

Dual RS232 Option Module



Figure 1: RS-232 Option module

Product Description

The RS232 is a single port, electrically isolated adapter with DB9 male connector for the EC-BOS-8 and EC-BOS-9. An onboard UART supports baud rates up to 115200. LEDs verify power from the controller and indicate RS232 message traffic.

Module Combinations

A maximum of four RS232 modules are supported. The controller supports a maximum total of four option modules across all option types. If two Dual RS485 modules are used, only one additional non-RS485 module may be added for a maximum total of three modules.

COM Port Assignments

The EC-BOS has two *onboard* RS485 ports that always operate as COM1 and COM2. Installed serial option modules continue COM port numbering based on proximity to the controller, where the option module closest to the controller base operates as the next available serial COM port(s). For example, if attached directly to the controller, this RS232 option module operates as COM3.

For related details, see [“COM Port Usage \[pg. 4\],”](#) page 3.

Related topics such as the mounting and wiring of the EC-BOS or other option modules, installation of EC-Net™ 4 software, and usage of the various RS-485-based drivers are in other documents. See [“Related Documentation \[pg. 5\],”](#) page 4.

Included in this Package

Included in this package:

- ☐ One RS232 option module

Materials and Tools Required

Suitable tools and fasteners for mounting the unit, attaching it to an already mounted EC-BOS. DIN-rail mounting of the EC-BOS and all its option modules is recommended.

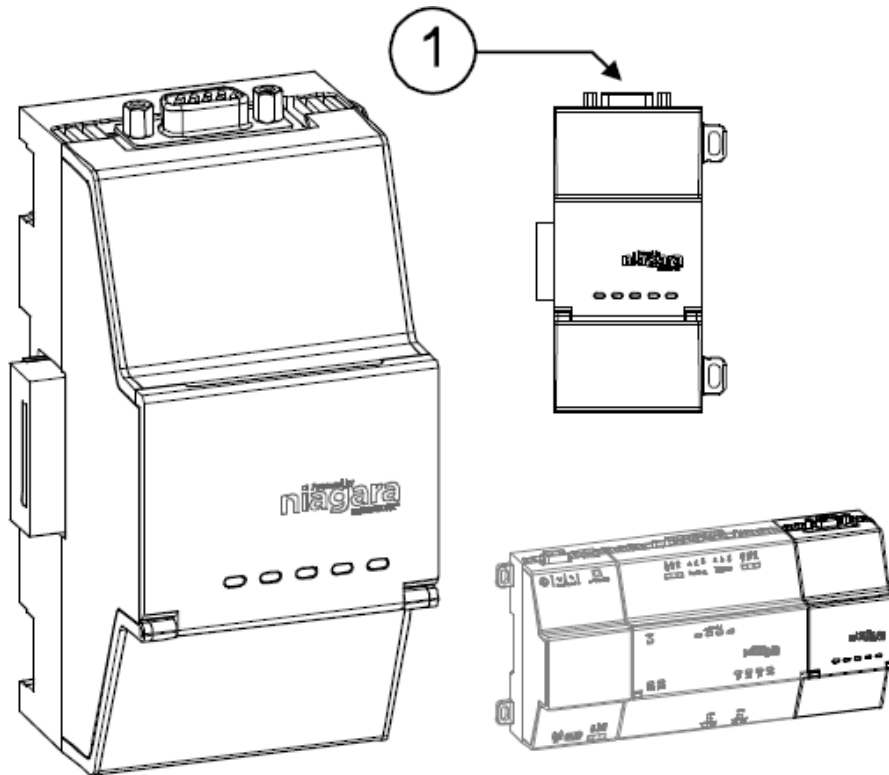



Figure 2: RS-232 Option module

This document covers the mounting and wiring of the RS232 option module for an EC-BOS.

1	RS232 port with standard DB9 male (plug) connector. Operates as COMn (<i>next available</i>). For example, COM3
---	---


Precautions

The following are warnings relating to the installation of the EC-BOS option module.

