

# SEL-2924



## Portable BLUETOOTH® Serial Adapter

### Work From a Safe Distance in a Convenient Location



*Stay away from dangerous or busy areas  
by using secure wireless links.*



### Features and Benefits

#### Install and Set Up Easily

Connect to an EIA-232 serial port on a protective relay, meter, equipment monitor, controller, or other device. Communicate with your laptop or handheld device from over 30 feet away using BLUETOOTH wireless technology.

#### Lock Out Cyber Intruders

Enter an 8- to 16-character encryption PIN to enable communication. The SEL-2924 BLUETOOTH Serial Adapter is always secure, using BLUETOOTH v2.1 security.

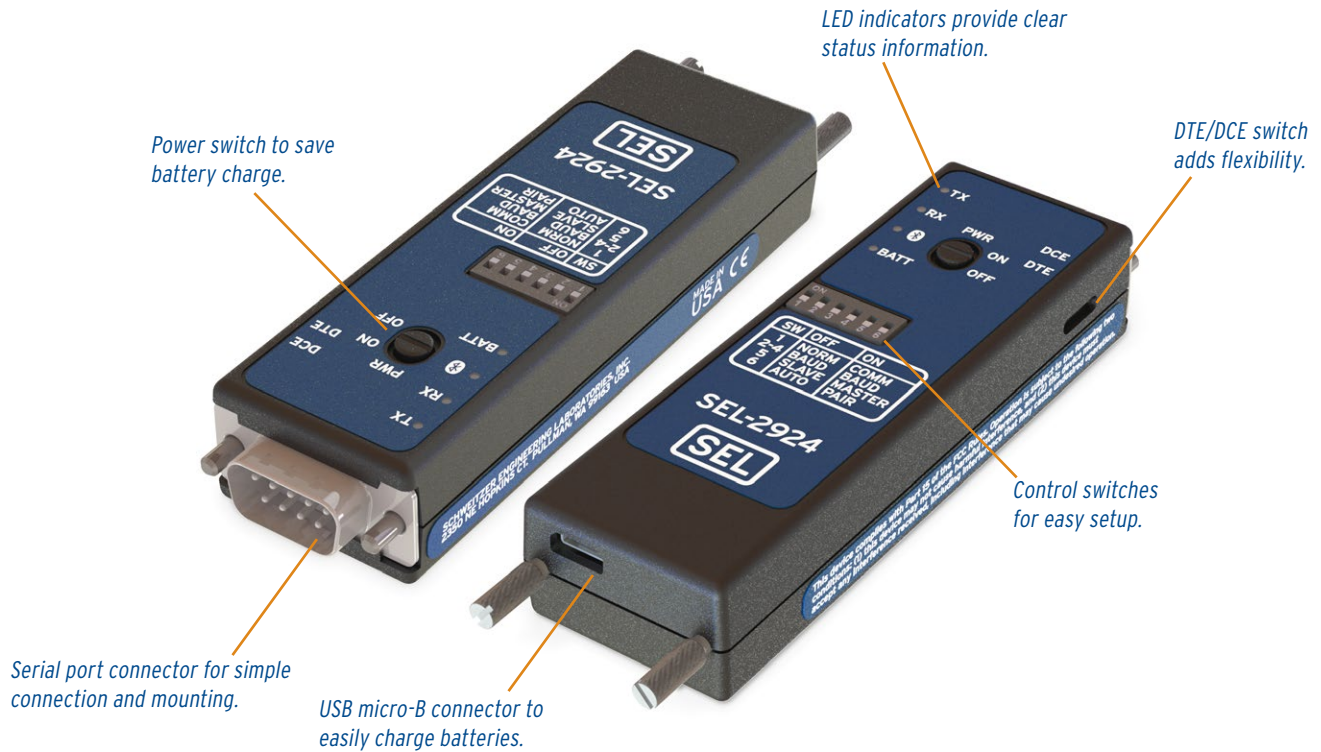
#### Improve Working Conditions and Safety

Work in convenient, safe locations away from switchboards and panels, and eliminate the tripping hazards that come from running cables. Limit time spent in dangerous or unpleasant areas to the short duration tasks of plugging the SEL-2924 into a field device and retrieving it when you are done. Avoid traffic near panels during commissioning and outages by setting up a remote workstation with power and work surfaces.

***Making Electric Power Safer, More Reliable, and More Economical®***

## Product Overview

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## Person-to-Device Application

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### Install and Pair

Temporarily install an SEL-2924 on a serial port of a protective relay, meter, controller, apparatus monitor, or other device. Pair with a BLUETOOTH-equipped laptop computer, tablet, smartphone, or similar device that complies with the BLUETOOTH specification v2.1 or higher.

### Communicate

When you are within 10 meters of the SEL-2924, select the COM port for that adapter on one of your paired devices. Avoid entering a hazardous or crowded area, diverting traffic, and introducing tripping hazards by wirelessly communicating with the device exactly as you would if you were connected with a serial cable.

## Device-to-Device Application

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### Install and Pair

Use two SEL-2924 Adapters to connect two devices instead of an EIA-232 cable. Pair the devices securely with easy sequence of control DIP switch settings. Install the adapters on host devices that are within 10 meters of each other.

### Communicate

Applications, such as report retrieval, data gathering, engineering access, and SCADA, operate exactly as if there were a copper cable linking the two devices instead of a BLUETOOTH wireless link.

