SmartFlex SR303
FLEXIBLE, MODULAR 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.

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

BB - SR303 X X X X X - YYYY

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SWH	No SmartWorx HUB	
	SmartWorx HUB	
Accessories		
0	No Accessories (DIN holder included)	
1	Accessories with EU power supply	
5	International Power Supply (EU, US, UK, AUS)	
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		
03	EMEA	

ORDERING INFORMATION

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

Note: Antennas & Power Supply Sold Separately.

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HW SPECIFICATIONS

PORTS, LED, ANTENNAS

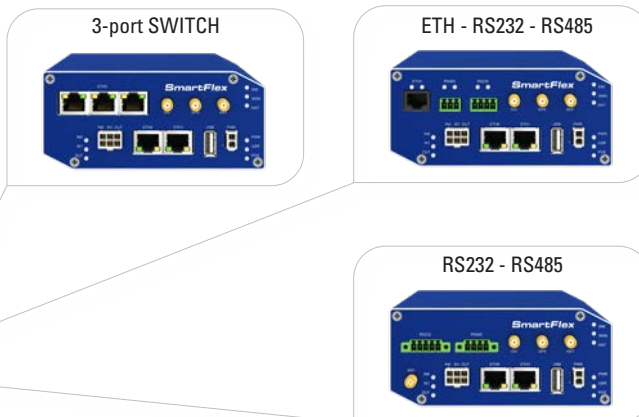|	
Up to 5x ETH ports	RJ45, 10/100 Mbps
SIM	2 Mini SIMs (2FF) (rear panel)
LED Indicators	PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
3x ANT - ANT, DIV, GPS (sold separately)	SMA connectors
Wi-Fi Antenna (sold separately)	R-SMA connector
USB	USB Host connector 2.0
SD Card	1x Micro SD Card slot (rear 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
Sensitivity	Tracking: -161dBm Acquisition (Assisted): -158dBm Acquisition (Standalone): -145dBm
Acquisition time	Hot start: 1 s Warm start: 29 s Cold start: 32 s
Accuracy	Horizontal: < 2m (50 %); < 5m (90 %) Altitude: < 4m (50 %); < 8m (90 %) Velocity: < 0.2mps

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 PARAMETERS	POE PD parameters for opposite PSE	P0E 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

* Tracking sensitivity is the lowest GPS signal level for which the device can still detect an in-view satellite 98% of the time when in sequential tracking mode.
** Acquisition sensitivity is the lowest GPS signal level for which the device can still detect an in-view satellite 50% of the time.

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STANDARDS AND REGULATIONS

INDUSTRY CERTIFICATIONS & APPROVALS

	SR303
Radio	ETSI EN 301 511, ETSI EN 300 440, ETSI EN 301 908-1, ETSI EN 301 908-2, ETSI EN 301 908-13, ETSI EN 300 328, ETSI EN 301 893
EMC	ETSI EN 301 489-1, ETSI EN 301 489-1, ETSI EN 301 489-19, ETSI EN 301 489-52, ETSI EN 301 489-17
Safety	EC 62368-1, EN 62311 UL C1D2 UL E486108 *
E-Mark – EMC for devices in transportation	E-Mark homologation number: 10R – 04 7737
National	CE, UKCA, Brazil - Anatel (00176-19-05739)

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

CELLULAR MODULE PARAMETERS

	SR303 - EMEA			
LTE parameters	Bit rate 100 Mbps (DL) / 50 Mbps (UL) 3GPP rel. 8 standard Supported bandwidths: 5 MHz, 10 MHz, 20 MHz Supported frequencies: B20 (800 MHz), B8 (900 MHz), B3 (1800 MHz), B1 (2100 MHz), B7 (2600 MHz) Max power – typical 23 dBm		GPRS/EDGE parameters	Bit rate 237 kbps (DL) / 59,2 kbps (UL) GPRS multislot class 10, CS 1 to 4 EDGE multislot class 12, CS 1 to 4, MCS 1 to 9 Supported frequencies: 900 / 1800 MHz Max power – typical 26–33 dBm
HSPA+ parameters	Bit rate 42 Mbps (DL) / 5,76 Mbps (UL) 3GPP rel. 7 standard UE CAT. 1 to 6, 8, 10, 12, 14 3GPP data compression Supported frequencies: B8 (900 MHz), B3 (1800 MHz), B1 (2100 MHz) Max power – typical 24 dBm		GPRS/EDGE power classes	EGSM 900: Class 4 (33 dBm) GSM 1800: Class 1 (30 dBm) EDGE 900: Class E2 (27 dBm) EDGE 1800: Class E2 (26 dBm)
UMTS parameters	PS bit rate 384 kbps (DL) / 384 kbps (UL) CS bit rate 64 kbps (DL) / 64 kbps (UL) W-CDMA FDD standard Supported frequencies: B8 (900 MHz), B3 (1800 MHz), B1 (2100 MHz) Max power – typical 24 dBm			

