SIEMENS

FACP Accessories

PAD-5 Addressable Power Supply Unit

Models PAD5-6A | PAD5-6A-R | PAD5-9A | PAD5-9A-R

Architect & Engineer Specifications

- ☐ PAD-5 comes standard with a variable of four (4) `Class B', two (2) `Class A' output circuits, and is expandable, via Model PAD-5-CLSA, to four (4) additional `Class B', two (2) `Class A' output circuits
- ☐ Power supplies support notification-appliance circuit (NAC) power:
  - up to 6A used with Model FP2011-U1
  - up to 9A used with Model FP2012-U1
- ☐ Complete, real-time PAD-5 unit status at the main fire-alarm control panel
- ☐ 24VDC output voltage
  - 3A of auxiliary-output power
- ☐ Automatically recognized variable end-of-line (EOL) values
  - 2.2k – 24kΩ
- ☐ Multi-module mounting in a two-height-unit (2HU) enclosure
- ☐ Model PAD-5-CLSA allows optional releasing functionalities for:
  - pre-action
  - deluge
  - clean agent
- ☐ Built-in strobe synchronization:
  - supports coded audible signals, including Temporal 3 | T4 patterns
- ☐ `Form C' general `Trouble | AC Fail' monitoring contact
- ☐ Battery supervision and control
- ☐ Ground-fault detection
- ☐ Advanced microprocessor control
- ☐ Uses Flash memory-based system firmware
  - optional system-diagnostic and firmware-upgrade tool
- ☐ Americans with Disabilities Act (ADA) compliant
- ☐ UL 864 10th Edition | UL 1076 | UL 2017 | UL 2572 Listed
- ☐ ULC-S527 and ULC-S576-14 Listed
- ☐ FM Approved

Product Overview

Used with Siemens - Fire Safety fire alarm control panels (FACPs); PAD-5 is an UL 10th Edition | ULC-S527 Listed, addressable power-supply unit that complies with the notification requirements of the Americans with Disabilities Act (ADA). Each PAD-5 unit can provide up to 9 Amps of NAC power with up to eight (8) supervised NACs and auxiliary power output.

Features include:

- Intelligent controller resides on SLC loop
- Four (4) `Class A' or eight (8) `Class B' NACs that can be mixed
- `Class X' wiring-isolator device
- Temperature-compensated battery-charging circuits
- `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.

Additionally, each PAD-5 unit supports P2 addressable communications and P2 device-level fault indicators – via use of a Model XDLC loop card connected to a Siemens Modular control panel. Monitoring status and individual NAC control from a single address are also provided by a PAD-5 unit. Per ULC, separate ground-fault detection and indication for all remote power supplies are required. The GND FLT Relay provides a Normally Open (N.O.), `Form A' contact that can be monitored via a monitoring module, such as Siemens Model HTRI-series modules or the 4 In / 4 Out Module, Model FDCIO422.

