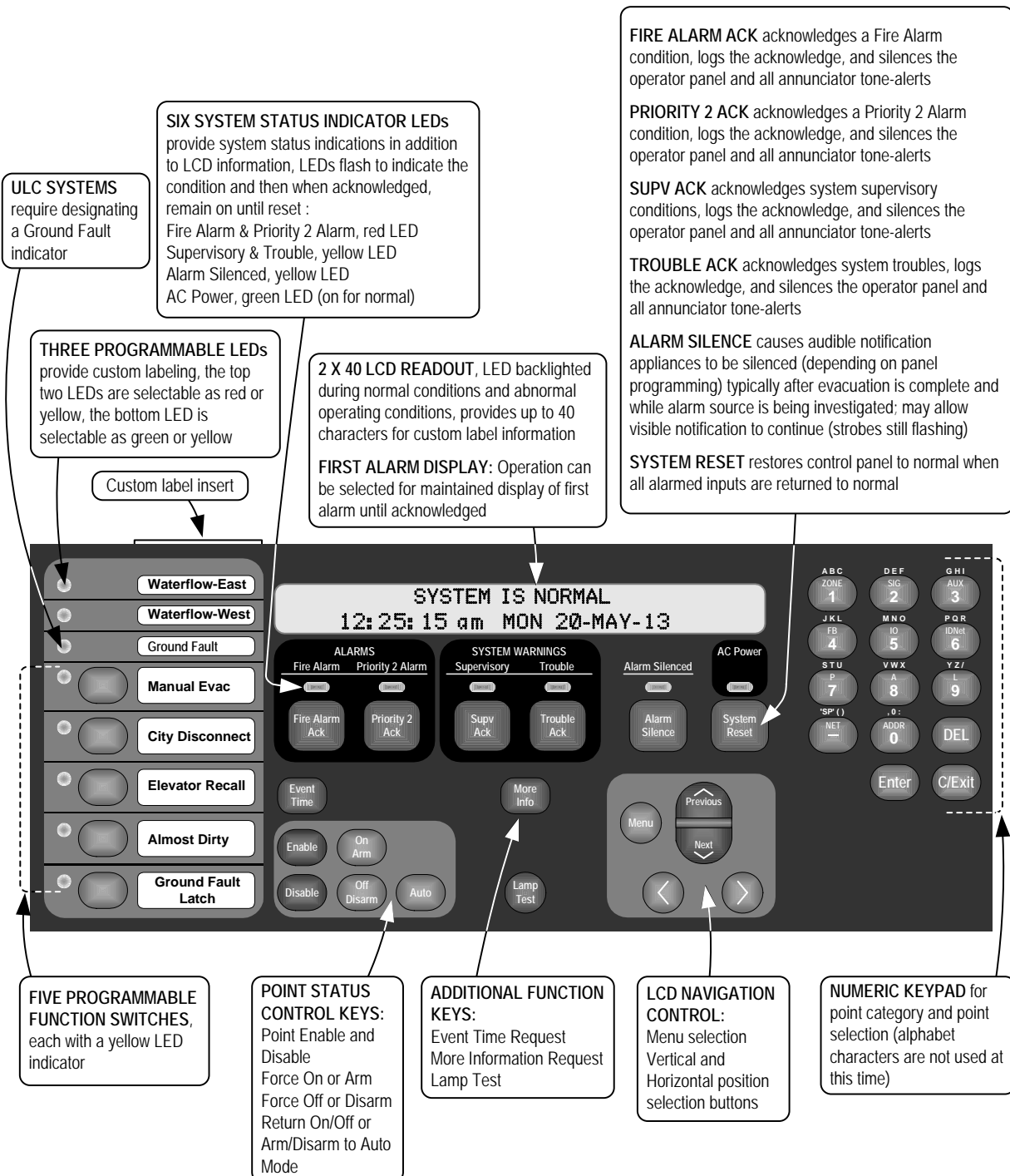
## Operator Interface

**Convenient Status Information.** With the locking door closed, the glass window allows viewing of the display, status LEDs, and available operator switches. Features include a two-line by 40-character, wide viewing angle (super-twist) LCD with status LEDs and switches as shown in the illustration below.

LED indicators describe the general category of activity being displayed with the LCD providing more detail. For the authorized user, unlocking the door provides access to the control switches and allows further inquiry by scrolling the display for additional detail.

