

**INTRODUCTION:**

The SerialComm CON-485/422-EE9 is an industrial grade bi-directional externally powered optically isolated RS-232 to RS-485 or RS-422 converter in a DB9 or RJ45 format. It can convert any standard full duplex RS-232C port to any two-wire half duplex RS-485 port or four-wire balanced full duplex RS-485 or RS-422 port. In simple terms, it will convert any RS-232 signal to a RS-485 or RS-422 signal and vice versa up to 115K Baud. The CON-485/422-EE9 effectively protects your RS-232 and RS-485 /RS-422 devices from transient voltage spikes, lightning strikes, ground loops, and noise problems. The unit is externally powered so you do not have to worry about your RS-232's ability to port power the converter. It also supports data direction auto-turnaround. Therefore, no flow control is required. The data direction auto-turnaround automatically enables the RS-485 / RS-422 driver when data is present on the RS-232 side making the device plug-and-play, requiring no software drivers. The CON-485/422-EE9 has a DB9 female connector on the RS-232 side and either a DB9 male connector, RJ45 female connector or 5-way terminal block on the RS-485 / RS-422 side. Separate terminal block and extension cable are included in package.

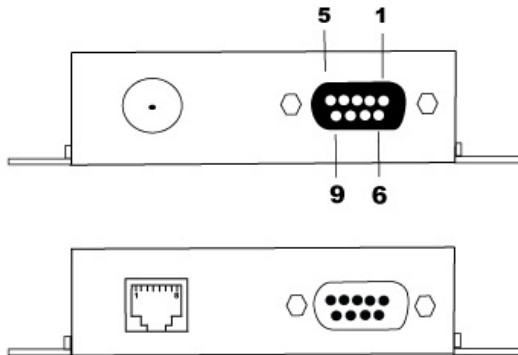
**CERTIFICATIONS:**



**GENERAL FEATURES:**

- External UL Listed, 9V / 110 V - 220 V power supply is provided with package
- Data Direction, auto-turnaround, no flow control is necessary
- Plug-and-Play (Device is hot-pluggable)
- 5 Year Manufacturer's Warranty
- RoHS, CE, FCC, ISO 9001 and IAF Compliance Certified
- Built-in surge protection, static protection and circuit protection
- Surface Mount RoHS Compliant Technology manufactured to ISO 9001 Standards

**CONNECTORS:**

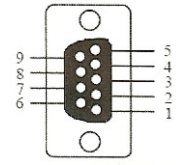


**PINOUT CONFIGURATION:**

**RS-232 SIDE - DB9 FEMALE**

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

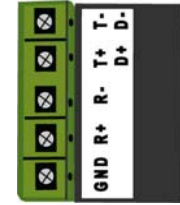
**FEM. DB9**



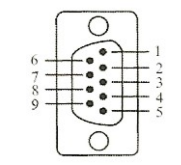
**RS-485 / RS-422 SIDE - DB9 MALE, RJ45 FEMALE OR 5-WAY TERMINAL BLOCK**

**DB9 OR TERMINAL BLOCK PIN OUT**

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



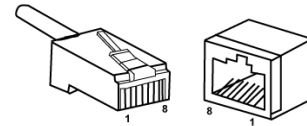
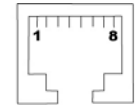
**MALE DB9**



**RJ45 CONNECTOR PIN OUT**

RS-485	D+	D-			GND
RS-422	T+	T-	R+	R-	GND
PIN #	1	2	3	6	7,8

**FEM. RJ45**



**SPECIFICATIONS:**

<b>PART NUMBER:</b>	CON-485/422-EE9
<b>STANDARDS:</b>	EIA/TIA RS-232C Standard, RS-485 & RS-422 Standard
<b>BAUD RATES:</b>	From 0 Baud To 115,200 Baud
<b>POWER SOURCE:</b>	Externally Powered with 9V 110/240 VAC Power Supply
<b>CONNECTOR TYPES:</b>	RS-232 Side: DB9 Female and RS-485 / RS-422 Side: either DB9 Male, RJ45 or 5 Way Terminal Block
<b>DISTANCE:</b>	RS-232 Side: 16 ft (5m) and RS-485 / RS422 Side: up to 6000 ft (1.8km) @ 115,2K Baud
<b>MAX NUMBER OF DROPS:</b>	32 Drops
<b>OPTICAL ISOLATION:</b>	2500V Optical Isolation
<b>STATIC PROTECTION:</b>	1500W Static Protection
<b>SURGE PROTECTION:</b>	600W Surge Protection
<b>WEIGHT:</b>	7.1oz (200 grams)
<b>DIMENSIONS:</b>	3.66" X 2.44" X 0.87" (93.0 mm X 62.4 mm X 22.0 mm)
<b>OPERATING TEMP.:</b>	-4° F to 140° F (-20°C to 60° C)
<b>OPERATING HUMIDITY:</b>	5% To 95% - No Condensation

