

EcoStruxure™ Panel Server

IoT for an intelligent power network

The EcoStruxure™ Panel Server is the next generation of gateway, providing a seamless connection of wired or unwired smart IoT devices to your edge control software or cloud-based applications and analytics. It is a foundational enabler for Schneider Electric EcoStruxure™ solutions.

Electrical safety

Panel Server is an integral part of Schneider Electric's continuous thermal monitoring application, helping reduce risk of electrical fires, increase people and assets protection. Implement the thermal monitoring of your electrical panel by connecting thermal and heat sensors to your Panel Server.

Power availability

Electrical distribution monitoring and power event analysis help avoid unplanned downtime caused by electrical failure. Panel Server collects real-time data and alarms, presenting information through embedded webpages, making it available to edge control software or cloud-based applications and analytics for electrical system diagnostics. Use embedded webpages for first-level monitoring or monitor from your edge or cloud control system.

Optimize energy efficiency

Improve your facility's energy efficiency and reduce energy consumption with energy usage analysis and performance tracking. Panel Server collects and shares energy data to help achieve your energy conservation initiatives. It is part of an energy data management system certified for compliance with ISO 50001, 50002, and 50006 requirements.

Cybersecurity

Guarding your electrical assets and systems against cyber attacks is vital. Discover the enhanced cybersecurity benefits of Panel Server and its IEC62443-4-1 compliant development lifecycle. Explore its cybersecurity features through a [dedicated guide](#), and discover how Panel Server empowers you to retrieve security logs, providing valuable insights into system security and activity.



EcoStruxure Panel Server gives you access to the information you need to protect, maximize and optimize your power system.



Help keep people and assets safer



Maximize power availability



Optimize energy efficiency



Improve cybersecurity

All-in-one gateway

- Separates your OT network from your IT network
- Wireless data concentrator
- Modbus RS485 to Modbus TCP/IP
- Supports multiple Ethernet connections for serving information to edge control software and cloud applications

Simple commissioning

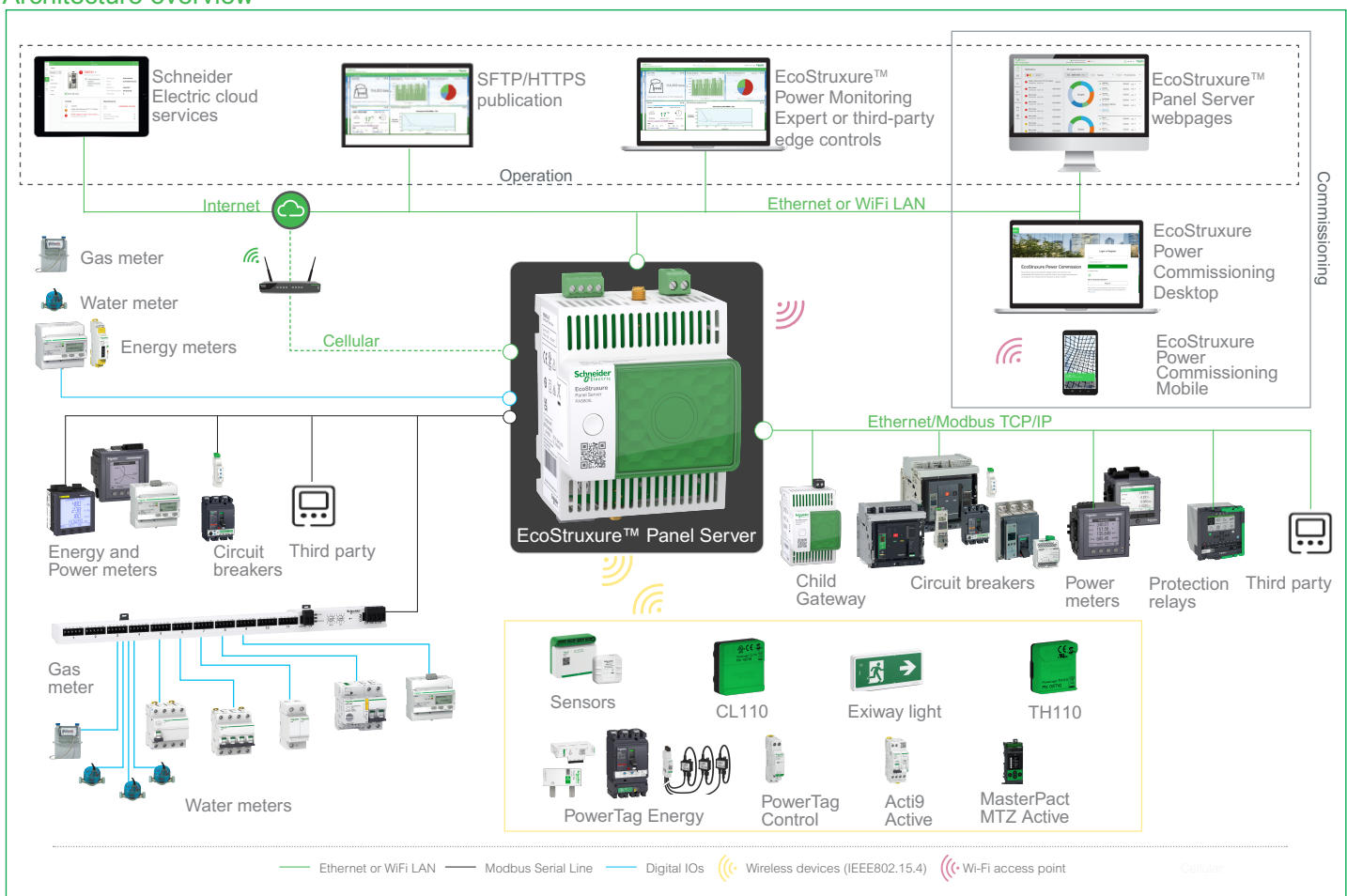
- EcoStruxure™ Power Commission software
- Device auto discovery
- Generation of acceptance reports to validate gateway configuration
- Commissioning via Ethernet or Wi-Fi infrastructure
- Mobile Commissioning via Wi-Fi Access point

