



User Manual

RS 232 TO RS 485 / 422 CONVERTER

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Manual Revision	Revision Date	List of Updates
00	23/09/2016	
01	20/07/2017	1. Contact Information

1. Introduction

- The CONV - 485 M converts the RS 232 Serial Port Signals to RS 485 (or RS 422) signals for long distance driving and for interfacing devices supporting RS 485 or RS 422 ports.
- CONV - 485 M is available as an External Standalone Unit enclosed in a plastic casing, which takes power from the supplied Power Adaptor.
- The Converter is populated with Surface Mount Components for good reliability and to reduce the size. At the same time, it is equipped with powerful and reliable Isolation to Data signals and Protection to Serial Port from any high voltage (2500 VA) appearing in RS 485 side.

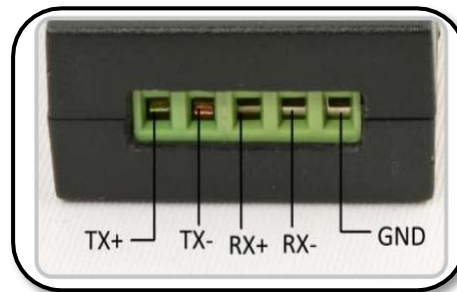
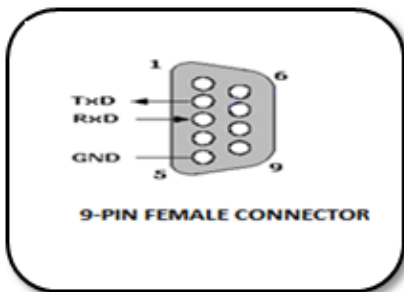
2. Technical Specifications

Serial Interface	
Interface	RS 232,RS 485, RS 422
Connectors	9 Pin D-Type for RS 232, 5 way screw terminal for RS 485 and RS 422
RS 485 / 422	
Maximum number of drivers	256
Maximum number of receivers	256
Maximum cable length(RS 485)	1220m
Signal Isolation	Provides optical Isolation to Serial port signals
Power Isolation	2500v Isolation between the RS 485 and RS 232.
Baud Rate	300 to 115200 baud. Support higher baud rate for shorter distances.
Indicators (LED)	
POWER	Red
TXD	Yellow
RXD	Green
Power	
Input	External adaptor with 5V DC at 300mA
Environmental	
Operating Temperature	0°C to 70°C
Storage Temperature	-40°C to 85°C
Packaging	
Dimensions (LxWxH)	72mm(L) x 43mm(W) x 21mm(H)
Weight	40g
Warranty	
Warranty Period	12 Months

3. Applications

- Computer and Automation Systems.
- Control Lighting and other Power systems.
- Control pan tilt zoom cameras.
- Building Automation.
- Control video surveillance systems.
- Interconnect security control panels and access control card readers.
- Connecting cameras, scales, meters and scanners.

4. Pin Description



1) RS485 5 Pin Screw Connector

Pin	Signal	RS 485 2 Wire	RS 422 4 Wire
1	TX+	Short with pin 3 (TX + & RX +)	TX +
2	TX-	Short with pin 4 (TX - / RX -)	TX -
3	RX+		RX +
4	RX-		RX -
5	Ground	(Optional)	(Optional)

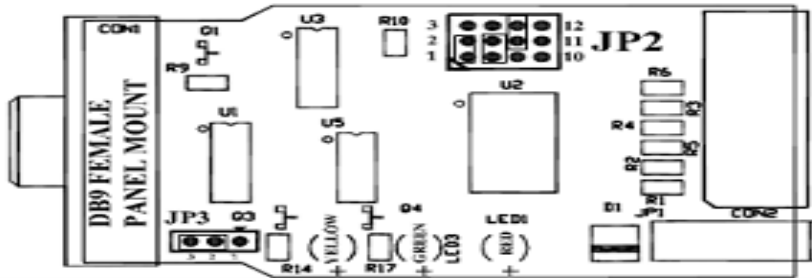
2) RS485 and RS422 selection

Jumper	RS485	RS422
JP2	1&2, 4&5	2&3, 5&6
JP3	2&3	1&2

3) Termination Selection

Termination 130 Ohms	Jumper JP2 With Termination	Jumper JP2 Without Termination
RS485	7&8	8&9
RS422	7&8, 10&11	8&9, 11&12

Pin number of Jumper JP2 & JP3 are as shown in the below figure



Note: Jumper indicates RS485 mode with Termination.

