

## FEATURE HIGHLIGHTS



- Remotely monitor, manage, and control industrial field devices
- IEC61850-3 certified, can be easily set up into IEC61850-3 substations
- Industrial EMC protection, wide temperature operation, -40°C~80°C
- Redundant Power Input for fault protection, either 24~48 VDC or High-Voltage AC/DC (100~240VAC or 100~370VDC)
- 6 Fast-Ethernet interfaces, either RJ45 or SFP slot
- 8 or 16 RS-232/RS-485/RS-422 Serial ports, with or without isolation
- TCP Server/Client, UDP, Virtual COM and Tunneling modes supported
- Embedded security with IPsec and OpenVPN Client/Server support
- Configuration via Web Browser / Telnet / Windows Utility

## PRODUCT DESCRIPTION

### Make Serial Devices Ready to the Network

The Industrial Serial Device Server SE5908A/SE5916A is a high-profile, high-performance wide temperature gateway for Ethernet (TCP/IP) and serial signal communications; allowing almost any serial device to be connected to a new or existing Ethernet network. By encapsulating serial data and transporting it over Ethernet, it offers full-duplex and bi-directional data seamlessly between the serial port and the Ethernet network.

### Security and Redundancy

SE5908A/SE5916A embeds OpenVPN and IPsec VPN, that allows you to tunnel your data securely through the internet and prevent unauthorized control of your Serial Devices by malicious people. The integrated Rapid Spanning Tree Protocol (RSTP), allows you to add a backup Ethernet link in the event the primary one fails.

### Easy to Use

Flexible configuration options enable this unit to be setup over Ethernet by Telnet, Web Browser, or our Windows Utility. Packed in a rugged metal housing for 19" rack mount with a redundant 24-48 VDC or High Voltage AC/DC power input, SE5908A/SE5916A is ideal for mission-critical applications in utilities and especially in power substations. ATOP Virtual COM software provides a virtual environment for applications when accessing the device through TCP.

