



Model: ECD232iso
Non-powered EIA/RS-232 Isolator
(3-wire: Txd, Rxd, Signal Gnd)



The ECD232iso is a cost-effective 9-pin to 9-pin non-powered RS232 Isolator for getting rid of problematic ground loops or for insuring the survivability of laptops in the field. Built in a standard case, ECD232iso is fully isolation tested to 5,000Vrms and provides isolation for most RS232 interfaces.

The isolator has a DB9 female connector on the DTE side, it can be plugged directly into a standard PC serial port. The device has a DB9 male connector on the DCE side, it makes the device transparently.

RS-232 port Description:

Signal type EIA/TIA232(C to F)
Voltage Level +/-6Vdc to +/-15Vdc
Permitted Surge +/-25Vdc

Isolation RS-232 to RS-232 (ISO/IEC 9549):

Model: ECD232iso 5000Vrms

Power Supply Options:

None required, draws power from RS-232 signal pins.

Note: Connecting external power to handshake lines may damage the isolator. Contact technical support for more information.

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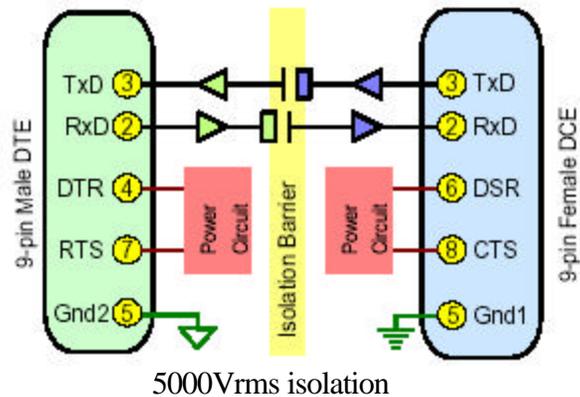
Communication:

Data rate up to 115.2Kbps (depends on the properties of attached RS-232 and varies device to device)
Character Setting Transparent, no configuration required
User Indication none (use ECD232ir series if required)
Standard Distance per wire 15m or 2500pf

Environmental:

Operating temperature: -40C° to + 65C°
Storage temperature: -40C° to +100C°
Relative Humidity: 10 to 95% RH, non condensing
Weight 21g.
DB9 Connector Pins: 30µ gold pins, 500 insertion cycles

Block Diagram:



Application Details:

Contrary to what some vendors imply, RS-232 was *never* designed to “power”



external devices. Current from compliant RS-232 chips varies between vendors, but stays in the range of 1mA to 15mA. This is not very much power. Thus the performance of any non-powered device is greatly affected by the chips used in the driving device. You will find the ECD232iso (or any “non-powered” device works better with some equipments than others.)

To get maximum performance and reliability, we recommend that all driven signals be connected. This is Txd, DTR, and RTS on the DCE side and Rxd, DSR, CTS, and DCD on the DTE side. While the ECD232iso often operates with only the power from the transmit pin, the more driver signals you connect, the better it performs. The ECD232iso works whether the control signals are low or high.

Why use ECD232iso

A ground loop is a current across the cable, created by a difference in potential between two grounded points, as in two buildings connected by a long run of RS232, RS422, RS485 or other data lines cables. When two devices are connected and their ground potentials are different, voltage flows from high to low by traveling through the data cable even the ground wire. If the voltage potential is large enough, your equipment will not be able to handle the excess voltage, and one of your ports will be damaged. Even small ground loop voltages cause transmission errors with data signals riding on top of the ground loop current.

At worst ground loops are a long-term condition that can slowly heat, and even cook your circuits. The chips have a higher-than normal failure rate. With the test equipment and tools available in the

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ordinarily data communications shop this phenomenon is hard to pin down and prevention is some times the easiest solution if you are getting read errors or early life component failures. Using ECD232iso, makes great surge protectors up to the arc-over point of the chip, stops ground current and guards the RS232 serial ports

When to use ECD232iso?

When connecting a notebook to industrial equipment.

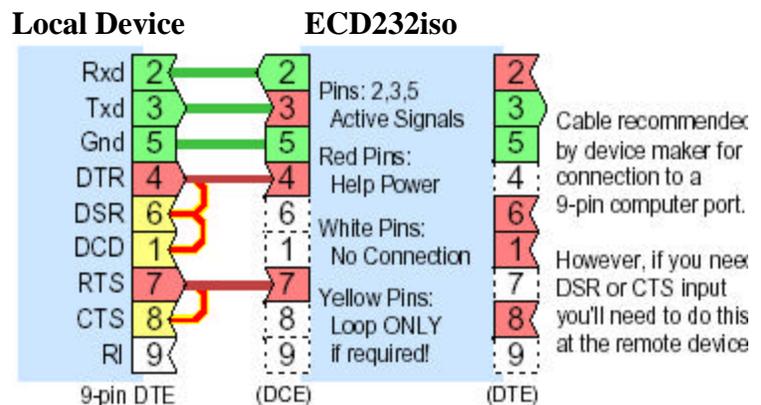
When connecting equipment from 2 different vendors.

When connecting control room to factory floor devices.

When connecting UPS powered devices to non-UPS.

When connecting radio or wire modems (lightning/surge attractors) to most other equipment.

Cable Connection:

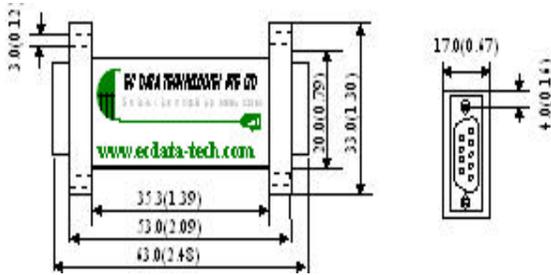


Order Information:

ECD232iso	Non-powered RS-232 3-wire Isolator
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Mechanical Dimensions: mm (inches)



Specifications subject to change without notice.