

SE5901B Series

3G/4G LTE Cellular to Ethernet and Serial Secure Industrial Gateway/ Router



FEATURE HIGHLIGHTS

- Extensive 3G and LTE Band Support
 - EU: 2100/1800/850/2600/900/800 MHz (B1/B3/B5/B7/B8/B20)
 - US: 1900/AWS/850/700/700/1900 MHz (B2/B4/B5/B13/B17/B25)
- VPN over IPsec, OpenVPN or PPTP, data-rate up to 37.9Mbps*
- Wide temperature, industrial grade platform
- 1 x 10/100/1000Mbps Ethernet port
- 1-port RS-232/485, baud rate up to 921.6 kbps
- Integrated firewall, DMZ, port forwarding, DDNS, ICMP ping
- TCP Server/Client, UDP, Virtual COM supported
- 2 digital inputs/ 2 digital outputs in I/O version
- Additional embedded power-bank for fault-relay capability (-B version)
- DNV-GL Marine Application, compliant with DNV.GL

PRODUCT DESCRIPTION

Providing connectivity for the Internet of Things

SE5901B, ATOP's Industrial Serial to Ethernet and Cellular Gateway/Router is a high-performance, cost effective gateway for serial signal communications. It can connect almost any serial device to the Ethernet network, providing connectivity to the world while at the same time protecting your network from intrusions. Its powerful CPU provides up to 37.9Mbps* software-assisted AES encryption for protecting your data flow through the Internet with a secure IPsec VPN tunnel.

Advanced features available

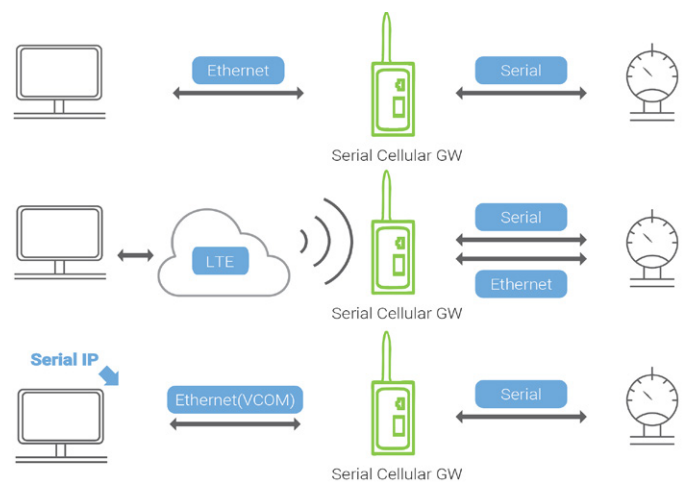
Flexible configuration options enable this unit to be set up over Ethernet by Telnet, Web Browser, or our Windows Utility. ATOP Virtual COM software provides a virtual environment for applications when accessing SE5901B through TCP.

A dedicated I/O version provides 2 digital inputs and 2 digital outputs, a GPS version provides Global Positioning System geolocation, and specifically for the Internet of Things, a "B" version provides additional 15 seconds power during a power failure, allowing the device to relay back to the host the failure. This is Maintenance 4.0.

Rugged and flexible for advanced developments

SE5901B embeds high EMC protection, wide temperature operation, programming and installation flexibility in one device. SDK versions

allow you to make use of the powerful hardware and develop your own applications on top of ATOP's reliable APIs, with plenty of coding examples included. SDK versions are available upon request. Please contact ATOP's representative for additional information.



* test carried out with one VPN-IPsec Tunnel, Peer-to-Peer mode, Ethernet cable. Performance can change based on the cellular network.