## Operator Interface Features

- Convenient and extensive operator information is provided using a logical, menu-driven display
- Multiple automatic and manual diagnostics for maintenance reduction
- Alarm and Trouble History Logs (up to 1250 entries for each, 2500 total events) are available for viewing from the LCD, or capable of being printed to a connected printer, or downloaded to a service computer
- Convenient PC programmer label editing
- Password access control



## Standard Module Details

### NDU (top bay) Master Controller & Motherboard:

- Mounts in Slot 4 of a two slot motherboard (Slots 3 and 4 of the Master Controller Bay) and provides one Style 4 or Style 7, RUI communications channel, available at Slot 4
- RUI communications controls up to 31 devices per master controller at up to 2500 ft (762 m) for single run, or 10,000 ft (3048 m) total if wiring is Class B and T-tapped; if more distance is required, up to four total RUI channels are supported; add up to three 4100-1291 RUI expansion modules (the VCC with EPS+ Power Supply provides an RUI+, isolated output for improved noise rejection)
- RUI remote equipment includes: MINIPLEX transponders, 4603-9101 LCD Annunciators, 4602-9101 Status Command Units (SCU), 4602-9102 Remote Command Units (RCU), 4602 Series LED Annunciator Panels, 4100 Series 24 I/O and LED/Switch modules
- A Network Interface Module is mounted in Slot 3
- Optional Service Modem 4100-6030 mounts onto the master controller board with its own on-board connections
- System Power Supply (SPS) is rated for 9 A total, including module currents; NACs and IDNet SLCs are disabled for NDU

### VCC (second expansion bay) includes an EPS+ Power Supply:

- Rating is 9 A total with “Special Application” appliances
- Outputs are power-limited, except for the battery charger
- VCC CPU provides RUI+ communications with isolated output
- Provides system power, battery charging, auxiliary power, earth detection, on-board IDNet 1+ communications channel for 250 points, three on-board IDNACs, and allows either an optional City Connect Module or an optional Alarm Relay Module

### EPS+ Power Supply (Continued):

- **IDNet 1+ SLC Output** provides Class B or Class A communications for up to 250 addressable devices
- **Battery Charger** is dual rate, temperature compensated, and charges up to 50 Ah sealed lead-acid batteries mounted in the battery compartment (33 Ah for single bay cabinets); also is UL listed for charging up to 115 Ah batteries mounted in an external cabinet (see data sheet S2081-0012 for details)
- **Battery and Charger Monitoring** includes battery charger status and low or depleted battery conditions; status information provided to the master controller includes analog values for: battery voltage, charger voltage and current, actual system voltage and current, and individual IDNAC SLC currents
- **Low Battery Cutout** is selectable for each EPS+ (and EPS) power supply, Canadian models are shipped selected, other models are shipped unselected

### 2 A Programmable Output:

- Select for conventional NAC operation to provide supervised reverse polarity for sounder base power, Suppression Release Peripheral (SRP) power, and other coded NAC operation requirements
- Select for Auxiliary (AUX) operation for sounder base power, 4-wire detector power, or door holder; supervised AUX operation does not require an end-of-line relay to provide Power-Limited operation

### EPS+ Power Supply Mounted Optional Modules (select one):

- **City Connect Module** (4100-6031, with disconnect switches, or 4100-6032, without disconnect switches) can be selected for conventional dual circuit city connections
- **Alarm Relay Module** (4100-6033) provides three Form C relays that are used for Alarm, Trouble, and Supervisory, rated 2 A resistive @ 32 VDC

## Network Display Unit with Voice Command Center (VCC) Main Equipment Selection\*

Model	Voltage	Description	Supv.	Alarm
4100-9342	120 VAC, 50/60 Hz	<b>Top Bay Equipment:</b> LCD and operator interface, 9 A System Power Supply (SPS) with RUI, Standard CPU module, and Network Interface Module (select media cards separately) ( <b>NOTE:</b> SPS IDNet channel and NACs are disabled)	417 mA	770 mA
4100-9542	220-240 VAC, 50/60 Hz	<b>Second Bay Equipment:</b> Voice Command Center (VCC) Bay with Standard CPU Module, Network Interface Module (select media cards separately), 9 A EPS+ with 250 Point IDNet 1+ Interface, (3) 3 A IDNACs, and RUI+ output	See next page for selected Network Media Card current	

\* For InfoAlarm Command Center expanded content display products, refer to data sheet S4100-0101.