WiFi antenna connector *optional — ANT, DIV antenna connector — *optional - RS232, ETH - RS232 - RS485, RS232 - RS485, 3-port SWITCH — GPS antenna connector

IN0, IN1, OUT — Ethernet 10/100 ports *optional PoE PD and PoE PSD capability — USB Host — Power connector

Primary SIM — Secondary SIM — Robust metal or plastic case

SD card slot — DIN holder — RESET button
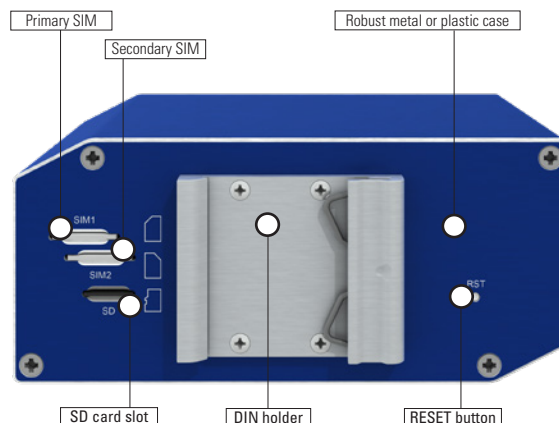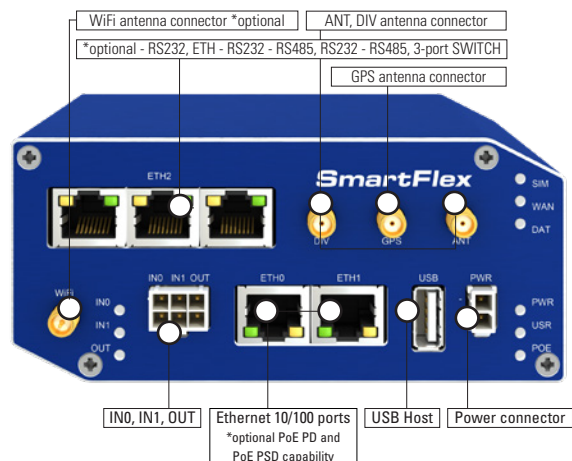
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ACCESSORIES

ORDER CODE	DESCRIPTION	INCLUDED IN PACKAGE	INCLUDED IN SET PACKAGE	SOLD SEPARATELY
BB-2JW0124Z-C868B	Antenna LTE, Terminal		✔	✔
BB-GA.110.101111	Antenna LTE, Magnet Mount			✔
BB-AW-A2458G-FSRPK	Antenna Wi-Fi, 2.4 & 5 GHz		✔	✔
BB-RPS-v3-MO2-M	SmartFlex Power Supply, 12V/1A		✔	✔
BB-RPS-v3-MO2-EU	SmartFlex Power Supply, 12V/1A, EU Plug			✔
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			✔
BB-KD-ETH	Ethernet cable 1.5m		✔	✔
Quick Start Guide		✔	✔	

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

WebAccess/VPN

WebAccess/VPN is an advanced VPN management solution for safe interconnection of Advantech routers and LAN networks in public Internet. Connection among devices and networks can be regional or global and can combine different technology platforms and various wireless, LTE, fixed and satellite connectivities.

WebAccess/VPN provides an easy and secure connectivity platform for applications such as branch connection, remote access, machine monitoring in industry sectors like Utilities & Energy, Automation, Predictive maintenance, Industrial IoT for any end device types such as Computers, PLCs, RTUs, Cameras, Terminals…

WebAccess/DMP₂

WebAccess/DMP Generation 2 is an advanced Enterprise-Grade platform solution for provisioning, monitoring, managing and configuring Advantech's routers and IoT gateways. It provides a zero-touch enablement platform for each remote device.

With **WebAccess/DMP**, secure zero-touch pre-provisioning and pre-configuration is simple, regardless of how large your deployment is: from one device to thousands. The platform supports full multi-tenancy, with the possibility of permissions-enabled power-user oversight across tenancies.

R-SEENET™

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.