

Top efficiency –
from engineering to operation

Compact design

With a high efficiency rating of up to 94%, the units produce minimal heat, allowing for a very compact footprint – even with integrated overload monitoring of each output.

High system flexibility

The modular system with the innovative System Clip Link connection system for data and energy transfer allows for an individual combination of the power supply system without additional wiring. The order of the modules is irrelevant in this case.

Comprehensive software support

Simple integration in SIMATIC S7 enables configuration in the TIA Portal and ready-made software blocks. Ready-made faceplates facilitate visualization in SIMATIC WinCC and the SITOP library supports visualization in SIMATIC PCS 7. When it comes to the entire engineering process, 3D data, circuit diagram macros and configurable manuals are available for download free of charge.

Comprehensive manual settings

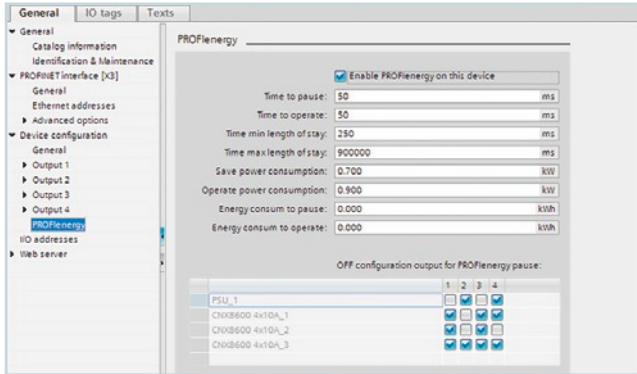
All relevant settings can be made manually, directly on the unit to ensure ease of commissioning.“ The values can then be applied in the software.

High functionality

Because every output can be set to a custom value between 4 V and 28 V, there is no need for additional power supply units to supply 5 V or 12 V products. Considering that the voltage can be adjusted during operation, applications that previously could not be implemented, or have been implemented at a very high cost, are now easily feasible. Because each output can also be switched on and off via software – including a 40 A output – contactors can be omitted here.

Acquisition of consumption data and PROFIenergy

The energy data of all outputs is acquired during operation. In this way, they offer comprehensive transparency in relation to the load characteristics or can be processed further in energy management systems. On top of this, support of PROFIenergy enables the power supply outputs to be selectively switched off, saving power during break times and lowering energy costs.



In the TIA Portal, the SITOP PSU8600 can easily be configured for the PROFIenergy break. The outputs to be switched off are simply selected to achieve this.

More information:

More on SITOP PSU8600:
[siemens.com/sitop-psu8600](https://www.siemens.com/sitop-psu8600)



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SITOP power supply

SITOP PSU8600
A cloud-enabled power supply
complete with open
communication protocols
and full TIA integration

Brochure

Edition
10/2018

[siemens.com/sitop-psu8600](https://www.siemens.com/sitop-psu8600)

SITOP PSU8600 –
the modular power supply system
that can be integrated in any plant

SITOP PSU8600 is the first power supply system that enables full integration in your automation system – in Totally Integrated Automation (TIA) via PROFINET or in OPC UA via Industrial Ethernet with open communication. The unique functionalities and communication capabilities offer new usage possibilities and transparency in the control circuit. The system consists of a basic device with one or four integrated outputs as well as various additional modules which can be connected in series without wiring work. The system can be expanded to include 36 independent outputs, each of which is protected against overload and can be set between 4 and 28 volts.

Because the current of each output is continuously recorded, overload states can be detected at an early stage.

Current and voltage measurements support the energy management of your plant, along with the ability to switch on/off outputs via PROFIenergy.



For protection against brief power failures, the system can be expanded with buffer modules. For protection against long power failures, it can even be expanded to form an uninterruptible power supply.

Top integration –
with complete system integration
all the way to MindSphere

Complete integration with TIA

“For the very first time, the SITOP PSU8600 enables users to fully integrate a power supply into networked automation applications and TIA Portal.” Engineering in the TIA Portal is very convenient; evaluation of the operating and diagnostics data is supported by ready-made function blocks for SIMATIC S7 user programs. WinCC faceplates are available for operator control and monitoring free-of-charge.