## Communication Modules

Model	Description	Size	Supv.	Alarm	
4100-6056	Wired Network Media Card	Select per Network connection requirements, two media cards are required per network interface; mounts on the supplied Network Interface Module(s)	N.A.	55 mA	55 mA
4100-6057	Fiber Optic Media Card		N.A.	25 mA	25 mA
4100-6055	Network Access Dial-in Service Modem, mounts to supplied Network Interface Module, requires telephone line connection		N.A.	60 mA	60 mA
4100-1291	Remote Unit Interface Module (RUI); up to three maximum per control panel		1 Slot	85 mA	85 mA
4100-6030	Service Port Modem for local panel access only, mounts to Master Controller Module, requires telephone line connection, accesses same information as front panel port		N.A.	70 mA	70 mA
4100-6031	<b>Select one per SPS, EPS+, or EPS</b>	City Circuit, with disconnect switches	N.A.	20 mA	36 mA
4100-6032		City Circuit, without disconnect switches	N.A.	20 mA	36 mA
4100-6033		Alarm Relay, 3 Form C relays, 2 A @ 32 VDC	N.A.	15 mA	37 mA
4100-6046	Dual Port RS-232 standard interface (single block)	3 maximum RS-232 modules per panel	1 Block	60 mA	60 mA
4100-6038	Dual RS-232 with 2120 Interface (slot module)		1 Slot	132 mA	132 mA
4100-6080	DACT, Point or Event Reporting; 1 shipped unless 4100-7908 is selected; 2 max. per system; includes 2, 2080-9047 cables, 14 ft (4.3 m) long, RJ45 plug and spade lugs		Side Mt.	30 mA	40 mA
4100-6101	Physical Bridge, Class B, includes 1 modem module and 2 wired modules		1 Slot	210 mA	210 mA
4100-6102	Physical Bridge, Class A, includes 2 modem and 2 wired modules		2 Slots	300 mA	300 mA
4100-0156	8 VDC Converter, required for multiple Physical Bridge Modules; 3 A @ 8 VDC maximum		1 Block	included with loads	
4100-9816	Master Clock Interface Module with one standard RS-232 port (see S4100-0033)		1 Slot	132 mA	132 mA
4190-6104	TrueInsight Remote Monitoring Module (refer to data sheet S4100-0063 for details)		Side Mt.	62 mA	73 mA
4100-6079	SafeLINC Internet Interface module		2 Blocks	145 mA	145 mA

## NDU with VCC, LED/Switch Modules (refer to S4100-0032 for additional detail)

### LED/Switch Modules, General Purpose (LED/switch controller and label kit is ordered separately)

Model	LEDs per Switch	LED Color(s)	LED Quantity	Switch Quantity
4100-1276	LEDs only	Red; pluggable	8	LEDs only
4100-1277		Red on top, Yellow on bottom, pluggable	16	
4100-1280	One	Red	8	8
4100-1281	One	Yellow		
4100-1282	Two	Red on top, Yellow on bottom	16	
4100-1283	Two	Yellow, top and bottom		
4100-1284	Two	Red on top, Green on bottom		
4100-1296	Two	Green on top, Yellow on bottom		
4100-1285	One	Red	16	
4100-1278	One	8 Red on left, 8 Yellow on right	24	24

### LED/Switch Modules, Special Purpose (LED/switch controller and label kit is ordered separately)

Model	Operation
4100-1286	Eight function HOA (On, Off, Auto) Control Module with labeled switches; ON/OFF/Auto; Green/Red/Green LEDs
4100-1295	Eight function HOA (On, Off, Auto) Control Module, same as 4100-1286 except switches are unlabeled

### LED/Switch Controller Modules and Accessories

Model	Description					
4100-1288	64 LED/64 Switch Controller Module <b>with</b> mounting plate; controls up to 64 LEDs and interfaces to up to 64 switches; mounts behind the LED/switch modules and has provisions for one 4100-1289 Controller Module					
4100-1289	64 LED/64 Switch Controller Module <b>without</b> mounting plate; mounts on extra space of 4100-1288; controls an additional 64 LEDs and 64 switches					
4100-1294	LED/Switch Module Slide-in Labels, <b>required when LED/switch modules are present</b> ; order one per cabinet					
Model	Color	Model	Color	Model	Color	Description
4100-9843	Yellow	4100-9844	Green	4100-9845	Red	Kits of 8 LEDs; order as required for 4100-1276/1277 modules

**NOTE:** LED/switch controllers and their connected LED/switch modules must be in the same bay; refer to data sheet S4100-0032 for additional LED/Switch module details when Flex-35/50 amplifiers are in the same bay