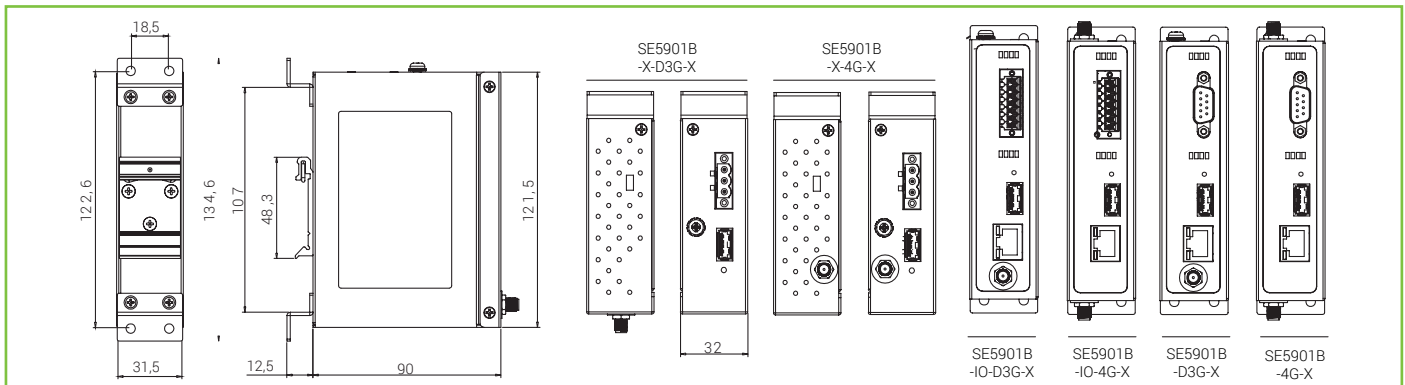
SPECIFICATIONS

Wireless Interface				
Standard	GSM/ GPRS/ EDGE/ UMTS/ HSPA+/ SCDMA/ LTE			
Wireless Module	EU version: Quectel EC25-E US version: Quectel EC25-AF			
Antennas/ SIM card	1 (3G) or 2 (4G) - Included. Internal SIM card slot (x1)			
Band Options	Version	Standard	Bands	
	EU	FDD LTE	2100/1800/850/2600/900/800MHz (B1/B3/B5/B7/B8/B20)	
		TDD LTE	2600/2300/2500MHz (B38/B40/B41)	
		WCDMA GSM	2100/850/900MHz (B1/B5/B8) 900/1800MHz	
US	FDD LTE	1900/1700/850/700/700bMHz (B2/B4/B5/B12/B17)		
	UMTS	1900/1700/850MHz (B2/B4/B5)		
	GSM	850/1900MHz		
Data Rate	Version	Standard	Downlink Speed	Uplink Speed
	EU	LTE-FDD	150 Mbps	50 Mbps
		LTE-TDD	130 Mbps	35 Mbps
		DC-HSPA+	42 Mbps	5.76 Mbps
		UMTS	384 kbps	384 kbps
		TD-SCDMA	4.2 Mbps	2.2 Mbps
EDGE GPRS		236.8 kbps 85.6 kbps	236.8 kbps 85.6 kbps	
US	LTE-FDD	100 Mbps	50 Mbps	
	LTE-TDD	61 Mbps	18 Mbps	
	DC-HSPA+	42 Mbps	5.76 Mbps	
	UMTS	384 kbps	384 kbps	
	TD-SCDMA	4.2 Mbps	2.2 Mbps	
	EDGE GPRS	236.8 kbps 85.6 kbps	236.8 kbps 85.6 kbps	
Network Interface				
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X)			
Ethernet Port	1x 10/100/1000BASE-TX RJ-45			
Serial Interface				
Connector	D-Sub9 RS-232/485 software selectable (DB model) 14-Pin 5.08mm Terminal Block (integrated with DI/DOs)			
Port	1 port RS-232/485 (2-wire) software selectable 1 port RS-232 (IO model only)			
Configuration	Baud Rate	1,200 to 921,600bps software selectable		
	Data Bits	7, 8 software selectable		
	Stop Bits	1, 2 software selectable		
	Flow Control	None, Xon/Xoff, RTS/CTS (RS-232 only)		

Universal Serial Bus	
USB ports	2 x USB A Type (USB 2.0) - 1-port High-Speed OTG + 1-port power only
Digital Inputs/Outputs (IO Models)	
Digital Inputs (DIs) Digital Outputs (DOs)	2 channels photocoupled isolated digital input 2 channels digital output. N.O. (2A@24VDC)
GNSS (GPS Models)	
Supported GNSS	GPS, Glonass, Beidou
Connector	1x SMA
Software	
Serial Server-related	VirtualCOM (Serial/IP), Virtual Server (port forwarding)
Security	IPsec, PPTP or OpenVPN VPN tunneling. Max VPN throughput 37.9Mbps *; SMTP/TLS, Firewall, DMZ
Network	ARP, IPv4, DHCP Client, ICMP, TCP, UDP, HTTP, RFC2217, TELNET, NTP Client, NAT, Port Forwarding, ICMP Ping, DDNS
Management	Web, ATOP Device Management Utility, SNMPv1/v2c/v3, SMS
Configuration	Embedded Web-Server (Web UI), TELNET, ATOP Device Management Utility
Link Mode	
TCP Server TCP Client UDP	4 connections, Virtual COM, or Reverse Telnet Dual destination or Virtual COM Up to 4 ranges of IPs
Power	
Input Voltage	9 to 48 VDC
Connector	3-Pin 5.08mm Lockable Terminal Block
Power Consumption	0.65A@12 VDC (Approx. 7.8W)
Power Redundancy	USB DC 5V Power Input
Reverse Polarity Protection	Yes
Environmental limits	
Operating Temperature Storage Temperature Ambient Relative Humidity	-40°C to +70°C (-40°F to +158°F) -40°C to +85°C (-40°F to +185°F) 5% to 95% (non-condensing)
Mechanicals	
Housing	IP30 protection, SPCC metal housing
Dimensions(W x H x D) Weight	32mm x 122mm x 92mm 400g
Installation	DIN-Rail or Wall-Mount (optional kit)
Reset Button	Yes

* test carried out with one VPN-IPsec Tunnel, Peer-to-Peer mode, Ethernet cable. Performance can change based on the cellular network.