-  ☐ **Remove all power to the EC-BOS before attaching (plug in) or detaching (unplug) any option module**, to prevent possible equipment damage.
- ☐ **Removal of the EC-BOS's cover is not required.** No configurable or user-serviceable items (such as jumpers or a battery) are inside the option module.


Static Discharge Precautions

Static charges produce voltages high enough to damage electronic components. The microprocessors and associated circuitry within the devices are sensitive to static discharge.

-  ☐ Work in a static-free area.
- ☐ Discharge any static electricity you may have accumulated. Discharge static electricity by touching a known, securely grounded object.

Mounting

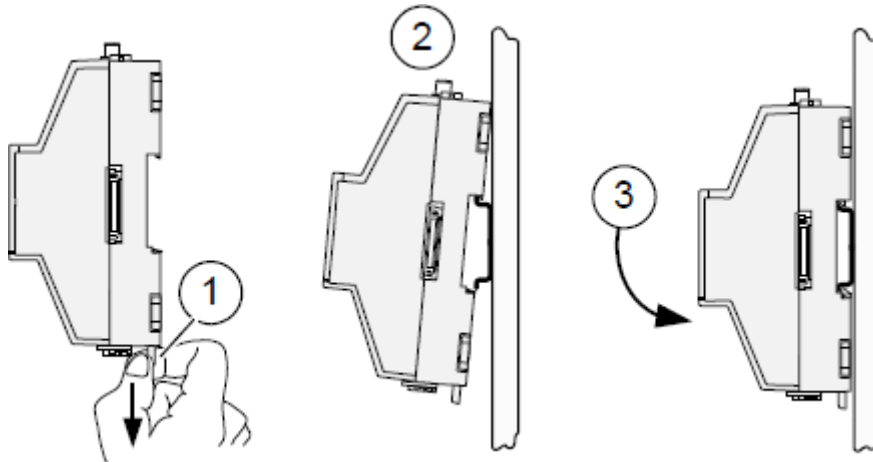
Mounting the EC-BOS and all option modules on a 35mm wide DIN rail is recommended. Mounting on a DIN rail ensures accurate alignment of connectors between all modules. Tabs on the EC-BOS or module can be used for panel mounting as an alternate to DIN rail mounting.

-  ☐ **Remove all power to the EC-BOS** before installing or removing option modules. See "[Precautions \[pg. 2\]](#)," page 2.

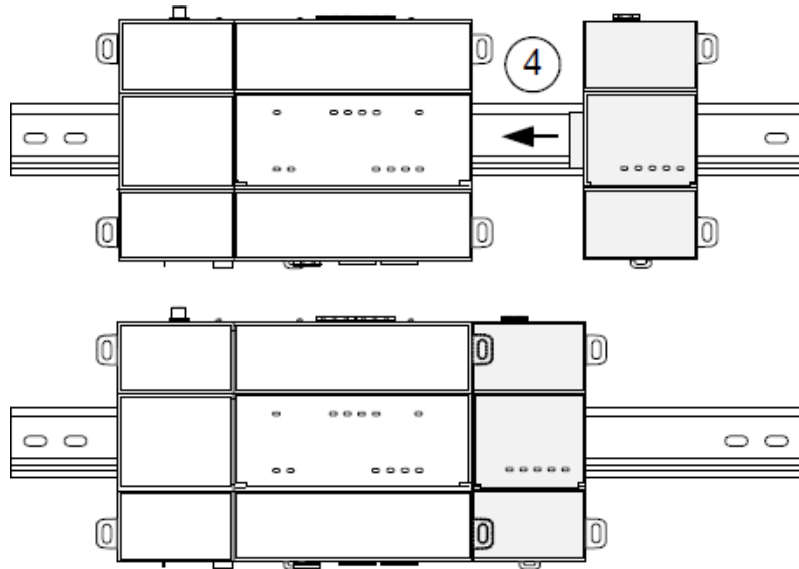
Mounting on DIN Rail

Prerequisite: The EC-BOS is securely mounted on a 35mm DIN rail, with adequate room left to mount the module.

