

Ethernet/RS-232C Converter

Serial Gate Box

ITNC-SGB01-E



Ethernet for serial communications devices.

Connect PLCs and other devices with RS-232C interfaces to Ethernet networks.

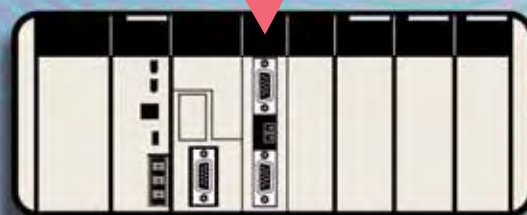


Ethernet



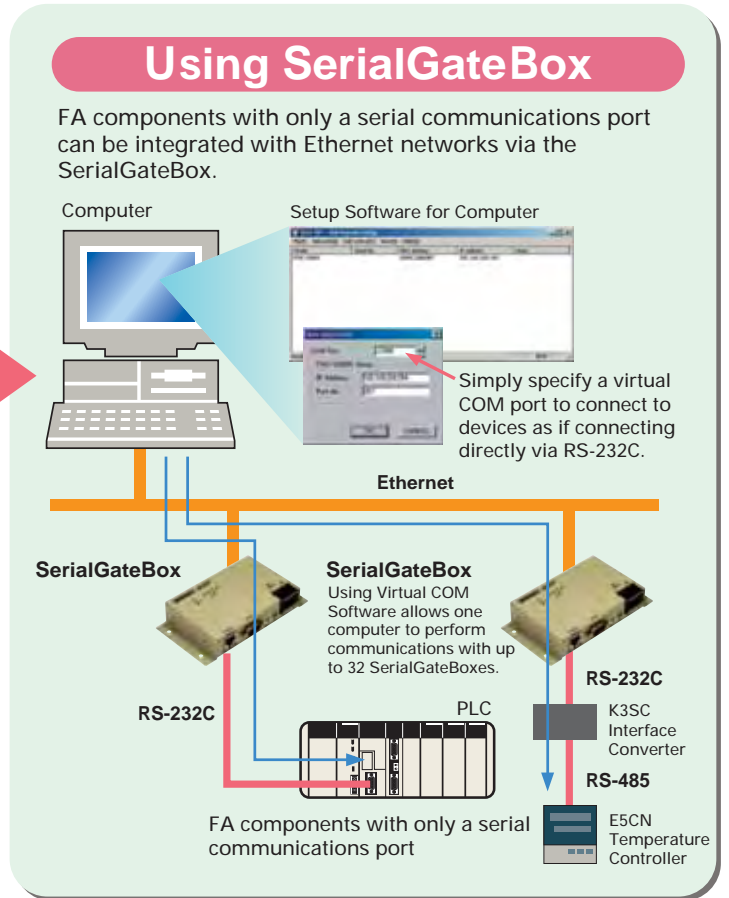
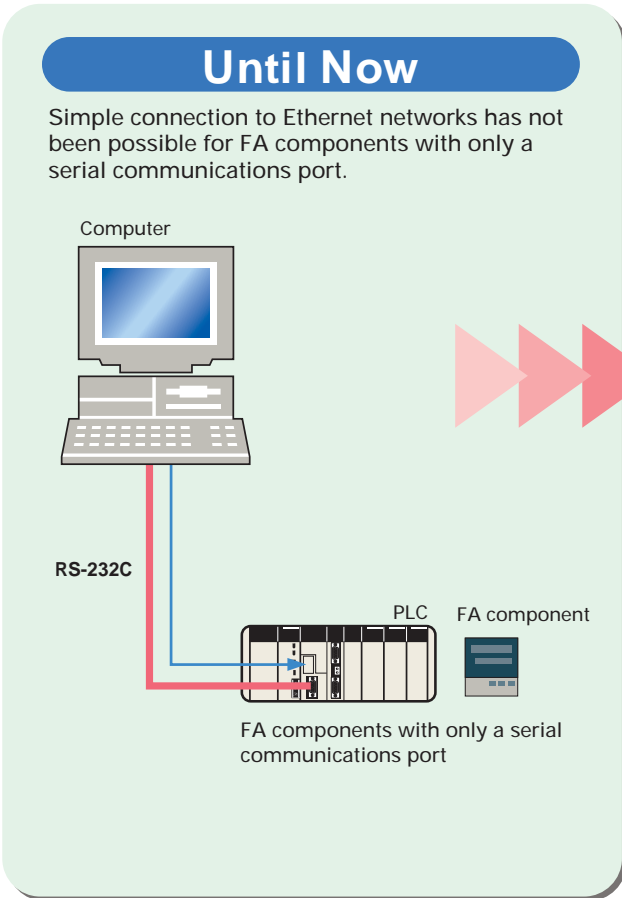
SerialGateBox

RS-232C



Use Ethernet to revolutionize onsite

Until now, it hasn't been easy to connect devices with only an RS-232C port to Ethernet networks. The SerialGateBox solves this problem by allowing devices with RS-232C interfaces, such as PLCs, to connect to Ethernet. Even existing serial devices can perform communications via Ethernet, and information can be transmitted directly to computers in host computer systems.

