

CONV 485

RS232 to RS485 Converter

Operation and Instruction Manual

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LIMITED**

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1 Introduction

The Sparr CONV 485 is a Converter, which 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.

The Sparr CONV 485 is available in PCB form for System Integrators, to incorporate the PCB in their equipment, so that they can provide RS 485 signal compatibility. The Power to this Board can be given in DC Voltage from their equipment itself.

CONV 485 is also available as an External Standalone Unit enclosed in a Rugged Metal casing, which takes power from the supplied Power Adaptor.

The Converter is populated with SMD Surface Mount Componentes for good reliability and to reduce the size so that the same can be integrated as a sub- assembly. At the same time, it is equipped with very good and reliable Isolation to Data signals and Power protection to Serial side by way of 1500 V protection from any high voltage appearing in the RS 485 side which may be vulnerable to High Voltage exposure.

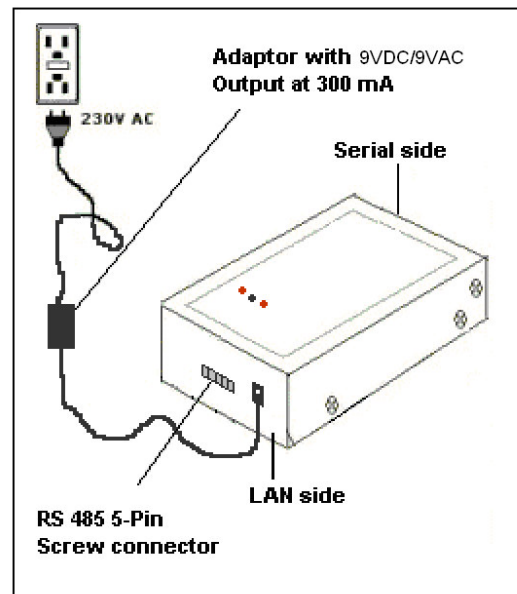
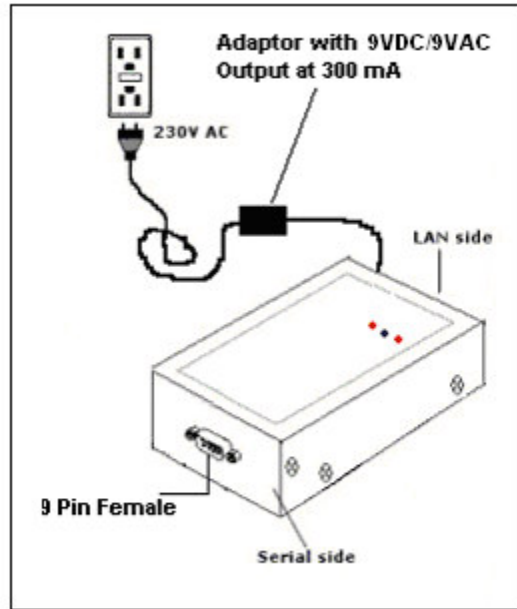
2 Installation

The CONV485 is housed in a Metal Cabinet with a 9 Pin D-Type Connector in one end 5 way Female Socket at the other side of the unit. CONV 485 has one AC or DC input Power Jack also.

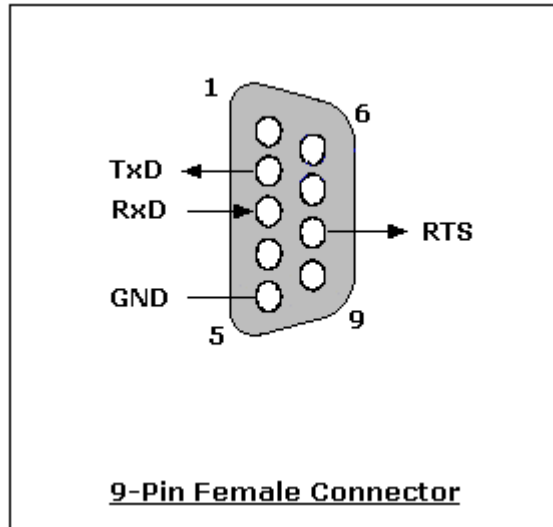
The 9 Pin Serial RS 232 Port can be connected to the Computer or any Serial Device using appropriate Cable. The 5 Way Female connector is used for connecting to one or more RS 485 Device in a Multi-drop environment in 2 wire mode or RS 422 devices in 4-wire mode.

The female AC Power Socket can take in AC or DC voltage of 9 V at about 200mA from the supplied Power Adaptor or from the equipment, which supplies power to the PC Board.