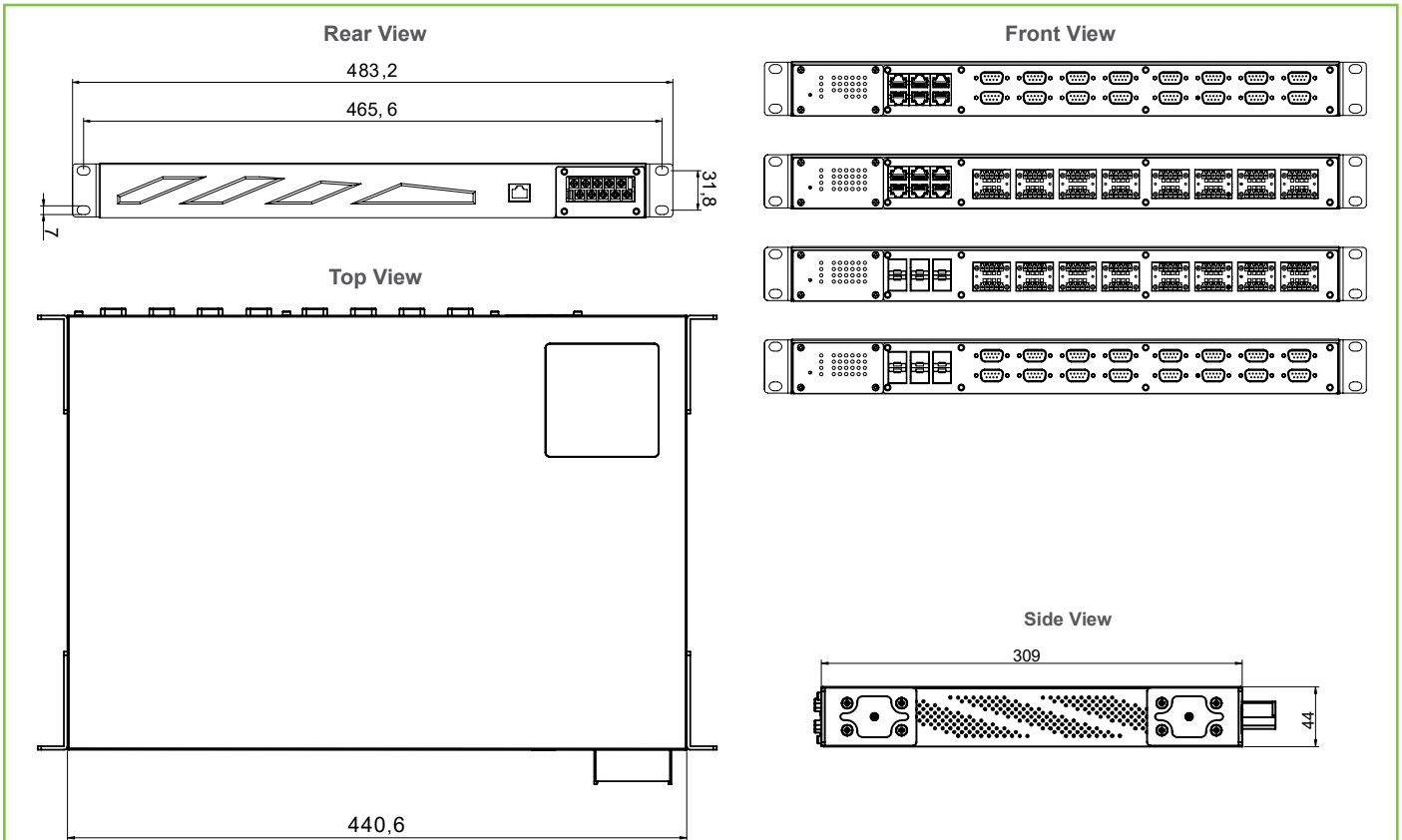
### Rugged and flexible for advanced developments

SE5908A/SE5916A embeds *high EMC protection, wide temperature operation*, programming and installation flexibility in one device. The *IEC61850-3 certified hardware* makes it the most advanced Ethernet-to-Serial or Computing option, while the dual power supply provides additional redundancy in case of power failure. High-Voltage option makes the device suitable for High-Voltage AC or DC inputs (100~240 VAC or 100~370VDC) that are common in substation environments., without additional cabling and power supply.

*SDK versions\** allow you to make use of the powerful embedded TI ARM CPU, and develop your own applications on top of ATOP's reliable SDK transforming your SE5908A / SE5916A in a cost effective, performing industrial computing platform.

\* More information available, please contact ATOP representative

# DIMENSIONS & LAYOUT



## SPECIFICATIONS

Technical Specifications	
Model Name	SE5908A (8-ports) SE5916A (16-ports)
Network interface	
Speed	IEEE 802.3 10BaseT IEEE 802.3u 100BaseT(X) - RJ45 version IEEE 802.3u 100Base-FX - SFP version
Connector ports	RJ45 x 6 (RJ45 version) SFP x 6 (SFP version)
Serial Interface	
Connector	D-Sub9 (DB models, supporting only 5-pin RS-232 mode) or 5.08mm 5-Pin Terminal block (TB Models)
Ports	8 (SE5908A) or 16 (SE5916A)
Mode	RS-232/422/485 Software selectable
Serial port isolation	3 kV isolation (SiS version only)
Baud Rate	1,200 ~ 921,600 bps software selectable
Parity	None, Odd, Even, Mark, Space
Data Bits	5, 6, 7, 8 software selectable
Stop Bits	1, 2 software selectable
Flow Control	None, Xon/Xoff, RTS/CTS (RS-232 only)
Power	
Input Voltage	Redundant 24-48 VDC or Redundant 100-240 VAC/ 100-370 VDC (HV Series)
Input Current	0.73 A @ 24 VDC 0.35 A @ 100 VAC 0.20 A @ 100 VDC
Power Consumption	Approximately 20 W
Power Redundancy	Yes
Connector	10-Pin Terminal Block
Reverse Polarity Protection	Yes
Physical Characteristics	
Housing Dimension (W x H x D) Weight Installation Reset Button	IP30 SPCC housing 440.6 x 44 x 309 mm (1U Rack-mount) 4 kg 19" Rack mount (Rack-mount kit included) Yes
Environmental Limits	
Operating Temperature Storage Temperature Ambient Relative Humidity	-40°C~80°C (-40°F~176°F) -40°C~85°C (-40°F~185°F) 5%~95%, 55°C (Non-condensing)

