SmartFlex SR308
FLEXIBLE, MODULAR LTE ROUTER

ADVANTECH

+ 4G LTE Cat.4 Cellular connectivity
+ Powerful CPU and enhanced memory
+ Extended operational temperature range from -40 °C to +75 °C
+ 10-60 VDC operation with reverse polarity voltage protection
+ Flexible port options – 3-port Switch, Ethernet and RS-232/422/485 serial ports with isolation
+ GPS, GLONASS ,BeiDou, Galileo and QZSS support
+ MicroSD card holder
+ Sleep mode for solar and battery power applications
+ Optional industrial grade Wi-Fi
+ PoE PD, PoE PSE, In/Out, USB Host
+ Advanced security features

Introduction

SmartFlex™ cellular router provides secure Internet connectivity for devices and LANs via the cellular networks. It can provide 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 150 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. Further optional boards include: 3× ETH (the router can be configured with up to 5 total Ethernet ports and 3 independent LANs/IP addresses) or RS-232/485 (isolation strength up to 2.5kV). 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.

To streamline management and deployment of SmartFlex router family can be easily managed using a comprehensive cloud-based tool WebAccess/DMP.

Ordering Information

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

SmartFlex Family

BB - SR 3 08 B CC D E

Accessories - See page no. 4 for details	

Enclosure	
1	Plastic enclosure
2	Metal enclosure

Interfaces	
0	2× ETH
1	2× ETH, 3× ETH Switch
3	2× ETH, 1× RS232, 1× RS485/422
4	3× ETH, 1× RS232, 1× RS485
6	2× ETH, 2× RS485

PoE	
0	No PoE
8	2× PoE PSE
9	PoE PD

WiFi	
0	No WiFi
1	WiFi (2.4 & 5 GHz)

WebAccess/DMP

WebAccess/DMP provides centralized management for your routers, allowing remote configuration and monitoring with customizable dashboards and alerts. It enhances security with two-factor authentication and PKI encryption. Complementing this, VPN Management simplifies network connectivity by automating VPN setup across diverse networks. Leveraging WireGuard VPN for its speed and security, it streamlines network management with features like zero-touch provisioning, flexible router grouping, and independent interface settings. This integrated solution enhances network security, simplifies operations, and empowers businesses with greater control and visibility over their network infrastructure.

HW SPECIFICATIONS

PORTS, LED, ANTENNAS	
Up to 5× 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
3× ANT - ANT, DIV, GPS (sold separately)	SMA connectors
Wi-Fi Antenna (sold separately)	R-SMA connector
USB	USB Host connector 2.0
SD Card	1× Micro SD Card slot (rear panel)
RST	RESET button (rear panel)
*Optional 3-port SWITCH	3× 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)
*Optional PoE PSE or PoE PD on ETH0 and ETH1	

3-port SWITCH

ETH - RS232 - RS485

RS232 - RS485

POWER	
Power supply range for PNs without PoE	10 – 60 VDC (2–Way Molex connector)
Power supply range for PNs with PoE (BB-SR308x8xxx)	24 – 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
Humidity	Operating: 0 to 95 % Storage (Non-condensing): 0 to 95 %
Cold Start	-40 °C
Operating Altitude	2000 m / 70 kPa
Ingress Protection Rating	IP30

MECHANICAL	
Plastic or metal case with plastic or metal DIN rail	
Enclosure Dimensions	55×97×125 mm
Weight Plastic	170 g
Weight Metal	375 g

OTHER TECHNICAL PARAMETERS	
CPU Power	2 DMIPS per MHz
Flash memory	256 MB
RAM	512 MB
M-RAM	128 kB

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	2× 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

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

GNSS SPECIFICATIONS	
Antenna	50 Ohms – active
Protocols	NMEA 0183 v3.0
Frequency	Frequency
Sensitivity	Tracking: -161dBm Acquisition (Assisted): -158dBm Acquisition (Standalone): -145dBm
Acquisition time	Hot start: 2.5 s Warm start: 26 s Cold start: 35 s
Accuracy	Horizontal: < 2m (50 %); < 5m (90 %) Altitude: < 4m (50 %); < 8m (90 %) Velocity: < 0.2mps

SmartFlex SR308
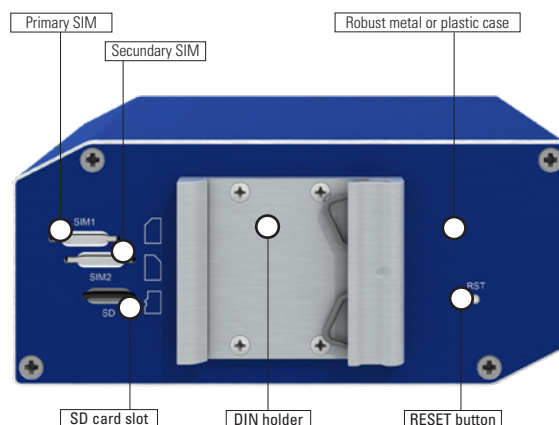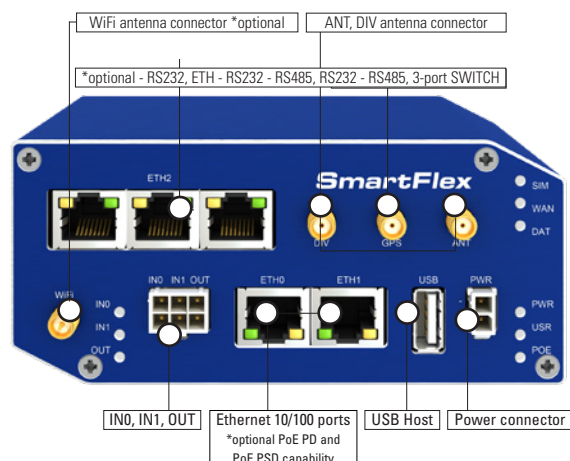## FLEXIBLE, MODULAR LTE ROUTER

