

YOUR BEST CONNECTION FOR CELLULAR SOLUTIONS



**LTE/HSPA+/UMTS/CDMA/EDGE/GPRS
CELLULAR ROUTER TECHNOLOGY**

DESIGNED FOR M2M APPLICATIONS

B+B SMARTWORX®
+ IoT & EDGE INTELLIGENCE

FROM THE NETWORK EDGE TO THE NETWORK CORE

Secure, Reliable IP Connectivity Where and When You Need It

Cellular routers provide automatic failover and business continuity when wired connections fail. They connect remote LANs and devices wherever cable installations would be impractical or undesirable. They make it easy to monitor and manage mobile assets. They'll connect devices using new IoT protocols like MQTT as well as existing equipment using protocols like serial or Modbus. Cellular routers provide the flexibility you need to make virtually anything a node on a modern network.

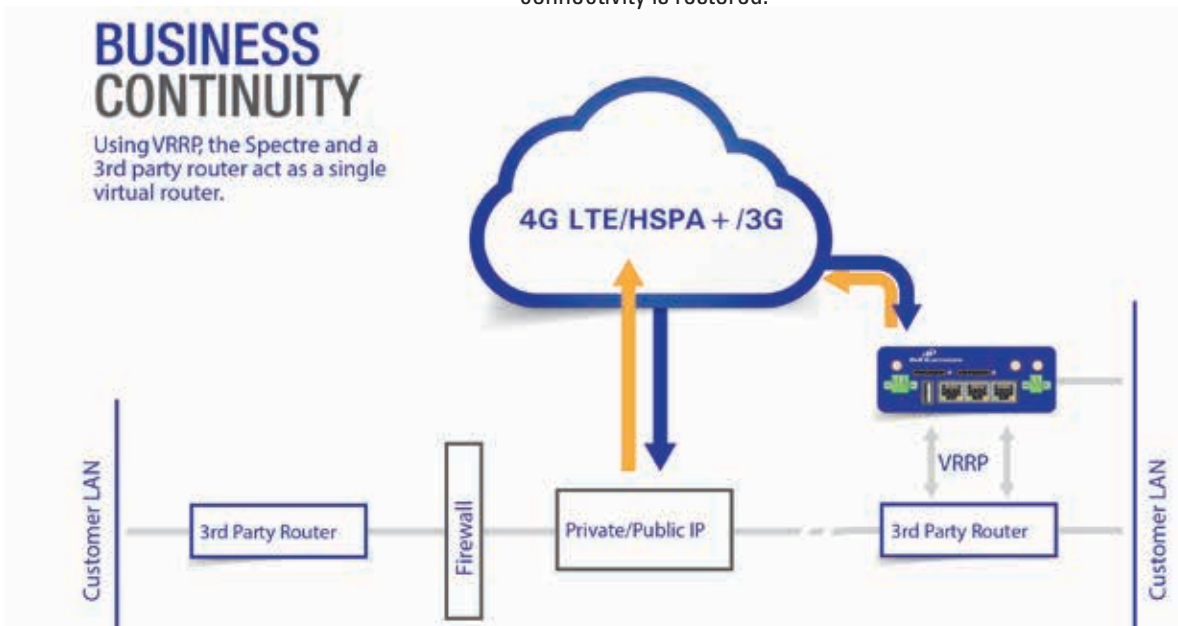


Cellular Routers for Business Continuity (Failover)

No wired Internet connection can provide 100 percent uptime. Above ground cabling and utility poles are vulnerable to extreme weather. Below ground infrastructure is regularly damaged by construction mishaps. Occasional service disruptions are inevitable.

Few businesses can afford Internet downtime these days, especially those that rely upon access to resources that reside in the cloud. Whether the damage to the company manifests itself as lost revenue, diminished productivity, or an irritating experience for customers, most businesses have become highly dependent upon uninterrupted Internet connectivity.