Intuitive operation

- User-friendly webpages offer first-level monitoring
- Contextualized data and operational insights
- Simple alarm setup for email notification
- Standardized IEC 62974-1 compliant datalogger and energy server



Architecture overview



Panel Server Entry



Panel Server Entry - Front ISO view

Standards & certifications

- IEC 61010-1
- IEC 61010-2-201
- UL 61010-1
- UL 61010-2-201
- IEC 62974-1
- ETSI EN 301 489-1 V2.2.3
- ETSI EN 301 489-17 V3.2.4
- IEC 61326-1
- IEC 62974-1
- EN50581
- EN 62321
- EN 62474
- ETSI EN 300 328 V2.2.2



Compatible with a large set of wireless sensors, PowerTag Energy, Heat Tag, and others. PAS400 is the perfect fit for small networks or installations where space is a challenge.

Functions

- Optimized gateway to retrieve data from your wireless devices.
- Connect to your monitoring and control software such as EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power Operation or to your Building Management System.
- Connect to Schneider Electric cloud applications such as EcoStruxure™ Energy Hub or Asset Advisor.
- Ease of commissioning with EcoStruxure™ Power Commission software or directly through the Panel Server webpages, enabling device plug-and-play and auto-discovery features.
- Ease of operation with user friendly embedded webpages and data contextualization for more relevant analytics.

Main features

- Power Supply 110...277 Vac/dc
- Designed to match with electrical switchboard environment (temperature and humidity electromagnetic compatibility).
- One Ethernet 10Base-T/100Base-T port
- Connect easily to the embedded webpages through your Wi-Fi infrastructure or Ethernet connection.
- IEEE 802.15.4 wireless communication
- Modbus TCP/IP server
- Support of HTTPS, NTP, SNTP, and DHCP client with proxy management.
- Wireless devices concentrator to Modbus TCP/IP
- Designed through a Secured Development Life Cycle in accordance to IEC 62443-4-1.
- Commissioning through EcoStruxure™ Power Commission or through Embedded Web-Pages.
- Wi-Fi Access point connection for seamless commissioning with EPC-Mobile.
- Embedded web server for real-time measurement visualization, and power consumption.
- Real-time alarm display

Comm. Reference	Description
PAS400	Panel Server Entry 110...277 V ac/dc

Panel Server Entry

Panel Server Entry technical specification

Technical data		EcoStruxure™ Panel Server Entry
Commercial Reference		PAS400
Power Supply		
Voltage		110...277 Vac/dc
Tolerance		± 10%
Frequency		45...65 Hz
Maximum consumption		3 W, 10 VA
Ethernet & Wi-Fi		
Ethernet 10/100base T	Number of Ports	Single RJ45 Port
	PoE 802.3af and 802.3at Class 0	NA
Wi-Fi infrastructure	Supported Frequency	2.4 and 5 GHz
Wi-Fi access point	Supported Frequency	2.4 GHz
TCP/IP		Yes
IP V4/IP V6		Yes
DPWS		Yes
DHCP	Client	Yes
	Server (Separate Network)	No
Modbus TCP/IP Server	Max. number of client connection	64
Modbus TCP/IP Client	Max. number of Modbus TCP/IP devices	NA
Schneider Electric Cloud Services		Yes
HTTPS		Yes
External Wi-Fi/Antenna		No
Wireless Devices (IEEE 802.15.4)		
Number of devices	Total for mixed network	20 devices
	PowerTag Energy and Easergy TH110/CL110	20 devices
	Other type of devices ⁽⁺¹⁾	20 devices
External IEEE 802.15.4 Antenna		No
Serial Ports		
Modbus RS485 Client	Max. number of devices w/o repeater	NA
	Max. number of devices with repeater	NA
	Maximum Length	NA
	Baud Rate	NA
Functionality		
Data Buffering for Data Publication		1 month ^[+3]
Data Publication		Over Cloud Application SFTP or HTTPS server
Data Logger and Web-Server	Historical Data Logging	No ^[+2]
	Historical Event Logging	No
	Real-Time data and event monitoring	Yes
	Historical data trending	No
Time Management	RTC (with battery)	Yes
	TimeUpdate (NTP and SNTP)	Yes
Digital inputs		
Two DI	WAGES & Dry-Contact	No
Environmental		
Protection Degree	Front Face	IP40
	Others	IP20
Overvoltage Category		OVC III
Pollution Degree		2
Temperature	Operation	-25...+60 °C
	Storage	-40...+85 °C
Altitude Maximum		< 2000 m
Relative Humidity		5...95 %
Mechanical		
Form factor		Acti9
Installation		Din Rail
Width		54 mm
Weight		163 g
Standard and Certification		
Certifications		CE, CULus, CB, RCM, UKCA, FCC, IC, RF and, Marine certification (DNV)
Standards		EN/IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, ETSI EN 301-489-1, ETSI EN 301-489-17, ETSI EN 300-328, IEEE 802.15.4, IEEE 802.11b/g/n, IEEE 802.3 af/at, EN 301-893, 47 CFR FCC Part 15, Subpart B, Class A, EN IEC 62311, ANSI C63, IACS UR E10 and, DNVGL-CG-0339