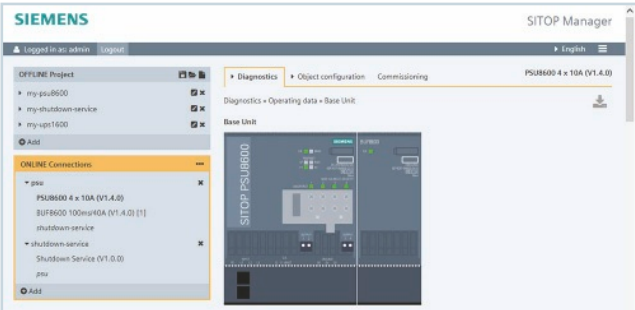
Easy integration into open systems

The SITOP PSU8600 also performs manufacturer-independent communication with other systems via the certified OPC UA server. Parameter assignment and diagnostics can be conveniently performed in the SITOP Manager for the Windows 7 or Windows 10 operating system. Via the user interface based on a Web browser, the SITOP power supplies with communication capability can be easily configured online and offline, even using mobile terminals.

Flexible integration into automation networks

The Industrial Ethernet/PROFINET interface enables comprehensive data exchange.

Convenient parameter assignment with the SITOP Manager, for example for targeted shutdown of PCs in the event of a power failure.



Thanks to the switch functionality with two ports, the power supply system can be easily integrated into existing automation networks – in both line and ring topologies. Thanks to the OPC UA server, the data can also be transferred directly to the cloud, e.g. to MindSphere.

Integrated Web server

Monitoring or diagnostics of the power supply can also take place remotely using the integrated Web server. This function can be enabled physically on the unit, which simplifies commissioning and service.

Top reliability – through selectivity, monitoring and buffering of outputs



Monitoring and selectively switching outputs

To prevent a short circuit or singular overload causing a plant-wide outage, all outputs are monitored and selectively switched off in event of a failure.” The voltage and current threshold can be set individually for each output.

Outputs with 100 VA power limitation according to NEC Class 2

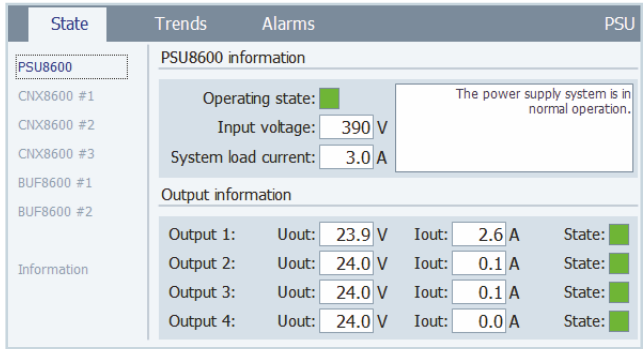
Each SITOP CNX8600 expansion module with 8 outputs of 2.5 A is certified according to NEC Class 2, meaning that all requirements are met for switching equipment in the USA. However, it can also be used worldwide to supply devices that are designed for supply according to NEC Class 2.

Comprehensive diagnostics

The SITOP PSU8600 is able to capture and transmit voltage and current data independently across all outputs via PROFINET. Dynamic, continuous, or frequent overload situations can be identified early on to reduce plant downtimes. Furthermore, the time of any power failures is recorded, allowing users to examine a history of grid feed-in quality.

Easily bridge power failures from seconds to hours

Buffer modules with electrolytic capacitors are used in the event of very short power interruptions. Variants with double-layer capacitors (UltraCaps) enable buffering for up to several seconds. With the UPS module UPS8600, the power supply system actually becomes a fully-fledged DC UPS. The outputs are buffered for up to several hours by means of lead-based or lithium-iron-phosphate-based battery modules. In contrast to a conventional DC UPS, the output voltage in buffer mode does not change the battery voltage. Instead; each output is supplied with precisely the set voltage. Configuration of the UPS is made easy with the engineering and monitoring tool, SITOP Manager. Even several PCs can be specifically shut down.



The visualization of all relevant values and states of the power supply system offers maximum transparency. Like here, via ready-made WinCC faceplates, but also via the SIMATIC PCS 7 library, the integrated Web server or the SITOP Manager

SITOP PSU8600 – the modular system for all requirements

SITOP PSU8600 basic units with one output or four outputs

Additional diagnostics and settings options via Industrial Ethernet/PROFINET interface with 2 ports

Setting options in the TIA Portal, via STEP 7 or SITOP Manager:

- Switch-on and switch-off of individual outputs for direct control of consumers or to save energy, e.g. via PROFInergy protocol
- Program-controlled change of the voltage of each output from 4 to 28 volts for the variable supply of consumers such as DC motors (e.g. in fans or belt drives)
- Threshold below the tripping current for messages for preventive maintenance

