B&B Electronics is a company of engineers, technicians and precision manufacturers. We are committed to bringing to market a full spectrum of best-in-class data communications equipment and networking solutions that are easy to buy, easy to install and, more importantly, easy to use.

For more than three decades, B&B Electronics has engineered and manufactured rugged, reliable networking communications products for industrial, hazardous and demanding environments.

The network edge is continuing to expand, including new applications and new industries in increasingly harsh environments. M2M devices can now be monitored and controlled in locations that were previously unreachable or even unimaginable.

Where does your network need to go?

From the Edge of Nowhere to the Middle of Anywhere
Find your M2M Solution with B&B Electronics...

**CELLULAR**
FOR REMOTE ACCESS SOLUTIONS:

Running copper cable or fiber optics to remote locations can be quite expensive. And sometimes it cannot be done at all, due to inconvenient geography or a lack of cooperation from property owners along the intended route. But cellular modems and routers will let you monitor and control your equipment anywhere there is cellular cell phone service. They can also provide redundant backhaul for wired systems. So if a backhoe takes your cable connectivity out, your data will still get through.

**WIRELESS**
FOR M2M CONNECTIVITY:

Wireless data communications open the door to networking opportunities that cable cannot match, but office grade wireless equipment will not stand up to real world environments. We provide the rugged, reliable wireless devices that can actually do the job. We will help you select the most appropriate solution for your application, whether it operates via Wi-Fi, 2.4 GHz, 900 MHz, cellular or another wireless protocol.

**FIBER OPTICS**
FOR LONG DISTANCE MANAGEMENT:

With long range, high bandwidth and immunity to electromagnetic interference, surges and spikes, fiber optics have become one of the basic building blocks of industrial networks. We provide a broad selection of Managed and Unmanaged Fiber Media Converters, Optical Access/FTTx, SFPs, Fiber-to-Fiber Mode Converters and Chassis options, and support 10, 100, 10/100, 10/100/1000, Gigabit, VDSL, T1/E1 and DS3/E3 technologies.

**USB**
FOR INSTRUMENTATION & FIELD SERVICE:

USB’s convenience, flexibility, and interoperability have simplified everything from cabling to device installation. But its five-meter range limitation and its vulnerability to noise, surges, spikes and ground loops can make it the weakest link in your industrial network. Our USB Hubs, Extenders, Isolators and Converters address those problems and make USB rugged and reliable in industrial environments. For high vibration locations, choose one of our models with high retention ports. They grip standard USB cables firmly and will resist up to 1.54 kg (3.4 lbs.) of force.

**SERIAL**
FOR LEGACY CONNECTIVITY:

New data communications technologies continue to appear, but too many people have too much invested in legacy serial equipment to let those protocols fall by the wayside. We will help you turn your legacy serial devices into nodes on modern networks, preserving all of their functionality while adding new capabilities, like Ethernet media conversion and Wi-Fi. With the industry’s broadest selection of RS-232, RS-422, and RS-485 serial connectivity devices, we will help you get the most out of your equipment investments, both new and old.

**ETHERNET**
FOR INDUSTRIAL NETWORKING:

Our Ethernet managed and unmanaged switches, extenders and serial device servers are engineered and manufactured for performance in harsh and hazardous environments. We make it easy to link industrial equipment to your Ethernet backbone, and we give you the peace of mind that comes with knowing that your network will give you many years of trouble-free service.
New data communication technologies and protocols continue to appear. At the same time, the world’s installed base of existing M2M equipment and infrastructure is far too valuable - and far too useful - to discard. So modern industrial networks must be able to network-enable many different kinds of equipment and ensure that each piece is used to its full potential - even when many of the pieces are several technological generations apart.

Whether you’re designing an entirely new production system, retrofitting an existing installation or looking for ways to extend the edge of your network, B&B Electronics can provide the right wired or wireless data communications solution. From legacy serial equipment to cellular M2M, we’ll help you network-enable just about anything, just anywhere, and we’ll see to it that the end result is seamless.

From energy production to wastewater treatment, utilities are expected to deliver uninterrupted, trouble-free service. B&B Electronics provides the connectivity solutions and the rugged, reliable networking devices that will keep your network up and running, even in adverse circumstances and harsh environmental conditions. Wired or wireless, from Modbus to TCP/IP, we’ll help you create and maintain network connections that let you monitor and control your equipment wherever you may need it to be.
ATMs, ticketing and lottery machines, POS devices and kiosks are normally placed in locations that are convenient for their human users. But they may not look convenient to the network designers who need to connect them to central control.

B&B Electronics can eliminate the inconvenience. There’s no reason you can’t establish rugged, reliable M2M products and solutions that ensure that your data - as well as the fuel - will get where they need to go.