Software	
Protocols	IPv4, ICMP, TCP, UDP, DHCP Client, SNMPv1,v2c,v3, HTTP, HTTPS, Telnet, RFC2217, 802.1D-2004 RSTP, Security through OpenVPN Client/Server and IPsec (host-to-host or host-to-side) with up to 37.9Mbps VPN throughput, PPTP, and SMTP/TLS
Configuration	ATOP Management Utility, Web UI, Telnet, Console
VirtualCOM	Windows/Linux redirection software
Link Modes	
TCP Client	Single destination or VirtualCOM
TCP Server	4 Connections; VirtualCOM or reverse Telnet
UDP	Up to 4 Ranges IP

## REGULATORY APPROVALS

Regulatory Approvals				
Safety	EN61010-1, EN 61010-2-201			
EMC	FCC Part 15, Subpart B, Class A, EN 55032, Class A, EN 61000-6-2, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-6-4, IEC 61850-3 / IEEE 1613			
Test	Item		Value	Level
IEC 61000-4-2	ESD	Contact Discharge	±8kV	4
		Air Discharge	±15kV	4
IEC 61000-4-3	RS	Radiated (enclosure)	20 V/m	3
IEC 61000-4-4	EFT	AC Power Port	±4.0KV	4
		DC Power Port	±4.0KV	4
		Signal Port	±4.0KV	4
IEC 61000-4-5	Surge	AC Power Port	Line-to Line±2.0KV	4
		AC Power Port	Line-to Earth±4.0KV	4
		DC Power Port	Line-to Line±1.0KV	3
		DC Power Port	Line-to Earth±2.0KV	3
		Signal Port	Line-to Earth±4.0KV	4
IEC 61000-4-6	CS	AC Power Port	10 V rms	3
		DC Power Port		
		Signal Port		
IEC 61000-4-8	PFMF	Enclosure	100 A/m	5
			1000 A/m (1sec.)	6
IEC 61000-4-11	DIP	AC Power Port	30% reduction (Voltage Dips), 1 period 60% reduction (Voltage Dips), 50 period 100% reduction (Voltage interruptions), 5 period 100% reduction (Voltage interruptions), 50 period	-
Shock Drop (Freefall) Vibration	MIL-STD-810F Method 516.5 MIL-STD-810F Method 516.5 MIL-STD-810F Method 514.5 C1 & C2			
RoHS II	Yes			
MTBF	SE5916A-6SFP-Sis-HV: 9.18 years; SE5916A-6SFP-Sis: 8.63 years			
Warranty	5 years			

