SmartFlex SR305
FLEXIBLE, ADAPTABLE LTE ROUTER

ADVANTECH

- + Powerful CPU and enhanced memory
- + Extended operational temperature range from -40 °C to +75 °C
- + 10-60 VDC operation with transient and reverse polarity voltage protection
- + Flexible port options – 3-port Switch, Ethernet and RS-232/422/485 serial ports with isolation
- + GPS and GLONASS support
- + MicroSD card holder, In/Out, USB Host
- + Low power consumption mode for solar and battery power applications
- + Optional industrial grade Wi-Fi
- + Optional PoE PSE or PoE PD on ETH0 and ETH1
- + Advanced security features

SmartFlex™ cellular router provides secure Internet connectivity for devices and LANs via the cellular networks. It canprovide automatic wireless failover for wired networks, wireless connectivity for devices in remote locations where cable connections are impractical and wireless connectivity for mobile assets. With upload speeds of up to 50 Mbps and download speeds of up to 100 Mbps, SmartFlex provides ample bandwidth, even for applications that require video.

SmartFlex places intelligence at the network edge with an extremely powerful Cortex A8 CPU at 1GHz, 256 MB flash memory, 512 MB RAM and 128kB M-RAM, providing full support for LTE (Long Term Evolution) speeds and applications. A secure Web interface allows users to configure and manage SmartFlex from remote locations. The router can also upgrade its configuration and firmware from the operator's central server, allowing for simultaneous mass reconfiguration of every router on the network. Users may insert Linux scripts and can create multiple configurations for the same router and switch from one configuration to another at any time. Modular SmartFlex can be configured for any application. Standard configuration includes 2 Ethernet ports with 2 independent LANs/IP addresses and also includes 1 USB host port, 1 microSD card holder, 2 SIM card holders for automatic failover to an alternate service provider, 2 binary inputs(I/O), 1 binary output (I/O) and onboard GPS.

An optional built-in Wi-Fi module is also available, with industrial grade operating temperature ranges from -40 to +75 °C (-20 to +60 °C LTE450 module). Further optional boards include: 3x ETH (the router can be configured with up to 5 total Ethernet ports and 3 independent LANs/IP addresses) or ETH/RS-232/485 or RS-232/485 (isolation strength up to 2.5kV) or RS-232. The SmartFlex supports real time data encryption and the creation of VPN tunnels using IPsec, OpenVPN and L2TP. It supports DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, and numerous other functions, as well as additional software like SmartCluster VPN Server and R-SeeNet.

SmartFlex Family
2x ETH, 1x USB, 2x BI, 1x BO, MicroSD reader, 2x SIM reader

BB - SR305 XXXXX - YYYY

		No SmartWorx HUB
	SWH	SmartWorx HUB
	Accessories	
	0	No Accessories (DIN holder included)
	Enclosure	
	1	Plastic enclosure
	2	Metal enclosure
	Interfaces	
	0	No optional port
	1	3x ETH Switch
	3	RS232 (5-pin TB), RS485/422 (4-pin TB)
	4	RS232 (4-pin TB), RS485 (3-pin TB), ETH
	PoE	
	0	No PoE
	8	PoE PSE
	9	PoE PD
	WiFi	
	0	No Wi
	1	WiFi (TI 2.4 & 5 GHz)
	Router version	
	05	NAM

15323776600

ORDERING INFORMATION

Note: Check with your local distributor for availability, options, and HW configuration.
Contact Advantech B+B SmartWorx distributors.

Note: Antennas & Power Supply Sold Separately.

All product specifications are subject to change without notice.

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HW SPECIFICATIONS

PORTS, LED, ANTENNAS	
Up to 5x ETH ports	RJ45, 10/100 Mbps
SIM	2 Mini SIMs (2FF) (rear panel)
LED Indicators	PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
3x ANT - ANT, DIV, GPS (sold separately)	SMA connectors
Wi-Fi Antenna (sold separately)	R-SMA connector
USB	USB Host connector 2.0
SD Card	1x Micro SD Card slot (rear panel)
RST	RESET button (rear panel)
*Optional 3-port SWITCH	3x RJ45, 10/100 Mbps
*Optional ETH - R232 - RS485	RJ45, 4-pin terminal block, 3-pin terminal block connectors – Isolation up to 2.5 kV
*Optional RS232 - RS485	5-pin terminal block, 4-pin terminal block connectors – Isolation up to 2.5 kV

3-port SWITCH

ETH - RS232 - RS485

RS232 - RS485

POWER	
Power Supply (sold separately)	10 – 60 VDC (2–Way Molex connector
Power Consumption	Idle: 2.5 W Average: 4 W Peak: 11 W Sleep Mode: 10mW
ENVIRONMENTAL	
Temperature Range	Operating: -40 to +75 °C Storage: -40 to +85 °C
Temperature Range LTE450	Operating: -20 to +60 °C Storage: -40 to +85 °C
Humidity	Operating: 0 to 95 % Storage (Non-condensing): 0 to 95 %
Cold Start	-35 °C
Operating Altitude	2000 m / 70 kPa
Ingress Protection Rating	IP30

