

**OVERVIEW**

The IndustrialPro™ BT-6400 series modems are rugged wireless modems built to provide simple and reliable communication over the EDGE cellular data network.

This guide covers initial configuration for the following models:



**BT-6401**  
**BT-6401EB**



**BT-6421**

**FEATURES**

- EDGE with fallback to GPRS
- Ethernet, Serial, and USB
- Reliable Always-on cellular link
- Rugged industrial design
- Remote diagnostics, configuration and updates
- 5-port Ethernet switch on BT-6421
- Power over Ethernet on BT-6401EB
- IPsec VPN multiple tunnel & 3DES|AES up to 256-bit encryption

**LED INDICATORS**

LED	State	Description
Power	ON	Power is applied to the router
	FLASH	Excellent signal strength
Signal	FLASH	Flashes faster as signal is stronger
	OFF	Very weak or no signal (less than -100dBm)
WAN	ON	Wireless link established, but no data activity
	FLASH	Data transmitted/received on wireless network
RS232	ON	Link established with serial device but no data activity
	FLASH	Data transmitted/received with attached serial device
Ethernet	ON	Link established with Ethernet device
	FLASH	Data transmitted/received with attached Ethernet device

**ADDITIONAL INFORMATION**

Visit our support site at [www.redlion.net](http://www.redlion.net) to access the Modem User's Guide for an in-depth overview of the modem's features and capabilities, as well as configuration help and troubleshooting. Also available for download are BlueVue software updates and modem firmware updates.

**POWER**

There are 4 methods to provide power to the modem:

1. 4-pin Molex connector - available on BT-6x00
2. 4-pin screw terminal - available on BT-6xx1/EB
3. Side mounted 2.5mm barrel connectors - available on all models
4. Power-over-Ethernet - available on BT-6x01EB

The modem requires a power source between 8 to 30 VDC to operate:

LABEL	DESCRIPTION
GND	Ground
PWR	Power 8 to 30 VDC (12 or 24 VDC nominal)
IN	Digital input
OUT	Digital output

*\* And AC-DC adaptor can be purchased as an accessory.*

**ANTENNA**

An antenna with an SMA connector should be connected to the modem. This antenna should meet the following specifications:

- Dual-band 800 & 1900 MHz
- Nominal 50 ohm impedance
- Voltage Standing Wave Ratio (VSWR) less than 2.5:1

*\* Antennas can be purchased as accessories from your sales contact.*

**DATA INTERFACES**

**Ethernet:** 10/100 Mbps Auto-sensing Female RJ45 port

**USB:** USB 2.0 Type B Female

**Serial:** RS-232 9 pin DCE Female, with these default settings:

**Speed:** 115200 bps

**Data bits:** 8

**Parity:** None

**Stop Bits:** 1

**Flow Control:** Hardware

## SETUP

### 1. Setup a data account for the modem

Contact your cellular provider (carrier) and request a data account. The carrier should provide you with a SIM card to insert into the modem, along with the APN/usrename/password for data connectivity.

### 2. Insert the SIM card

1. Locate the SIM slot on the right side of the unit.
2. Insert the card with its cut side facing forward and on the left.
3. Using the tip of a pen, push it in until it clicks.

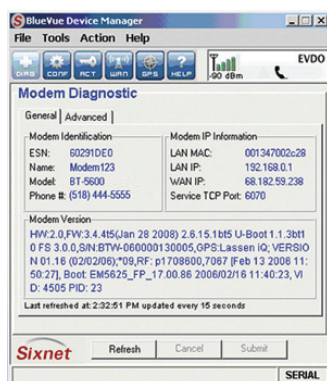


### 3. Wiring and power-up

1. Connect the modem to your computer using a standard Ethernet cable. Alternatively, the RS-232 or USB ports can be used for setup.
2. Connect the cellular antenna to the Antenna connector.
3. Plug in the power connector to power-up the modem.