Diagnostics options in the TIA Portal, via STEP 7 or SITOP Manager:

- Early detection of dynamic, continuous or recurring overload states with the aid of momentary current values
- Status message of the outputs (on, off, overload)
- Outputs can be freely configured for messages for preventive maintenance
- Detection and logging of short-term power and phase failures to analyze the mains quality
- Advance warning of the overload of individual outputs, system overload and excess temperature
- Acquisition of the energy data (current, voltage) of each output to determine possible energy savings

Technical specifications	Basic units PSU8600 with one output		Basic device PSU8600 with four outputs	
Output current, outputs	20 A, 1 x 20 A	40 A, 1 x 40 A	20 A, 4 x 5 A	40 A, 4 x 10 A
Article No.	6EP3436-8SB00-2AY0	6EP3437-8SB00-2AY0	6EP3436-8MB00-2CY0	6EP3437-8MB00-2CY0
Rated input voltage value/range	3 400-500 V AC/3 320 ... 575 V AC			
Rated line frequency value/range	50/60 Hz/47 ... 63 Hz			
Mains buffering	15 ms (at 400 V), extendable via buffer modules and UPS module			
Rated input current value	1.4-1.1 A	2.75-2.2 A	1.4-1.1 A	2.75-2.2 A
– Inrush current, required MCB	< 14 A, 6-16 A Char. C, 3-ph. coupled or 3RV2011-1DA10 (setting 3 A) or 3RV2711-1DD10			
EMC	Line harmonics limitation (EN 61000-3-2), radio suppression level Class B (EN 55022)			
Efficiency at rated values, approx.	93 %	94 %	93 %	94 %
Output voltage, rated value	24 V DC ±3 %, setting range: 4 ... 28 V DC			
Setting range threshold value overload protection	2 ... 20 A	4 ... 40 A	0.5 ... 5 A	0.5 ... 10 A
Output current, overload (extra power)	30 A for 5 s/min	60 A for 5 s/min	30 A for 5 s/min	60 A for 5 s/min
Ambient temperature	-25 ... +60 °C			
Dimensions (W x H x D) in mm	80 x 125 x 150	125 x 125 x 150	100 x 125 x 150	125 x 125 x 150
Weight, approx.	1.8 kg	2.65 kg	2 kg	2.65 kg
Certifications	CE, cULus, CB, cCSAus, IECEx, ATEX, cCSAus Class I Div 2, SEMI F47, DNV GL, ABS			

CNX8600 expansion modules (max. 4)

Diagnostics and setting options on the modules

1 Status displays on basic devices

- 3-color LED for status of power supply system
- Display for manual or remote operation
- 4 LEDs for PROFINET status

2 Mode selector on basic devices

- Control via IE/PN (settings on device are disabled)
- Prioritized buffering output 1 on power failure; i.e. buffering of the first output for as long as possible, remaining outputs are switched off after approx. half of the buffering time
- Selectable overload behavior: Electronic shutdown or constant current
- On delay between the outputs, also of expansion modules CNX8600: 0 ms, 25 ms, 100 ms, load-optimized
- PSU8600 with 4 outputs: Parallel operation of outputs 1 + 2 or 3 + 4, with 1 output: Characteristic curve can be switched for symmetrical load distribution in parallel operation
- Approval of the Web server

3 Settings and display per output (manual operation for commissioning and servicing)

- LED button for on/off/reset with status display
- Setting of output voltage: 4 ... 28 V DC
- Setting of response threshold: See table
- Overload behavior
 - 101 to 149 % of setpoint: Switch off after 5 s
 - Above this: Current limitation to 150 % and switch off after 200 ms
- PSU8600 with 4 outputs: LED displays with parallel operation of outputs 1 + 2, 3 + 4

4 Contacts on basic devices

- Signaling contact (changeover contact) "DC OK"
- Remote reset

CNX8600 expansion modules		
4 x 5 A	4 x 10 A	8 x 2.5 A
6EP4436-8XB00-0CY0	6EP4437-8XB00-0CY0	6EP4436-8XB00-0DY0
Brief description: Distribution of DC supply to additional load feeders and monitoring for overload; selective switch-off of faulty feeders, response threshold can be set individually. A total of 4 modules can be used in the system network.		
97 %		
24 V DC ±3 %, setting range: 4...28 V DC		
0.5 ... 5 A	0.5 ... 10 A	0.5 ... 2.5 A
-25 ... +60 °C		
60 x 125 x 150	60 x 125 x 150	100 x 125 x 150
1.15 kg	1.15 kg	1.29 kg
CE, cULus, CB, cCSAus, IECEx, ATEX, cCSAus Class I Div 2, DNV GL; ABS		