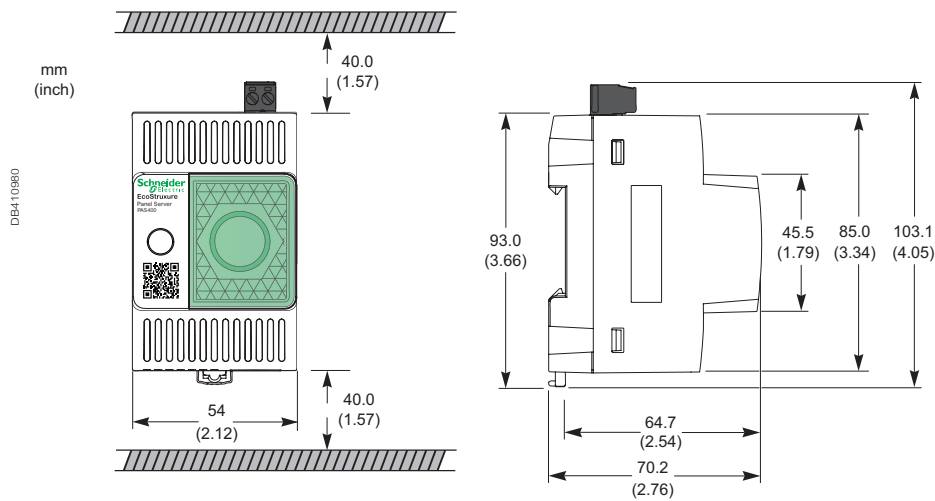
[+1] Consult the User Manual or other documentations to check the limit applicable to your wireless device.

[+2] Lower limits may apply depending on the firmware version, the serial line length, and the type of device(s). Consult the User Manual, Release Notes or other documentations.

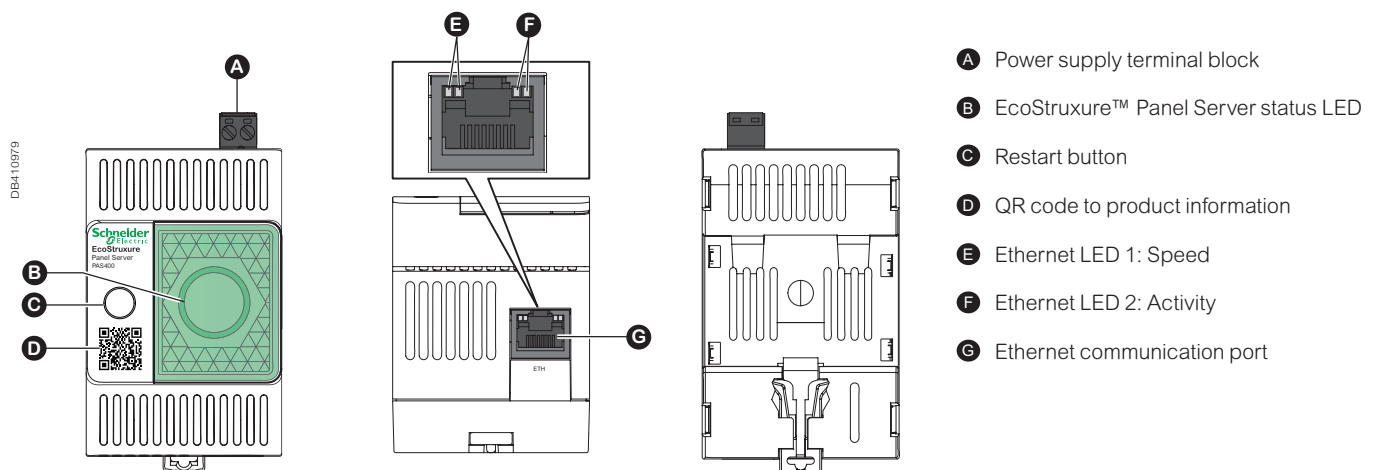
[+3] Applicable for Cloud, SFTP and HTTPS publication. Lower limits may apply according to the size of your network.