## EIA-232 Serial Port

### DTE and DCE

The serial port connection is made with a 9-pin subminiature D connector. The signals follow the ANSI/TIA/EIA-232 Standard (EIA-232) and the 9-pin definition of EIA 574. The standards define two types of equipment: data terminal equipment (DTE) and data circuit equipment (DCE). Serial ports on personal computers (e.g., COM1), programmable logic controllers (PLCs), meters, protective relays, and most devices that perform something other than providing a communications link are DTE. Most modems, radios, fiber-optic transceivers, BLUETOOTH adapters, and multiplexer serial ports are DCE.

Typical connections are between one DTE port and one DCE port. To directly connect the SEL-2924 to most end equipment (DTE), the DTE/DCE switch should be left in the default DCE position. Or, you can directly connect the SEL-2924 to a DCE port without a null modem cable by moving the DTE/DCE switch to the DTE position.

### Control Lines

The EIA-232 standard defines control lines for a variety of uses. The SEL-2924 supports CTS and RTS control lines on Pins 7 and 8, which may be used for hardware flow control, keying a transmitter, or providing device status.

### SEL RxTx BLUETOOTH Application for Mobile Devices

Download the SEL RxTx app from the SEL website. The app allows mobile devices to use BLUETOOTH communications technology to communicate with BLUETOOTH serial adapters, which are in turn connected to the serial ports of host devices. It operates on Android™ 2.1 operating systems (OS) and higher, or BlackBerry® 7.x OS and higher.



## Included USB Cable and Rechargeable Batteries

USB standard-A to micro-B cable  
1.82 m (6 ft): [C658](#)



Rechargeable AAA NiMh batteries:  
[915900266](#)



## Charging

### Via USB Micro-B Connector

A USB standard-A to micro-B cable is included, which provides power via the USB micro-B connector on the end of the SEL-2924. Connect the standard-A plug to a computer or to an accessory wall plug with a USB standard-A receptacle. Or, use an accessory USB micro-B cable to pigtail for connection to other +5 Vdc sources.

### Through the EIA-232 Interface

The rear serial ports on many SEL devices can supply +5 Vdc power on Pin 1, referenced to the signal return Pin 5. The SEL-2924 batteries can be charged through Pin 1. Or, a special cable can combine the EIA-232 signals from one device with power from another source via connector Pins 1 and 5.

## Data Rate

The SEL-2924 ships with a default data rate of 9600 bps. When Control Switch 1 is in the NORM position, use Switches 2-4 to select the following data rates:

Switch Number			bps
2	3	4	
ON	ON	ON	1200
OFF	ON	ON	2400
ON	OFF	ON	4800
OFF	OFF	ON	9600
ON	ON	OFF	19200
OFF	ON	OFF	38400
ON	OFF	OFF	57600
OFF	OFF	OFF	115200

When Control Switch 1 is in the CMD (Command) position, the data rate can be set via ASCII commands.

## Accessory Power Supply

AC Power Supply with plugs for United States, Europe, United Kingdom, and Australia: [915900290](#)



# SEL-2924 Portable BLUETOOTH Serial Adapter

## General Specifications

### Radio

Type	BLUETOOTH Class 2 device
Range	10 m (33 ft)
Frequency	2.4 GHz ISM band
Output power	2.5 mW; 4 dBm

### Serial Port

Connector	9-pin subminiature D male
Signals	EIA-232, switch-selectable DTE/DCE

### Security

Type	BLUETOOTH v2.1
Key	8-16 characters

### Power Supply

Voltage	5 Vdc, 5% tolerance
Power	<2 W


### Connections

Pin 1 of EIA-232 connector or USB micro-B power jack

### Batteries

Rechargeable AAA NiMh batteries provide >8 hours of operation

### LED Indicators

TX	Transmit activity from EIA-232 to wireless
RX	Receive activity from wireless to EIA-232
	BLUETOOTH communications status
BATT	Battery status

### Temperature Range

0° to +60°C (+32° to +140°F)

### Dimensions

Height	19.05 mm (0.75 in)
Width	31.75 mm (1.25 in)
Length	112.01 mm (4.41 in)

## Accessories

Part Number	Description
915900266	Replacement pack of rechargeable AAA NiMh batteries
C658	Replacement USB standard-A to USB micro-B cable, 1.82 m (6 ft)
915900290	AC Power Supply with USB standard-A jack and plugs for United States, Europe, United Kingdom, and Australia
240-1550	EIA-232 adapter converts to female serial connector
240-4060	USB BLUETOOTH adapter (for computers that are not BLUETOOTH-equipped)
C580	USB micro-B power cable with plain wires, 2 m (6.56 ft)
C780	EIA-232 extension ribbon cable

Note: Two batteries and one C658 USB Cable are included with each SEL-2924.

## Related Product: SEL-2925 BLUETOOTH Serial Adapter

### Permanently Installed Wireless Connections for Engineers and Technicians

Permanently install an SEL-2925 on the serial port of a recloser control, protective relay, or other device. Communicate securely from over 100 meters (328 feet) away to avoid entering hazardous areas or opening doors that allow precipitation or contaminants to enter equipment enclosures. Or, use two SEL-2925 Adapters in cable-replacement mode to connect two devices wirelessly for engineering access, SCADA, and similar applications.

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