## APPLICATIONS:

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

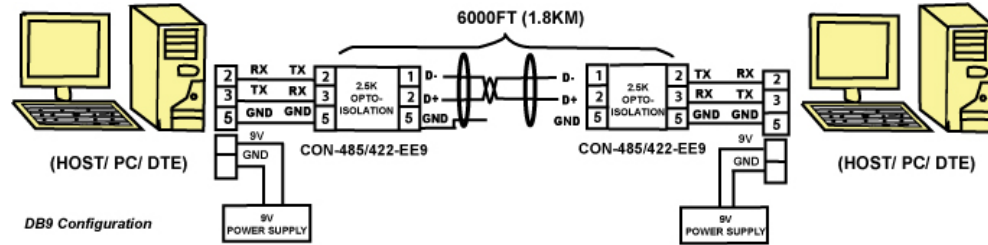


FIGURE 1: EXTENDING RS-232 DATA DISTANCE IN RS-485 MODE

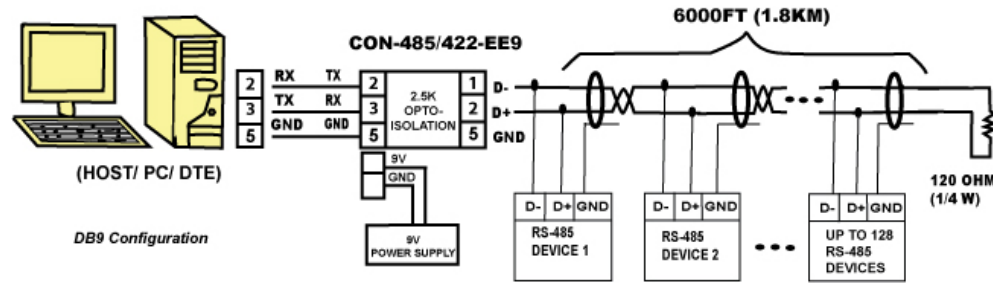


FIGURE 2: MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-485 MODE

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

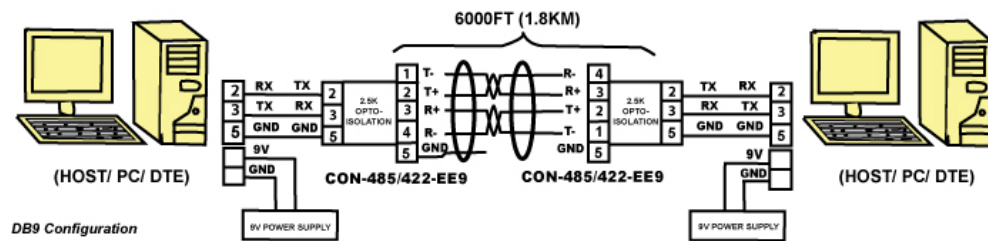


FIGURE 3: EXTENDING RS-232 DATA DISTANCE IN RS-422 MODE

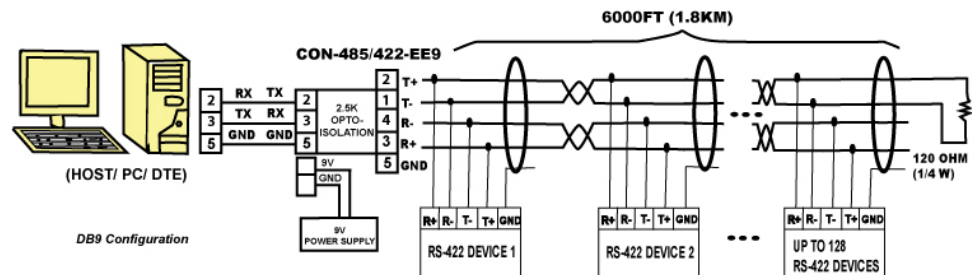
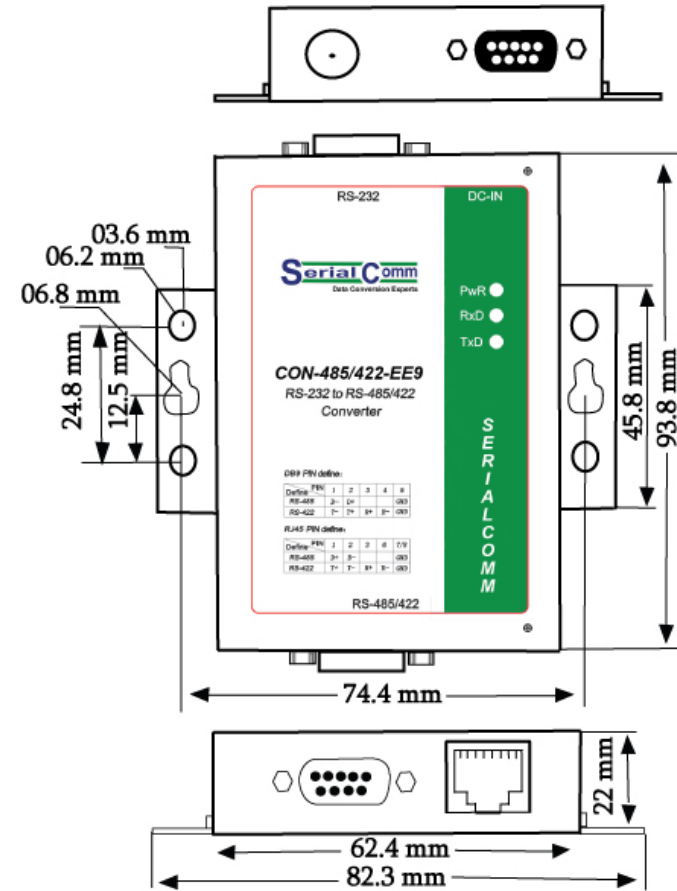


FIGURE 4: MASTER/SLAVE MULTIPLE DROP CONFIG. IN RS-422 MODE

## DIMENSIONS:



## TROUBLESHOOTING INSTRUCTIONS:

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

- Perform a loop back test on a pair of CON-485/422-EE9 converters. Attach the two CON-485/422-EE9s to two serial ports on a PC and using two instances of a HyperTerminal program send a character from one and see if it echoes to the other. This will test both transmit and receive functions of the converter in RS-485 mode.

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

- Perform a loop back test on one CON-485/422-EE9 converter. Tie signals T+ to R+ and T- to R- of the CON-485/422-EE9. Attach the converter to the serial port on a PC and using HyperTerminal send a character from one and see if it echoes to the other. This will test both transmit and receive functions of the converter in RS-422 mode.