Panel Server Entry

Panel Server Entry dimensions



Panel Server Entry physical descriptions



Please see the appropriate Installation Guide for accurate and complete information on the installation of this product.

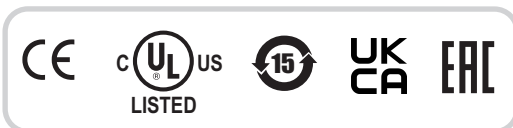
Panel Server Universal



Panel Server Universal - Front ISO view

Standards and certifications

- IEC 61010-1
- IEC 61010-2-201
- UL 61010-1
- UL 61010-2-201
- IEC 62974-1
- ETSI EN 301 489-1 V.2.2.3
- ETSI EN 301 489-17 V.3.2.4
- IEC 61326-1
- IEC 62974-1
- EN50581
- EN 62321
- EN 62474
- ETSI EN 300 328 V2.2.2



Comm. Reference	Description
PAS600	Panel Server Universal with 110...277 Vac/dc power supply
PAS600L	Panel Server Universal with 24 Vdc power supply
PAS600LWD	Wired by Design Panel Server Universal with 24 Vdc power
PAS600PWD	Wired by Design Panel Server Universal with PoE power supply

All-in-one and Wired by Design Panel Server

- The All-in-one Panel Server Universal, PAS600 and PAS600L are designed to retrieve data from wireless, Modbus, and Ethernet based protocols to offer versatility and adaptability.
- Panel Server Universal Wired by Design, PAS600LWD and PAS600PWD are designed for specific cybersecurity sensitive installations, dedicated to wired communication protocols (Modbus, Ethernet) and PAS embedded digital inputs (PAS600LWD).

Functions

- Connect to your monitoring and control software such as EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power Operation or to your Building Management System.
- Connect to Schneider Electric cloud applications such as EcoStruxure™ Energy Hub or Asset Advisor.
- Ease of commissioning with EcoStruxure™ Power Commission software or directly through the Panel Server webpages, enabling device plug-and-play and auto-discovery features.
- Ease of operation with user friendly embedded webpages, and data contextualization for more relevant analytics.

Main features

- Power Supply 24 Vdc, 110...277 Vac/dc, PoE-PD (CLASS 0 and IEEE 802.3af/at)
- Designed to match demanding electrical switchboard environment (temperature and humidity electromagnetic compatibility).
- Two Ethernet 10Base-T/100Base-T port (supporting switched or separated network topology).
- Connect easily to the embedded webpages through your Wi-Fi Infrastructure (All-in-one Panel Server) or Ethernet connection.
- Modbus RS485 serial communication
- IEEE 802.15.4 wireless communication (All-in-one Panel Server Universal).
- Modbus TCP/IP server and client
- Support of HTTPS, NTP, SNTP, and DHCP client with proxy management.
- Modbus RS485 to Modbus TCP/IP Gateway
- Wireless devices concentrator to Modbus TCP/IP (All-in-one Panel Server Universal)
- Two digital inputs (24 Vdc version) for contact information or WAGES pulse meter.
- Designed through a Secured Development Life Cycle in accordance to IEC 62443-4-1.
- Commissioning through EcoStruxure™ Power Commission or through Embedded Web-Pages.
- Wi-Fi Access point connection for seamless commissioning with EPC-Mobile (All-in-one Panel Server Universal).
- Support for RSTP protocol to help IT specialists re-establish communication paths through Ethernet after an interruption is detected.
- Embedded web server for real-time measurement visualization, and power consumption.
- Real-time alarm display

Accessories for All-in-one Panel Server Universal

- Wi-Fi external antenna (PASA-ANT1) for PAS600 and PAS600L
- IEEE 802.15.4 external antenna (PASA-ANT1) for PAS600 and PAS600L depending on hardware version ^[*1]