To keep modern transportation systems moving, networks must provide connections for signaling systems, digital signage, toll management systems, smart parking, trackside management, telematics, remote mobile asset management and more. Whether your connections need to be wired or wireless, B&B Electronics provides the tough, reliable M2M networking solutions and connectivity devices that will help you keep your data - and the traffic - flowing smoothly.

In the old days a security system consisted of a watchman with a flashlight and handful of keys. Modern security systems are a bit more complex. They may incorporate any mix of RFID tags and readers, IP/digital cameras, access control systems, video analytics, facial recognition systems, card scanners and biometrics. And every piece has its own communications requirements.

Security cameras need good bandwidth. A parking gate has to function reliably in any weather. A card scanner is useless if its network connection fails. Devices may be located indoors or out, in both public and private spaces. And they’ll all need reliable connections.

B&B Electronics has decades of experience in providing data communications solutions. We’ll help you extend your network to include any location that needs protection.

Fossil fuel exploration and production take data networking into some of the harshest environments on the planet. Farther downstream, in the pipelines, the refineries and even the local gas station, conditions are still far from ideal. Whether your application involves monitoring, control or security, and whether your connections need to be wired or wireless, B&B Electronics designs and builds rugged, reliable M2M products and solutions that ensure that your data - as well as the fuel - will get where they need to go.
Industrial Automation on the Job

The certainty of change is a constant in modern manufacturing. Process improvement is now embedded in the DNA of today’s automation engineers. Bridging legacy systems with the latest advances in process efficiency demands rugged, reliable wired and wireless data connectivity solutions. B&B Electronics has invested more than 30 years and more than 500 man years in engineering an impressive suite of products that support your industrial network infrastructure. Our expertise is your resource. Whether you’re designing a new production system, retrofitting an existing installation, or exploring connectivity options at your network’s edge, B&B Electronics’ engineers can help you envision your new network configuration. Then, you can select and easily implement the right data communication solution. And B&B Electronics’ support will be available every step of the way.

Our rugged solutions are proven in harsh industrial environments, providing trouble-free data communications between many types of device interfaces. B&B Electronics offers more than 7,000 products for machine-to-machine (M2M) connectivity and data communications solutions:

- **SERIAL CONVERTERS, ISOLATORS, REPEATERS, SURGE PROTECTORS, CARDS**
- **USB CONVERTERS, ISOLATORS, HUBS, EXTENDERS**
- **ETHERNET SWITCHES, ROUTERS, EXTENDERS**
- **ETHERNET SERIAL SERVERS, GATEWAYS, MEDIA CONVERTERS**
- **WIRELESS CELLULAR ROUTERS, WIFI CELLULAR Routers**
- **WIRELESS RADIO MODEMS, I/O**
- **WI-FI ACCESS POINTS, ROUTERS, BRIDGES, SERIAL SERVERS, MODULES**
- **TURNKEY AND CUSTOM ENGINEERED CONNECTIVITY SOLUTIONS**

**DEEP EXPERTISE IN INDUSTRIAL AUTOMATION AND CONTROL**
B&B Electronics supplies a complete line of connectivity solutions, interface products, and other essential elements for industrial automation to control, monitor, and protect your production systems. B&B Electronics’ technology is found throughout the plant, connecting critical automation environments.
Energy Production and Distribution and Natural Resource Management

Energy producers and facilities that safeguard natural resources, such as water and wastewater treatment plants, demand an efficient and reliable data communications infrastructure. B&B Electronics can help you integrate the latest data connectivity solutions with your legacy systems to ensure your systems continue to provide dependable performance. For more than 30 years, B&B Electronics has been developing an impressive suite of products to support your energy generation and distribution network infrastructures. Today, you can put that expertise to work for you. Whether you’re designing a new system, retrofitting an existing one, or exploring connectivity options at your network’s edge, B&B Electronics engineers can help you re-image your network configuration, then help you select and implement the data communication solutions necessary to make it a reality. Technical support will be by your side every step of the way.

Our rugged solutions are proven in harsh environments from mountaintops to deserts, providing trouble-free data communications between many types of device interfaces. B&B Electronics offers more than 7,000 products for machine-to-machine (M2M) connectivity and data communications solutions:

- **Class 1/Division 2 Rated Products**
- **Wireless Cellular Routers, WiFi Cellular Routers**
- **Wireless Radio Modems, I/O**
- **Wi-Fi Access Points, Routers, Bridges, Serial Servers, Modules**
- **Serial Converters, Isolators, Repeaters, Surge Protectors, Cards**
- **Ethernet Switches, Routers, Extenders**
- **Ethernet Serial Servers, Gateways, Media Converters**
- **Custom and OEM Engineered Connectivity Solutions**

DEEP EXPERTISE IN THE FULL SPECTRUM OF ENERGY AND RESOURCE MANAGEMENT INDUSTRIES

B&B Electronics supplies a complete line of connectivity solutions, interface products, and other essential elements for controlling, monitoring and protecting your systems. B&B Electronics’ technology is found throughout modern energy generation and distribution systems and resource management facilities:

Throughout the traditional energy production and distribution infrastructure, B&B Electronics is there. We have experience in serving the full spectrum of energy industry applications, whether in upstream exploration and production or downstream in refineries, pipelines and local gas stations. We bring thirty years of wired and wireless network expertise in all types of harsh and hazardous environments. Whether you’re building a new system or expanding or reorganizing an existing one, B&B Electronics’ engineers can help you envision your new network configuration, then select and install the right data communication bridges, routers, and gateways.