## VCC, Emergency Voice/Alarm Communications Selection\*

Model	Description	Details and Mounting Reference	
4100-1243	Master Microphone Module; one maximum per audio system; mounts on front panel	Requires 2 Slots (4" [102 mm]), locate on expansion bay only; space behind for 4100ES flat modules only <i>Supv. current = 2.4 mA; Active current = 6 mA</i>	
4100-1252	1 Channel (audio or mike)	Operator Interface Modules	Single slot modules requiring connection to an LED/switch controller (see data sheet S4100-0032 for LED/Switch Module details); space behind controller accepts 4100ES flat modules only Additional adjacent LED/switch module(s) are required for specific speaker circuit selection
4100-1253	1.5 Channel (audio + mike)		
4100-1254	2 Channel (full audio)		
4100-1255	3-8 Channel		

### Firefighter Telephone System Products (refer to S4100-0034 for additional detail)

Model	Description	Details and Mounting Reference
4100-1270	Master Telephone with Telephone Control Module and 3 Class B telephone NACs; for Fire Alarm Control Panels	One max. per audio system; front panel module; space behind for 4100ES flat modules only; telephone control module mounts on bay module mounting plate; use LED/switch modules for circuit control
4100-1272	Telephone Module with 3 phone NACs	Class B NACs, single Block module, mounts to bay mounting plate
4100-1273	Telephone Class A Adapter Module	Mounts to 4100-1272, no additional space required

### Analog Emergency Voice/Alarm Communications Equipment, Constant Supervision Compatible\*

Model	Description	Details		
4100-9620	Basic Analog Audio Operation with microphone, requires dedicated expansion bay	Includes: Expansion Bay, 4100-1210 Analog Controller Board, Microphone Module, and Audio Expansion Bay Kit		
4100-1210	Analog Controller Board only; order expansion bay and audio expansion bay kit separately	Controller board mounts in Blocks A and B		
4100-1361	25 VRMS output	Flex-35, 35 W Amplifier, constant supervision compatible	NAC rating = 1.4 A	35 W, or 100 speakers
4100-1362	70.07 VRMS output		NAC rating = 0.5 A	
4100-1312	25 VRMS output	Flex-50, 50 W Amplifier, constant supervision compatible	NAC rating = 2 A	50 W, or 100 speakers
4100-1313	70.7 VRMS output		NAC rating = 0.707 A	

### 100 W Analog Amplifiers with Power Supply, Constant Supervision Compatible\*

Model/Output Voltage		Power Supply Input/Listing		Description	Details	
25 VRMS	70.7 VRMS					
4100-1314	4100-1315	120 VAC, 60 Hz	UL	Primary 100 W Amplifier	Includes six, Class B audio NACs; NAC rating = 50 W or 100 speakers maximum; 2 A @ 25 VRMS; 1.4 A @ 70.7 VRMS	ULC models have low battery dropout circuit
4100-1316	4100-1317	120 VAC, 60 Hz	ULC			
4100-1318	4100-1319	220/230/240 VAC, 50/60 Hz	UL			
4100-1320	4100-1321	120 VAC, 60 Hz	UL	Backup 100 W Amplifier	Uses the six Class B NACs of primary amplifier	
4100-1322	4100-1323	120 VAC, 60 Hz	ULC			
4100-1324	4100-1325	220/230/240 VAC, 50/60 Hz	UL			

### Digital Emergency Voice/Alarm Communications Equipment\*

Model	Description	Details		
4100-9621	Basic Digital Audio Operation with microphone, requires dedicated expansion bay	Includes: Expansion Bay, 4100-1311 Digital Controller Board, Microphone Module, and Audio Expansion Bay Kit		
4100-1311	Eight Channel Digital Controller Board only; order expansion bay and audio expansion bay kit separately	Controller board mounts in Blocks A and B		
4100-1363	25 VRMS output	Flex-35, 35 W Amplifier, constant supervision compatible	NAC rating = 1.4 A	35 W, or 100 speakers
4100-1364	70.07 VRMS output		NAC rating = 0.5 A	
4100-1326	25 VRMS output	Flex-50, 50 W Amplifier, constant supervision compatible	NAC rating = 2 A	50 W, or 100 speakers
4100-1327	70.7 VRMS output		NAC rating = 0.707 A	

