



Haidar Technology, LLC.

Industrial Control Innovations Begin Here

www.haidartechnology.com

(614) 389-3022

Sales@haidartechnology.com

**ModBus Modules
RMC-C800**

**Reference Manual
REV 1.00**

Revision 1.00

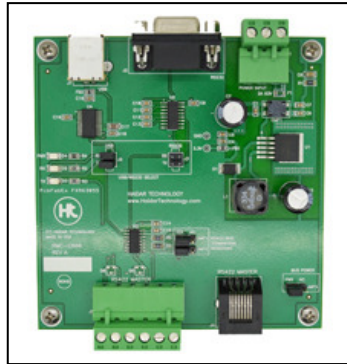
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1. Overview



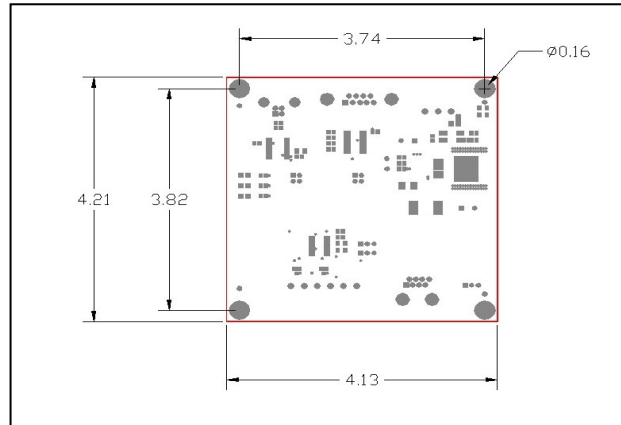
For more information about RMC Modbus modules, please refer to RMC Series Reference Manual

Haidar's RMC-C800 is ModBus network interface module used to convert host computer RS232 or USB to full-duplex RS485.

2. Features

- Full-Duplex RS485 (RS422) output
- RS232 or USB input (jumper select)
- LED indicators for Power, RX and TX
- Plug-in terminal blocks
- RS422 RJ45 connector
- Data and Power (optional) over single RJ45 cable up to 1200 meters
- $\pm 80\text{V}$ fault and $\pm 8\text{KV}$ ESD protection on the RS422 lines
- Full industrial temperature from -40 to 85°C
- Optional DIN-RAIL mounting plate
- Communication speed from 9600 bps to 115.2 Kbps
- Free modbus test and simulation software

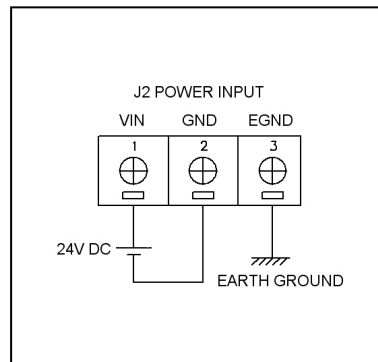
3. Board Dimensions



Width	4.21" (107mm)
Length	3.74" (95mm)
Depth	0.71" (18mm)

4. Supply Voltage (Vin)

Typical Supply Voltage (Vin)	24V DC
Supply Current	TBD



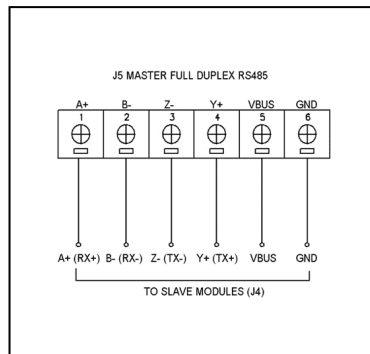
J1 Pin Number	Description
1	Supply Voltage Input (VIN)
2	Power Ground
3	Earth Ground

