

CON-485/422-REP
Opt-Isolated RS232 To RS485/RS422
Converter or RS485/RS422 Converter or
RS485/RS422 Repeater
Datasheet Revision 1.3

PINOUT CONFIGURATION:

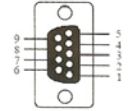
GENERAL FEATURES:

- 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 manufacturer's warranty
- RoHS, CE, and FCC certified



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



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 db-9 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.

**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

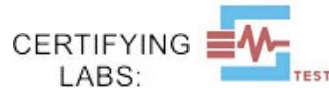
**RS-485/RS-422 – 5 POSITION
TERMINAL BLOCK 2**

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

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 tests 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 2nd PC port. Repeat the test in the opposite direction. This tests the transmit and receive functions of both CON-485/422-REP units are 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 and RoHS Conformance Certified
QUALITY MANAGEMENT	Manufactured and Distributed to ISO 9001:2008
RELIABILITY:	Low Failure Rate – 99+% Reliability Since Inception
WARRANTY:	5 Year Replacement Warranty

APPLICATIONS:

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

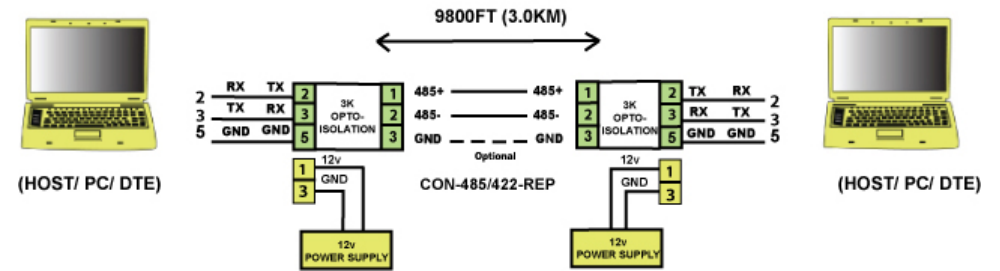


FIGURE 1: EXTENDING RS-232 DATA DISTANCE IN RS-485 MODE

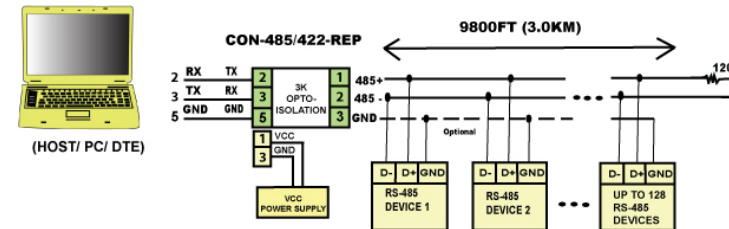


FIGURE 2: RS232 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-485 MODE

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

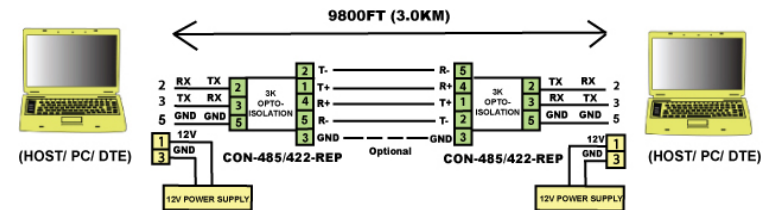


FIGURE 3: EXTENDING RS-232 DATA DISTANCE IN RS-422 MODE

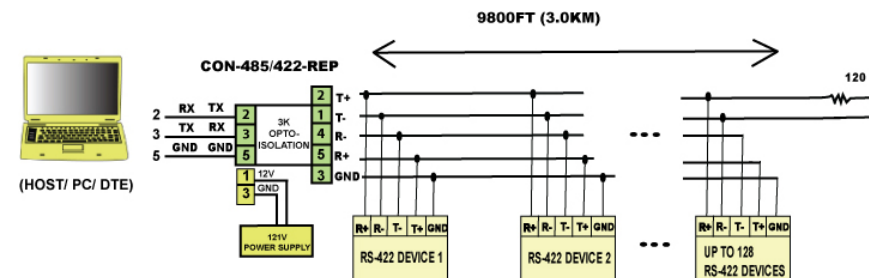


FIGURE 4: RS-232 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-422 MODE

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

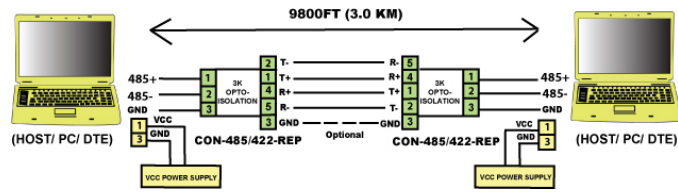


FIGURE 5: CONVERTING RS-485 TO RS-422 MODE

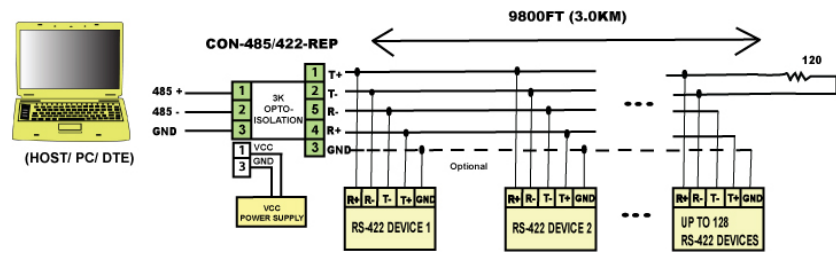


FIGURE 6: RS-485 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-422 MODE

RS-422 TO RS-485 MODE OPTION:

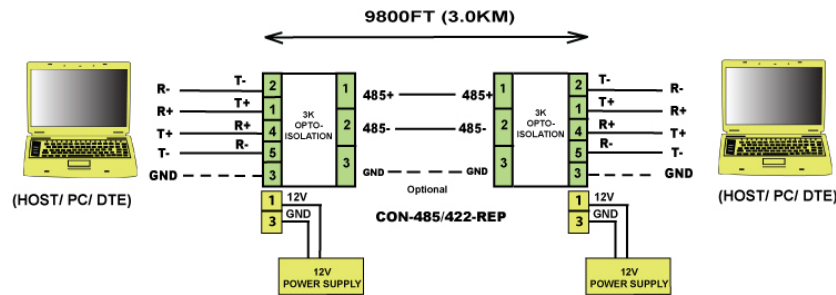


FIGURE 7: CONVERTING RS-422 TO RS-485 MODE

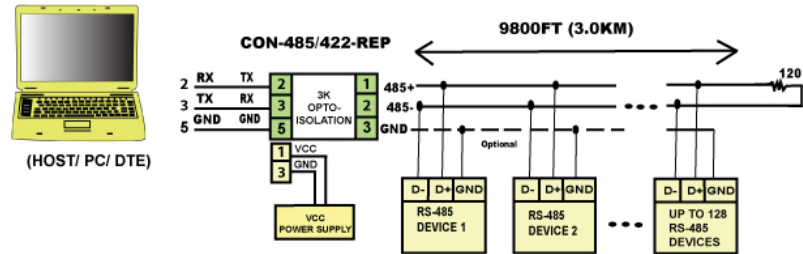


FIGURE 8: RS-422 TO MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-485 MODE

ISOLATED REPEATER MODE OPTION:

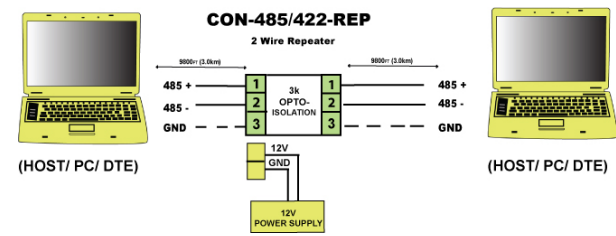


FIGURE 9: ISOLATED RS-485 REPEATER MODE

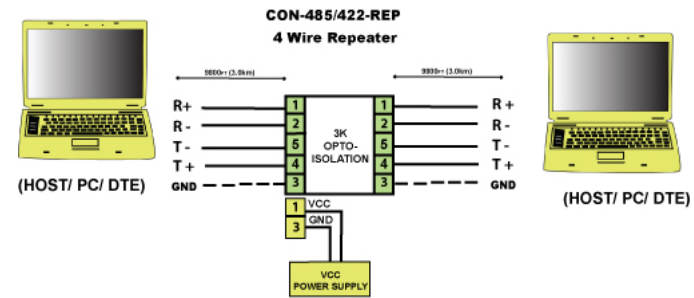


FIGURE 10: ISOLATED RS-422 REPEATER MODE