The Wzzard™ Sensing Platform
The Wzzard intelligent wireless sensor platform makes it quick and easy to connect edge devices and assets and communicate their data to your IoT application for visualization, analytics or integration into business applications. The Wzzard platform connects to a vast range of industry-standard sensors. It uses Wzzard Intelligent Edge Nodes and a wireless SmartMesh IP network to transmit sensor data to the Spectre Network Gateway. The Spectre Network Gateway can connect to the Internet via Ethernet connections or the 3G cellular data network.

The Spectre Network Gateway
The Spectre Network Gateway connects to the SmartMesh IP wireless mesh network and the Wzzard Intelligent Edge nodes through an integrated 802.15.4e radio. The Spectre Network Gateway receives the incoming data stream from edge nodes in MQTT-SN format and converts the information into MQTT protocol for transport to an MQTT broker on your network or on the Internet. The leading IoT applications providers include MQTT brokers in their solutions, and open source MQTT brokers are available for installation on private networks.

The Spectre Network Gateway is built for plug-and-play simplicity with extensive remote management, deployment and customization options. It connects Ethernet equipment and other devices to the Internet or intranet via either 3G cellular or 10/100 wired Ethernet. The standard configuration includes a 10/100 Ethernet port, USB host port, binary input/output (I/O) port and an 802.15.4e radio. It also has an auxiliary port that can be configured for other purposes, like Ethernet or RS-232/485/422.

Secure Connections
To ensure secure communications the Spectre Network Gateway supports the creation of VPN tunnels using IPsec, OpenVPN and L2TP. The web interface provides detailed statistics about gateway activities, signal strength, etc. The gateway supports DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, and many other routing functions. The Spectre Network Gateway also provides diagnostic functions which include automatically monitoring the PPP connection, automatic restart in case of connection losses, and a hardware watchdog that monitors the Spectre Network Gateway status.

PRODUCT FEATURES

• 802.15.4e SmartMesh IP radio
• 10/100 Ethernet network interface
• EV-DO/CDMA and HSPA+/GPRS/GSM cellular network interface
• Communicates with Wzzard Intelligent Edge Nodes
• Industrial design - wide operating range (-30 to +60 C)
• 10-30 VDC power
• Class 1/Division 2 Certified

ORDERING INFORMATION

SPECTRE NETWORK GATEWAY MODEL NUMBERS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERT351</td>
<td>Ethernet Network Gateway with 2 Ethernet ports, wireless mesh 802.15.4e, AC power adapter</td>
</tr>
<tr>
<td>RT3G-350</td>
<td>Cellular/Ethernet Network Gateway with 1 Ethernet port, wireless mesh 802.15.4e, 3G cellular, AC power adapter</td>
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<tr>
<td>RT3G-351</td>
<td>Cellular/Ethernet Network Gateway with 2 Ethernet ports, wireless mesh 802.15.4e, 3G cellular, AC power adapter</td>
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<td>RT3G-352</td>
<td>Cellular/Ethernet Network Gateway with 1 Ethernet port, 1 RS-232 port, wireless mesh 802.15.4e, 3G cellular, AC power adapter</td>
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<tr>
<td>RT3G-354</td>
<td>Cellular/Ethernet Network Gateway with 1 Ethernet port, 1 RS-485 port, wireless mesh 802.15.4e, 3G cellular, AC power adapter</td>
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ACCESSORIES

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
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<tr>
<td>MDR-20-24</td>
<td>24VDC, 20W, 1A Power Supply</td>
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<tr>
<td>C5UMB3FBG</td>
<td>Category 5E Cable, UTP, 1 m (3 ft), Beige</td>
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<tr>
<td>C5UMB10FBL</td>
<td>Category 5E Cable, UTP, 3 m (10 ft), Blue</td>
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<td>TRAB806/17103P</td>
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<tr>
<td>RT3G-ANT001</td>
<td>3G Cellular Antenna, Penta-Band, Right-Angle SMA</td>
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<tr>
<td>RT3G-ANT002</td>
<td>3G Cellular Antenna, Penta-Band, Magnetic Mount SMA</td>
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</table>

USA, Canada. Check with your local distributor for availability and options.
Spectre Network Gateway

**SPECIFICATIONS**

**INTERFACES**

**Standard**
- Ethernet: 10/100 Mbps
- USB: USB Type A host
- Binary I/O: 1 input / 1 output
- SIM Card: 1 SIM card port
- **802.15.4E radio**
  - Expansion Port Options: Ethernet 10/100 Mbps, RS-232, RS-422/485

**AN ANTENNA:**
- SMA – 50 Ohms
- 3G: 2 dBi, penta band, right angle dipole (2 included)
- 802.15.4e, 2.4 GHz, 5 dBi (1 included)

**3G CELLULAR FREQUENCY BANDS**
- Quad Band UMTS (WCDMA): 850, 900, 1,900 and 2,100 MHz
- Quad Band GSM/GPRS/EDGE: 850, 900, 1,800 and 1,900 MHz

**POWER**
- Source: 10 – 30 VDC
- Consumption:
  - Up to 3.5 W (GPRS transmission)
  - Up to 5.5 W (UMTS/HSDPA transmission)

**MECHANICAL**
- Dimensions: 1.7 x 3.0 x 4.5 in (42 x 80 x 113 mm), 35mm DIN rail
- Enclosure: Metal
- Weight: 150 g

**ENVIRONMENTAL**
- Operating Temperature: -30 to +60°C
- Storage Temperature: -40 to +85°C

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**FEATURES -- SMARTMESH IP RADIO -- 802.15.4E -- 2.4 GHZ**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
<th>Min</th>
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<td>dBm</td>
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</table>

**NETWORKING AND SECURITY**
- DHCP – automatic IP addressing in LAN network
- NAT – IP address and ports translation between inside/outside network
- Firewall – filtering of addresses, ports, protocols
- VRRP – virtual backup router function
- DynDNS client – access to the router with a dynamic IP address
- QoS – quality of service
- Dial-in – Communicate via CSD call
- PPPoE Bridge – PPP frames encapsulation inside ETH frames
- IPSec, OpenVPN, L2TP – secure encrypted tunnels
- GRE tunnel – simple tunnel without security measures
- APPIAL – configuration via web server
- Telnet – configuration and access to the file system
- SNMP – router diagnostics, communication with I/O and M-Bus
- Cellular state signalization by LED
- SMS info – power on, cellular connection or disconnection
- SMS control – on/off cellular connection, switch SIM, I/O, etc.
- Transferred data counting, one more APN as backup
- Remote router group configuration change, switching among configuration profiles
- SSH – encrypted configuration and access to the file system

**APPROVALS / CERTIFICATIONS**
- FCC Part 15, CE
- Class 1/Division 2
- AT&T, Verizon, PTCRB (Contact B&B Electronics for the latest approvals)
- **EN 301 511, v9.0.2**
- **EN 301 908-1&2, v3.2.1**
- ETSI EN 301 489-1 V1.8.1
- **EN 60950-1:06 ed.2 + A11:09 + A1:10**
- **EN 55022/B**
- **ETSI 300 342 immunity**
- **EN 60950**
- **EN 60747 isolation**