Panel Server Universal

Panel Server Universal technical specification

Technical data		EcoStruxure™ Panel Server Universal			
Commercial Reference		PAS600	PAS600L	PAS600LWD	PAS600PWD
Power Supply					
Voltage		110...277 Vac/dc	24 Vdc	24 Vdc	via POE
Tolerance		± 10%		± 10%	NA
Frequency		45...65 Hz	NA		
Maximum consumption		3 W/10 VA	3 W		
Ethernet & Wi-Fi					
Ethernet	Number of Ports	Two RJ45 ports			
10/100base T	PoE 802.3af and 802.3at Class 0	No		No	1 port (PD)
Wi-Fi infrastructure	Supported Frequency	2.4 and 5 GHz ^[+1]		NA	NA
Wi-Fi access point	Supported Frequency	2.4 GHz		NA	NA
TCP/IP		Yes			
IP V4/IP V6		Yes			
DPWS		Yes			
DHCP	Client	Yes			
	Server (Separate Network)	No			
Modbus TCP/IP Server	Max. number of client connection	64			
Modbus TCP/IP Client	Max. number of Modbus TCP/IP devices	128 ^[+2]			
Schneider Electric Cloud Services		Yes			
HTTPS		Yes			
External Wi-Fi/Antenna		PASA-ANT1		NA	NA
Wireless Devices (IEEE 802.15.4)					
Number of devices	Total for mixed network	up to 40 devices ^[+2]		NA	NA
	PowerTag Energy, Acti9 Active, Wireless breaker auxiliaries	up to 85 devices ^[+2]		NA	NA
	Easergy TH110/CL110, environmental sensors	up to 100 devices ^[+2]		NA	NA
External IEEE 802.15.4 Antenna		PASA-ANT1 ^[+1]		NA	NA
Serial Ports					
Modbus RS485 Client	Max. number of devices	32 devices			
	Maximum Length	1000 m			
	Baud Rate	1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200			
Functionality					
Data Buffering for Data Publication		1 month ^[+3]			
Data Publication		Over Cloud Application, SFTP or HTTPS server			
Data Logger and Web-Server	Historical Data Logging	No			
	Historical Event Logging	No			
	Real-Time data and event monitoring	Yes			
	Historical data trending	No			
Time Management	RTC (with battery)	Yes			
	TimeUpdate (NTP and SNTP)	Yes			
Digital inputs					
Two DI	WAGES & Dry-Contact	No	Yes	Yes	No
Environmental					
Protection Degree	Front Face	IP40			
	Others	IP20			
OverVoltage Category		OVC III			
Pollution Degree		2	3	3	2
Temperature	Operation	-25...+70 °C			
	Storage	-40...+85 °C			
Altitude Maximum		< 2000 m	< 5000 m ^[+4]	< 5000 m ^[+4]	< 2000 m
Relative Humidity		5...95%			
Mechanical					
Form factor		Acti9			
Installation		Din Rail			
Width		72 mm			
Weight		201 g	181 g	180 g	182 g
Standard & Certification					
Certifications		CE, CULus, CB, RCM, UKCA, FCC, IC, RF and, Marine certification (DNV)		CE, CULus, CB, RCM, UKCA, FCC, IC and, Marine certification (DNV)	
Standards		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, ETSI EN 301-489-1, ETSI EN 301-489-17, ETSI EN 300-328, IEEE 802.15.4, IEEE 802.11b/g/n, IEEE 802.3 af/at, IEC 60945, 47 CFR FCC Part 15, Subpart B, Class A, EN/IEC 62311, ANSI C63, IACS UR E10, DNVGL-CG-0339 and, EC62443-3-3 (PAS600L)		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, IEC 60945, 47 CFR FCC Part 15, Subpart B, Class A, IACS UR E10, DNVGL-CG-0339 and, EN 62947-1	

[+1] Lower limits may apply according to your hardware version. Consult the User Manual to check the limit applicable to your devices.

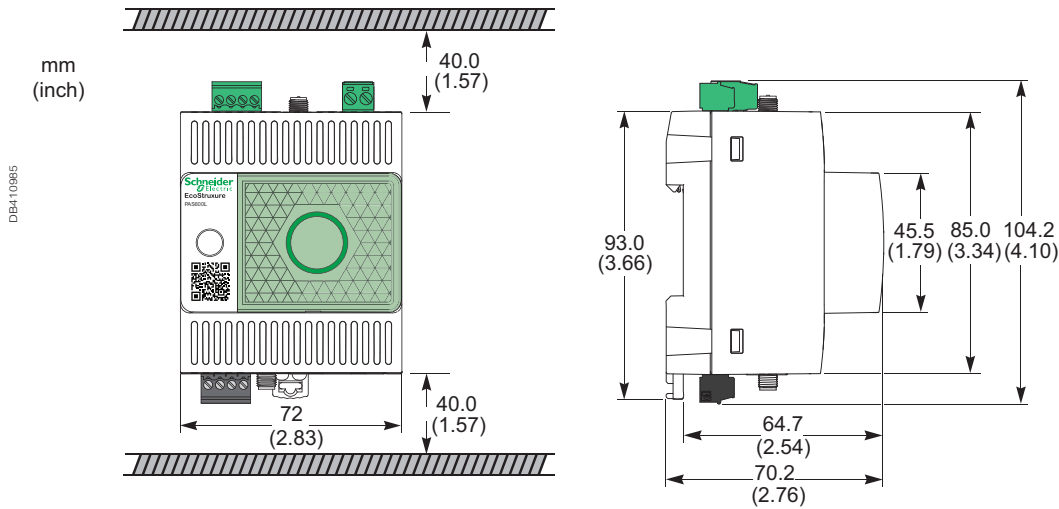
[+2] Lower limits may apply depending on the firmware version, the serial line length, and the type of device(s). Consult the User Manual, Release Notes or other documentations.

[+3] Applicable for cloud, SFTP and HTTPS publication. Lower limits may apply according to the size of your network.

