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Inspections Division
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SIEMENS

Data Sheet
Fire Safety & Security Products

FACP Accessories

PAD-4 Distributed Power Supply Unit

Notification Appliance Circuit Extender

Models PAD-4-ENCL, PAD-4-MB (with FP2011-U1, FP2012-U1 power supplies)

ARCHITECT AND ENGINEER SPECIFICATIONS

- **Four (4) 'Class B', power-limited notification appliance circuits (NACs)**
- **'Class A', field-selectable wiring**
  - Each unit can support an optional module (Model PAD-4-CLSA) that converts two (2) built-in 'Class A' NACs into four (4) 'Class A' NACs
- **Up to 3 Amps of auxiliary-power output**
- **Optional built-in strobe synchronization**
  - Supports coded audible signals, including Temporal 3, Temporal 4 patterns
- **Battery supervision and control**
- **'Form C' general *Trouble / AC Fail* monitoring contact**
- **Power supplies support NAC power**
  - Up to 6A used with Model FP2011-U1
  - Up to 9A used with Model FP2012-U1
- **24VDC output voltage**
- **Ground-fault detection**
- **Advanced microprocessor control**
- **Uses Flash memory-based system firmware**
  - Optional system-diagnostic and firmware-upgrade tool

'Class A' Adapter Card
[Model PAD-4-CLSA]

Main Board
[Model PAD-4-MB]

Unit Enclosure
[Model PAD-4-ENCL]

- **Multi-module mounting in System 3™ enclosures**
  - Multiple modules share battery set
- **ADA Compliant**
- **UL 864 9th Edition Listed;**
  UL 1481 Listed (for power supplies)

Product Overview

Used with Siemens – Fire Safety fire alarm control panels (FACPs), the Distributed Power Supply PAD-4 Unit is a NAC expander with a built-in, auxiliary-power output. Each PAD-4 unit distributes additional power in buildings for audible and visual indicators that conform to the Americans with Disabilities Act (ADA). PAD-4 also has the following features:

- NACs
- Signal-input circuits
- Battery-charging circuit
- *Trouble* relays for remote monitoring
- Diagnostic light-emitting diodes (LEDs)
- Alternating Current (AC) power connection

The Siemens NACs, which connect with alarm signaling devices, have been designed to provide the highest level of reliability and performance. Signal coding on the circuits is accomplished through integrated circuits (rather than relays), which eliminates mechanical wear on the output circuits.

The PAD-4 unit provides consistent 24VDC output voltage to each NAC – independent of voltage fluctuations on the primary or secondary power source. As a result, a larger voltage drop and a greater wire length for each NAC are supported by each PAD-4.

Specifications

This version of the Siemens Distributed Power Supply Unit can be configured in the following manner that makes the outputs easily programmable:

- 'STEADY' outputs
- Synchronized strobe outputs
- American National Standards Institute (ANSI) Temporal 3
- ANSI Temporal 4 [for carbon monoxide (CO) alarm signal]

There are also two (2) inputs used to control the activation of the four (4) outputs. Programming can be set so one (1) input will silence the audible signal on Siemens Models 'AS'-series, 'NS'-series, or 'ZH'-series horn and horn-strobes while the strobes remain active.

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Specifications – (continued)

Operation of each PAD-4 unit is controlled by firmware stored in Flash memory on the main board, as well as the storage of a 10-event log, which can be viewed via Model PAD-4-FDT. In the event that an upgrade to the system firmware is required, the firmware can be transferred to the system without the replacement of firmware chips.

An optional firmware-download software tool, Model PAD-4-FDT, can be used for system diagnostic testing of the following:

- Primary-power voltage readouts
- Current draw for power charger
- Configuration switch settings
- Firmware version
- Battery voltage

When the tool is in communication with Model PAD-4-MB, the 'Test Mode' LED is illuminated. Model PAD-4-LUA is a USB serial port adapter that is required for tool-kit operation.

Each NAC extender supervises a variety of functions including:

- Low AC power
- Battery-voltage level
- Earth ground-fault conditions

All power can be directed to two (2) 'Class A' or four (4) 'Class B' power-limited NACs. Each NAC supports up to 3 Amps per circuit. Either one (1) or two (2) inputs can control four (4) outputs, which are compatible with all Siemens – Fire Safety 24VDC alarm signaling devices.

In cases where 'Class A' circuits are used, an optional Model PAD-4-CLSA module can be added, providing two (2) additional 'Class A' outputs to each PAD-4 unit.

Each NAC extender is also capable of operating other parts of a Siemens fire alarm system, such as door holders, via 3 Amps @ 24VDC max of power-limited auxiliary output. When the output activated, the total power available cannot exceed 6 Amps when used with Models FP2011-U1 or 9 Amps when used with FP2012-U1.

Trouble conditions are monitored through each unit's two (2) inputs. In addition, one (1) 'Form C' *Trouble* contact is provided for monitoring each unit that is connected through the input of a Siemens FACP. Therefore, the user has the option of connecting a PAD-4 NAC extender unit into a NAC of a Siemens FACP, or the unit may be monitored with a Model TRI-series monitoring module on a Siemens intelligent fire system.

A separate 'Form C' *Trouble* contact is used exclusively with each NAC extender to indicate *AC Fail Trouble* events on the NAC extender.

Each unit is packaged in its own sheet-metal enclosure with sufficient space to house up to 7AH battery sets. The enclosure (Model PAD-4-ENCL) is available in red.

The battery charger used in each unit can energize batteries of up to 18AH. Though, when battery sets greater than 7AH are required, the battery set must be housed in a System 3 enclosure or a separate ®UL Listed battery enclosure.