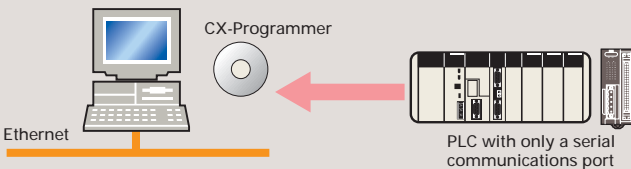


Note: It may not be possible to connect certain serial devices to the host computer system using the SerialGateBox. (Refer to the restrictions described at the end of this document.)

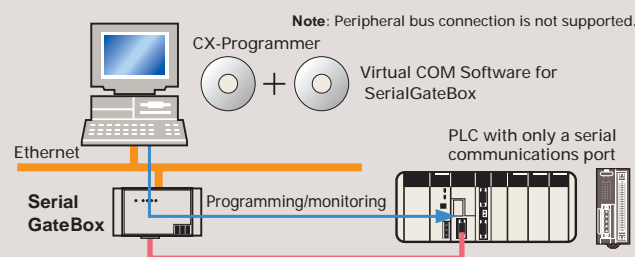
Use in a variety of applications.

Programming PLCs via Ethernet

Q Can programming for PLCs (e.g., OMRON CQM1H and CPM2) with only a serial communications port (peripheral port or RS-232C port) be performed via Ethernet?

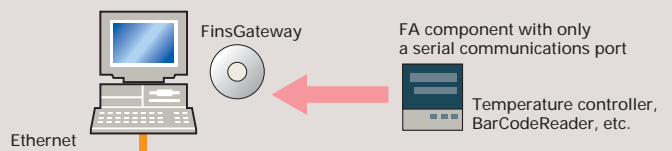


A Yes, if you use the SerialGateBox. Programming and monitoring of PLCs can be performed from a computer (i.e., from the CX-Programmer ladder programming tool) connected to Ethernet. (The same functions that are available when connected directly via RS-232C can be used.)

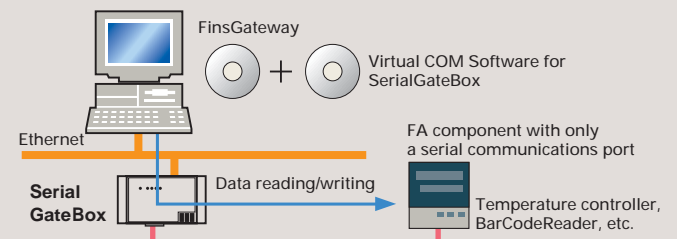


Reading and writing FA component information via Ethernet

Q Can information for FA components (e.g., temperature controllers and BarCodeReaders) with only a serial communications port (peripheral port or RS-232C port) be read and written via Ethernet?



A Yes, if you use the SerialGateBox. Reading and writing of information for FA components (devices compatible with CompoWay/F) is possible from a computer (i.e., from an application that uses FinsGateway as middleware) connected to Ethernet. (The same functions that are available when connected directly via RS-232C can be used.)

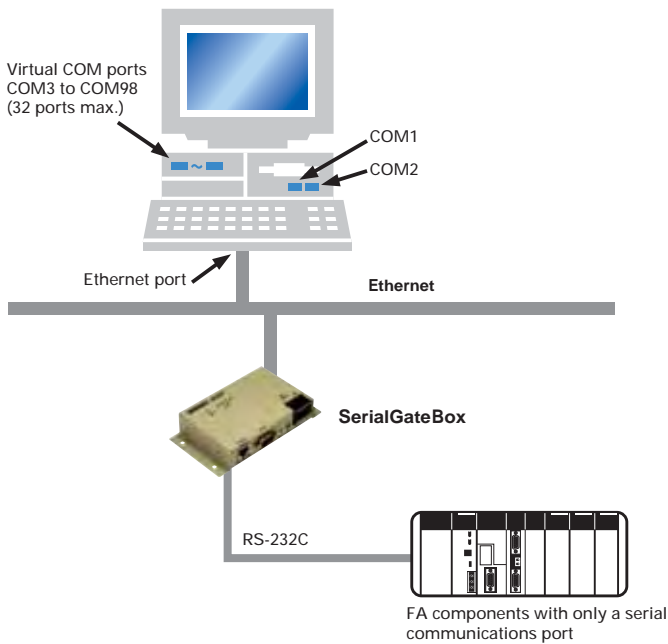


communications.