Spectre™ cellular routers provide a simple, drop in solution. When wired connectivity is available they can use it as the primary connection, with no need for data plans. But when connectivity is lost they will automatically switch over to the cellular networks until the wired connectivity is restored.





Cellular Networking for Mobile Assets

Sometimes wireless connectivity isn't just the best option; it's the only option. Mobile assets like delivery vehicles can't be tethered to cable connections; they can only do their jobs when they're in motion. Spectre cellular routers can give those mobile assets Internet connectivity wherever they may roam. With their ability to support robust security protocols and virtual private networking, Spectre routers not only provide mobile Internet connections; they protect your data from unauthorized access.



Cellular Routers as Your Primary Connections

Whether it's a remote construction site, an outdoor community event or a traveling carnival, there will be times and places where wired Internet connectivity simply isn't available. Cellular routers can step into the gap and provide primary Internet connections for both local area networks and individual pieces of equipment.

Spectre routers can connect to devices using a wide range of protocols and technologies, including Wi-Fi, Ethernet, RS232/422/485 and even Modbus. So whether it's a credit card machine at an outdoor event or the office trailer at a construction site, Spectre cellular routers can supply Internet connectivity virtually anywhere you need it.



Remote Monitoring

One of the most exciting IoT applications is remote sensing. B+B's Wzzard Sensing Platform, for example, gives industry standard sensors wireless capabilities by connecting them to wireless Intelligent Edge Nodes that report the sensor data to Spectre Network Gateways. Spectre Network Gateways are cellular routers equipped with a Dust chip that supports the MQTT protocol for wireless mesh networking.

Spectre cellular routers can also provide long range connectivity for devices that use more traditional protocols. In the old city of Prague, for example, the local heat distribution utility used Spectre routers to connect new metering devices all along their pipelines, thus avoiding the need to negotiate cable right of ways with hundreds of property owners along the necessary routes. Spectre routers can be easily configured to connect to devices using protocols like RS-232 and Modbus, and to convert the protocols for use on Ethernet networks, providing an excellent cable alternative for both new and existing technologies.



Machine to Machine (M2M)

Devices often need to be connected in locations that make cabling overly expensive or even impossible. It might be a new vending machine – the location is perfect, but the property owner won't permit trenching for cable. It could be a retail kiosk in a mall, and once again cabling isn't an option. Sometimes devices are simply so remote that providing a cable connection is out of the question, like a well pumping station out in the desert or a traffic cam along an isolated stretch of highway.

Spectre cellular routers provide an easy, low cost alternative to cable. Spectre routers can provide Internet connections for remote devices anywhere there's cellular service. For a device like an ATM machine, or that pump station in the desert, a basic model like the Spectre Libratum would serve your needs. But if you needed huge bandwidth, as in a full motion security camera application, you would be more likely to select the Spectre 4G LTE. No single router model is the best for every task.

FLEXIBLE FEATURES & SPECIFICATIONS

Buy Exactly What You Need

Standard interfaces:

