

## FEATURES:

- Integral Decoder
- Visible Red or Infrared Models
- LED Light Source is Shock Resistant
- Elliptical viewing area enhances performance.
- User Configurable
- RS-232, RS-422 or RS-485 Output
- Polling Capability
- Reads all Common Barcodes
- Operates From Single 5 Volt Supply
- Aluminum Housing



## DESCRIPTION:

The BD Series of fixed beam barcode scanning products feature integral decoding circuitry and ASCII format output data. Units with both visible red and infrared LED light sources are available. The viewing area is elliptical rather than circular, with the long axis of the ellipse parallel to the bars, resulting in higher read rates. All major functions are user configurable using barcode menus or a serial data terminal enabling the unit to be customized to a particular application. Configuration information is held in nonvolatile EEPROM so that data is not lost when power is removed. The unit reads and decodes seven standard industrial barcode symbologies and automatically recognizes the type of code being scanned when more than one type is configured. Barcode data is output in serial ASCII format at RS-232, RS-422 or RS-485 levels. The units can be setup in a polled or multi-drop configuration in RS-422 and RS-485 operation. All communication parameters are user configurable. The unit operates from a single five volt power supply and is contained in an anodized aluminum housing to provide EMI/RFI shielding.

## TYPICAL APPLICATIONS:

These units are designed to read and decode barcode symbols passing the scanner in a known orientation and at a specific distance range. The model with a visible red light source is used in most scanning applications. It can read codes where the bars are printed in black or other colors except red. Infrared units are used in high visible ambient light conditions, in photographic applications where film may be fogged by visible light or in situations where infrared transparent films are placed over the barcode for security reasons. The output can be connected directly to a host computer serial port without additional circuitry.

## SPECIFICATIONS:

### Electrical

Power: +5VDC $\pm$ 5% @ 150mA.  
Noise and Ripple < 50mV P-P  
(Black on white code, 0.01" narrow bar width)

### Optical

Viewing Area: elliptical spot 0.01" X 0.04"  
(See Dimension Drawing)  
Operating Range: 0.35" to 0.75" below baseplate.  
Scan Speed: 6 to 60 inches/second.

### Light Sources

Visible Models: Peak Output at 660nm  $\pm$ 2%  
Infrared Models: Peak Output at 950nm  $\pm$ 2%

### Indicators

Red LED: Blinks on for each Good Read

### Communications

Type: Serial ASCII, RS-232, RS-422 or RS-485 Levels. Baud Rate, stop bits, parity and character delay are user configurable.

### Environmental

Temperature: Operating: 0° to 50°C  
Storage: -40° to 50°C

## CONFIGURATION:

The following characteristics are configurable by the user using a serial terminal or barcode menu.

### Barcodes

Code Types: Code 39 (normal or extended), Interleaved 2 of 5, UPC/EAN/JAN, Codabar, Code 128, Code 11, MSI Code.

Label Length: to 32 characters.

Check Character: For Code 39, Code11 and Interleaved 2 of 5.

Stop/Start Char.: Code 39, Codabar

UPC Decoding: Enable UPC only, UPC-E expansion and supplemental codes.

### Communications:

Baud Rate: 150 to 19,200 baud

Parity: Mark, Space, Even or Odd

Stop Bits: 1 or 2

Flow Control: RTS/CTS Hardware Protocol  
XON/XOFF Software Protocol  
Custom Sensors Polling Protocol

Character Delay: A delay between the transmission of each character, up to 150 mS., is user configurable

Messages: Several messages can be transmitted with the barcode data. They are: Header, trailer, Scanner Address and No-read message.

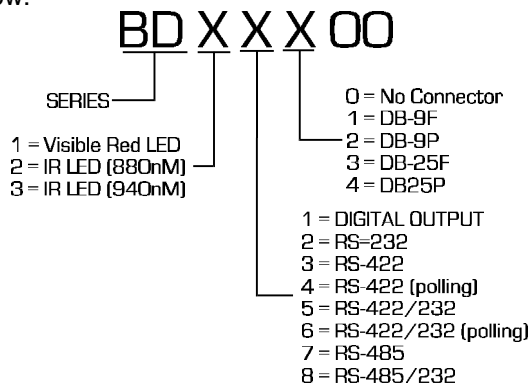
## SCANNER WIRING:

Scanner wiring is shown for the standard DB-9 connector. RS-422 and RS-485 models also have an RS-232 port that can be used for configuration.

PIN	RS-232 Output	RS-422 Output	RS-485 Output
1		TxD(+)	
2	RxD	RxD	RxD
3	TxD	TxD	TxD
4	CTS	TxD(-)	RS-485(+)
5	RTS	RxD(+)	RS-485(-)
6		RxD(-)	
7	GND	GND	GND
8			
9	+5VDC	+5VDC	+5VDC

## PART NUMBERS:

The part number always consists of seven characters. A specific part number can be constructed from the table below:



## VARIATIONS:

Product variations are available on special order. Common variations include: wire type or length, connector, reverse ellipse orientation and TTL level output.

## DIMENSIONS:

(All Dimensions In Inches)