B&B Electronics brings focused solutions to oil and gas industry applications. Our rugged solutions provide trouble-free data communications. B&B Electronics offers more than 7,000 products for machine-to-machine (M2M) connectivity and data communications solutions:

- **Wireless Cellular Routers, WiFi Cellular Routers**
- **Wireless Radio Modems, I/O**
- **Wi-Fi Access Points, Routers, Bridges, Serial Servers, Modules**
- **Class 1/Division 2 Rated Products**
- **Telematics**
- **Serial Converters, Isolators, Repeaters, Surge Protectors, Cards**
- **Ethernet Switches, Routers, Extenders**
- **Ethernet Serial Servers, Gateways, Media Converters**
- **Turnkey and Custom Engineered Connectivity Solutions**

**Deep Expertise in the Data Communications Needs of the Oil and Gas Industries**
B&B Electronics supplies a complete line of highly secure connectivity solutions designed for controlling, monitoring and protecting your system in hazardous environments, B&B Electronics’ technology is found throughout modern energy generation and distribution systems facilities.
Transportation System Efficiency Starts with Data Communication

Transportation is still the lifeblood of modern commerce – nobody gets paid until the goods are delivered or people make it to work. Data communications solutions from B&B Electronics are at the heart of a growing number of data-driven transportation-related applications. From signaling systems, digital signage, toll management and smart parking to trackside management, telematics and remote mobile asset management, B&B Electronics brings focused solutions to intelligent transportation.

With more than 7,000 products for machine-to-machine (M2M) connectivity, we’ll have your transportation solution:

- Ethernet media converters
- Wireless radio modems, I/O
- Wi-Fi access points, routers, bridges, serial servers, modules
- Wireless cellular routers, WiFi cellular routers
- Telematics
- Ethernet switches, routers, extenders
- Ethernet serial servers, gateways, media converters
- Turnkey and custom engineered connectivity solutions
- Serial converters, isolators, repeaters, surge protectors, cards
- USB converters, isolators, hubs, extenders

Deep Expertise in Data Communications for the Transportation Industry

B&B Electronics supplies a complete line of connectivity solutions, interface products, and essential components to monitor, control and protect your transportation communication systems. B&B Electronics’ technology is found throughout modern transportation systems.
1. Industrial Wireless Ethernet Bridge
   ABDN-ER-INS018
   Page 66

2. Industrial Wireless I/O
   ZXT24-IO-222R
   Page 52

3. Ethernet Mini Serial Server
   VESP211
   Page 150

4. Ethernet to Serial Server
   VESR901
   Page 152

5. Telematics OBDII Streamer
   LDVDSB2-SV
   www.bb-elec.com

6. Wireless Access Point
   APXN-05428
   Page 68
Once, physical security meant armed guards on foot patrol, deadbolt locks and many, many keys. Today, it involves networking systems of RFID tags and readers, IP/digital cameras located inside in both public and private spaces and outside in parking facilities, and access control systems integrating servers, cameras, video analytics, facial recognition systems, card scanners or biometrics. Some systems even incorporate video feeds to monitoring centers and/or to roaming security personnel or their vehicles.

Communications solutions from B&B Electronics are at the heart of a growing number of security-related applications. By combining ruggedness, reliability and extended reach, our technology connects the remote devices you need to protect both people and property around the clock. We offer a broad portfolio of wired and wireless Ethernet solutions for both copper and fiber media, as well as the industry’s broadest line of Power over Ethernet (PoE) products to address IP devices anyplace, even if local power is not available.

With more than 7,000 products for machine-to-machine (M2M) connectivity, B&B is your one-stop source when building physical security systems:

- Ethernet Media Converters
- Ethernet Serial Servers, Gateways, Media Converters
- Ethernet Switches, Routers, Extenders
- Wireless Radio Modems, I/O
- Wi-Fi Access Points, Routers, Bridges, Serial Servers, Modules
- Wireless Cellular Routers, WiFi Cellular Routers
- Serial Converters, Isolators, Repeaters, Surge Protectors, Cards
- USB Converters, Isolators, Hubs, Extenders

B&B Electronics supplies a complete line of highly secure connectivity solutions designed for controlling, monitoring and protecting your assets, visitors and personnel. B&B Electronics’ technology is integral to networking new facilities and modernizing legacy assets in existing ones.
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