SmartFlex SR304
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 and 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
+ Optional PoE PSE or PoE PD on ETH0 and ETH1, In/Out, USB Host
+ Advanced security features

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: 3x ETH (the router can be configured with up to 5 total Ethernet ports and 3 independent LANs/IP addresses), RS-232/485 or ETH/ 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, as well as additional software like WebAccess/DMP and R-SeeNet.

ORDERING CODE

SmartFlex SR304
2x ETH, 1x USB, 2x BI, 1x BO, MicroSD reader, 2x SIM reader

BB - **SR3 04 X X X X X** - **YYYY**

		No SmartWorx HUB
SWH		WebAccess/DMP pre-activated
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		
04		EMEA/ASIA/LATAM

ORDERING INFORMATION

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

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	SMA connectors
Wi-Fi Antenna	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 RS232 - RS485	5-pin terminal block, 4-pin terminal block connectors – Isolation up to 2.5 kV
*Optional ETH - R232 - RS485	RJ45, 4-pin terminal block, 3-pin terminal block connectors – Isolation up to 2.5 kV
*Optional PoE PSE or PoE PD on ETH0 and ETH1	

3-port SWITCH

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
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 Metal / Plastic	375 g / 170 g

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

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
GNSS Systems	GPS, GLONASS, BeiDou, Galileo, QZSS
Frequency	GPS/Galileo/QZSS: 1575.42±1.023MHz GLONASS: 1597.5 – 1605.8MHz BeiDou: 1561.098±2.046MHz
Sensitivity	Tracking: -157dBm Reacquisition: -157 dBm Cold start: -146dBm
Acquisition time	Hot start: 2.5 s Warm start: 26 s Cold start: 35 s
Accuracy	< 1.5m

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
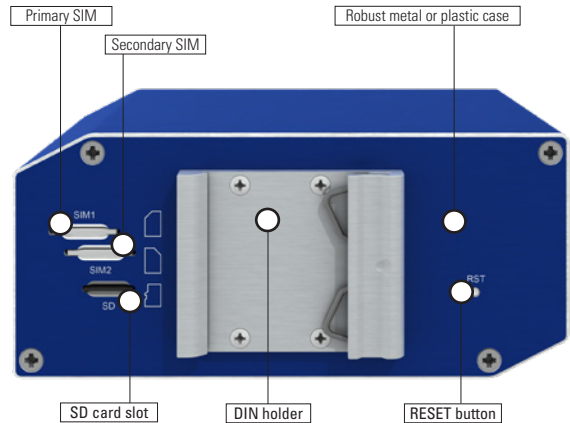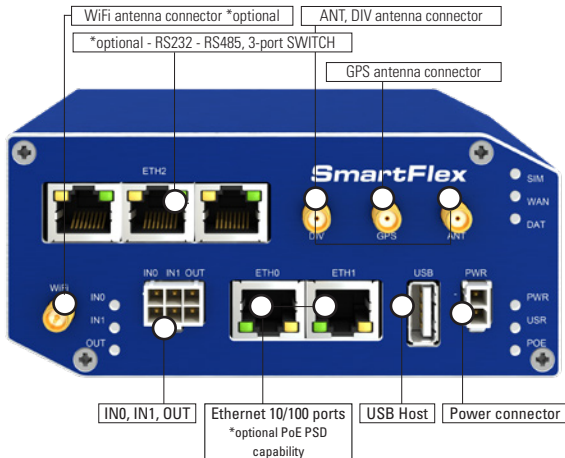
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HW SPECIFICATIONS

CELLULAR MODULE PARAMETERS	
LTE parameters	LTE: Cat.4, 3GPP E-UTRA Release 11 FDD frequencies: 800 MHz (B20), 850 MHz (B5), 900 MHz (B8), 1800 MHz (B3), 2100 MHz (B1), 2600 MHz (B7) TDD frequencies: 2300 MHz (B40), 2500 MHz (B41), 2600 MHz (B38) 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: 850 MHz, 900 MHz, 2100 MHz Bit rates: 42 Mbps (DL) / 5.76 Mbps (UL)
UMTS parameters	Supported frequencies: 850 MHz, 900 MHz, 2100 MHz Bit rates: 384 kbps (DL) / 384 kbps (UL)
TD-SCDMA parameters	Supported frequencies: 850 MHz, 900 MHz, 2100 MHz Bit rates: 4.2 Mbps (DL) / 2.2 Mbps (UL)
EDGE parameters	Supported frequencies: 900 MHz, 1800 MHz Data throughput: max. 236.8 kbps
GPRS parameters	Supported frequencies: 900 MHz, 1800 MHz Data throughput: max. 85.6 kbps