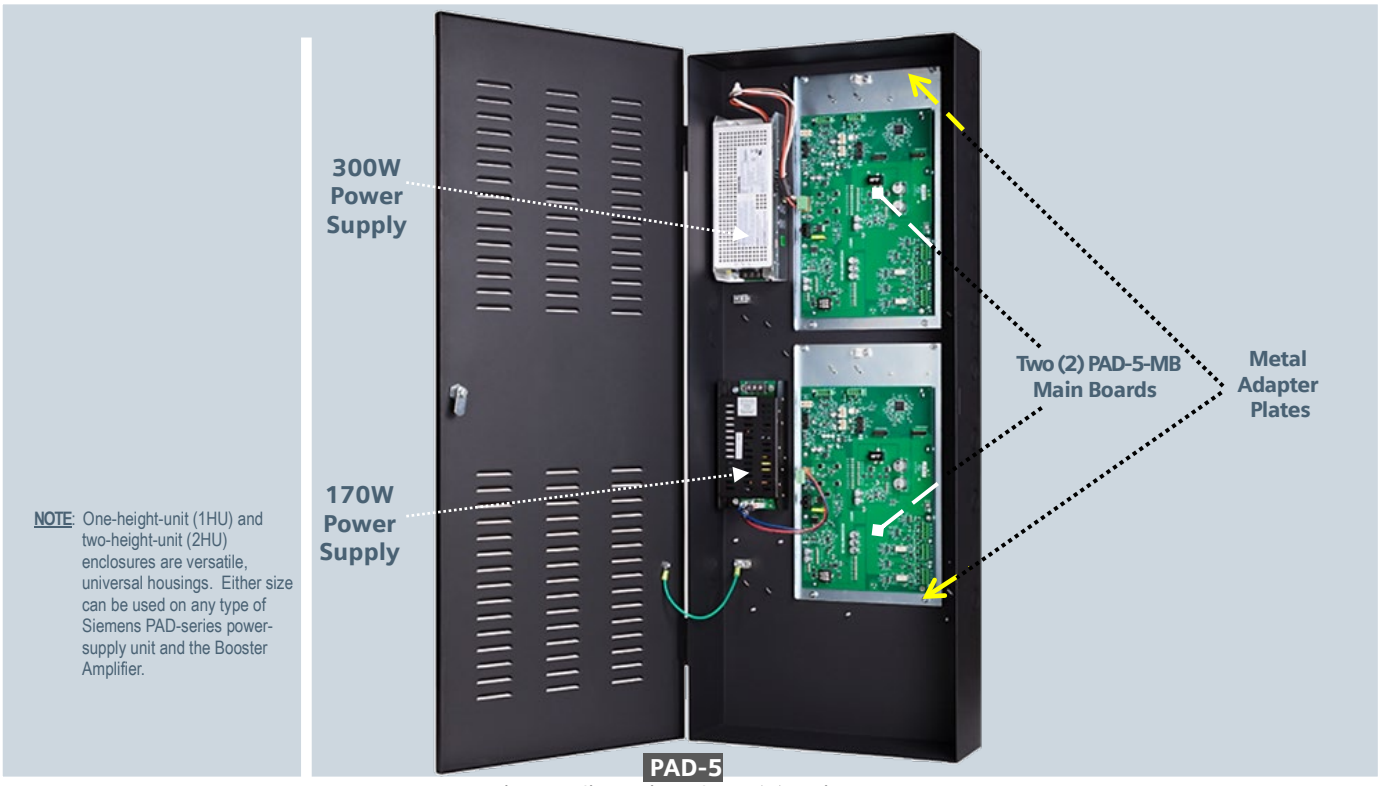
In terms of electrical characteristics, PAD-5 power supply units provide steady 24VDC output voltage to each NAC – independent of voltage fluctuations on the primary or secondary power source. Consequently, a larger voltage drop and a greater wire length for each NAC are supported by a Siemens PAD-5 unit.

Specifications

The Siemens PAD-5 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)
- March Time 30, 60 or 120 PPM

There is also one (1) supervised NAC Follower input circuit that is driven by a Siemens FACP, NAC or from a PAD-5 main board, Model PAD-5-MB.



Typical configuration of two (2) main boards mounted in a two-height-unit (2HU) enclosure

Specifications – (continued)

Four (4) `Class B' or two (2) `Class A' NACs are standard:

- Rated 3A each for conventional reverse polarity 24 VDC notification appliances with various operation modes
- The four (4) outputs can be configured as non-Alarm, contact-only input circuits
- Capability to mix-and-match Class A/B expansion NAC circuits

Internal 6.5A or 9A power supply / battery charger:

- Charges internal batteries up to 18AH (for 1HU); up to 35AH (for 2HU), and up to 100AH in external cabinet (Siemens Model BB-55–series battery boxes; available in black or red)
- Provides status monitoring of battery | input power | Earth faults



Typical 1HU enclosure configuration

PAD-5 Unit Components

PAD-5-MB

The main board (Model PAD-5-MB) used with PAD-5 notification-extender units provides remote, auxiliary power for signaling appliances. Model PAD-5-MB also allows for expansion of notification appliances (NACs) that plug into each main board. Each PAD-5-MB main board connects via the P2 loop of a Siemens `X'-series Device Loop Card (Model XDLC) connected to the Siemens Modular fire-alarm control panel (FACP). Up to 32 Siemens PAD-5 main boards or mixture expansion cards can connect to one (1) Model XDLC at a time. Additionally, Model PAD-5-MB has one (1) address, and is programmed with the Siemens Device Programmer / Test Unit, Model DPU.