3 Connection details



RS232 9 Pin Female Serial Connector Pin Outs



RS485 5 Pin Screw Connector End

Pin	RS 485 2 Wire	RS 422 4 Wire
1	TX + / RX +	TX +
2	TX - / RX -	TX -
3	NA	RX +
4	NA	RX -
5	Ground (Optional)	Ground (Optional)

4 Power Supply

CONV 485 has a Power Jack adjacent to 5 Pin Female Connector which can take in 9 V DC Voltage from the equipment to which it is connected or 9 V AC from the supplied Power Adaptor. The maximum Current required is 200 mA.

5 Specification

Maximum number of drivers	32
Maximum number of receivers	32
Maximum cable length (RS485)	1220 m
Maximum cable length (RS232)	15 m
Baud range (RS232 limited)	300 to 38400 baud, Can supports higher speed for shorter distances.
LED Indication	Transmit Data, Received Data and Power ON
Power supply	Powered from External Adaptor with 9 VDC or 9V AC output at 300 mA.
Signal Isolation	Provides optical isolation to Signals
Power Isolation	1500 V isolation between the RS 485 and RS 232 signals thereby protecting the high value serial device.
Dimensions	120 mm (L) x 65mm (W) x 30 mm (H)
Temperature Range	-40 to 60°C (5 to 95% humidity)

6 LED Indications

LED	Function	Description
TD	Transmit Data.	This LED lights up whenever there is Data to be transferred from Serial to RS 485 side and remains OFF when there is no data transfer activity
RD	Received Data	This LED lights up whenever there is any incoming data from the RS 485 side and the same being sent to the PC or Serial Device. Remains OFF when there is no activity.
ON	Power ON	This LED remains ON when the Unit receives power and indicates that the unit is Functional and ready to send and receive Data.

7 2 Wire and 4 Wire Operation

The Sparr CONV 485 supports operation in both 2-wire and 4-wire mode to cater RS 485 and RS 422 type devices. In 2-wire mode, the unit is intelligent enough to enable the transmitter and disable or tri-state its Receiver input based on Transmit Signal.

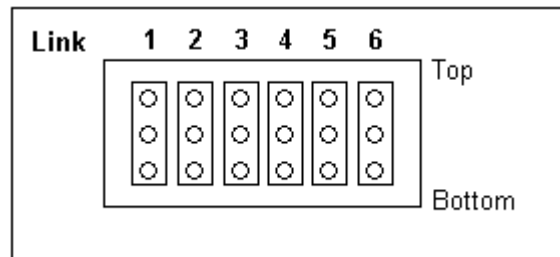
The unit also supports legacy systems, which can provide Request To Send (RTS) to control and enable the Transmission.

In 4-wire mode of operation, the unit uses separate channels or pairs for Transmission and Reception there by achieving one master polling multiple slaves and slaves responding in a full duplex mode.

Jumpers are provided in the units for selecting the 2 wires and 4-wire mode.

8 Jumper Section

The bottom side of CONV 485 has a slot from where jumpers are accessible for selection based on the Installation need. The jumper Block JP3 has 6 numbers of 3 pin headers, which are used for selecting the following options:



JP3	TOP	BOTTOM
Link 1	1 & 2 Short [2 Wire Mode]	2 & 3 Short [4 Wire Mode]
Link 2	1 & 2 Short [2 Wire Mode]	2 & 3 Short [4 Wire Mode]
Link 3	Termination with 120 ohms for 2 & 4 Wire Mode	No Termination
Link 4	1 & 2 Short - Termination with 120 ohms for 4 Wire Mode	No Termination
Link 5	2 Wire Mode with Automatic Transmission Control	2 wire mode with RTS assisted Transmission Control
Link 6	Internal Factory Use [Do not Tamper the settings]	Internal Factory Use [Do not Tamper the settings]

9 Guarantee & Service

The product supplied with this manual is guaranteed against faulty workmanship for a period of 12 Months from the date of dispatch.

Our obligation assumed under this guarantee is limited to the replacement of parts which, by our examination, are proved to be defective and have not been misused, carelessly handled, defaced or damaged due to incorrect installation. This guarantee is VOID where the unit has been opened, tampered with or if repairs have been made or attempted by anyone except an authorised representative of the manufacturing company.

Products for attention under guarantee (unless otherwise agreed) **must be returned to the manufacturer freight paid** and, if accepted for free repair, will be returned to the customers address within India free of charge.

When returning the product for service or repair a full description of the fault and the mode of operation used when the product failed must be given.

In any event the manufacturer has no other obligation or liability beyond replacement or repair of this product.

Modifications may be made to any existing or future models of the unit, as it may deem necessary without incurring any obligation to incorporate such modifications in units previously sold or to which this guarantee may relate.

This document is the property of the instrument manufacturer and may not be reproduced in whole or part without the written consent.

This product is designed and manufactured in India.

Contact

Questions?

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Assuring you of our best service at all times.

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