CON-485/422-REP
Rugged and Industrial
Opto-Isolated RS232 To RS485/RS422
Converter or RS485/RS422 Converter or
RS485/RS422 Repeater
Datasheet Revision 1.4

GENERAL FEATURES:
• Plug-and-Play (hot-pluggable)
• Isolated 3KV RS-232 to RS-485 or RS-422
• Isolated 3KV RS-485/RS-422 Conversion
• Isolated 3KV RS-485 or RS-422 Repeater
• External 12V-36V powered with included 120VAC/240VAC adapter
• Built-in surge and static protection
• 5-year replacement manufacturer’s warranty
• CE, FCC, RoHS and REACH certified

DESCRIPTION:
The SerialComm CON-485/422-REP is an industrial grade bi-directional externally powered 3K isolated RS-232 to RS-485/RS-422 converter / RS-485 to RS-422 converter / RS-485/RS-422 repeater. This is our most versatile RS-232/RS-485/RS-422 converter/repeater. Not only will it convert RS-232 to RS-485 or RS-422 but it will convert RS-485 to RS-422 and vice versa and repeat either RS-485 or RS-422 with isolation. A built-in data direction auto-turnaround feature automatically enables the RS-485/RS-422 driver when data is present from the RS-232 port eliminating the need for software drivers, and making the device fully plug-and-play. The CON-485/422-REP is an effective solution for protecting RS-232, RS-485 and RS-422 devices from voltage surges, lightning strikes, ground loop conditions and signal noise problems. The unit is not reliant on port-power, so you do not have to worry about the RS-232’s ability to power the converter. The CON-485/422-REP has a DB9 female connector on the RS-232 serial port, and terminal blocks for both RS-485/RS-422 ports. The unit is enclosed in a heavy-duty steel housing for rugged applications.

CERTIFICATIONS:

TROUBLESHOOTING INSTRUCTIONS:
Using one CON-485/422-REP unit:
1. Check that all connections comply with the connection diagrams.
2. Perform a loop back test on one unit:
   a) Connect the T+ to R+ and T- to R- on the RS-485/RS-422 port.
   b) Connect the RS-232 port to the PC RS-232 port.

Using two CON-485/422-REP units:
1. Check that all connections comply with the connection diagrams.
2. Perform a loop back test on two units:
   a) Connect the two RS-485 or RS-422 ports.
   b) Connect the two RS-232 ports to two PC RS-232 ports.

Running hyper terminal programs on both PCs, send ASCII characters to the CON-485/422-REP converter from one PC port, and check that the characters are received at the same PC port. This test the transmit and receive functions of the CON-485/422-REP unit is working properly.
### Specifications:

**Communication**

**Standards:**
EIA/TIA RS-232C, 2-wire RS-485 & 4-wire RS-422 Standards

**Baud Rates:**
From 300 bps to 115,200 bps

**Connector Types:**
RS-232 Side: DB9 Female, RS-485/RS-422 Side 1: 5-way Terminal Block, RS-485/RS-422 Side 2: 5-way Terminal Block, Power 3-way Terminal Block

**Distance:**
RS-232 Side: 16 ft (5m) & RS-485/RS-422 Side: up to 9800 ft (3.0km)

**Max # of Connections:**
128 Connection Drops

**Electrical**

**DC/AC Power Adapter:**
12-36 VDC/1A (Input: 100-240VAC 50/60Hz US Type A Plug)

**Optical Isolation:**
3000V (3000Vrms 1 min, AC)

**Current Consumption:**
Less Than 100 mA

**Static Protection:**
15KV Electric Static Discharge (ESD) Protection

**Surge Protection:**
600W Surge Protection

**Mechanical**

**Housing:**
Heavy Duty Steel Case

**DIN Rail:**
Optional DIN Rail Mounts

**Weight:**
8.9oz (252.4 grams)

**Dimensions:**
3.26" X 3.70" X 0.87" (82.3 mm X 93.8 mm X 22.0 mm)

**Environmental**

**Operating Temp.:**
-40° F to 185° F (-40°C to 85° C)

**Storage Temp.:**
-40° F to 185° F (-40°C to 85° C)

**Operating Humidity:**
5% To 95% - No Condensation

**Quality**

**Product Safety:**
CE, FCC, RoHS and REACH Third-party Certified

**Quality Management:**
Manufactured and Distributed to ISO 9001:2015 QMS

**Reliability:**
Low Failure Rate – 99+% Reliability Since Inception

**Warranty:**
5 Year Replacement Warranty

**Applications:**

**RS-232 to 2-wire RS-485 Mode Option:**

![Figure 1: Extending RS-232 Data Distance in RS-485 Mode](image1)

**RS-232 to Master/Slave Multiple Drop Config. in RS-485 Mode**

![Figure 2: RS232 to Master/Slave Multiple Drop Config. in RS-485 Mode](image2)

**RS-232 to 4-wire RS-422 Mode Option:**

![Figure 3: Extending RS-232 Data Distance in RS-422 Mode](image3)

**RS-232 to Master/Slave Multiple Drop Config. in RS-422 Mode**

![Figure 4: RS-232 to Master/Slave Multiple Drop Config. in RS-422 Mode](image4)