

## DIN Rail Converter and Repeaters with Opto-Isolation

Put your industrial communications  
on the right track with this converter.



## FEATURES

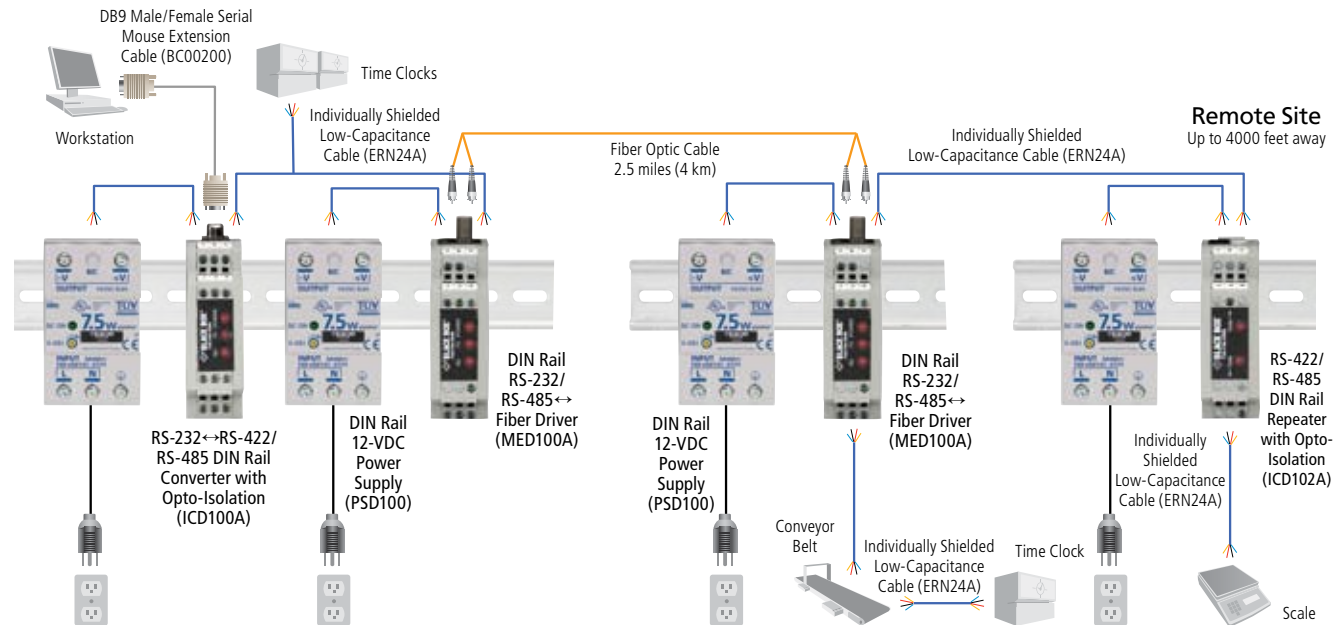
### Converter (ICD100A):

- » Optically isolates and converts unbalanced half- or full-duplex RS-232 signals to optically isolated and balanced full-duplex RS-422 or 2-wire half- or 4-wire full-duplex RS-485.
- » Switch-selectable data rates between 2400 bps and 19.2 kbps.
- » Conveniently mounts on optional DIN rails.

### Repeaters (ICD102A, ICS103A):

- » The RS-422/RS-485 model acts as a repeater, an isolator, an extender, and a converter. It features switch-selectable data rates between 2400 bps and 115.2 kbps.
- » The RS-232 model isolates the TD, RD, RTS, and CTS channels. All four channels support speeds up to 115.2 kbps.

Put your industrial communications on the right track with this DIN rail solution!



## OVERVIEW

The RS-232↔RS-422/RS-485 DIN Rail Converter with Opto-Isolation (ICD100A) DIN rail-mountable device suppresses surges on RS-422/485 lines as it optically isolates and converts unbalanced full- or half-duplex RS-232 to optically isolated balanced full- or half-duplex RS-422 or RS-485.

The DIN Rail Repeaters with Opto-Isolation protect equipment from ground loops and spikes while optically isolating it from the rest

of a network and expanding a system beyond node or distance limits. Two repeaters are available: RS-422/RS-485 (ICD102A) and RS-232 (ICD103A).

