

**ISO-232-3P9**  
Industrial High Speed  
RS-232 Isolator 3-Wire - DB9  
Datasheet Revision 2.4



**GENERAL FEATURES:**

- Plug-and-Play (hot-pluggable)
- High speed from 300 to 912,600 bps
- Industrial grade – high temperature range
- 5000V optical isolation
- Data direction auto-turnaround - no flow control necessary
- Port powered - no external power needed
- Built-in surge and static protection
- 5 year manufacturer's warranty
- RoHS, CE, and FCC certified

**DESCRIPTION:**

The SerialComm ISO-232-3P9 is an industrial grade bi-directional high speed port powered 5000V opto-isolated RS-232 isolator which will operate reliably up almost 1 mbs. The ISO-232-3P9 optically isolates the 3 lines: TX, RX, and GND. Isolation protects the RS-232 ports from voltage surges, lightning strikes, GND loops and noise conditions. The ISO-232-3P9 has a db-9 female connector on the RS-232C serial port, and db-9 male connector on the other RS-232 port. The unit is enclosed in a rugged ABS housing, and is powered from the RS-232 data lines; no external power is required.

**CERTIFICATIONS:**



**TROUBLESHOOTING INSTRUCTIONS:**

Using one ISO-232-3P9 unit:

1. Check that all connections comply with the connection diagrams.
2. Perform a continuity test on one unit:
  - a) Connect the ISO-232-3P9 in between RS-232 path.
  - b) If there is continuity in the data stream then it is working. If the ISO-232-3P9 is not being powered properly it will not work at all.

Performing a voltage test:

1. Check that all connections comply with the connection diagrams.
2. Perform a detailed voltage test:
  - a) Connect the ISO-232-3P9 in between RS-232 path.
  - b) With a multi-meter perform the following test: Connect pin 1 to pin 5 and connect pin 2 to pin 3. When static pin 2 should be 0V and pin 3 should be 5.5V. When dynamic pin 2 should be 0V and pin 3 should be 3.7V.

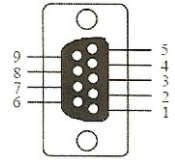
**PINOUT CONFIGURATION:**  
RS-232 SIDE – DB9 FEMALE

|          |    |    |     |
|----------|----|----|-----|
| SIGNAL   | TX | RX | GND |
| PIN #    | 2  | 3  | 5   |
| FUNCTION | TX | RX | GND |

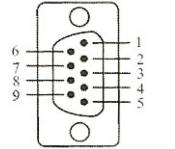
RS-232 SIDE – DB9 MALE

|          |    |    |     |
|----------|----|----|-----|
| SIGNAL   | RX | TX | GND |
| PIN #    | 2  | 3  | 5   |
| FUNCTION | RX | TX | GND |

FEM. DB9



MALE DB9



**SPECIFICATIONS:**

| COMMUNICATION               |   |
|-----------------------------|---|
| <b>STANDARDS:</b>           | EIA/TIA RS-232C Standard                            |
| <b>BAUD RATES:</b>          | From 300 bps To 912,600 bps                         |
| <b>CONNECTOR TYPES:</b>     | RS-232 Side: DB9 Female and RS-232 Side: DB9 Male   |
| <b>DISTANCE:</b>            | Both RS-232 Sides: 16 ft (5m)                       |
| ELECTRICAL                  |   |
| <b>POWER SOURCE:</b>        | Port Powered From RS-232 Data Lines                 |
| <b>OPTICAL ISOLATION:</b>   | 5000 V (5000Vrms 1 min, AC)                         |
| <b>CURRENT CONSUMPTION:</b> | Less Than 10 mA                                     |
| <b>STATIC PROTECTION:</b>   | 15KV Electric Static Discharge (ESD) Protection     |
| <b>SURGE PROTECTION:</b>    | 600W Surge Protection                               |
| MECHANICAL                  |   |
| <b>HOUSING:</b>             | Rugged ABS  |
| <b>WEIGHT:</b>              | 0.8oz (24 grams)                                    |
| <b>DIMENSIONS:</b>          | 2.47" X 1.33" X 0.70" (62.8 mm X 33.8 mm X 17.8 mm) |
| ENVIRONMENTAL               |   |
| <b>OPERATING TEMP.:</b>     | -40° F to 185° F (-40°C to 85° C)                   |
| <b>STORAGE TEMP:</b>        | -40° F to 185° F (-40°C to 85° C)                   |
| <b>OPERATING HUMIDITY:</b>  | 5% To 95% - No Condensation                         |
| QUALITY                     |   |
| <b>PRODUCT SAFETY:</b>      | CE, FCC and RoHS Conformance Certified              |
| <b>QUALITY MANAGEMENT</b>   | Manufactured and Distributed to ISO 9001:2008       |
| <b>RELIABILITY:</b>         | Low Failure Rate – 99+% Reliability Since Inception |
| <b>WARRANTY:</b>            | 5 Year Replacement Warranty                         |

# APPLICATIONS:

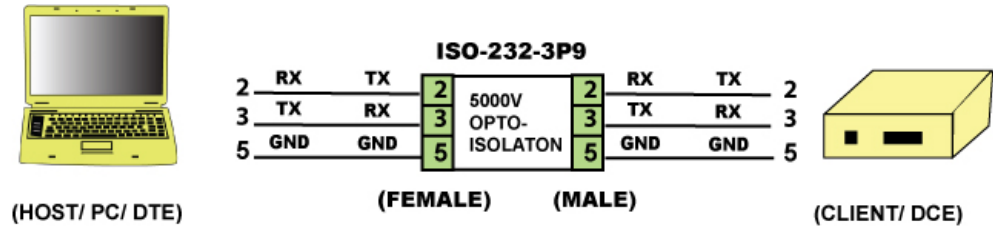


FIGURE 1: 5000V ISOLATION BETWEEN A DTE AND A DCE

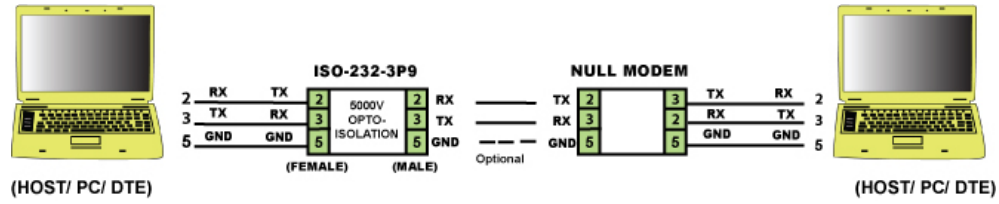


FIGURE 2: 5000V ISOLATION BETWEEN TWO DTES