MECHANICAL	
Plastic or metal case with plastic or metal DIN rail	
Enclosure Dimensions	55x97x125 mm
Weight Plastic	170 g
Weight Metal	375 g

GNSS SPECIFICATIONS	
Antenna	50 Ohms – active
Protocols	NMEA 0183 v3.0
Frequency GPS	1575.42MHz Typical
Frequency GLOBASS	1597.551MHz Min.; 1605.886MHz Max.
Tracking Sensitivity (Open sky)	Active antenna or LNA: -159 dBm Passive antenna: -156 dBm
Acquisition Sensitivity (Open sky)	Active antenna or LNA: -149 dBm Passive antenna: -145 dBm
Cold Start Sensitivity	-145 dBm
Acquisition time (TTFF)	Warm start: 29 s Max. Cold start: 32 s Max.

WI-FI - 802.11 A/B/G/N, AP OR CLIENT MODES	
Supported Wi-Fi band	2.4 GHz, 5 GHz
Encryption	None, WEP, TKIP, AES
5 GHz supported channels	36, 40, 44, 48, 52, 56, 60, 64, 149, 153, 157, 161, 165
2.4 GHz supported channels	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
Number of clients	10
Authentication	Open, Shared, WPA–PSK, WPA2–PSK

POE PARAMETERS	POE PD parameters for opposite PSE	POE PSE
Input voltage range	42.5 – 57 V	44 – 57 V, 65 W
Power available	25.50 W	2x 25.50 W (ETH0, ETH1)
Maximum current	600 mA	
Insul. Strength	1.5 kV from the router	none
Standards IEEE 802.3at-2009 (PoE+) and IEEE 802.3af-2003 (PoE) supported. Cabling needed is Category 5, up to 12.5 Ω. It is possible to use a passive PoE injector		

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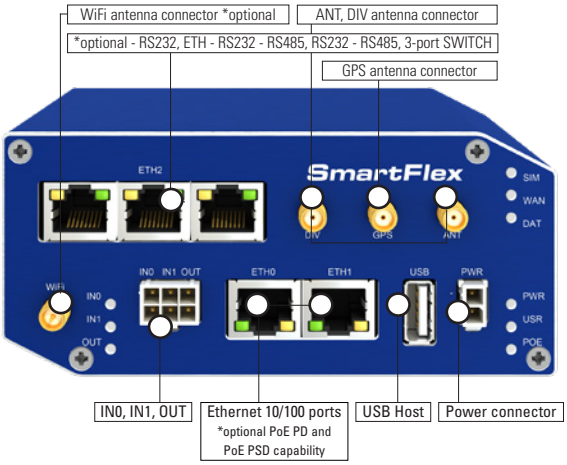
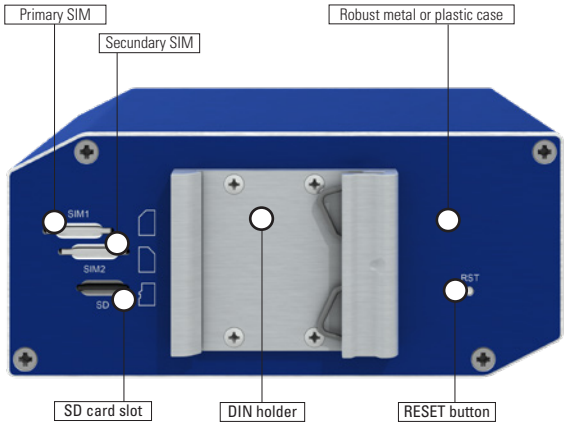
STANDARDS AND REGULATIONS

INDUSTRY CERTIFICATIONS & APPROVALS	
	SR305 - NAM
Telecom and emission	ETSI EN 301 511 v9.0.2, ETSI EN 300 440-2 v1.4.1 ETSI EN 300 328 v1.8.1, ETSI EN 301 489-17 v2.2.1
EMC	FCC 15.107 Class B, FCC 15.109 Class B FCC ID 2AIQR-SR305, Contains: FCC ID 2AIQR-PLS8-X, IC ID 7830A-PLS8X.WiFi versions contain FCC ID Z64-WL18DBMOD, IC ID 4511-WL18DBMOD. PTCRB ETSI EN 301 489-1 v1.9.2, IEC 61000-6-2:2005, IEC 61000-6-3:2006
Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013, EN 62311:2008 UL C1D2 and ATEX: UL 60950-1, 2nd ed. + am1 + am2 * CAN/CSA C22.2 No. 60950-1-07, 2nd ed. + am1 + am2 * UL E486108 * ATEX II 3 G Ex nA IIC T4 Gc, DEMKO 16 ATEX 1801X * NEMA TS2 Compliant
Carrier approvals	AT&T, Verizon, Rogers

* Excluding versions with PoE PSE or RS232-RS485-ETH interface.