Model PAD-5-MB

PAD-5-CLSA

Used in conjunction with PAD-5 units, the `Class A/B' Expansion Module (Model PAD-5-CLSA) provides additional connectivity of Siemens signaling appliances. In order for proper additional functionality, two (2) circuits, rated at 3A max., are wired as `Class A', or four (4) circuits are wired as `Class B'. Model PAD-5-CLSA uses one (1) address on the **P2** loop. The address for Model PAD-5-CLSA must be the next sequential (numerical) address to that of the connected Model PAD-5-MB main board.

The Model DPU programmer / test unit is used to program the P2 address of each Model PAD-5-CLSA. There are LED indicators for each zone, as well as for the P2 interface and for the status of the card. Additionally, Model PAD-5-CLSA can be used in Sinorix® pre-action, deluge sprinkler, or for clean-agent control. There is an on-board releasing disconnect switch that can be used to disable power to both releasing circuits, thus preventing accidental discharge of clean agent during routine maintenance.



Model PAD-5-CSLA
Mounted to a PAD-5-MB Main Board

PAD-5-CDC

Model PAD-5-CDC is the Conventional Zone Module used with PAD-5 notification-extender units. Specifically, each Model PAD-5-CDC supports four (4) `Class A' or four (4) `Class B' conventional-detection zone-input circuits. The address for Model PAD-5-CDC must be the next sequential (numerical) address to that of the connected Model PAD-5-MB main board.
Up to 30 Siemens conventional smoke detectors are supported, per zone.

All information, per circuit, is displayed from the Operating Unit of the Siemens Modular FACP.
Each Model PAD-5-CDC supports Siemens and other-branded smoke detectors, as well as one (1) beam detector per zone. Additionally, Model PAD-5-CDC provides optional alarm verification by circuit, as well as consistent ground fault detection.



Model PAD-5-CDC
Mounted to a PAD-5-MB Main Board

PAD-5 Enclosures

There are two (2) types of unit enclosures available for Siemens PAD-5 power units / extenders. The one-height-unit (1HU) enclosure, Model PAB-ENCL, is the basic enclosure.

Each 1HU enclosure can hold one (1) 170W or one (1) 300W Siemens power supply; one (1) PAD-5 main board, and one (1) adapter plate, and one (1) Model PAD-5-CDC or one (1) Model PAD-5-CLSA. The two-height-unit (2HU) enclosure, Model PAB2-ENCL, allows for more versatility. Each 2HU enclosure can house up to two (2) PAD-5 main boards and power supplies.

A red version of each enclosure is also furnished: Model PAB-ENCL-R for the 1HU enclosure and Model PAB2-ENCL-R) for the 2HU enclosure.



PAB-ENCL
1 HU Enclosure



PAB2-ENCL
2 HU Enclosure

Power Supplies

There are also two (2) types of power-limited power supplies for Siemens PAD-5 power units / extenders. (170W) The Model FP2011-U1 power supply provides up to 6 Amps. at 170 Watts of main power to PAD-5, and Model FP2012-U1 provides up to 9 Amps. at 300 Watts.

Additionally, the power supplies can recharge and maintain backup charge for the two (2) back-up batteries. The 170W power supply, Model FP2011-U1, can provide battery-backup charge of 7A (up to 35AH), and the 300W power supply, Model FP2012-U1, provides battery-backup charge of 35AH (up to 100AH)



FP2011-U1
(up to 170W)



FP2012-U1
(up to 300W)

Status Indicator LEDs

Battery Charging Status:	Green	Red
NAC 1 Status:	Yellow	
NAC 2 Status:	Yellow	
NAC 3 Status:	Yellow	
NAC 4 Status:	Yellow	
Auxiliary Output Status:	Yellow	
3.3VDC Status:	Green	
Main Microprocessor Status:	Yellow	
P2 Loop Status:	Green	Red

Configuration Options

CIRCUIT TYPE	PAD-5 MAIN BOARD 1	2	3	4	Model CLSA EXPANSION CARD 5	6	7	8	EOL REQUIRED
Sync Coded Pattern	✓	✓	✓	✓	✓	✓	✓	✓	Yes 2.2k – 24kΩ
Auxiliary Power Output	✓	✓	✓	✓	✓	✓	✓	✓	–
Releasing*					✓	✓			Yes to 24kΩ
Shorting Device Input	✓	✓	✓	✓	✓	✓	✓	✓	Yes 2.2k – 24kΩ