System 3 enclosures may also be used to house multiple Model PAD-4 units in a single enclosure, via the Model S3AP Adapter Plate. Two (2) units are capable of sharing the same battery set when mounted in the same enclosure. Model S3AP can also be used to mount the PAD-4 main board and 170-Watt power supply (Model FP2011-U1) into a PAD-3 enclosure.

Each Model PAD-4-series unit complies with seismic certification, pursuant to ASC / SEI 7-05, Section 13.2.2, when used with the PAD-4 battery bracket (Model PAD4-BATT-BRKT).

Configuration Options

Option	Input[s]	Output Controls	Circuit Types
1	Input 1	All outputs	'Class B' circuits
2	Input 1	All outputs	'Class B' circuits
	Input 2*	Silences horns on Output 1	—
3	Input 1	Outputs 1 and 2	'Class B' circuits
	Input 2	Outputs 3 and 4	'Class B' circuits
4	Input 1	Output 1	'Class B' circuits
	Input 2	Outputs 2, 3 and 4	'Class B' circuits
5	Input 1	Outputs 1 through 4	'Class A' circuit pairs
6	Input 1	Outputs 1 through 4	'Class A' circuit pairs
	Input 2*	Silences horns on Output 1	—
7	Input 1	Outputs 1 and 2	'Class A' circuit pairs
	Input 2	Outputs 3 and 4	'Class A' circuit pairs
8	Input 1	Outputs 1 and 2	'Class A' circuit pairs
	Input 2	Outputs 3 and 4	'Class B' circuits

** denotes when used with Siemens Model 'AS',' NS' or 'ZH'--series horn / strobe devices*

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Indicator Lights

AC Power ON:	**Green**
AUX / PS:	**Yellow**
Ground Fault:	**Yellow**
Output 1 *Trouble*:	**Yellow**
Output 2 *Trouble*:	**Yellow**
Output 3 *Trouble*:	**Yellow**
Output 4 *Trouble*:	**Yellow**

Test Mode:	**Yellow**

Technical Data

***AC Fail Trouble* Contact Rating:** **{ 'Form A' – Normally Closed (N.C) }**	2.0A @ 30VDC, max. **[resistive]**
Basic *Trouble* Contact Rating: **{ 'Form C' }**	2.0A @ 30VDC, max. **[resistive]**
***Alarm* Current:** **{ for NACs and auxiliary power }**	3.0A per circuit, max. **6A, max. {via Model FP2011-U1}** **9A, max. {via Model FP2012-U1}**
Ambient Temperature:	32° — 120° F (0° – 49° C)
Relative Humidity:	Up to 93% @ 86° F (30° C); non-condensing
Auxiliary Power Circuit:	One (1) circuit @ 3A max.
Battery Charging Capacity:	18AH
Input Circuits / Configurations:	Two (2) 'Class B' supervised or Two (2) 'Class A' supervised
Input Current:	7.0mA, max.
Input Voltage Range:	16 — 33VDC / VFW
Installation Environment:	Indoor, dry
NACs:	o Supervised, power-limited o 1.0mA standby current, max. o Four (4) circuits o 2K ohms (+), 8K ohms (-)
Total Output Power:	24VDC @ 6 Amps (with Model FP2011-U1); 24VDC @ 9 Amps (with Model FP2012-U1)
Output Circuits / Configurations:	o Two (2) 'Class A'; – Up to four (4) 'Class A' (via Model PAD-4-CLSA) o Four (4) 'Class B'; o One (1) Class A, Two (2) Class B;
Single-Unit Dimensions: **{ W -x- H -x- D }** **Model PAD-4-ENCL**	13.5" -x- 18.75" -x- 3.25" (34.3 cm. -x- 47.6 cm. -x- 8.3 cm.)
Color: **Model PAD-4-ENCL**	Red

Temperature and Humidity Range

Each PAD-4 Distributed Power Supply Unit is ®UL 864 9th Edition Listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

Details for Ordering

Model Number	Part Number	Description
PAD-4-ENCL	500-050081	PAD-unit enclosure
PAD-4-MB	500-650217	PAD-unit main board
FP2011-U1	500-450222	170-Watt power supply
FP2012-U1	S54400-Z60-A1	300-Watt power supply

— System Kits —

Model Number	Part Number	Description
PAD4-6A	S54339-A1-A1	**Complete 6A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 170W power supply, FP2011-U1
PAD4-6A-CLSA	S54339-A2-A1	**Complete 6A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 170W power supply, FP2011-U1 – One (1) 'Class A' Adapter Card, PAD-4-CLSA
PAD4-9A	S54339-A3-A1	**Complete 9A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 300W power supply, FP2012-U1
PAD4-9A-CLSA	S54339-A4-A1	**Complete 9A PAD-4 kit *with*:** – One (1) Unit Enclosure, PAD-4-ENCL – One (1) Main Board, PAD-4-MB – One (1) 300W power supply, FP2012-U1 – One (1) 'Class A' Adapter Card, PAD-4-CLSA

— Optional Accessories —

Model Number	Part Number	Description
PAD4-BATT-BRKT	S54430-B4-A1	Battery bracket for NAC expander
PAD-4-LUA	S54389-C1-A1	PAD-4 Laptop-Upload Adapter
PAD-4-CLSA	500-850254	'Class A' Adapter Card
S3AP	500-650257	PAD-4 NAC expander adapter plate (for use with PAD-3 and System 3 enclosures)

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Notice: This marketing data sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

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