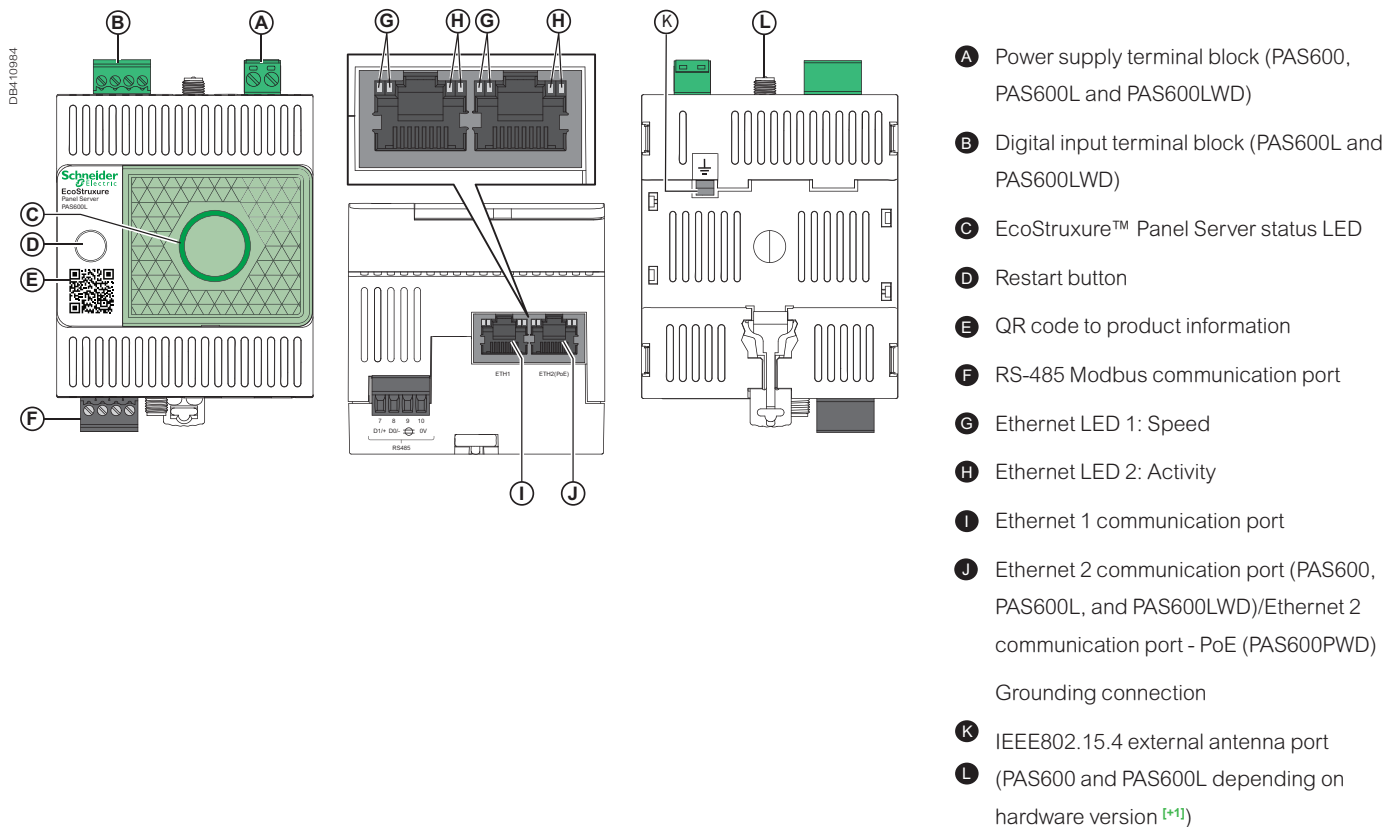
[+4] With an altitude between 2000 m and 4000 m, the operating temperature tolerance is of -25...+60 °C. Between 4000 m and 5000 m, the operating temperature tolerance will be decreased of 1 °C every additional 200 m.

Panel Server Universal

Panel Server Universal dimensions



Panel Server Universal physical descriptions



[+1] Lower limits may apply according to your hardware version. Consult the User Manual to check the limit applicable to your devices.

Please see the appropriate Installation Guide for accurate and complete information on the installation of this product.

Panel Server Advanced



Panel Server Advanced- Front ISO view

Standards & certifications

- IEC 61010-1
- IEC 61010-2-201
- UL 61010-1
- UL 61010-2-201
- IEC 62974-1
- ETSI EN 301 489-1 V.2.2.3
- ETSI EN 301 489-17 V.3.2.4
- IEC 61326-1
- IEC 62974-1
- EN50581
- EN 62321
- EN 62474
- ETSI EN 300 328 V2.2.2



Comm. Reference	Description
PAS800L	Panel Server Advanced with 24 Vdc power supply
PAS800P	Panel Server Advanced with PoE power supply
PAS800	Panel Server Advanced with 110...277 Vac/dc power supply

Panel Server has Data Logger and Local Energy Server capabilities. It embodies the first step into energy monitoring. Follow, analyze and compare your loads consumption to enable energy savings.

Functions

- An all-in-one gateway to retrieve data from both your wireless IEEE 802.15.4 devices and Modbus devices.
- Monitor up to three years historized data and analyze your energy consumption directly through the Panel Server Advanced embedded webpages.
- Connect to your monitoring and control software such as EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power Operation or to your Building Management System.
- Connect to Schneider Electric cloud applications such as EcoStruxure™ Energy Hub or Asset Advisor.
- Ease of commissioning with EcoStruxure™ Power Commission software or directly through the Panel Server webpages, enabling device plug-and-play and auto-discovery features.
- Ease of operation with user friendly embedded webpages, and data contextualization for more relevant analytics.

