

SEL-2925



BLUETOOTH® Serial Adapter

Install Encrypted Wireless Links to Protect Personnel and Equipment



Communicate safely from your vehicle.

Features and Benefits

Apply Easily

Install on an EIA-232 serial port in a control cabinet or panel, and communicate with your laptop or handheld device from up to 328 feet away using BLUETOOTH wireless technology.

Depend on Security

Enter an 8- to 16-character encryption PIN to enable communication. The SEL-2925 BLUETOOTH Serial Adapter is always secure, using BLUETOOTH v2.1 security.

Improve Safety

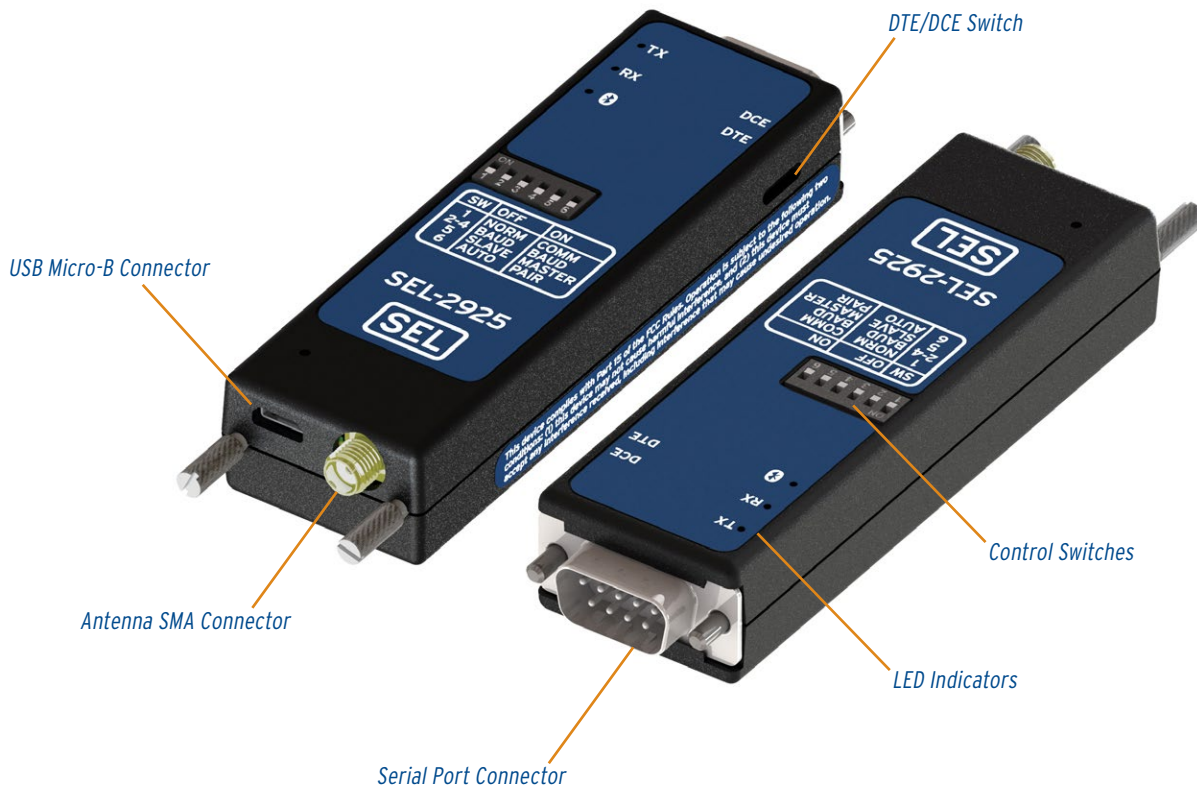
Protect personnel by allowing them to interact with devices in hazardous locations from the safety of their truck or a safe room. Install the SEL-2925 in arc-flash zones (like switchgear lineups or electrical rooms), vaults, manufacturing floors with dangerous equipment, or control cabinets near high volumes of vehicular traffic.