### 100 W Digital Amplifiers with Power Supply, Constant Supervision Compatible\*

Model/Output Voltage		Power Supply Input/Listing		Description	Details	
25 VRMS	70.7 VRMS					
4100-1328	4100-1329	120 VAC, 60 Hz	UL	Primary 100 W Amplifier	Includes six, Class B audio NACs; NAC rating = 50 W or 100 speakers maximum; 2 A @ 25 VRMS; 1.4 A @ 70.7 VRMS	ULC models have low battery dropout circuit
4100-1330	4100-1331	120 VAC, 60 Hz	ULC			
4100-1332	4100-1333	220/230/240 VAC, 50/60 Hz	UL			
4100-1334	4100-1335	120 VAC, 60 Hz	UL	Backup 100 W Amplifier	Uses the six Class B NACs of primary amplifier	
4100-1336	4100-1337	120 VAC, 60 Hz	ULC			
4100-1338	4100-1339	220/230/240 VAC, 50/60 Hz	UL			

### Options for use with either Analog or Digital Amplifiers\*

Model	Description	Model	Description
4100-1245	Flex-35/50 NAC Expansion Module; (Adds 3 Class B, 1.5 A NACs)	4100-1248	100 W Amplifier NAC Expansion Module; (Adds six Class B, 2 A NACs)
4100-1246	Flex-35/50 Class A Adapter for 3 NACs	4100-1249	100 W Amplifier Class A Adapter Module for 6 NACs

\* Refer to document S4100-0034 for additional audio module information.

## VCC, Emergency Voice/Alarm Communications Selection (Continued)

Options for either Analog or Digital Systems (refer to data sheet S4100-0034 for additional module details)

Model	Description	Model	Description
4100-1259	Constant Supervision Adapter for 25 VRMS Amplifiers	4100-5116	Expansion Signal Module; three, 1.5 A NACs
4100-1260	Constant Supervision Adapter for 70.7 VRMS Amplifiers	4100-1266	NAC Extender
4100-1240	Auxiliary Audio Input Module; four additional inputs	4100-1267	Class A Adapter
4100-1241	8 Minute Message Expansion Module	4100-1268	Constant Supervision Adapter
4100-1242	32 Minute Message Expansion Module	4081-9018	End-of-line resistor for 70.7 VRMS NACs; 10 kΩ, 1 W
4100-0623	Network Audio Riser Controller Module for control of analog (-0621) or digital (-0622) riser module, see S4100-0034 for details		

## VCC, Additional Options

Model	Description					
4100-5152	12 VDC Power Option, 2 A maximum; 1 Block, 1.5 A maximum Supervisory or Alarm					
4100-0156	8 VDC Converter, required for multiple Physical Bridge Modules, 3 A maximum, 1 Block, current included with loads					
4100-0634	120 VAC					
4100-0635	220/230/240 VAC					
Power Distribution Module (PDM); select per system voltage; <b>one required per box or cabinet rack</b>						
4100-6034	Door Tamper Switch with built-in addressable IDNet IAM, one per cabinet assembly if required					
4100-2320	Audio Bay-to-Bay Interconnection Harness Kit; <b>order one for each audio bay addition</b>					
4100-0637	Audio Box Interconnection Harness Kit; <b>order one for each close-nipped audio cabinet</b>					
4100-9835	Termination and Address Label Kit (for module marking); provides additional labels for field installed modules					
4100-1290	24 Point I/O Module; 1 Slot (see data sheet S4100-0032 for details)					
4100-1293	Panel Mount Thermal Printhead Printer, supplied with one roll of paper; requires 3 Slots; see S4100-0032 for details					
4190-9803	Replacement Paper for 4100-1293 Printer, one roll					
4100-6045	Coded Manual Station Decoder Module; 3 Slot module; 85 mA supervisory, 163 mA alarm; see S4100-0018 for details					
4100-6048	VESDA Air Aspiration Interface; 1 Slot module; 132 mA supervisory or alarm, see S4100-0026 for details					
4100-1279	Single blank 2" display cover; order as required (8 fill a bay front); two max. in a row between LED/switch modules					
4100-2210	Appliqué, Canadian French, 4100ES Fire Control					
4100-2300	Expansion Bay Hardware, <b>order for each expansion bay</b> (unless included with selected option)					
4100-0636	Box Interconnection Harness Kit; <b>order one for each close-nipped cabinet</b>					
4100-0632	Terminal Block Module; 2, 16 position terminal blocks mounted on 4" x 5" single block size, for up to 12 AWG wire (3.31 mm <sup>2</sup> )					
4100-5128	Battery Distribution Terminal Block; mounts to side of box; required for close-nipped cabinets that interconnect battery wiring					
Model	Description	Resistive Ratings	Inductive Ratings	Size	Supv.	Alarm
4100-3202	4 DPDT Relay w/feedback	10 A @ 250 VAC	10 A @ 250 VAC	2 Slots	15 mA	175 mA
4100-3204	4 DPDT Relay w/feedback	2 A @ 30 VDC/VAC	1/2 A @ 30 VDC/120 VAC	1 Block	15 mA	60 mA
4100-3206	8 SPDT Relay	3 A @ 30 VDC/120 VAC	1-1/2 A @ 30 VDC/120 VAC	1 Block	15 mA	190 mA