Ethernet 10/100

USB Host

I/O port with 1x input and 1x output

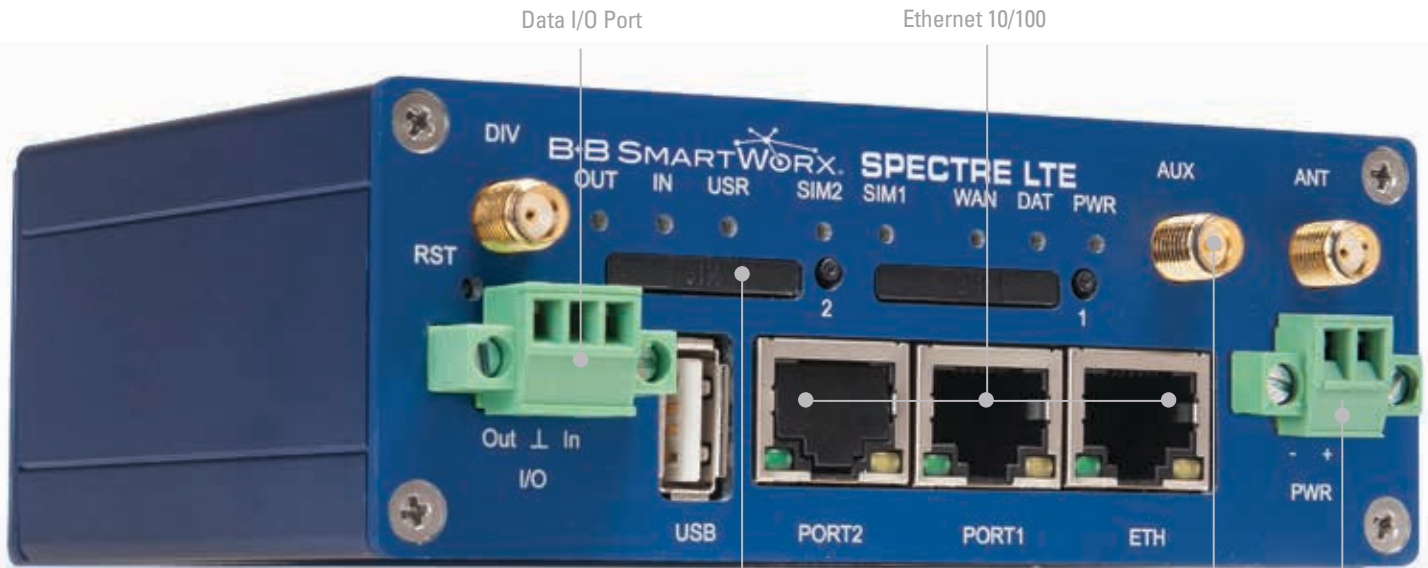
2 SIM card holders

RS-232, RS-422/485, Modbus

Ethernet 10/100, RS-232, RS-422/485, I/O, Modbus

2 or 3-Port Ethernet 10/100 Switch

Ethernet 10/100



Certified for use with these networks:
AT&T, PTCRB, Rogers, Sprint, T-Mobile, Verizon
Contact B+B SmartWorx for latest approvals and product specifics.

Back Up of Primary SIM

WiFi (option)

Power Connector

Optional interfaces to optimize according to your application, with the ability to add additional interfaces in the future:

1-2x ETHERNET 10/100 with possible modes:

- 2-port Ethernet switch
- 3-port Ethernet switch
- 2x independent LAN
- 1x independent LAN and 2-port Ethernet switch

RS-232 serial port

RS-422/485 galvanic separation possible

ModbusTCP to Modbus RTU

I/O CNT interface including 4x binary inputs

(2 inputs may be configured as counter
2x analogue inputs and 1x binary output)

802.11 b/g/n WiFi Access Point

- 40 to + 75 °C operating temperature (RTLTE series)

- 30 to + 60 °C operating temperature (RT3G series)

10-30 VDC power

Metal enclosure; TS35/TS32 DIN rail mountable

UL Class 1/Division 2 rated

LTE/HSPA+/UMTS/CDMA/ EDGE/GPRS ROUTERS

ROUTER	CELLULAR WIRELESS NETWORK TECHNOLOGY	MAXIMUM DOWNLOAD	MAXIMUM UPLOAD
Spectre LTE 4G routers	LTE/UMTS/HSPA+ & GPRS/EDGE & CDMA	100 Mbps	50 Mbps
Spectre 3G routers	EVDO/CDMA, UMTS/GSM	14.4 Mbps	5.5 Mbps

USA, Canada.

Contact your local distributor for availability and options.

Functions & Software Features

B+B SmartWorx routers offer enhanced functionality, incorporating self-diagnostics and a hardware watchdog, ensuring secure and consistent operability and ultra-reliable wireless connections.

For critical applications, these routers offer SMS and email messaging and control capability for remote alerts and resets. They support the most commonly used LAN/WAN network protocols and B+B SmartWorx' custom software allows for easy, flexible and effective networking and management.