CELLULAR MODULE PARAMETERS			
LTE features	Bit rate 100 Mbps (DL) / 50 Mbps (UL), 3GPP rel. 8 standard; UE CAT. 3 Output power: Class 3 (+23dBm ±2 dB) Supported bandwidths: 5 MHz, 10 MHz, 20 MHz Supported frequencies: 700 (B13) / 700 (B17) / 850 (B5) /AWS (B4) / 1900 MHz (B2)	GPRS/EDGE features	Bit rate 237 kbps (DL) / 59,2 kbps (UL) GPRS multislot class 12, CS 1 to 4 EDGE multislot class 12, CS 1 to 4, MCS 1 to 9 Supported frequencies: 850 / 900 / 1800 / 1900 MHz
HSPA+ features	Bit rate 42 Mbps (DL) / 5,76 Mbps (UL), 3GPP rel. 7 standard; UE CAT. 14, 24 Data compression 3GPP TS25.212 Supported frequencies: 850 (BV) /AWS (BIV) / 1900 MHz (BII)	GPRS/EDGE power classes	EGSM 850 / 900: Class 4 (+33dBm ±2 dB) GSM 1800 / 1900: Class 1 (+30dBm ±2 dB) GSM 850 / 900: Class E2 (+27dBm ±3 dB) GSM 1800 / 1900: Class E2 (+26dBm +3/-4 dB)
UMTS features	PS bit rate 384 kbps (DL) / 384 kbps (UL) Output power: Class 3 (+24dBm +1/-3 dB) Supported frequencies: 850 (BV) /AWS (BIV) / 1900 MHz (BII)		





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ACCESSORIES

ORDER CODE	DESCRIPTION
BB-TG.09.0113	Antenna LTE, Terminal
BB-GA.110.101111	Antenna LTE, Magnet Mount
BB-AW-A2458G-FSRPK	Antenna Wi-Fi, 2.4 & 5.8 GHz
BB-RPS-v3-MO2-M	SmartFlex Power Supply, 12V/1A
BB-RPS-v3-PSE	SmartFlex Power Supply, 48V/1.35A (power cord required)
BB-PWRCORD-US	USA - Power Supply Power Cord
BB-PWRCORD-EU	EU - Power Supply Power Cord
BB-PWRCORD-UK	UK - Power Supply Power Cord
BB-PWRCORD-AUS	AU - Power Supply Power Cord
BB-SBD40	DIN Rail Clip - metal
BB-CPD3	DIN Rail Clip - plastic
BB-KN-v3-MO2-3	PS Cable 2-wire, MO 2 pins, 3m, v3 routers
BB-KIO-v3-MO6-3	IO Cable 6-wire, 3m, v3 routers

SW FEATURES

SOFTWARE	
Network and Routing	DHCP Server, , DHCP Client, NAT/PAT, VRRP, Dynamic DNS client, DNS proxy, VLAN, QoS, NTP Client/ Server, IGMP, BGP, OSPF, RIP, SMTP, SMTPS, SNMP v1/ v2c/ v3, Backup routes, PPP, PPPoE, SSL, Port Forwarding, Host Port Routing, Ethernet Bridging
Security	HTTPS, SSH, VPN tunnels, SFTP, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering), DMZ (via iptables)
VPN Tunnelling	Open VPN client and server and P2P, L2TP, PPTP, GRE, EasyVPN, DMVPN, IPSec with IKEv1 and IKEv2
Configuration	Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server Backup configuration, Restore configuration
Firmware Management	Automatic firmware update from server, Locally via LAN and USB or remotely OTA (HTTP, HTTPS), Over-the-Air software updates, Over-the-Air cellular module update from FW
Diagnostic	One CLICK report – current configuration / factory identification / system log / kernel log / reboot log / routing table, Remote diagnostics possible via SSH
Status	Network Status, DHCP Status, IPSec Status, Statistics history for last 60 days
Log	System Log, Reboot Log, Kernel Log
Controlling and Diagnostic	SMS, SNMP v1/v2c/v3, Statuses, Log
Event Engine	StartUp script & Up/Down script (Bash), Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature Report Types: RAP, SMS, email, SNMP Trap
Other	IPv6 support

R-*SEE*NET™

Router Management Software consisting of two parts:

R-SeeNet Server application can be programmed to automatically send SNMP queries (Simple Network Management Protocol) to each router defined in the network. The application retrieves status information from the routers and records it in the SQL database.

R-SeeNet PHP is a web-based application that accesses the SQL database and provides the network administrator detailed information on individual routers and network health.

WebAccess/DMP

WebAccess/DMP takes management of your devices to new levels of flexibility and efficiency. Giving you a complete view of your installed device population, SmartWorx Hub delivers invaluable configuration, diagnostic and management facilities directly to your desktop, wherever you are.

Manage a single device or your entire device population at the same time. Whether you need to modify configuration parameters, download or upgrade installed firmware and applications or view detailed information regarding network statistics, you can do it all from any location.