## Additional Enhanced, Expansion, and Remote Power Supplies, and Accessories

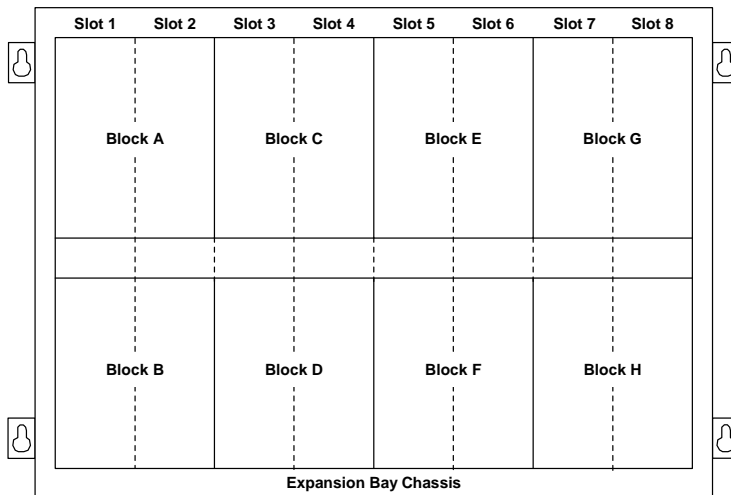
Model	Voltage/Listing	Description	Size	Supv.	Alarm	
4100-5311	120 VAC	UL & ULC	4 Blocks Right Side	217 mA	480 mA	
4100-5313	220-240 VAC	UL				
4100-5325	120 VAC	UL & ULC	4 Blocks Right Side	125 mA	220 mA	
4100-5327	220-240 VAC	UL				
4100-6103	Dual Class A IDNAC Isolator (DCAI), converts a single Class B IDNAC SLC input to two Class A or two Class B SLC outputs; provides short circuit isolation between each Class A or B output circuit; connect up to two DCAI modules per IDNAC SLC input up to a maximum of 6 DCAI modules per EPS; each isolated output SLC used requires one IDNAC address; the total current remains controlled by the Class B input source SLC at 3 A maximum		1 Block	6.5 mA	6.5 mA	
4100-5101	120 VAC	UL	2 Blocks	50 mA	50 mA	
4100-5103	120 VAC, Canadian	ULC				
4100-5102	220-240 VAC	UL				
4100-5115	<b>NAC Expansion Module, 3 NACs, Class A/B, mounts on XPS only</b>			N.A.	25 mA	25 mA