Main features

- Power Supply 24 Vdc, 110...277 Vac/dc, PoE-PD (CLASS 0, IEEE802.3af/at)
- Designed to match demanding electrical switchboard environment (temperature, humidity electromagnetic compatibility)
- Two Ethernet 10Base-T/100Base-T port (supporting switched or separated network topology)
- Connect easily to the embedded webpages through your Wi-Fi Infrastructure or Ethernet connection
- Modbus RS485 serial communication
- IEEE 802.15.4 wireless communication
- Modbus TCP/IP server and client
- Support of HTTPS, NTP, SNTP, and DHCP client with proxy management
- Modbus RS485 to Modbus TCP/IP Gateway
- Wireless devices concentrator to Modbus TCP/IP
- Two digital inputs (24 Vdc version only) for contact information or WAGES pulse meter
- Designed through a Secured Development Life Cycle in accordance to IEC 62443-4-1
- Commissioning through EcoStruxure™ Power Commission or though Embedded Web-Pages
- Wi-Fi Access point connection for seamless commissioning with EPC-Mobile
- Support for RSTP protocol to help IT specialists re-establish communication paths through Ethernet after an interruption is detected
- Embedded web server for real-time measurement and alarm visualization, energy and power consumption by usage and location, 3 years historical trending and dashboarding
- 3 years Data Logger with 32 GB memory
- Real-time alarm display and e-mail notification
- Event and alarm historization and dashboarding

Compatible accessories

- Wi-Fi external antenna (PASA-ANT1)
- IEEE 802.15.4 external antenna (PASA-ANT1)

Panel Server Advanced

Panel Server Advanced technical specification

Technical data		EcoStruxure™ Panel Server Advanced		
Commercial Reference		PAS800	PAS800L	PAS800P
Power Supply				
Voltage		110...277 Vac/dc	24 Vdc	PoE
Tolerance		± 10 %	± 10 %	
Frequency		45...65 Hz	NA	
Maximum consumption		3 W/10 VA	3 W	3.5 W
Ethernet and Wi-Fi				
Ethernet 10/100base T	Number of Ports	Two RJ45 ports		
	PoE 802.3af and 802.3at Class 0	No		1 port (PD)
Wi-Fi Infrastructure	Supported Frequency	2.4 & 5 GHz		
Wi-Fi acces point	Supported Frequency	2.4 GHz		
TCP/IP		Yes		
IP V4/IP V6		Yes		
DPWS		Yes		
DHCP	Client	Yes		
	Server (Separate Network)	No		
Modbus TCP/IP Server	Max. number of client connection	64		
Modbus TCP/IP Client	Max. number of Modbus TCP/IP devices	128 ^[*2]		
Schneider Electric Cloud Services		Yes		
HTTPS		Yes		
External Wi-Fi/Antenna		PASA-ANT1		
Wireless Devices (IEEE 802.15.4)				
Number of devices	Total for mixed network	up to 40 devices ^[*2]		
	PowerTag Energy, Acti9 Active, Wireless breaker auxiliaries	up to 85 devices ^[*2]		
	Easergy TH110/CL110, environmental sensors	up to 100 devices ^[*2]		
External IEEE 802.15.4 Antenna		PASA-ANT1		
Serial Ports				
Modbus RS485 Client	Max. number of devices	32 devices		
	Maximum Length	1000 m		
	Baud Rate	1200, 4800, 9600, 19200, 38400, 57600, and 115200		
Functionality				
Data Buffering for Data Publication		3 months ^[*3]		
Data publication		Over Cloud Application, SFTP or HTTPS server		
Data Logger and Web-Server	Historical Data Logging	3 years		
	Historical Event Logging	Yes ^[*2]		
	Real-Time data and event monitoring	Yes		
	Historical data trending	Yes		
Time Management	RTC (with battery)	Yes		
	TimeUpdate (NTP & SNTP)	Yes		
Digital inputs				
Two DI	WAGES & Dry-Contact	No	Yes	No
Environmental				
Protection Degree	Front Face	IP40		
	Others	IP20		
OverVoltage Category		OVC III		
Polution Degree		2	3	2
Temperature	Operation	-25...70 °C		
	Storage	-40...85 °C		
Altitude Max.		< 2000 m	< 5000 m ^[*4]	< 2000 m
Relative Humidity		5...95%		
Mechanical				
Form factor		Acti9		
Installation		Din Rail		
Width		72 mm		
Weight		206 g	186 g	184 g
Standard & Certification				
Certifications		CE, CULus, CB, RCM, UKCA, FCC, IC, RF, and Marine certification (DNV)		
Standards		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, ETSI EN 301-489-1, ETSI EN 301-489-17, ETSI EN 300-328, IEEE 802.15.4, IEEE 802.11b/g/n, IEEE 802.3 af/at, EN 301-893, IEC 60945, 47 CFR FCC Part 15, Subpart B, Class A, and EN IEC 62311		

[*1] Lower limits may apply according to your hardware version. Consult the User Manual to check the limit applicable to your wireless devices.