* denotes Circuits 7 and 8 are not used for either Aux. Pwr. or NAC Output when PAD-5 is configured for releasing

Technical Data

LINE IMPEDANCE:	3.2Ω, max per loop
ALARM CURRENT: [For NACs & aux. power]	3.0A per circuit, max. – 6A, max. [via FP2011-U1] – 9A, max. [via FP2012-U1]
TOTAL OUTPUT POWER:	24VDC @ 6A, [with the 170W power supply, Model FP2011-U1] 24VDC @ 9A, [with the 300W power supply, Model FP2012-U1]
AMBIENT TEMPERATURE:	+32° – +120°F (0° – +49°C)
RELATIVE HUMIDITY:	0 – 93% @ 86°F (30°C); (non-condensing)
AUXILIARY POWER CIRCUIT:	Each circuit @ 3A, max.
BATTERY CHARGING CAPACITY:	up to 100AH
OUTPUT CIRCUITS | CONFIGURATIONS:	Two (2) `Class A' – up to four (4) `Class A' (via Model PAD-5-CLSA) – Four (4) `Class B' – One (1) `Class A', Two (2) `Class B'
INSTALLATION ENVIRONMENT:	Indoor | Dry
NACS:	– Supervised, power-limited ▪ 10mA standby, max. ▪ 3A active Operating ▪ 0.3A Regulated – four (4) circuits – 2K ohms (+), 8K Ω (-)

Physical Properties

PAD-5 1HU-UNIT DIMENSIONS: [W -x- H -x- D]	16.0" –**x**– 24.0" –**x**– 3.50" (40.6 cm. -**x**- 60.9 cm. -**x**- 8.8 cm.)
PAD-5 2HU-UNIT DIMENSIONS: [W -x- H -x- D]	16" –**x**– 40" –**x**– 5.5" (40.6 cm. -**x**- 101.6 cm. -**x**-14 cm.)
ENCLOSURE TYPES:	**Black** or Red

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
PAB-ENCL	S54339-A8-A1	PAD-5 1HU enclosure
PAB-ENCL-R	S54339-A9-A1	PAD-5 1HU enclosure, red
PAB2-ENCL	S54339-A10-A1	PAD-5 2HU enclosure
PAB2-ENCL-R	S54339-A11-A1	PAD-5 2HU enclosure, red
PAD-5-MB	S54339-A5-A1	PAD-5 main board (with one [1] adapter plate)
PAD-5-CLSA	S54339-A6-A1	PAD-5 addressable NAC (Class A/B) expansion card
PAD-5-CDC	S54339-A7-A1	PAD-5 Conventional Detector Card
FP2011-U1	500-450222	170W Power Supply
FP2012-U1	S54400-Z60-A1	300W Power Supply

Details for Ordering – (cont.)

PAD-5 1HU-only Kits

MODEL OR TYPE	PART NUMBER	PRODUCT
PAD5-6A	S54339-A15-A1	Complete **6A** PAD-5 kit: – One (1) Unit Enclosure, **black** (PAB-ENCL) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate included) – One (1) 170W power supply, FP2011-U1
PAD5-6A-R	S54339-A16-A1	Complete **6A** PAD-5 kit: – One (1) Unit Enclosure, red (PAB-ENCL-R) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate included) – One (1) 170W power supply, FP2011-U1
PAD5-9A	S54339-A17-A1	Complete **9A** PAD-5 kit: – One (1) Unit Enclosure, **black** (PAB-ENCL) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate) – One (1) 300W power supply, FP2012-U1
PAD5-9A-R	S54339-A18-A1	Complete **9A** PAD-5 kit: – One (1) Unit Enclosure, red (PAB-ENCL-R) – One (1) Main Board, PAD-5-MB (with one [1] adapter plate) – One (1) 300W power supply, FP2012-U1

PAD-5 Unit Accessories

MODEL OR TYPE	PART NUMBER	PRODUCT
BAAP	S54339-A14-A1	Adapter Plate (used to mount a booster amplifier)
P3AP	S54339-A12-A1	Adapter Plate (used to mount a Siemens PAD-3 auxiliary power unit)
P4AP	S54339-A13-A1	Adapter Plate (used to mount a Siemens PAD-4 auxiliary power unit)

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NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

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