## General Specifications

<b>Input Power</b>	Enhanced Power Supplies, EPS/EPS+	120 VAC Models	4.6 A maximum @ 102 to 132 VAC, 50/60 Hz	
		220-240 VAC Models	2.3 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
	System Power Supply (SPS) Expansion Power Supply (XPS) 100 W Amplifiers	120 VAC Models	4 A maximum @ 102 to 132 VAC, 50/60 Hz	
		220-240 VAC Models	2 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
<b>Power Supply Output Ratings for EPS/EPS+</b>	Total Power Supply Output Rating	<b>Including module currents and auxiliary power outputs;</b> 9 A total for "Special Application" appliances		Output switches to battery backup during mains AC failure or brownout conditions
	IDNAC Output Voltage	Regulated 29 VRMS		
	Auxiliary Power Tap	2 A maximum		
<b>Power Supply Output Ratings for SPS and XPS</b> (nominal 28 VDC on AC; 24 VDC on battery backup)	Total Power Supply Output Rating	9 A total including module currents and auxiliary power outputs		
	Auxiliary Power Tap	2 A maximum	Rated 19.1 to 31.1 VDC	
	NACs Programmed for Auxiliary Power	2 A maximum per NAC; 5 A maximum total		
<b>Compatible Special Application Appliances</b>		Simplex TrueAlert ES and TrueAlert addressable notification appliances; contact your Simplex product representative for compatible appliances		
<b>IDNet 1+ Wiring Specifications</b> (refer to installation instructions for more information)				
Maximum Distance from Control Panel per Device Load	0 to 125	4000 ft (1219 m); 50 ohms		
	126-250	2500 feet (762 m); 35 ohms		
Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 12,500 ft (3.8 km); 0.60 $\mu$ F		
Maximum Capacitance Between IDNet+ Channels		1 $\mu$ F		
Wire Type and Connections		Shielded or unshielded, twisted or untwisted wire	Some applications may require shielded wiring. Review your system with your local Simplex product supplier.	
Connections		Terminal blocks for 18 to 12 AWG		
<b>IDNAC SLC Wiring Specifications</b> (refer to installation instructions for more information)				
Recommended wire type		UTP, unshielded twisted pair		
IDNAC SLC Capacity		Up to 63 addresses and up to 75 unit loads	Appliances are typically one unit load, devices such as Isolators may require more than one load, refer to individual device data sheet for specific information.	
Maximum wire length allowed with "T-Taps" for Class B wiring, per SLC		10,000 ft (3048 m)		
Maximum wire length per SLC to any appliance		4000 ft (1219 m)		
Maximum wiring resistance between appliances		26 $\Omega$		
Wiring connections		Terminal blocks for 18 to 12 AWG		
<b>Battery Charger Ratings for EPS/EPS+ and SPS</b> (sealed lead-acid batteries)	Battery capacity range	UL listed for battery charging of 6.2 Ah up to 115 Ah (batteries larger than 50 Ah require a remote battery cabinet); ULC listed for charging up to 50 Ah batteries		
	Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours per UL Standard 864; to 70% capacity in 12 hours per ULC Standard S527		
<b>Environmental</b>	Operating Temperature	32° to 120°F (0° to 49° C)		
	Operating Humidity	Up to 93% RH, non-condensing @ 90° F (32° C) maximum		
<b>Additional Technical Reference</b>				
<b>Description</b>		<b>Document</b>		
Network Display Unit Installation Instructions		579-269		
ES Installation Instructions		574-848		
ES Operating Instructions		579-197		
IDNet 1+ Module Installation Instructions		579-1014		
EPS/EPS+ Installation Instructions		579-1015		
DCAI Module Installation Instructions		579-1029		