### 4. Start BlueVue Device Manager Software

1. Download and install the latest version of BlueVue Device Manager from [www.redlion.net](http://www.redlion.net).
2. When launched, it will attempt to connect to 192.168.0.1 by default, once connected to the modem, the Modem Diagnostic window will open. Note that 192.168.0.1 connects to the Ethernet cable. To connect to the USB port use 192.168.111.1):



**Troubleshooting:** If BlueVue displays “Detecting Modem at 192.168.0.1” indefinitely, then:

- Make sure the modem is powered on.
- Check the Ethernet Link LED on the modem. If it's off, it usually means you have a problem with the Ethernet cable or with your computer's network card.
- Close all other network connections (such as WiFi)
- Set your computer to obtain an IP address automatically

### 5. Confirm that the modem is acquiring a cellular signal

The Signal LED should be on or flashing, indicating that the modem has a signal. BlueVue Device Manager displays signal information in the top

right of its window; a minimum of 1 bar is required to connect to the carrier with the modem.

**Troubleshooting:** If the Signal LED is off, then there may be an issue with the antenna or cellular coverage might be too low in your current location.

### 6. Set the WAN data connection

1. In BlueVue Device Manager, click on the WAN button.
2. Set the user name and password if provided by the carrier.
3. Set the APN as provided by the carrier.
4. Click submit.
5. Confirm the modem has successfully connected to the cellular network:
  - The WAN LED will be on or flashing
  - In BlueVue, click the DIAG button, the WAN IP should indicate the IP address assigned to the modem by the cellular network.

## SETUP IS COMPLETE

The modem should be ready for use as a basic internet access point. For more advanced modem configuration, consult the support section on our [website](#) or call Technical Support at 1-877-432-9908.

## INSTALLATION AND HAZARDOUS AREA WARNINGS

Suitable for use in Class I, Division 2, Groups A, B, C and D hazardous locations, or non-hazardous locations only. All power, input and output (I/O) wiring must be in accordance with Class I, Division 2 wiring methods and in accordance with the authority having jurisdiction.

**WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS.**

**WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.**

**WARNING - EXPLOSION HAZARD - BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS.**

**WARNING - EXPOSURE TO SOME CHEMICALS MAY DEGRADE THE SEALING PROPERTIES OF MATERIALS USED IN THE RELAYS.**

## AVERTISSEMENTS POUR INSTALLATION ET ENDROITS DANGEREUX

Cet équipement est adapté pour une utilisation en Classe I, Division 2, Groupes A, B, C et D pour endroits dangereux, ou endroits non-dangereux seulement. Tout câblage électrique, entrée et sortie (I / O) doivent être en conformité avec Classe I, Division 2 méthodes de câblage et conformément à l'autorité compétente.

**AVERTISSEMENT - RISQUE D'AVERTISSEMENT - NE DÉBRANCHEZ PAS L'ÉQUIPEMENT PENDANT QUE LE CIRCUIT EST DIRECT OU À MOINS QUE L'ENVIRONNEMENT SOIT CONNU POUR ÊTRE NON-DANGEREUX.**

**AVERTISSEMENT - RISQUE D'EXPLOSION - LA SUBSTITUTION DE TOUT COMPOSANT PEUT NUIRE À LA CONFORMITÉ DE CLASSE I, DIVISION 2.**

**AVERTISSEMENT - RISQUE D'EXPLOSION - LES BATTERIES DOIVENT SEULEMENT ÊTRE REMPLACÉES DANS UNE ZONE RECONNUE COMME ÉTANT NON-DANGEREUSE.**

**AVERTISSEMENT - L'EXPOSITION À CERTAINS PRODUITS CHIMIQUES PEUT DÉGRADER LES PROPRIÉTÉS D'ÉTANCHÉITÉ DES MATÉRIAUX UTILISÉS DANS LES RELAIS ÉTANCHE PÉRIPHÉRIQUE.**