Technical specifications	BUF8600 buffer modules				BAT8600 battery modules	
Type/buffer times with rated current	100 ms/40 A	300 ms/40 A	4 s/40 A	10 s/40 A	BAT8600 Pb	BAT8600 LiFePO4
Article No.	6EP4297-8HB00-0XY0	6EP4297-8HB10-0XY0	6EP4293-8HB00-0XY0	6EP4295-8HB00-0XY0	6EP4145-8GB00-0XY0	6EP4143-8JB00-0XY0
Brief description:	Extension of buffer time on power interruptions. A total of two buffer components (BUF8600, UPS8600) can be used in the system network.				External energy storage for UPS module UPS8600. Up to 5 battery modules of the same type can be connected to extend the buffer time.	
Storage technology	Electrolytic capacitors (internal)		Double-layer capacitors (internal)		Lead (Pb), 380 Wh, 48 V	Lithium-iron-phosphate (LiFePO4), 264 Wh, 48 V
Buffer time at 120 W (24 V/5 A)	800 ms	2.4 s	40 s	80 s	2 h 4 min	1 h 56 min
Buffer time at 240 W (24 V/10 A)	400 ms	1.2 s	20 s	40 s	57 min	60 min
Buffer time at 480 W (24 V/20 A)	200 ms	600 ms	10 s	20 s	25 min	29 min
Buffer time at 960 W (24 V/40 A)	100 ms	300 ms	4 s	10 s	10 min	14 min
Typical charging time	19 s	54 s	5 min	10 min	2 h 45 min (120 W)	2 h 40 min (120 W)
Output current, overload (extra power)	60 A for 5 s/min	60 A for 5 s/min	40 A	60 A for 5 s/min	60 A for 5 s/min via UPS8600	
Ambient temperature	-25 ... +60 °C				-10 ... +50 °C	
Dimensions (W x H x D) in mm	60 x 125 x 150	125 x 125 x 150	60 x 125 x 150	125 x 125 x 150	322 x 187 x 110 (for wall mounting)	
Weight, approx.	1.33 kg	2.26 kg	1.25 kg	1.95 kg	13 kg	6.5 kg
Certifications	CE, cULus, CB, cCSAus, IECEx, ATEX, cCSAus Class I Div 2, SEMI F47, DNV GL, ABS				CE, cULus, CB, cCSAus, IECEx, ATEX, pending: DNV GL and ABS	

Buffer components BUF8600 and UPS8600 (max. 2)

5 Status displays expansion and buffer modules

- 3-color LED

6 Contacts on buffer modules

- Remote ON/OFF (for disabling buffering, e.g. on shutdown of plant)
- Signaling contact (normally open) "Charge status > x %" (can be set via software)
- Signaling contact (normally open) "Buffer mode"

7 Status displays on UPS/battery module

- a) 3-color LED UPS module
- b) 3-color LED battery circuit

8 Mode selector on UPS module

- Charging capacity 120 W/60 W
- Preferred charging mode
- Buffer time limit 1 ... 88 min.

9 Contacts on UPS module

- Remote ON/OFF (for disabling buffering)
- Start from the battery (stand-alone mode)
- Signaling contact (normally open) "Charge status > x %"
- Signaling contact (normally open) "Buffer mode"
- Signaling contact (normally open) "Battery circuit fault"

Technical specifications	UPS module UPS8600
Type	UPS8600
Article No.	6EP4197-8AB00-0XY0
Brief description	Buffering in case of power failures. The Energy Storage Link enables diagnostics and temperature-controlled charging for maximum service life of the battery modules. A total of two buffer components (BUF8600, UPS8600) can be used in the system network.
External energy storage	BAT8600 battery module
Charging capacity	120 W, 60 W (switchable)
Buffer power	960 watt (40 A at 24 V)
Ambient temperature	-25 ... +60 °C
Dimensions (W x H x D) in mm	60 x 125 x 150
Weight, approx.	0.9 kg
Certifications	CE, cULus, CB, cCSAus, IECEx, ATEX, pending: DNV GL and ABS