## Expansion Bay Module Loading Reference (exact locations are provided with shipped product)



### Size Definitions:

1 Block = 4" W x 5.65" H (102 mm x 144 mm); (often called 4 x 5 modules)

Slot = 2" W x 8" H (51 mm x 203 mm) motherboard with daughter card

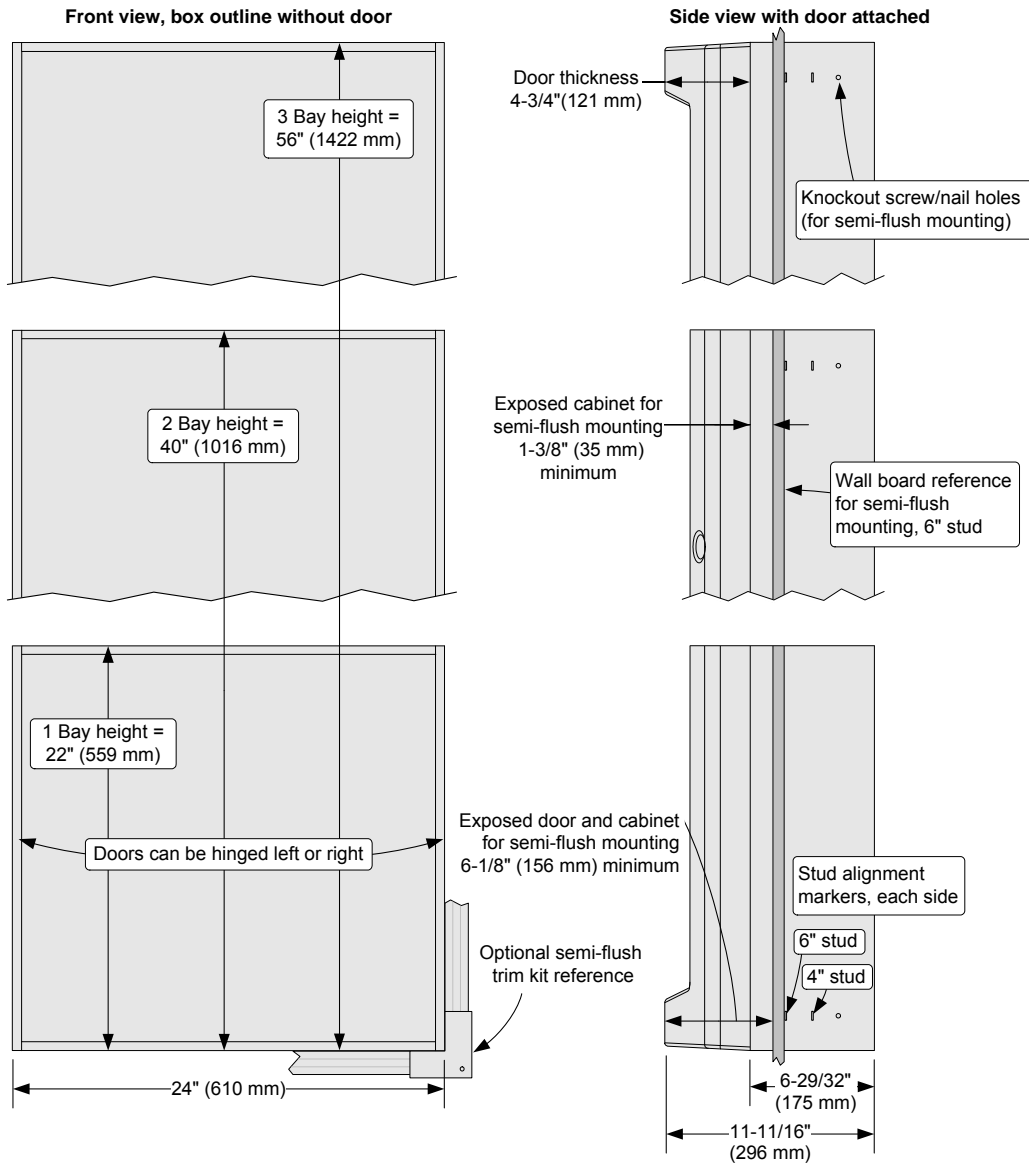
Description	Mounting
Terminal Block Module	1 block
Class B Physical Bridge	2", 1 slot
Class X Physical Bridge	4", 2 slots
System, Remote, or EPS Power Supply	Blocks E, F, G & H ONLY
Expansion Power Supply	Blocks G & H ONLY
Audio Controller Modules	Blocks A & B
Flex-35 Amplifiers, 2 max/bay*	Blocks E & F; C & D; or A & B
Flex-50 Amplifiers, 2 max/bay*	Blocks E & F or C & D
100 W Amplifiers, 1 max/bay	Blocks E, F, G & H
100 W Backup Amplifiers, 1 max. per bay with primary amplifier	Blocks A, B, C & D
Master Telephone Module	Blocks A & B
Master Microphone Module (do not mount next to telephone)	Two vertical Blocks, any location
Telephone Module	1 Block
Operator LED/Switch Modules	1 Slot

\* **NOTE:** When mounting dual Flex amplifiers on an expansion bay, special mounting rules apply.

## Additional 4100ES Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet
4100ES NDU for conventional (non-addressable) notification applications)	S4100-0036	4100ES Audio/Phone Modules	S4100-0034
4100ES with EPS Power Supplies, Basic Panel Modules and Accessories	S4100-0100	SafeLINC Fire Panel Internet Interface	S4100-0062
InfoAlarm Command Center for 4100ES Panels with EPS Power Supplies	S4100-0101	Remote Annunciators	S4100-0038
MINIPLEX Transponders with EPS Power Supplies	S4100-0103	Remote Battery Charger	S4081-0002
4100ES Enclosures	S4100-0037	Fiber Optic Modems	S4100-0043
LED/Switch Modules	S4100-0032	TrueInsight Remote Service	S4100-0063
		TrueSite Workstation	S4190-0016
		Master Clock Interface Module	S4100-0033

# Wall Mounted Enclosure Installation Reference



**NOTE:** A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.

TYCO, SIMPLEX, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited. Microsoft and Windows are registered trademarks of Microsoft Corporation. VESDA is a trademark of Vision Products Pty Ltd.



Tyco Fire Protection Products • Westminister, MA • 01441-0001 • USA

S4100-0102-1 5/2013

[www.simplexgrinnell.com](http://www.simplexgrinnell.com)

© 2013 Tyco Fire Protection Products. All rights reserved. All specifications and other information shown were current as of document revision date and are subject to change without notice.