Networking

DHCP: automatic IP addressing in LAN network

NAT/PAT: IP address and port translation

Firewall: filtering of addresses, ports, protocols

VRRP: virtual backup router function

DynDNS client: access to the dynamic IP address

VLAN 802.1Q: virtual LAN

QoS: quality of service

PPPoE Bridge: PPP over Ethernet Bridge mode

Dial-in: communicate over dial CSD call

NTP client, NTP server: time synchronization

VPN Tunneling

IPSec, OpenVPN, PPTP, L2TP, EasyVPN, GRE

Authentication by certificates, shared keys, name/password

Remote Router Supervision & Mass Network Management

HTTP/HTTPS, Telnet/SSH for local and remote configuration and firmware updates

Automatic configuration and firmware updates from FTP/HTTP server by schedule

Up to 4 independent configuration profiles can be stored and remotely switched using scripts, SMS messages, I/O, etc.

Diagnostics

Detailed logs of operational information, including signal status and data traffic

Signal level data, cell identifiers and data traffic are saved in router's memory for up to 2 months

SNMP: router diagnostics, communication with I/O and MBUS

LED indication: signal strength, connection status, ports

SMS & Email Information

Information about status, connection, disconnection and many others

SMS control: on/off connection, switching SIM, router profile, I/O, etc.

SMS communication: AT commands (RS232 and TCP/IP), I/O or HTTP

Modular LINUX Software Environment

Open LINUX based system allows use of common LINUX commands, scripts and other features. B+B SmartWorx routers offer an extension of standard firmware with optional software plug-ins. You can create your own plug-in and simply apply it to the router. The router has non-volatile RAM memory, ready for data collection and processing applications that can be expanded with USB port if desired.

Software Plug-ins

Easy VPN client: secure, encrypted VPN

Dynamic routing protocols: BGP, OSPF, RIP

QoS: quality of service

IGMP: multicast protocols

Modbus RTU/TCP gateway and mapping: convert data from RTU to TCP/IP format



SPECTRE™ CELLULAR ROUTER SOLUTIONS

Wireless Data Transfer Technology

Sometimes the answer isn't just great products – it's a great solution that's more than the sum of the products. B+B SmartWorx can provide unique solutions for your toughest networking challenges. Whether it's combining cellular routers with wireless radios to support dual cellular networks or a custom design, B+B SmartWorx is your best connection for innovative cellular solutions.

Series	LTE	EVDO/CDMA	UMTS/GSM
RTLTE-3xx-AT series	•		•
RTLTE-3xx-W-AT series	•		•
RTLTE-3xx-VZ series	•	•	
RTLTE-3xx-W-VZ series	•	•	
RT3G-3xx series		•	•
RT3G-3xx-W series		•	•

LTE Wireless Routers – Port Configurations

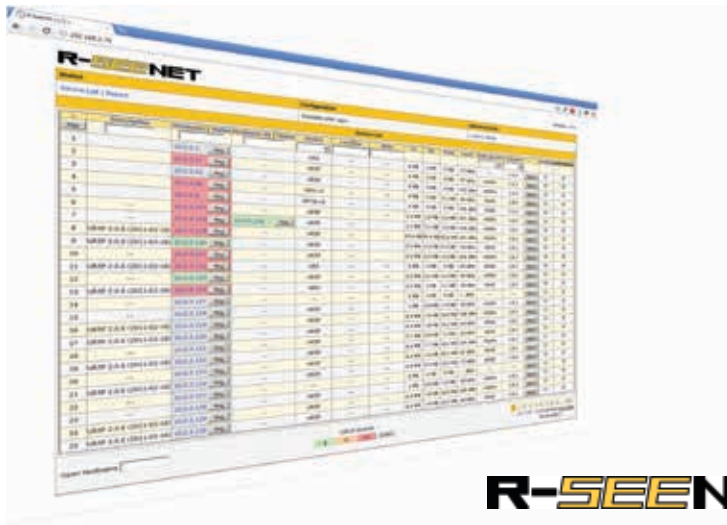
Model Number	10/100 Ethernet	RS-232	RS-422/485	12 Bit I/O	802.11 b/g/n Wi-Fi
RTLTE-300 (-AT, -VZ)	1				
RTLTE-302 (-AT, -VZ)	1	1			
RTLTE-304 (-AT, -VZ)	1		1		
RTLTE-310 (-AT, -VZ)	2				
RTLTE-311 (-AT, -VZ)	3				
RTLTE-312 (-AT, -VZ)	2	1			
RTLTE-314 (-AT, -VZ)	2		1		
RTLTE-322 (-AT, -VZ)	1	2			
RTLTE-324 (-AT, -VZ)	1	1	1		
RTLTE-330 (-AT, -VZ)	1			1	
RTLTE-300-W (-AT, -VZ)	1				1
RTLTE-310-W (-AT, -VZ)	2				1
RTLTE-320-W (-AT, -VZ)	1	1			1
RTLTE-330-W (-AT, -VZ)	1			1	1
RTLTE-340-W (-AT, -VZ)	1		1		1