System Configuration

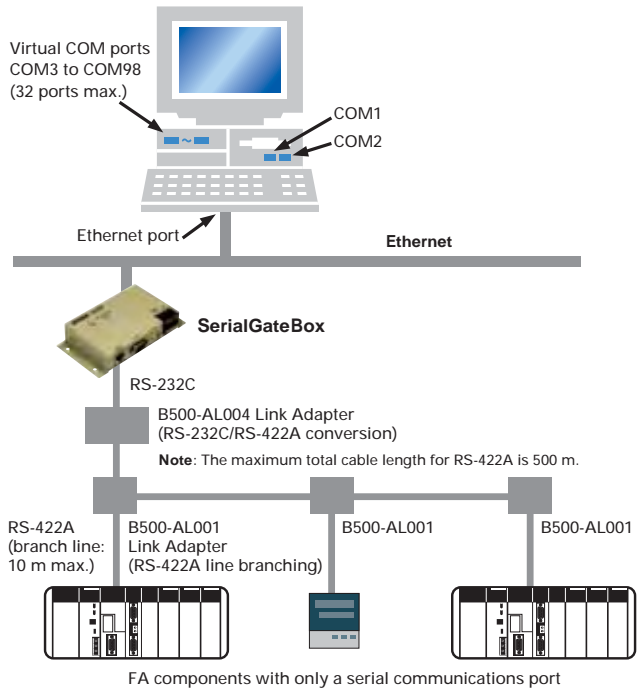
RS-232C communications can be achieved by installing the setup software provided (Virtual COM Software and SGB Remote Setup) on a computer, and specifying a virtual COM port (32 max.) in the computer. Communications are possible with the communications devices connected to the SerialGateBox without

● Connection to RS-232C Communications Devices



making any changes to application software running on the computer that uses the COM port. With the configuration shown below, several RS-422A/485 communications devices can be connected.

● Connection to RS-422A Communications Devices



Simply install the set up software on a computer and it's ready to use.

Q How do I use the SerialGateBox?

A Install SGB Remote Setup and Virtual COM Software on a computer and register a COM port. (Set a COM port number in the range 3 to 98 and set the SerialGateBox's IP address.) If CX-Programmer is used, select SYSMAC WAY (Host Link) as the network type and specify the COM port registered in the way described above.

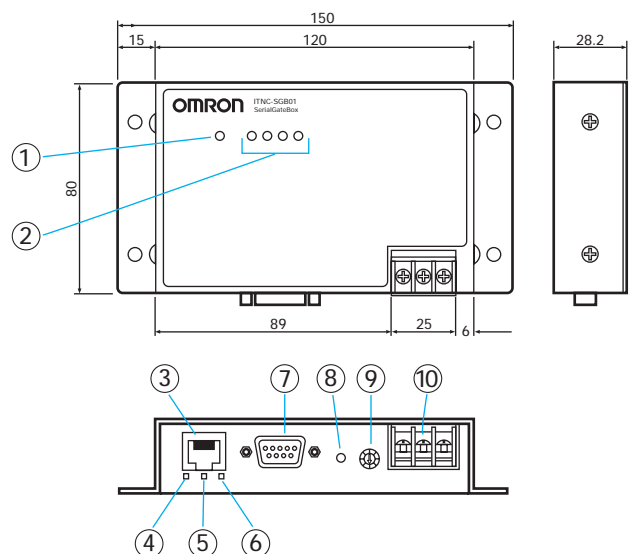
Note: Peripheral bus connection cannot be selected.

Designed for use in FA environments.

Q How well does the SerialGateBox cope with FA environments?

A The SerialGateBox runs on a 24-VDC power supply, has an ambient operating temperature range of 0 to 55 C, and can be mounted using screws or DIN track. This means that no special consideration is required for use in standard FA environments.

Nomenclature and External Dimensions



- | | |
|------------------------------|-------------------------|
| ① Power supply indicator | ⑥ LINK indicator |
| ② Status indicator | ⑦ RS-232C interface |
| ③ Ethernet interface | ⑧ Reset switch |
| ④ DATA indicator | ⑨ Mode selection switch |
| ⑤ Ethernet 10/100M indicator | ⑩ DC power input |

Available Models

Model number	Contents
ITNC-SGB01-E	<ul style="list-style-type: none"> SerialGateBox One Ethernet port (10Base-T/100Base-TX) One RS-232C port (D-Sub, 9-pin, male) Setup Software for Computer Virtual COM Software, SGB Remote Setup (Windows 98, NT 4.0, 2000, ME, or XP) DIN-track mounting attachment Instruction Sheet

Computer Specification Requirements

Item	Specifications
OS	Windows 98, NT 4.0, 2000, ME, or XP
Computer environment	Recommended conditions Processor: Pentium (R), 90 MHz or higher Memory: 8 Mbytes min. Hard disk: 4 Mbytes min. CRT: VGA (640 x 480) min.
	Required conditions •TCP/IP and LAN are operating. •Microsoft Internet Explorer 4.0 or higher is installed. •More memory may be required depending on the number of ports used.
Setup Software for Computer	•Virtual COM Software (RemoteCOM Client, RemoteCOM Driver) Note: RemoteCOM server is installed at the SerialGateBox. •SGB Remote Setup (See note 1.)

