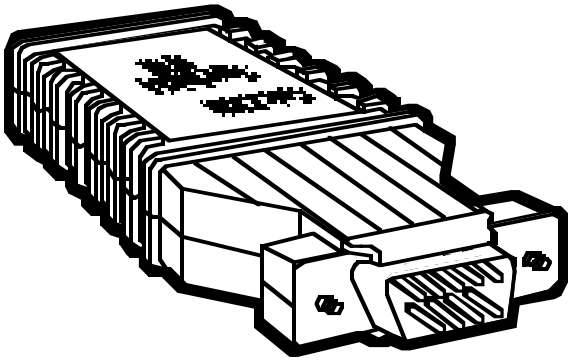
BLACK BOX®
NETWORK SERVICES

RS-232↔RS-485 Interface Converter



High-speed, interface-powered converter sends data plus control signals over two or four wires.

Key Features

- *Adapts computers with high-speed (up to 230 Kbps) RS-232 interfaces to operate with industrial devices equipped with RS-485 interfaces.*
- *Connects directly to DB9 RS-232 ports.*
- *Supports up to 50 multipoint device drops in a polling environment.*
- *Passes transmit and receive data, plus one control signal, in each direction.*
- *Derives operating power from the RS-232 interface.*
- *Ultra-miniature enclosure.*

The RS-232↔RS-485 Interface Converter lets an asynchronous EIA-574 device communicate with one or more RS-485 devices.

The Converter features two-wire or four-wire operation, so you can save money on twisted-pair cable runs, or use one cable for multiple connections.

The Converter works in highly populated data-acquisition and control environments, and costs less than more sophisticated devices.

It's also suitable for high-speed applications covering significant distances, such as universities, military bases, and Fortune 500 companies.

Because it works with applications that require hardware flow control, the Converter is applicable to RS-485 environments, as well as serial printer/plotter applications.

Since ultra-low power is derived from the RS-232 interface, no AC power or batteries are required.

And the Converter uses Silicon Avalanche Diode surge protection so it protects your data and equipment from loss or damage caused by high voltage transients.

Models are available with DB9/Terminal Block connections, DB9/RJ-11 connections, and DB9/RJ-45 connections.

The RS-232 connections via DB9 let you connect the converter directly to DB9 RS-232 ports.

The RS-485 connections via RJ-11, RJ-45, or terminal posts let you connect directly to the installed base of twisted pair, whatever the termination. You select the unit that will best fit your structured wiring or industrial environment.

Because the Converter is tiny, you can connect it directly to devices that have densely populated RS-232 ports. And you don't need to hang modems off extension cables to get them to fit in tight spaces.

Typical Application

Use the Converter in 4-wire/full-duplex/point-to-point, 4-wire/half-duplex/point-to-point, 2-wire/half-duplex/point-to-point, 4-wire/multipoint, or 2-wire/multipoint applications.

Ultra-miniature Converter supports asynchronous communication up to 115.2 Kbps over twisted-pair wire.

Technically Speaking

The Converter has a main PC board and a daughterboard and can be configured via DIP switches. DIP switch S1 is located on the underside of the main PC board. DIP switch S2 is located on the top of the daughterboard.

DIP Switch S1 is used to configure receive impedance, 2-wire/4-wire operation, and "echo" enable/disable. The factory-default settings are as follows: 120-ohm impedance, 2-wire, echo OFF.

DIP Switch S2 is used to configure carrier control, RTS/CTS delay, and communication protocol. The factory-default settings are as follows: RTS, 8-msec RTS/CTS delay, high impedance.

These units work in pairs. You must have one Converter at each end of a two-twisted-pair interface. Standard dialup telephone circuits, or leased circuits that run through signal-equalisation equipment, are not acceptable.

Specifications

Transmission Format — Asynchronous

Data Rate — Up to 115.2 Kbps

Range — Up to 5.5km

Serial Interface — DB9, male or female, wired as a DCE according to EIA/TIA-574 standard

Transmit Line — 2- or 4-wire unconditioned twisted pair

Transmit Mode — 4-wire, full or half duplex; 2-wire half duplex

Control Signals — DSR turns "ON" immediately after the terminal raises DTR; DCD turns "ON" after recognizing the receive signal from the line; CTS turns "ON" after the terminal raises RTS

Carrier — The carrier is switch-selected for either continuous operation or switched operation, controlled by RTS

Surge Protection — 600 W power dissipation at 1 ms

Power — Draws operating power from EIA/TIA-574 data and control signals; no AC power or batteries required

Temperature — 0 to 50° C

Humidity — 5 to 95% noncondensing

Size — 6.4H x 3.1 Wx 1.9D cm (2.5"H x 1.2"W x 0.75"D)

Additional equipment you may need:

- Cables

For these and other components...

Call our expert Technical Support Staff for all your interface-converter needs. They'll help you find the best equipment for your application.

Ordering Information

This information will help you place your order quickly.

PRODUCT NAME	ORDER CODE
RS-232↔RS-485 Interface Converter	
DB9 female	
Terminal Block	IC620A-F
RJ-11	IC623A-F
RJ-45	IC624A-F
DB9 male	
Terminal Block	IC620A-M
RJ-11	IC623A-M
RJ-45	IC624A-M