## ORDERING INFORMATION

Ordering information		
Model name	Part Number	Description
SE5916A-6SFP	1P1SE5916A0001G	Ind. 16 Port Serial Server, 100BASE-FX SFP slot, DB9
SE5916A-6SFP-TB	1P1SE5916A0002G	Ind. 16 Port Serial Server, 100BASE-FX SFP slot, TB5
SE5916A-6SFP-Sis	1P1SE5916A0003G	Ind. 16 Port Serial Server, 100BASE-FX SFP slot, Isolated
SE5908A-6SFP	1P1SE5908A0001G	Ind. 8 Port Serial Server, 100BASE-FX SFP slot, DB9
SE5908A-6SFP-TB	1P1SE5908A0002G	Ind. 8 Port Serial Server, 100BASE-FX SFP slot, TB5
SE5908A-6SFP-Sis	1P1SE5908A0003G	Ind. 8 Port Serial Server, 100BASE-FX SFP slot, Isolated
SE5916A-6SFP-HV	1P1SE5916A0004G	Ind. 16 Port Serial Server, 100BASE-FX SFP slot, DB9
SE5916A-6SFP-TB-HV	1P1SE5916A0005G	Ind. 16 Port Serial Server, 100BASE-FX SFP slot, TB5
SE5916A-6SFP-Sis-HV	1P1SE5916A0006G	Ind. 16 Port Serial Server, 100BASE-FX SFP slot, Isolated
SE5908A-6SFP-HV	1P1SE5908A0004G	Ind. 8 Port Serial Server, 100BASE-FX SFP slot, DB9
SE5908A-6SFP-TB-HV	1P1SE5908A0005G	Ind. 8 Port Serial Server, 100BASE-FX SFP slot, TB5
SE5908A-6SFP-Sis-HV	1P1SE5908A0006G	Ind. 8 Port Serial Server, 100BASE-FX SFP slot, Isolated
SE5916A	1P1SE5916A0008G	Ind. 16 Port Serial Server, 10/100BASE-T(X) RJ45, DB9
SE5916A-TB	1P1SE5916A0009G	Ind. 16 Port Serial Server, 10/100BASE-T(X) RJ45, TB5
SE5916A-Sis	1P1SE5916A000AG	Ind. 16 Port Serial Srv, 10/100BASE-T(X) RJ45, Isolated
SE5908A	1P1SE5908A0007G	Ind. 8 Port Serial Server, 10/100BASE-T(X) RJ45, DB9
SE5908A-TB	1P1SE5908A0008G	Ind. 8 Port Serial Server, 10/100BASE-T(X) RJ45, TB5
SE5908A-Sis	1P1SE5908A0009G	Ind. 8 Port Serial Srv, 10/100BASE-T(X) RJ45, Isolated
SE5916A-HV	1P1SE5916A000BG	Ind. 16 Port Serial Server, 10/100BASE-T(X) RJ45, DB9
SE5916A-TB-HV	1P1SE5916A000CG	Ind. 16 Port Serial Server, 10/100BASE-T(X) RJ45, TB5
SE5916A-Sis-HV	1P1SE5916A000DG	Ind. 16 Port Serial Srv, 10/100BASE-T(X) RJ45, Isolated
SE5908A-HV	1P1SE5908A000AG	Ind. 8 Port Serial Server, 10/100BASE-T(X) RJ45, DB9
SE5908A-TB-HV	1P1SE5908A000BG	Ind. 8 Port Serial Server, 10/100BASE-T(X) RJ45, TB5
SE5908A-Sis-HV	1P1SE5908A000CG	Ind. 8 Port Serial Srv, 10/100BASE-T(X) RJ45, Isolated
SDK Version	Ask headquarter	SDK Programmable version, ask HQ for information

Optional Accessories		
Model Name	Part Number	Description
SDR-75-24	50500752240001G	75W/3.2A DIN-Rail 24VDC power supply with universal 88-264VAC / 124-370VDC input
GDC-120	59906861G	120mm copper woven grounding cable
ADP-DB9(F)TB5	59906231G	Female DB9 to Female 3.81mm TB5 Converter
AXFD-1314-0523	522AXFD1314001G	SFP Transceiver, 155Mbps, Multi-mode, 1310nm, 2km, -40°C to +85°C, DDMI
AXFD-1314-0553	522AXFD1314011G	SFP Transceiver, 155Mbps, Single-mode, 1310nm, 30km, 40°C to +85°C, DDMI