You can use the converter and repeaters together to link your industrial devices together and/or add distance between the devices. They provide superior performance in an industrial environment, such as a manufacturing plant (see the diagram above).



ICD100A



ICD102A

## TECH SPECS

**Distance (Maximum)** — ICD100A: 4000 ft. (1219.2 m)  
**Isolation** — ICD100A: 2000 VAC optical isolation of data signals and ground;  
 ICD102A: 2000 VRMS for 1 minute of optical isolation of data lines;  
 ICD103A: 2000 VDC for 1 minute  
**Operation** — ICD100A: RS-232: Half- or full-duplex;  
 RS-485: 2-wire half-duplex or 4-wire full-duplex;  
 RS-422: Full-duplex;  
 ICD102A: RS-485: 2-wire half-duplex or 4-wire full-duplex;  
 RS-422: Full-duplex;  
 ICD103A: RS-232: Half- or full-duplex  
**Speed** — ICD100A: 2400 bps to 19.2 kbps, switch-selectable; other rates available between 1200 bps and 115.2 kbps;  
 ICD102A: 2400 bps to 115.2 kbps, switch-selectable; other rates available up to 460.8 kbps;  
 ICD103A: Up to 115.2 kbps

**Surge Suppression** — ICD100A: Bidirectional avalanche breakdown device: 7.5 V;  
 Peak power dissipation: 500 W;  
 Clamping time: <1 psec  
 ICD102A: Bidirectional overvoltage suppressor: 6.5 V;  
 Peak power dissipation: 600 W;  
 Capacitance (maximum): 3000 pF  
**CE Approval** — Yes  
**Connectors** — ICD100A: (2) 6-position terminal blocks, (1) DB9 F (DCE);  
 ICD102A–ICD103A: (2) 6-position terminal blocks  
**Indicators** — ICD100A: (3) LEDs: (1) RS-485 transmit data, (1) RS-485 receive data, (1) power;  
 ICD102A: (2) LEDs: Data flow direction;  
 ICD103A: (5) LEDs: (4) data flow direction, (1) power  
**Operating Environment** — Temperature: -40 to +176° F (-40 to +80° C);  
 Humidity: Up to 95% noncondensing  
**Power** — 10–30 VDC, 100 mA  
**Size** — ICD100A: 1"H x 3.1"W x 4.2"D (2.5 x 7.9 x 10.7 cm);  
 ICD102A: 0.9"H x 2.9"W x 3.9"D (2.3 x 7.4 x 9.9 cm);  
 ICD103A: 1"H x 2.9"W x 3.9"D (2.5 x 7.4 x 9.9 cm)

## Technically Speaking

### DIN rail usage.

DIN rail is an industry-standard metal rail, usually installed inside an electrical enclosure, which serves as a mount for small electrical devices specially designed for use with DIN rails. These devices snap right onto the rails, sometimes requiring a set screw, and are then wired together.

Many different devices are available for mounting on DIN rails: terminal blocks, interface converters, media converter switches, repeaters, surge protectors, PLCs, fuses, or power supplies, just to name a few.

DIN rails are a space-saving way to accommodate components. And because DIN rail devices are so easy to install, replace, maintain, and inspect, this is an exceptionally convenient system that has become very popular in recent years.

A standard DIN rail is 35 millimeters wide with raised-lip edges, its dimensions outlined by the Deutsche Institut für Normung, a German standardization body. Rails are generally available in aluminum or steel and may be cut for installation. Depending on the requirements of the mounted components, the rail may need to be grounded.

### Item

### Code

RS-232↔RS-422/RS-485 DIN Rail Converter with Opto-Isolation	<b>ICD100A</b>
DIN Rail Repeaters with Opto-Isolation	
RS-422/RS-485	<b>ICD102A</b>
RS-232	<b>ICD103A</b>
<b>You may also need...</b>	
DIN Rail, 1-m (3.2-ft.)	<b>DR100</b>
DB25 to Terminal Block Adapter	<b>IC980</b>
<b>To power six converters, order...</b>	
DIN Rail 12-VDC Power Supply	<b>PSD100</b>