

RS485 to RS232 Converter Card



User Manual
Version 1.00

RMS Technologies
2533 N. Carson St. #4698, Carson City, NV 89706-0147
1-877-301-3609

www.rmsmotion.com

sales@rmsmotion.com

Thank you for purchasing the RS485-232 converter card. This product is warranted to be free of manufacturing defects for one (1) year from the date of purchase.

DISCLAIMER

The information provided in this document is believed to be reliable. However, no responsibility is assumed for any possible inaccuracies or omissions. Specifications are subject to change without notice.

RMS Technologies reserves the right to make changes without further notice to any products herein to improve reliability, function, or design. RMS Technologies does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

RS485-232 Converter Card User Manual

Product: RS485-232 converter card
Version: 1.00
Date: 3/20/2009

Version History		
Version	Date	Description of Changes
1.00	3/20/2009	New Manual

Table of Contents

1 Features	4
2 Pinouts	4
3 Connection Specifications	5
Serial COM Port	5
RS485 Connection with full duplex	6
Multi-drop network (Daisy Chaining)	6
4 Mechanical Specifications	7
5 Electrical & Operating Specifications	7
Power supply requirement	7
Operating Temperature	7
6 Comparison with Obsolete RS485-232 card	8
Description of change:	8
Pinout differences:	9
7 Products	10

1 Features

- RoHS compliant
- Input voltage of +7 to 40 VDC
- Connection to PC via serial COM port
- Easy 3-Pin connection to user's RS485 device
- Small, compact device

2 Pinouts

The green screw terminal connector is for main power. The 3-pin header is for RS485 communication.

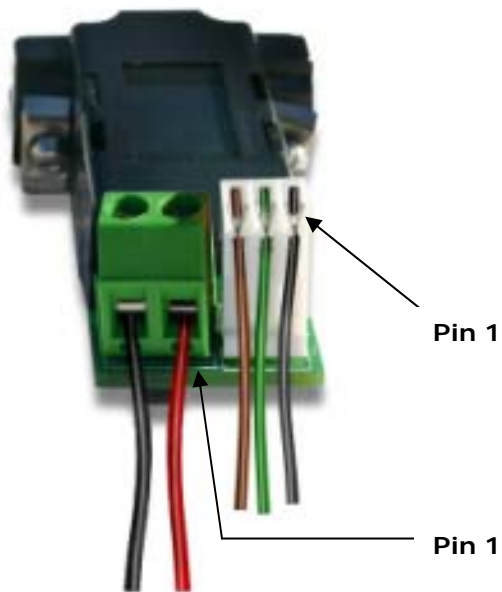


Figure 1: Pin 1 location

Pin	Function
1	Power (7-40VDC)
2	Ground

Table 1: Power pinouts

Pin	Function
1	RS485 A (-)
2	Ground
3	RS485 B (+)

Table 2: RS485 pinouts

3 Connection Specifications

This card is used with several products (see section 7). Below is a general diagram of how to connect the RS485-232 converter card to a PC and an RS485 communicating device.

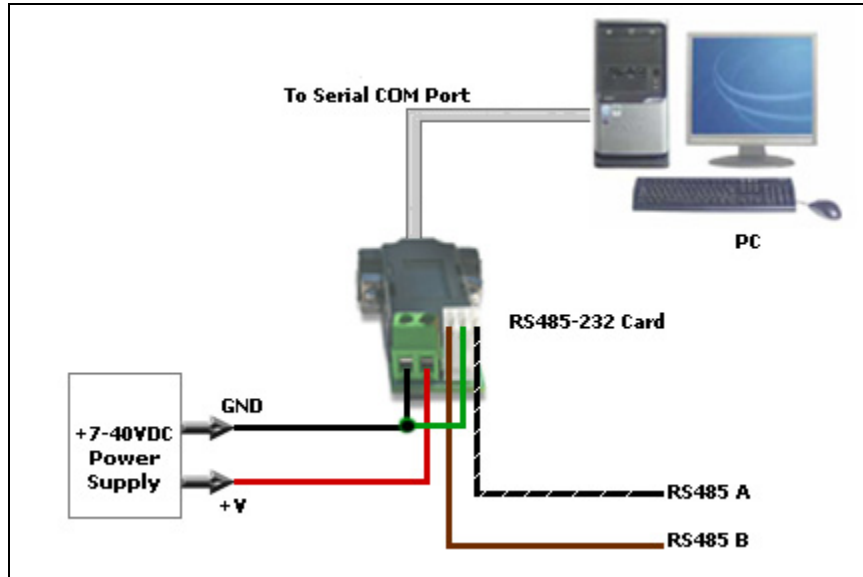


Figure 2: General connections diagram

For specific connection specifications with the IMC/IMCE17, IMC/IMCE23, R256, or R356, please see the specific product manual.