STANDARDS AND REGULATIONS

SR304	INDUSTRY CERTIFICATIONS & APPROVALS
Radio	ETSI EN 301 511 V12.5.1, ETSI EN 301 908-1 V11.1.1, ETSI EN 300 328 V2.1.1, ETSI EN 301 893 V2.1.1, ETSI EN 303 413 V1.1.1
EMC	ETSI EN 301 489-52 + EN 55032/24 + EN 61000-6-1 & -3
Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 + AC:2011

WiFi antenna connector *optional | ANT, DIV antenna connector
*optional - RS232 - RS485, 3-port SWITCH
GPS antenna connector
IN0, IN1, OUT | Ethernet 10/100 ports *optional PoE PSD capability | USB Host | Power connector

Primary SIM | Robust metal or plastic case
Secondary SIM
SD card slot | DIN holder | RESET button

SW SPECIFICATIONS

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)
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 - Supported Events	StartUp script & Up/Down script (Bash, Python), Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature. Report Types: SMS, email, SNMP Trap
Other	IPv6 support

ACCESSORIES

		INCLUDED IN PACKAGE	INCLUDED IN SET PACKAGE	SOLD SEPARATELY
ORDER CODE	DESCRIPTION			
BB-TG.30.8113	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-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		✔	✔	

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.

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.
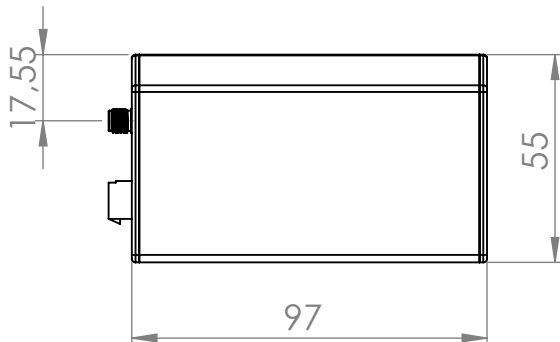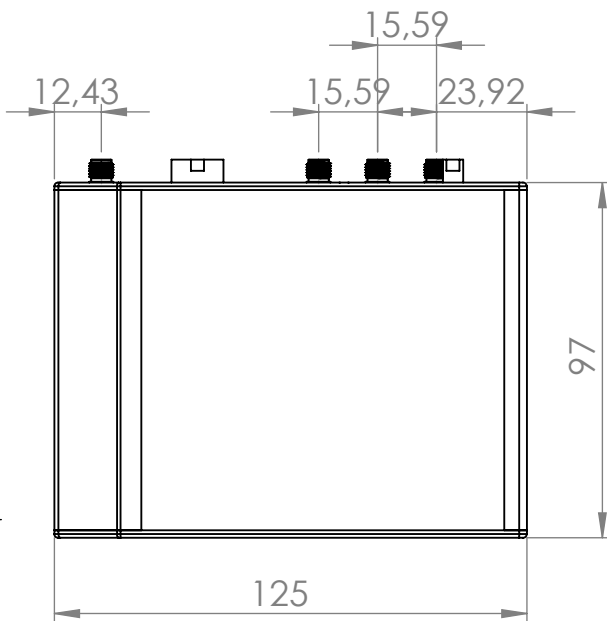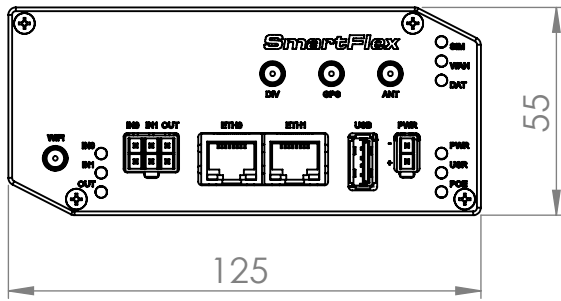
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MECHANICAL DRAWING

METALLIC ENCLOSURE

PLASTIC ENCLOSURE