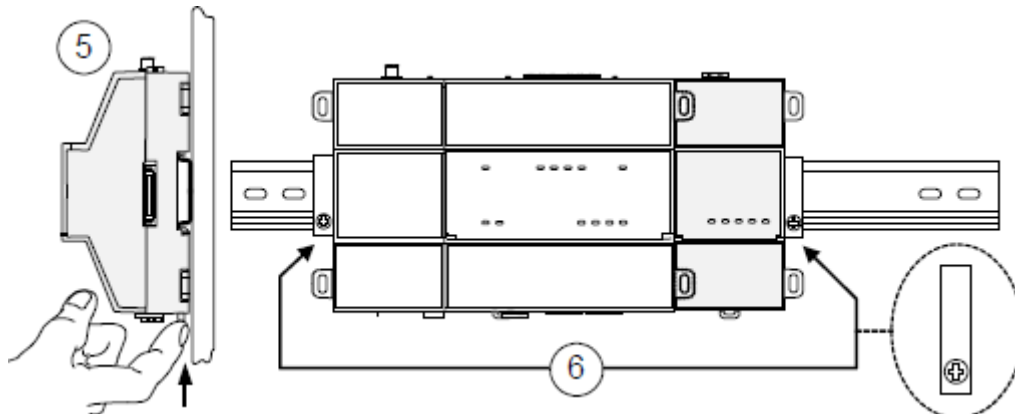
1. Pull the option module's locking clip down.




2. Tilt the module to hook over the DIN rail.
3. Push down and in on the unit, fastening to the rail.
4. Slide the module firmly into the EC-BOS's connector (or existing option module) to seat. Repeat for other modules as needed (4 maximum).



5. Push up the locking clip on all modules.



6. Carefully secure both ends of the final assembly with DIN rail end-clips provided by the DIN rail vendor.

 To remove a unit from the DIN rail, pull down its locking clip. Slide the unit away from other devices, then swing the bottom out and lift away from the rail.

COM Port Usage

The RS232 option adds one COM port on the installed EC-BOS. The EC-BOS has two *integral* RS485 ports. In an EC-Net 4 station running on the EC-BOS, these two ports always operate as COM1 and COM2.

Installed serial option modules (RS232 or RS485) continue COM port numbering based on proximity to the EC-BOS, where the option module closest to the EC-BOS base operates as the next available serial COM port(s).

For example, if attached directly to the EC-BOS, this RS232 option module operates as COM3. If *another* RS232 option module is attached to it, the second module operates as COM4. The figure below shows a few combinations with port assignments.