DIMENSIONS & LAYOUT



REGULATORY APPROVALS

Regulatory Approvals

Safety	EN 60950-1:2006, UL60950-1, IEC60950-1			
EMC/Radio	FCC 47 CFR PART 22H, FCC 47 CFR PART 24H, FCC PART 27L, FCC Part 15B, EN301489-1, EN301489-7, EN301489-19, EN301489-24, EN301489-52, EN301511, EN301908-1, EN301908-2, EN303413, EN55032, EN55024, EN61000-6-2, EN61000-6-4			
DNVGL Maritime	DNV-GL			
Test	Item	Value	Level	
IEC 61000-4-2	ESD	Contact Discharge	±6kV	3
		Air Discharge	±8kV	3
IEC 61000-4-3	RS	Enclosure Port	10(V/m), 80-1000MHz	3
IEC 61000-4-4	EFT	AC Power Port	±2.0kV	3
		DC Power Port	±2.0kV	3
		Signal Port	±1.0kV	3
IEC 61000-4-5	Surge	DC Power Port	Line-to-Line±1.0kV	3
		DC Power Port	Line-to-Earth±2.0kV	3
		Signal Port	Line-to-Earth±2.0kV	3
IEC 61000-4-6	CS	0.15-80MHz	10V rms	3
IEC 61000-4-8	PFMF	(Enclosure)	AC 50Hz 10A/m	3
IEC 61000-4-11	DIP	AC Power Port	>95%,Reduction, 0.5period 30%, Reduction, 25 period >95%,Reduction, 250 period	-
Shock	MIL-STD-810G Method 516.7			
Drop	MIL-STD-810G Method 516.7			
Vibration	MIL-STD-810G Method 514.7			
RoHS	Yes			
MTBF	20.88 years according to MIL-HDBK-217F (Model average)			
Warranty	5 years			

ORDERING INFORMATION

Ordering information					
Model name	Part Number	Cellular	Serial Ports	I/O	Other
SE5901B-D3G-US	1P1SE5901B3G02G	3G (US)	1 (DB9)	-	-
SE5901B-IO-D3G-US	1P1SE5901BIO02G	3G (US)	1 (TB) +1 RS232	2/2	-
SE5901B-IO-D3G-GPS-US	1P1SE5901BIO03G	3G (US)	1 (TB) +1 RS232	2/2	GPS
SE5901B-4G-US	1P1SE5901B4G03G	4G (US)	1 (DB9)	-	-
SE5901B-IO-4G-US	1P1SE5901BIO04G	4G (US)	1 (TB) +1 RS232	2/2	-
SE5901B-IO-4G-GPS-US	1P1SE5901BIO06G	4G (US)	1 (TB) +1 RS232	2/2	GPS
SE5901B-4G-B-US	1P1SE5901B4G04G	4G (US)	1 (DB9)	-	Battery
SE5901B-IO-4G-B-US	1P1SE5901BIO05G	4G (US)	1 (TB) +1 RS232	2/2	Battery
SE5901B-IO-4G-GPS-B-US	1P1SE5901BIO07G	4G (US)	1 (TB) +1 RS232	2/2	GPS - Battery
SE5901B-D3G-EU	1P1SE5901B3G12G	3G (EU)	1 (DB9)	-	-
SE5901B-IO-D3G-EU	1P1SE5901BIO12G	3G (EU)	1 (TB) +1 RS232	2/2	-
SE5901B-IO-D3G-GPS-EU	1P1SE5901BIO13G	3G (EU)	1 (TB) +1 RS232	2/2	GPS
SE5901B-4G-EU	1P1SE5901B4G13G	4G (EU)	1 (DB9)	-	-
SE5901B-IO-4G-EU	1P1SE5901BIO14G	4G (EU)	1 (TB) +1 RS232	2/2	-
SE5901B-IO-4G-GPS-EU	1P1SE5901BIO16G	4G (EU)	1 (TB) +1 RS232	2/2	GPS
SE5901B-4G-B-EU	1P1SE5901B4G14G	4G (EU)	1 (DB9)	-	Battery
SE5901B-IO-4G-B-EU	1P1SE5901BIO15G	4G (EU)	1 (TB) +1 RS232	2/2	Battery
SE5901B-IO-4G-GPS-B-EU	1P1SE5901BIO17G	4G (EU)	1 (TB) +1 RS232	2/2	GPS - Battery
SE5901B-IO-4G-GPS-B-US (for Marine)	1P1SE5901BIO0TG	4G (US)	1 (TB) +1 RS232	2/2	GPS - Battery
SE5901B-4G-B-US (for Marine)	1P1SE5901B4G0CG	4G (US)	1 (DB9)	-	Battery

Optional Accessories		
Model name	Part Number	Description
UN315-1212(US-Y) LV6	50500151120003G	Y-Type (5.08 mm) adaptor, 100-240VAC input, 1.25A @ 12VDC output, US plug
UNE315-1212(EU-Y) LV6	50500151120013G	Y-Type (5.08 mm) adaptor, 100-240VAC input, 1.25A @ 12VDC output, EU plug
ADP-DB9(F)-TB5	59906231G	Female DB9 to Female 3.81mm TB5 Converter
WMK-315-Black	70100000000050G	Black Aluminum Wall Mount Kit