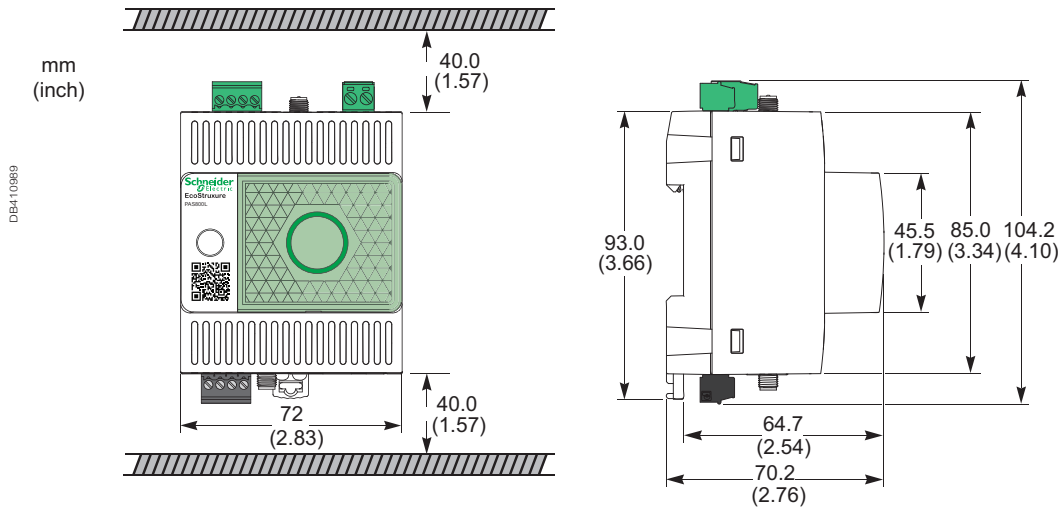
[*2] Lower limits may apply depending on the firmware version, the serial line length, and the type of device(s). Consult the User Manual, Release Notes or other documentations.

[*3] Applicable for Cloud, SFTP and HTTPS publication. Lower limits may apply according to the size of your network.

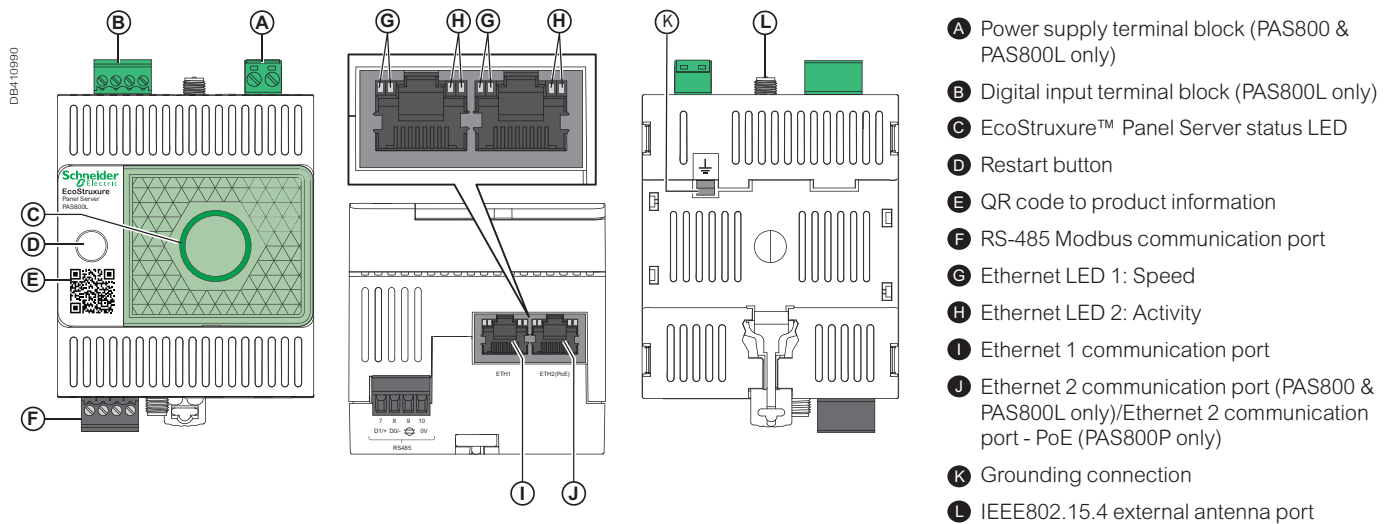
[*4] With an altitude between 2000 m and 4000 m, the operating temperature tolerance is of -25...+60 °C. Between 4000 m and 5000 m, the operating temperature tolerance will be decreased of 1 °C every additional 200 m.

Panel Server Advanced

Panel Server Advanced dimensions



Panel Server Advanced physical descriptions



Please see the appropriate Installation Guide for accurate and complete information on the installation of this product.



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