

INDUSTRIAL CELLULAR MODEMS AND ROUTERS

Universal Wireless Ethernet Made Easy



OVERVIEW

The BT-6000 series cellular modems offer high-speed, secure internet connectivity over the cellular network to m2m applications for real-time remote access, monitoring and control of remote devices. These ruggedized industrial gateways provide truly open wireless TCP/IP connectivity to remote devices and business assets located almost anywhere.



BENEFITS

- Provides industry standard internet TCP/IP access to remote devices
- Provides real-time readings for better usage and billing management
- Optimizes the use of business assets
- Reduces visits to remote locations resulting in lower employee resources
- Connect multiple devices to a single WAN pipe
- Ideal for hazardous environments (Class 1 Div. 2)
- Certified to work on ALL major North-American cellular carriers
- Compared to traditional wire line:
 - Simpler installation, lower startup costs and faster deployments
 - Lower monthly charges (paid based on data usage)
 - Larger geographical coverage
 - Universal TCP/IP connectivity
- Compared to spread spectrum or licensed radio:
 - Lightning fast – up to 14 Mps
 - Open, universal TCP/IP connectivity
 - No site surveys or networks to maintain
 - A better path to future requirements

FEATURES

- Ultra-reliable, always-on cellular link
- Rugged and compact design
- Multiple interfaces: Ethernet, USB, Serial
- 5 Ethernet ports on the BT-6x21 routers
 - Connect up to 5 Ethernet devices and share the same cellular pipe.
- Remote diagnostics, configuration and updates
 - Eliminates on-site visits to troubleshoot or perform changes on the deployed units.
- IPSEC secure VPN tunneling
 - The ultimate method to block unauthorized access and encrypt the data stream.
- Access Control List
 - Protects access to the modem and host equipment from the internet by only allowing requests from known IP addresses to go through, and blocking all others.
- DHCP server
- Serial IP server with Modbus and DNP3 support
 - Provides internet connectivity to legacy automation equipment by encapsulating the serial port traffic in TCP/IP or UDP/IP packets.
- Power over Ethernet (PoE) optional
 - With a single wire for both data and power, installation is greatly simplified. PoE also allows installing the modem up to 300 feet away from the equipment for an optimal cellular antenna/coverage setup.

BT-6000 Series Typical Applications

- Meter reading and utility monitoring systems
- RTU/PLC/SCADA for data collection, monitoring and control
- Traffic control and monitoring
- Surveillance and alarm panels
- POS, ATM, Kiosk
- Process Automation (water treatment, Oil and Gas, ...)



Selection Matrix

Three cellular technologies:

BT-66xx EVDO (3G)	BT-68xx HSPA (3G)	BT-64xx EDGE (2G)
CDMA2000 EVDO Rev. A	GSM WCDMA/HSDPA/HSUPA	GSM EDGE
Backward compatible to 1xRTT	Backward compatible to GPRS/EDGE	Backward compatible to GPRS
800/1900 MHz	800/850/1800/1900/2100 MHz	850/900/1800/1900 MHz
Theoretical speed: 3.1 Mbps	Theoretical speed: 14 Mbps	Theoretical speed: 384 Kbps
Typical speed: 1.5 Mbps	Typical speed: 2.2 Mbps	Typical speed: 120 Kbps

Model	Cellular Technology	Ethernet	RS-232	USB	PoE
BT-6401	EDGE	1	1	1	-
BT-6401EB	EDGE	1	1	1	1
BT-6421	EDGE	5	1	1	-
BT-6601-xx*	EVDO	1	1	1	-
BT-6601EB-xx*	EVDO	1	1	1	1
BT-6621-xx*	EVDO	5	1	1	-
BT-6801	HSPA	1	1	1	-
BT-6801EB	HSPA	1	1	1	1
BT-6821	HSPA	5	1	1	-

* "xx" is the EVDO (CDMA) cellular provider: VZ (Verizon), SP (Sprint) and AL (Alltel) in the U.S. BM (Bell Mobility), TE (Telus Mobility), ST (Sasktel Mobility) and MT (MTS Allstream) in Canada Cellular provider for HSPA is AT&T

Three hardware options:

- Standard modem
- Power over Ethernet
- 5-port Ethernet switch



BT-6401 or BT-6401EB with PoE



BT-6421



BT-6600 and BT-6800



BT-6601 or BT-6601EB with PoE



BT-6801 or BT-6801EB with PoE



BT-6621 or BT-6821



Specifications

Ethernet Interface	1x RJ45 Ethernet 10/100 auto-sensing (BT-6x00, BT6x01, BT-6x01EB) 5x RJ45 Ethernet 10/100 auto-sensing (BT-6x21)
Serial Interface	1x RS-232 Serial DB9 with rates up to 115200bps
USB Interface	1x USB2.0 mini device port
LED Status Indicators	Power, WAN, Signal, RS232, Ethernet Link & Activity
Inputs & Outputs	1x Reset Button, 1x Digital Output, 1x Digital Input
Dimensions	BT-6x0x: Steel 120 x 96 x 32 mm (4.7" x 3.77" x 1.25"), 453g (1 lb) BT-6x21: Steel 120 x 96 x 51 mm (4.7" x 3.77" x 2.0"), 500g (1.1 lbs)
Power Input	8 - 30 Vdc (12Vdc nominal), Power over Ethernet on "EB" models
Environmental	Operating Temp: -40 to +75°C (-40 to 167°F) Shock: IEC68-2-27, Vibration: IEC68-2-6 Humidity: 5 to 95% non-condensing
Certification	EMC- FCC, part 15 and Industry Canada, ICES-003 Hazardous Locations - Class I, Div. 2, Groups A,B,C,D, UL1604 Electrical Safety - UL508/CSA22.2/14 (CUL)

Typical Power Consumption in mA at 24 VDC

	BT-660x	BT-6621	BT-680x	BT-6821	BT-6401	BT-6421
Standby	58	125	58	125	58	115
Transmitting	106	175	160	225	123	180
Peaks	222	290	400	470	208	265

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