Serial COM Port

The DB9 side of the RS485-232 Converter card is a female DB9 and pinouts are standard to all PC serial COM Ports (Pin 2: RxD, Pin 3: TxD, Pin 5: GND):

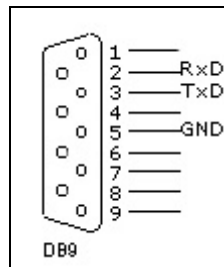


Figure 3: DB9 pinouts

RS485 Connection with full duplex

If your RS485 device is a full duplex, or 4-wire device, below is the recommended connection to the RS485-232 converter card.

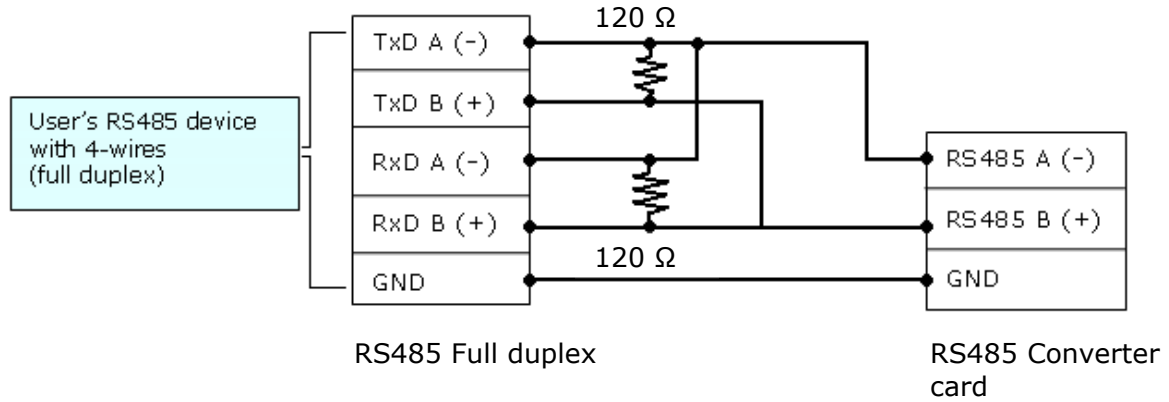


Figure 4: Full duplex connection

Multi-drop network (Daisy Chaining)

In order to communicate to multiple units at once, combine all three RS485 communication wires in parallel as shown below:

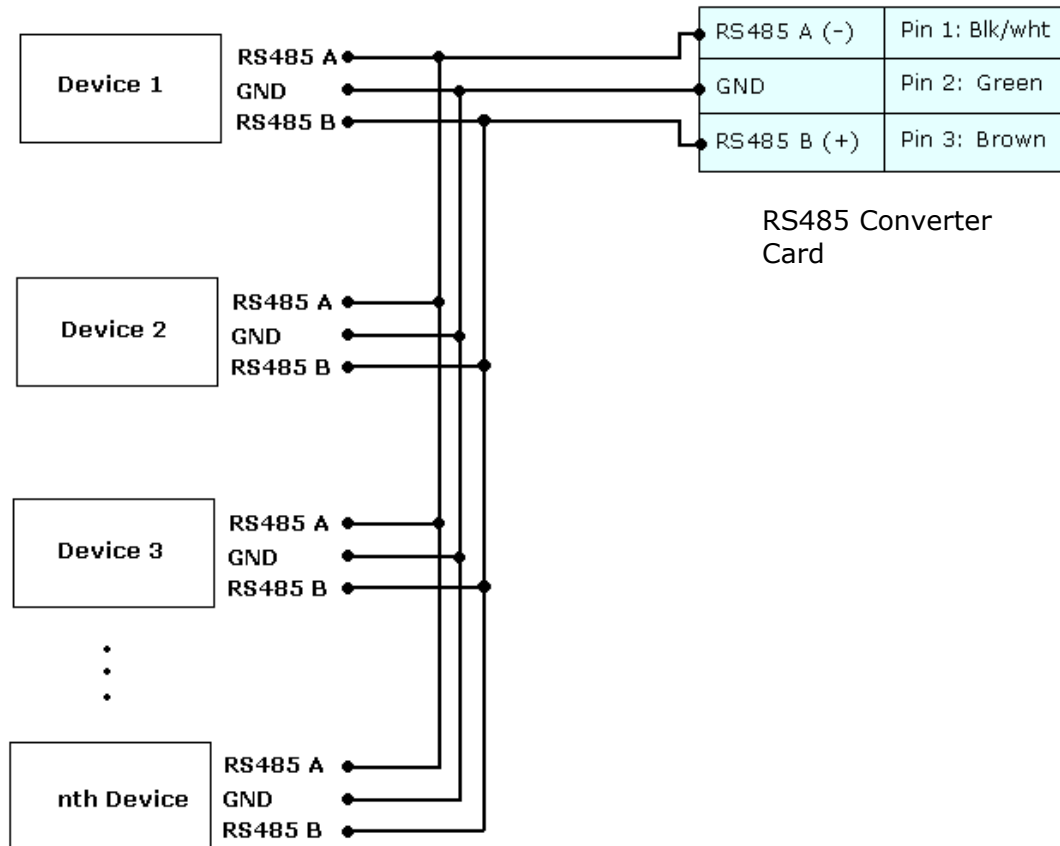
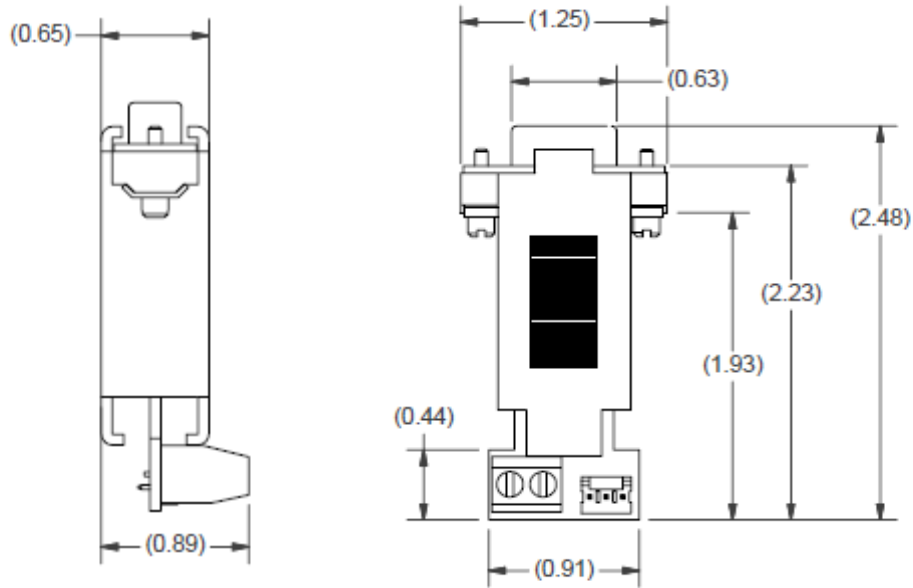


Figure 5: Multi-drop connection

4 Mechanical Specifications



2 x 4-40 screws are provided on the DB-9 side of the unit

5 Electrical & Operating Specifications

Power supply requirement

Voltage +7 to 40 VDC

Operating Temperature

Temperature range: -20°C to 75°C

6 Comparison with Obsolete RS485-232 card

The non-RoHS converter card is no longer available. Changes were made to the pinouts of the RS485 connection.

Description of change:

Old Converter card
RMS p/n: ACC-01

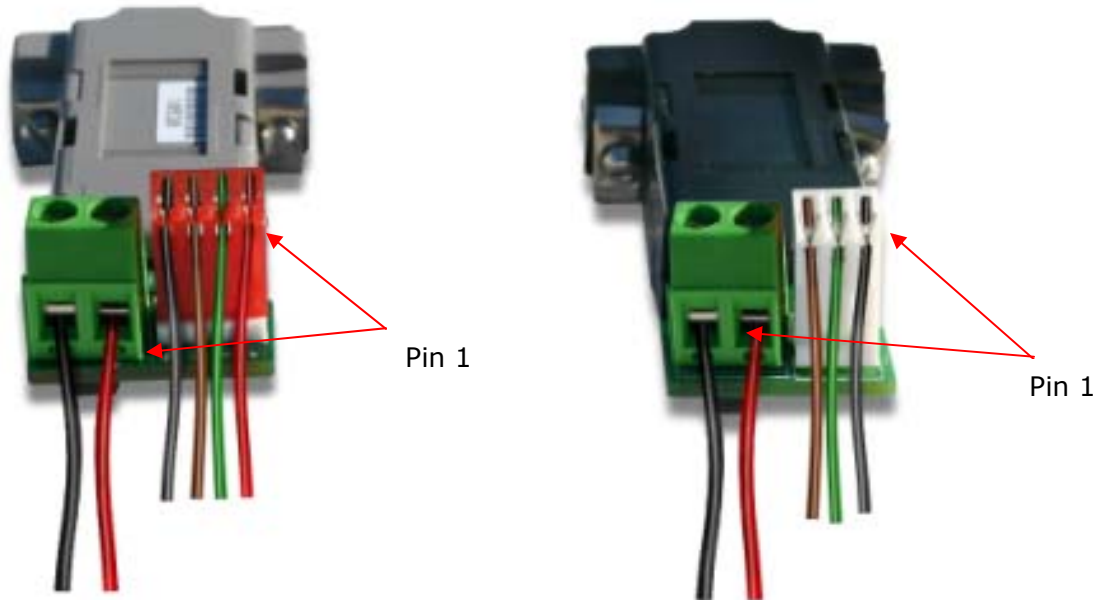


New Converter Card
RMS p/n: ACC-03



OLD RS232 Converter Card	NEW RS232 Converter Card
<ul style="list-style-type: none"> • RMS Part Number: ACC-01 	<ul style="list-style-type: none"> • RMS Part Number: ACC-03
<ul style="list-style-type: none"> • Not RoHS Compliant 	<ul style="list-style-type: none"> • RoHS Compliant
<ul style="list-style-type: none"> • Red 4-Pin connection for PWR, Ground, RS485 A, RS485 B. 	<ul style="list-style-type: none"> • White 3-Pin connection for RS485 A, Ground, RS485 B.
<ul style="list-style-type: none"> • Voltage Input: +7 to 40 VDC 	<ul style="list-style-type: none"> • Voltage Input: +7 to 40 VDC
<ul style="list-style-type: none"> • Grey Cover 	<ul style="list-style-type: none"> • Black Cover

Pinout differences:



Power Connector (Green):

Pin	Function
1	PWR
2	Ground

→
(no change)

Pin	Function
1	PWR
2	Ground

Communication Connector (White):

Pin	Function
1	PWR
2	GND
3	RS485 B (+)
4	RS485 A (-)

→
(change)

Pin	Function
1	RS485 A (-)
2	GND
3	RS485 B (+)

How to connect with old cable:

If you have a cable with a Red 4-Pin connector, simply cut off this connector, strip the wires and reconnect to a 3-Pin connector in the following manner:

Old 4-Pin cable		Connect to	New 3-Pin cable	
Pin #	Color/function		Color/function	Pin #
Pin 1	Red (PWR)	→	No connection	--
Pin 2	Green (GND)	→	Green (GND)	Pin 2
Pin 3	Brown RS485 B (+)	→	Brown RS485 B (+)	Pin 3
Pin 4	Black/white RS485 A (-)	→	Black/white RS485 A (-)	Pin 1

Follow connection specifications as stated in this user manual, section 3.

7 Products

The following products are used with the RS485-232 Converter Card in order to receive commands or parameters via PC.

- IMC17/IMCE17
- R256-RO controller/driver
- Designer kit: KIT-01
- IMC23/IMCE23
- R356-RO controller/driver
- Designer kit: KIT-01



R256
R256 Controller/Driver
Up to 2 Amps Peak
2x to 256x Microstepping



R356
R356 Controller/Driver
Up to 3 Amps Peak
2x to 256x Microstepping



IMC17
IMC17
Integrated Motor
Controller/Driver



IMC23
IMC23
Integrated Motor
Controller/Driver



IMCE17
IMCE17
Integrated Motor +
Controller + Encoder



IMCE23
IMCE23 Intergrated
Motor+Controller
+Driver+Encod