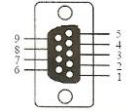


**CON-485/422-REP**  
Rugged and Industrial  
Opto-Isolated RS232 To RS485/RS422  
Converter or RS485/RS422 Converter or  
RS485/RS422 Repeater  
Datasheet Revision 1.5

**PINOUT CONFIGURATION:**

**RS-232 SIDE – DB9 FEMALE**

SIGNAL	DCD	DTR	DSR	RTS	CTS	TX	RX	GND
PIN #	1	4	6	7	8	2	3	5
FUNCT.	TIED			TIED		TX	RX	GND



**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



**RS-485/RS-422 – 5 POSITION  
TERMINAL BLOCK 1**

RS-485	485+	485-	GND		
RS-422	T+	T-	GND	R+	R-
PIN #	1	2	3	4	5

**RS-485/RS-422 – 5 POSITION  
TERMINAL BLOCK 2**

RS-485	485+	485-	GND		
RS-422	T+	T-	GND	R+	R-
PIN #	1	2	3	4	5

**POWER – 3 POSITION  
TERMINAL BLOCK**

POWER	V+		V-
FUNCT.	VCC+		GND
PIN #	1	2	3

**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.

Running a hyper terminal program on the PC, 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.

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 2<sup>nd</sup> PC port. Repeat the test in the opposite direction. This test the transmit and receive functions of both CON-485/422-REP units are working properly.

## SPECIFICATIONS:

COMMUNICATION	
<b>STANDARDS:</b>	EIA/TIA RS-232C, 2-wire RS-485 & 4-wire RS-422 Standards
<b>BAUD RATES:</b>	From 300 bps to 115,200 bps
<b>CONNECTOR TYPES:</b>	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
<b>DISTANCE:</b>	RS-232 Side: 16 ft (5m) & RS-485/RS-422 Side: up to 9800 ft (3.0km)
<b>MAX # OF CONNECTIONS:</b>	128 Connection Drops
ELECTRICAL	
<b>DC/AC POWER ADAPTER:</b>	12-36 VDC/1A (Input: 100-240VAC 50/60hz US Type A Plug)
<b>OPTICAL ISOLATION:</b>	3000V (3000Vrms 1 min, AC)
<b>CURRENT CONSUMPTION:</b>	Less Than 100 mA
<b>STATIC PROTECTION:</b>	15KV Electric Static Discharge (ESD) Protection
<b>SURGE PROTECTION:</b>	600W Surge Protection
MECHANICAL	
<b>HOUSING:</b>	Heavy Duty Steel Case
<b>DIN RAIL:</b>	Optional DIN Rail Mounts
<b>WEIGHT:</b>	8.9oz (252.4 grams)
<b>DIMENSIONS:</b>	3.26" X 3.70" X 0.87" (82.3 mm X 93.8 mm X 22.0 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, RoHS and REACH Third-party Certified
<b>QUALITY MANAGEMENT</b>	Manufactured and Distributed to ISO 9001:2015 QMS
<b>MEAN TIME BEFORE FAILURE:</b>	345,141 Hours
<b>RELIABILITY:</b>	Low Failure Rate – 99+% Reliability Since Inception
<b>WARRANTY:</b>	5 Year Replacement Warranty