3G Wireless Routers - Port Configurations

Model Number	110/100 Ethernet	RS-232	RS-422/485	12 Bit I/O	802.11 b/g/n Wi-Fi
RT3G-300	1				
RT3G-302	1	1			
RT3G-304	1		1		
RT3G-310	2				
RT3G-311	3				
RT3G-312	2	1			
RT3G-314	2		1		
RT3G-322	1	2			
RT3G-324	1	1	1		
RT3G-330	1			1	
RT3G-300-W	1				1
RT3G-310-W	2				1
RT3G-320-W	1	1			1
RT3G-330-W	1			1	1
RT3G-340-W	1		1		1

SMART DECISIONS

Intelligent Monitoring & Management Software



R-SeeNet is the software system used for monitoring B+B SmartWorx routers. It continuously collects information from individual network routers and records the data into an SQL database. Data is presented in a clear and concise dashboard for the network administrator to effectively manage devices. Model# R-SeeNet-5 consists of two parts:

R-SeeNet Server - 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 - A web-based application that accesses the SQL database and provides the network administrator detailed information on individual routers and health of the network.

Available Data - Everything you need to know about your network's current status plus a historical view of information transferred today, yesterday, this week, this month and last month.

- Signal strength
- Data traffic
- Response time
- Router availability
- Number of PPP connections
- Number of channels connected
- Visual reports, tables and graphs
- Up to 2 months of past data for each router

INDUSTRIAL WIRED ROUTERS

Secure VPN, IPsec, Open VPN. NEMA TS2 compliant.

Spectre RT™ wired routers secure connections between two local networks (LAN) using VPN tunneling protocols, IPsec, OpenVPN or L2TP. Password-protected web interface allows remote configuration and management. Automatically upgrades configuration and firmware from the operator's central server, allowing simultaneous mass reconfiguration of every router on the network.

With Ethernet, USB, I/O and auxiliary ports, these devices handle multiple data communication protocols and fit into almost any network topology. Configuration and Diagnostics options include: HTTP server for configuration via web server, Telnet for configuration and access to the file system, SNMP router diagnostics.



- DHCP: automatic IP addressing in LAN network
- NAT/PAT: IP address and port translation
- Firewall: filtering of addresses, ports, protocols
- VRRP: virtual backup router function
- VLAN 802.1Q: virtual LAN
- Wide temperature range: -40 to 75°C
- DHCP, NAT/PAT, NAT-T, DynDNS, NTP, VRRP, SMS
- NEMATS1/TS2 – Environmental Requirements for Traffic Control

Model Number	110/100 Ethernet	RS-232	WAN	USB	Digital I/O
ERT-310	1		•	•	•
ERT-312	1	1	•	•	•



GLOBAL REACH FOR GLOBAL SUPPORT

*You build your business and we'll build your communication solution.
Whether you choose standard products or require special designs for
specific applications – consider B+B SmartWorx as your connection.*

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