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- Windows is a registered trademark of Microsoft Corporation.
- Ethernet is a registered trademark of Xerox.
- Names of systems or products of other companies that appear in this document are trademarks or registered trademarks of the respective company.

It may not be possible to connect certain serial I devices to the host computer system using this product.

Be sure to familiarize yourself with the restrictions given below before using the products in actual operation.

Virtual COM Software Provided with the Serial GateBox (RemoteCOM Client/Driver Software)

- Detection of break signals is not supported. Operation is not possible for applications requiring break signal detection.
- Communications parameters that are not supported by the SerialGateBox cannot be used. Details on communications parameters that are supported by the SerialGateBox are given in the Operation Manual. Consult your OMRON representative for details on the Instruction Sheet.
- Delays may occur when data and control signals are input and output via LAN. Take these time delays into consideration when designing the system.
- With Win16API applications that perform processing with callback routine, the timing for the COM port driver is different from the call timing and so operation may be extremely slow or incorrect operation may occur.
- Communications from the SerialGateBox's RS-232C device side (e.g., unsolicited communications executed from the PLC's ladder program) are not possible.

Specifications

Item	Specifications	
Power supply voltage	24 VDC +10%, -15%	
RS-232C interface	Connector	D-Sub, 9-pin (male)
	Baud rate	115.2, 57.6, 38.4, 19.2, 9.6, 4.8, 2.4, or 1.2 Kbps
	Data length	7 or 8 bits
	Stop bits	1 or 2 bits
	Communications control	None, XON/XOFF, or RTS/CTS
Ethernet interface	Control signals	RTS, CTS, DSR, DTR, and DCD Refreshed in real time.
	Communications media	10Base-T/100Base-TX
Ethernet interface	Connector: 8-pin modular jack	
Ambient temperature	Operating: 0 to 55 °C; Storage: -20 to 75 °C	
Ambient humidity	Operating: 10% to 90%; Storage: 10% to 90%	
Current consumption	130 mA	
Weight	Approx. 350 g	
Applicable standards	cULus, EC Directives	

Note 1: The following remote setup functions can be used.

- Searching for SerialGateBoxes operating in the network.
- Obtaining the current settings for SerialGateBoxes.
- Setting parameters for SerialGateBoxes or specified devices.
- Initializing SerialGateBoxes.
- Downloading application programs to SerialGateBoxes.

Note 2: The number of virtual COM ports that can be registered with the Virtual COM Software is limited to 32. There is no restriction, however, on the number of SerialGateBoxes in the Ethernet network. (Each SerialGateBox must have a unique IP address.)

At present, operation has been confirmed for the following OMRON software products.

- CX-Programmer V3
- FinsGateway Version 3 Runtime Edition

The following restrictions apply when using the above software products. Be sure to familiarize yourself with these restrictions before using the software in applications.

- Connection by peripheral bus (ToolBus, ToolBusC, or ToolBusCV) is not possible. Use SYSMAC WAY or SYSWAY.
- Connect the SerialGateBox to a PLC using the same cable that would be used to connect to an IBM PC/AT or compatible computer (D-Sub, 9-pin). When using FinsGateway, however, connect to the PLC using an XW2Z-200S-V/500S-V Connecting Cable.
- There may be occasions where connection is not possible due to network traffic.
- The built-in RS-232C port in C20H/C28H/C40H/C60H PLCs cannot be used.

Note: Do not use this document to operate the Unit.

OMRON Corporation

FA Systems Division H.Q.
66 Matsumoto Mishima-city, Shizuoka 411-8511 Japan
Tel: (81)55-977-9181
Fax: (81)55-977-9045

Regional Headquarters

OMRON EUROPE B.V.
Wegalaan 67-69, NL-2132 JD Hoofddorp
The Netherlands
Tel: (31)2356-81-300
Fax: (31)2356-81-388

OMRON ASIA PACIFIC PTE. LTD.
83 Clemenceau Avenue,
#11-01, UE Square,
Singapore 239920
Tel: (65)6835-3011
Fax: (65)6835-2711

Authorized Distributor:

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