5. LED Indications

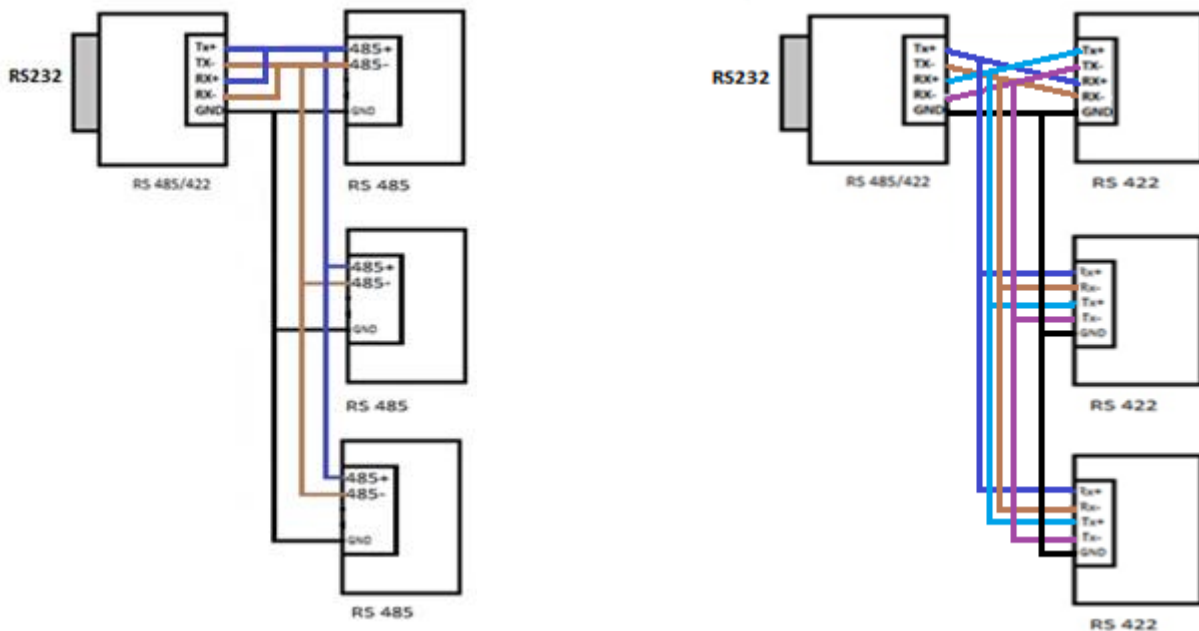
- **Yellow-TXD:** This LED lights up whenever there is Data to be transferred from RS485 side to RS 232 side and remains OFF when there is no data transfer activity
- **Green-RXD:** This LED lights up whenever there is any incoming data from the RS 232 side to RS485 side and remains OFF when there is no activity.
- **Red-POWER:** This LED remains ON when the Unit receives power and indicates that the unit is functional and ready to send & receive Data.

6. Connection Diagram of RS485/422 Converter

RS 485 POINT TO POINT RS 422 POINT TO POINT



RS 485 POINT TO MULTI POINT RS 422 POINT TO MULTI POINT



Note: 1) Default mode is RS 485

2) RS422 mode, disconnect the shorted wires of the RS485 Screw Connector.

7. Troubleshooting

Problems	Solutions
1) No Data communication	<p>Make sure RS 485 / 422 output interface cable is OK. Make sure power supply is given. Make sure the wire terminal connection is OK. Make sure the TXD LED is blinking when sending the Query or COMMAND to RS 232. Make sure the RXD LED is blinking when receiving the Query from the RS232.</p>
2) Incorrect Data	<p>Check Serial Parameters Baud Rate, Parity, Number of Bits, Stop Bit are same on both the Sides of RS 485 / 422 Converter.</p>

8. Frequently Asked Questions

Questions	Answers
1) What type of connector does CONV-485 M use?	9 Pin D-Type for RS 232 and 5 way screw terminal for RS 485 and RS 422
2) What is the maximum connection distance using RS 485 device?	1220 m
3) Can I boost the RS 485 signal to add more nodes or distance?	Not exactly. You can repeat and refresh the signal periodically along the cable, but not boost it above the specification
4) What is the advantage of using to Isolated Converter?	An isolated Serial to RS 485 / 422 Converter have opto couplers and TVS (Transient Voltage Suppressors) separating the data lines inside the unit to prevent high voltage spikes, surges, ground-loops and noise from damaging and interfering with your computer or the device you have connected to the Serial port. This provides additional protection and reliability.
5) Where would I use an RS 485 network?	RS 485 has been used in many factory environments to gather data and control Addressable Motor Drives, Cameras, PLC's, Time Clocks, bar code scanners for process control and other factory equipment.

9. Contact and Support

Sparr Electronics Limited.,
No.414A, 7th Main Road,
1st Block, HRBR Layout,
Banaswadi,
Bangalore - 560 043, INDIA.
Phone: +91-80-41278033

Call Technical Support at +91-80-41278033

Website: www.sparrl.com

Email For:

Product Information: info@sparrl.com

Support: support@sparrl.com

Sales: sales@sparrl.com