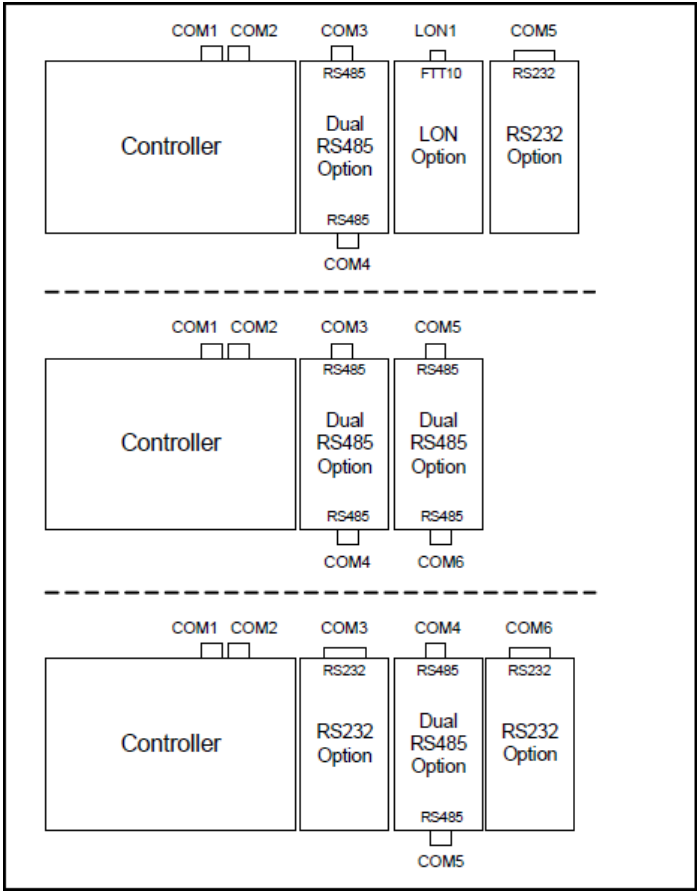


Figure 3: COM port numbering examples

Wiring: Earth Ground Wiring

Other than the EC-BOS ground, no ground is required on the module.

Pinout Reference	Signal	DB-9 Plug Pin
DB9M (male or plug)	DCD	1
	RXD	2
	TXD	3
	DTR	4
	GND	5
	DSR	6
	RTS	7
	CTS	8
	not used	9

Standard DB9 serial cables may be used—for example, a “null modem” cable to communicate to another DTE device. Shielded type cables are recommended, with a typical maximum length of 50 feet (15.2m).

LEDs

Three LEDs are on the front of the RS232 option module.

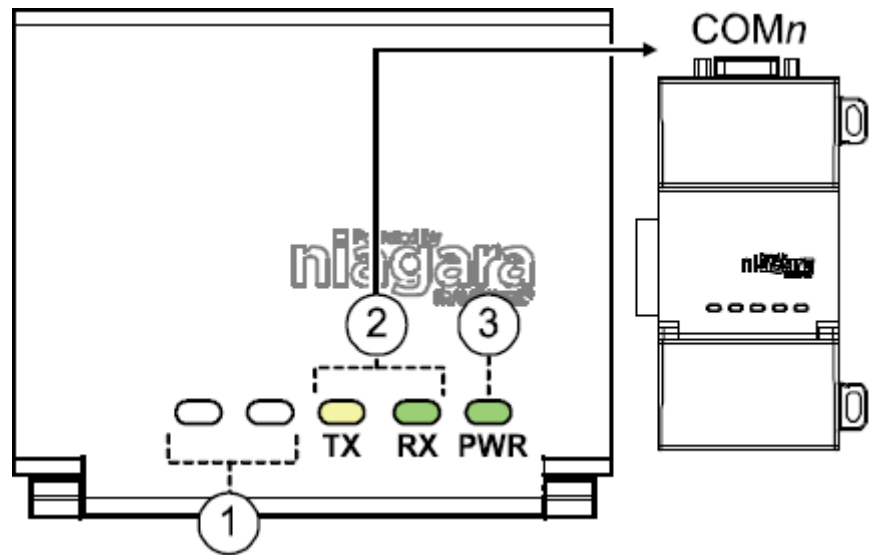


Figure 4: LEDs on RS232 option module

1	Unused.
2	TX (Transmit) and RX (Receive).
3	PWR — Green, remains lit while EC-BOS is powered.

The LED pair TX and RX operates as follows:

- ☐ TX (yellow) — Transmit, flashes when the EC-BOS is sending data to a device on the RS232 port.
- ☐ RX (green) — Receive, flashes when the EC-BOS is receiving data from a device on the RS232 port.

LEDs are also visible when the front access door is opened.

Related Documentation

For more information on installing, configuring, and using the EC-BOS with the RS232 option module, refer to the following documents:

- ☐ *EC-BOS-8 and EC-BOS-9 Mounting and Wiring Guides*
- ☐ *EC-BOS-8 and EC-BOS-9 Quick Start Guides*
- ☐ *EC-BOS EC-Net 4 Install and Startup Guide*
- ☐ *EC-Net Drivers Guide*