## APPLICATIONS:

### RS-232 TO 2-WIRE RS-485 MODE OPTION:

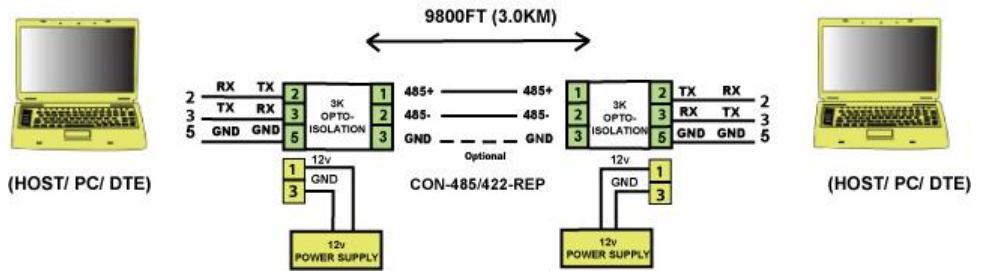


FIGURE 1: EXTENDING RS-232 DATA DISTANCE IN RS-485 MODE

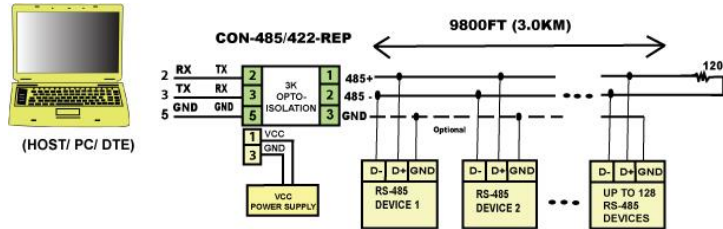


FIGURE 2: RS232 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-485 MODE

### RS-232 TO 4-WIRE RS-422 MODE OPTION:

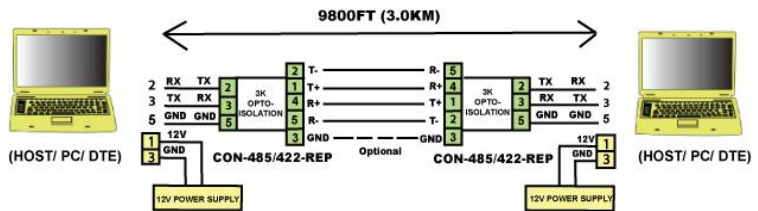


FIGURE 3: EXTENDING RS-232 DATA DISTANCE IN RS-422 MODE

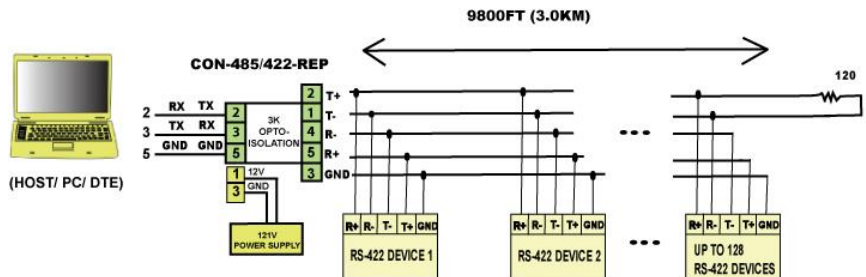


FIGURE 4: RS-232 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-422 MODE

## RS-485 TO 4-WIRE RS-422 MODE OPTION:

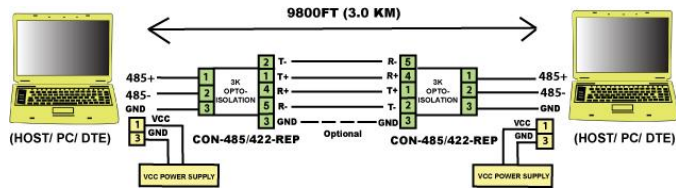


FIGURE 5: CONVERTING RS-485 TO RS-422 MODE

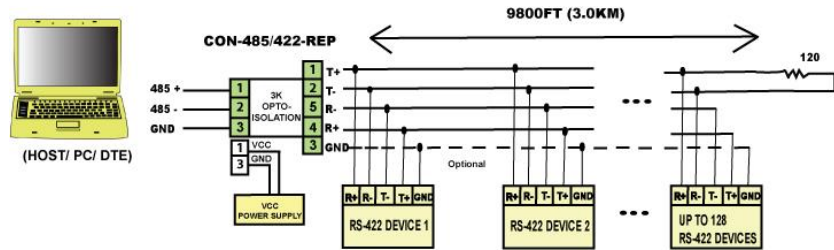


FIGURE 6: RS-485 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-422 MODE

## RS-422 TO RS-485 MODE OPTION:

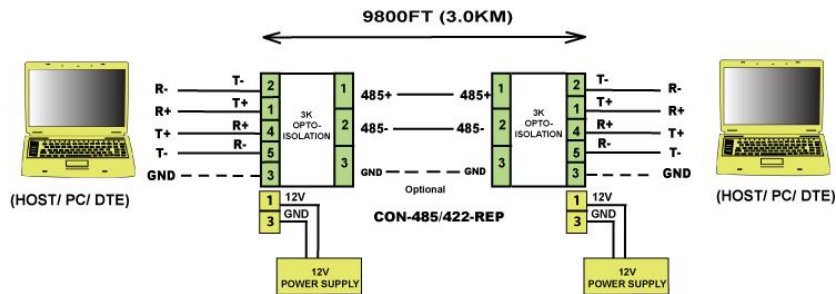


FIGURE 7: CONVERTING RS-422 TO RS-485 MODE

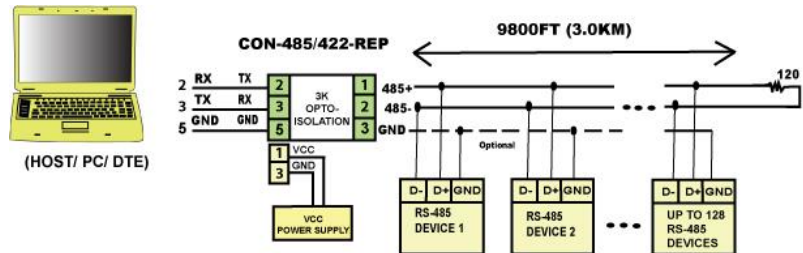


FIGURE 8: RS-422 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-485 MODE

## ISOLATED REPEATER MODE OPTION:

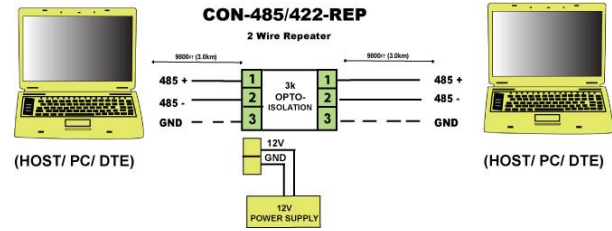


FIGURE 9: ISOLATED RS-485 REPEATER MODE

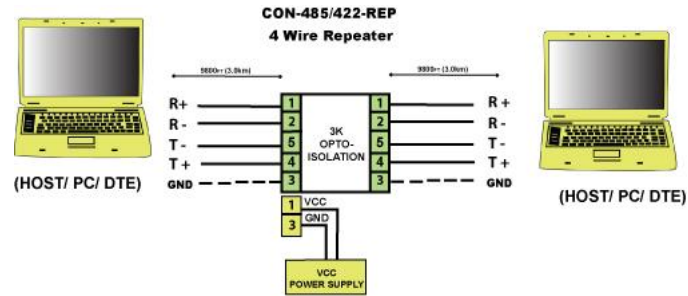


FIGURE 10: ISOLATED RS-422 REPEATER MODE