Protect Equipment

Keep enclosure and control house doors closed and secure to reduce exposure to precipitation and contaminants.

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

Product Overview



Person-to-Device Application

Install and Pair

Install an SEL-2925 on a serial port of a protective relay, meter, controller, apparatus monitor, or other device. Pair with one or more BLUETOOTH-equipped laptop computers, tablets, smartphones, or similar devices that comply with the BLUETOOTH specification v2.1 or higher.

Communicate

When you are within 100 meters* of the SEL-2925, select the COM port for that adapter on one of your paired devices. Communicate with the device exactly as you would if you were connected with a serial cable, but avoid entering a hazardous or crowded area, suiting up in arc-flash protective clothing, diverting traffic, and introducing tripping hazards.

*Or, within 10 meters if paired to a BLUETOOTH Class 2 device.

Device-to-Device Application

Install and Pair

Use two SEL-2925 Adapters to connect two devices instead of an EIA-232 cable or fiber-optic transceivers. Pair the devices securely with easy sequence of control (DIP) switch settings. Install the adapters on host devices that are within 100 meters of each other.

Communicate

For SCADA, report retrieval, data gathering, and engineering access applications operate exactly as if there were a copper cable linking the two devices instead of a BLUETOOTH wireless link. Avoid the risks and expense of digging cable trenches; obtaining rights-of-way; procuring, installing, and terminating cables; creating initial documentation; and maintaining "as-built" drawings.

EIA-232 Serial Port

DTE and DCE

The serial port connection is through 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-2925 to most end equipment (DTE), the DTE/DCE switch should be left in the default DCE position. Or, you can directly connect the SEL-2925 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-2925 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 Cable and Antenna Options

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



Indoor antenna with right-angle SMA connector: [235-0301](#)



or

Outdoor antenna with 3-foot cable and SMA connector: [235-0300](#)



Power

From the Host Device

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-2925 can be powered 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.

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-2925. 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.

Data Rate

The SEL-2925 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-2925 BLUETOOTH Serial Adapter

General Specifications

Radio

Type	BLUETOOTH Class 1 Device
Range	100 m (328 ft)
Frequency	2.4 GHz ISM band
Power	100 mW; 20 dBm

Antenna

Connector	SMA
Max. torque	565 millinewton meters (5 inch pounds)

Options

Indoor	0 dBi right-angle SMA
Outdoor	2.14 dBi with 0.91 m (3 ft) cable

Serial Port

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

Security

Type	BLUETOOTH v2.1
Key	8–16 characters
Note	Serial port disabled until wireless is secure

Power Supply

Voltage	5 Vdc, 5% tolerance
Power	<1.5 W


Connections

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

Operating Temperature

-40° to +85°C (-40° to +185°F)

LED Indicators

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

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

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
235-0300	Outdoor antenna, 2.14 dBi with 0.91 m (3 ft) cable
235-0301	Indoor antenna, 0 dBi right-angle SMA
235-0302	Adapter for SEL-3022 antenna, reverse polarity SMA
240-1550	EIA-232 adapter converts to female serial connector
C580	USB micro-B power cable with plain wires, 2 m (6.56 ft)
C641P	EIA-232 extension cable to mount on plate or shelf
C780	EIA-232 extension ribbon cable
C970	Extension cable for outdoor antenna

Related Product: SEL-2924 Portable BLUETOOTH Serial Adapter

Portable Wireless Connections for Engineers and Technicians

The SEL-2924 is another SEL device that uses BLUETOOTH wireless technology. Instead of the permanent applications of the SEL-2925, the SEL-2924 is intended for temporary or portable use. Included rechargeable batteries support operation for >8 hours without other sources of power. Carry an SEL-2924 in your toolbox to connect to an EIA-232 port on a controller, relay, meter, or other device. Use the built-in BLUETOOTH wireless technology on your laptop computer, smartphone, or other device to communicate up to 10 meters (32 ft) via a secure wireless link. Retrieve data, load firmware, or maintain settings from a convenient location in a plant or station, away from busy panel lineups and switchboards.

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