HW SPECIFICATIONS

CELLULAR MODULE PARAMETERS	
LTE parameters	LTE: Cat.4, 3GPP E-UTRA Release 11 FDD frequencies: 700 MHz (B28), 850 MHz (B5), 900 MHz (B8), 1700 MHz (B4), 1800 MHz (B3), 1900 MHz (B2), 2100 MHz (B1), 2600 MHz (B7) TDD frequencies: 2300 MHz (B40) LTE FDD bit rates: 150 Mbps (DL) / 50 Mbps (UL) LTE TDD bit rates: 130 Mbps (DL) / 35 Mbps (UL) Supported bandwidths: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
HSPA+ parameters	HSPA: 3GPP R8 DC-HSPA+ Supported frequencies: B5 (850 MHz), B8 (900 MHz), B2 (1900 MHz), B1 (2100 MHz) Bit rates: 42 Mbps (DL) / 5.76 Mbps (UL)
UMTS parameters	Supported frequencies: B5 (850 MHz), B8 (900 MHz), B2 (1900 MHz), B1 (2100 MHz) Bit rates: 384 kbps (DL) / 384 kbps (UL)
TD-SCDMA parameters	Supported frequencies: B5 (850 MHz), B8 (900 MHz), B2 (1900 MHz), B1 (2100 MHz) Bit rates: 4.2 Mbps (DL) / 2.2 Mbps (UL)
EDGE parameters	Supported frequencies: 800 MHz, 900 MHz, 1800 MHz, 1900 MHz Data throughput: max. 236.8 kbps
GPRS parameters	Supported frequencies: 800 MHz, 900 MHz, 1800 MHz, 1900 MHz Data throughput: max. 85.6 kbps

STANDARDS AND REGULATIONS

SR308	INDUSTRY CERTIFICATIONS & APPROVALS
Radio	RCM (Australia, New Zealand)
EMC	IEC 61000-6-2:2005, IEC 61000-6-3:2006
Safety	IEC 60950-1:2005 (second edition) + A1:2009 + A2:2013, AS/NZS 60950.1:2015
National	RCM

WiFi antenna connector *optional — ANT, DIV antenna connector

*optional - RS232, ETH - RS232 - RS485, RS232 - RS485, 3-port SWITCH

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

Primary SIM — Secundary SIM — Robust metal or plastic case

SD card slot — DIN holder — RESET button

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SW SPECIFICATIONS

SOFTWARE	
Operating System	ICR-OS (Linux based)
SW Customization	Router App
Application Development	Linux based router SDK, *Python, BASH, C/C++, *Node-RED, *Docker
Networking Features and Protocols	Static Routes, DHCP, NAT/PAT, SSH, VRRP, PPPoE, SNMP, SMTP, Dynamic DNS client, DNS proxy, VLAN, QoS, *DMVPN, NTP Client/Server, *Routing protocols RIP, BGP, OSPF, IS-IS, NHRP, Backup Routes, Port Forwarding, Host Port Routing, Ethernet Bridging, Load Balancing, IPv6 Dual Stack
Industrial Protocols and IoT	*Modbus RTU/TCP gateway, *IEC 60870-5-101 to 104 gateway, *DF1, *DNP3, *MQTT, *LWM2M
Security	HTTPS, SSH, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering) VPN Tunneling – WireGuard, OpenVPN, IPsec with IKEv1 and IKEv2, GRE, L2TP, PPTP Authentication – RADIUS, TACACS+, 2FA, *SCEP Encryption – DES, 3DES, AES, RSA up to 4096, Ed25519, MD5, SHA
Firmware Management	Automatic firmware updates – server, locally via LAN or remotely via WAN Over-the-Air cellular module firmware updates
Diagnostic/Log	Status – Signal Strength, Data Usage, Detailed Long Term Statistics One CLICK report – Current Configuration, Factory Identification, Routing Table Log – System Log, Reboot Log, Kernel Log Remote Diagnostics (via SSH)
Event Engine	StartUp script & Up/Down script (Own rules based on Digital Inputs, Network Parameters, Data Usage, Timer, Power, Device Temperature) Report Types: SMS, email, SNMP Trap
Configuration	Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server, Backup & Restore configuration
Advanced Software Tools	WebAccess/DMP – Remote Monitoring, Management & VPN Platform

*Functionality is available with installed Router App

ACCESSORIES

ORDER CODE	DESCRIPTION	INCLUDED IN PACKAGE	INCLUDED IN SET PACKAGE	SOLD SEPARATELY
BB-2JW0124Z-C868B	Antenna LTE, Terminal		✔	✔
OPT1-ANT-WFT-06	Antenna Wi-Fi, 2.4 GHz / 5 GHz/ 6 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			✔
BB-KD-ETH	Ethernet cable 1.5m		✔	✔
Quick Start Guide		✔	✔	

For more Antenna accessories visit **www.advantech.com**

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