5. Full-Duplex RS485 (RS422) Connectors

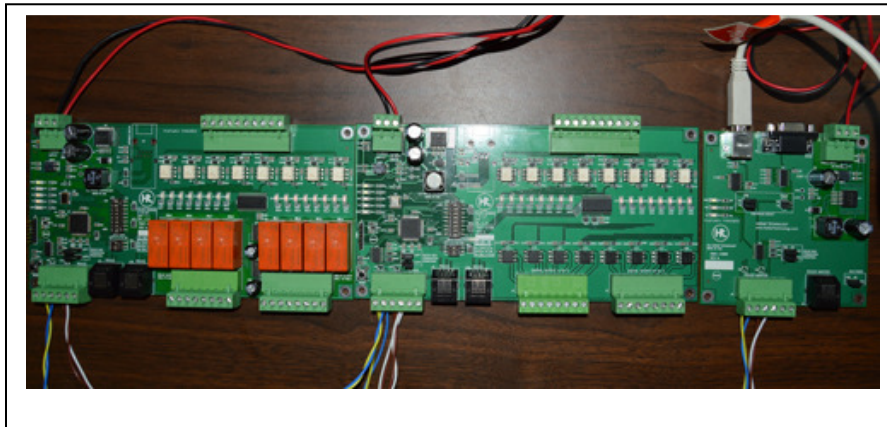
- Specifications

Driver	MAX13448E
Isolation	None
Fault Protection	$\pm 80V$ on the RS485 I/O Ports
ESD Protection	$\pm 8KV$ ESD Protection
Common Mode	-7V to +12V common-mode input voltage range
Data Rate	Max 250Kbps
Hot Swap	Yes
Slew Rate Limiting	Yes
True Fail-Safe	Yes
Bus Transceivers	Up to 256

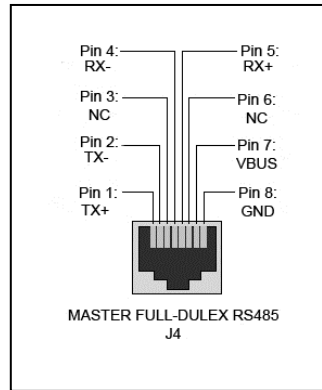
- J5 (6-pole screw terminal block)



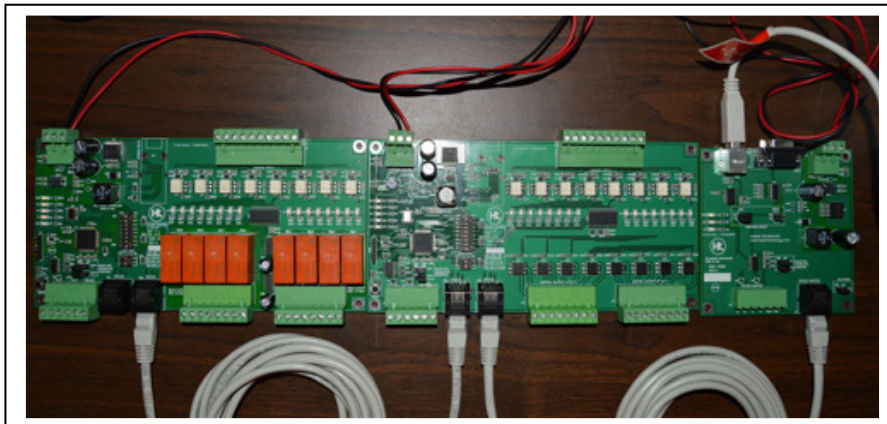
J5 Pin Number	Description
1	Slave Receiver + / Master Transmitter +
2	Slave Receiver - / Master Transmitter -
3	Slave Transmitter - / Master Receiver -
4	Slave Transmitter + / Master Receiver +
5	Optional Bus Voltage (Typical 24V DC). Not required for normal operation.
6	Common Ground



- **J4 (RJ45)**



J4 Pin Number	Description
1	Slave Receiver + / Master Transmitter +
2	Slave Receiver - / Master Transmitter -
3	Not Connected
4	Slave Transmitter - / Master Receiver -
5	Slave Transmitter + / Master Receiver +
6	Not Connected
7	Optional Bus Voltage (Typical 24V DC). Not required for normal operation.
8	Common Ground



6. USB

- Specifications

Driver	FTDI FT245RL
Isolation	None
Input Voltage	USB Powered 5V
Input Current	Max 100ma
Status LED	RX and TX indicators

- **J4: USB Connector Type B**

J7 Pin Number	Description
1	Power +5V
2	Data -
3	Data +
4	Ground

7. RS232

- Specifications

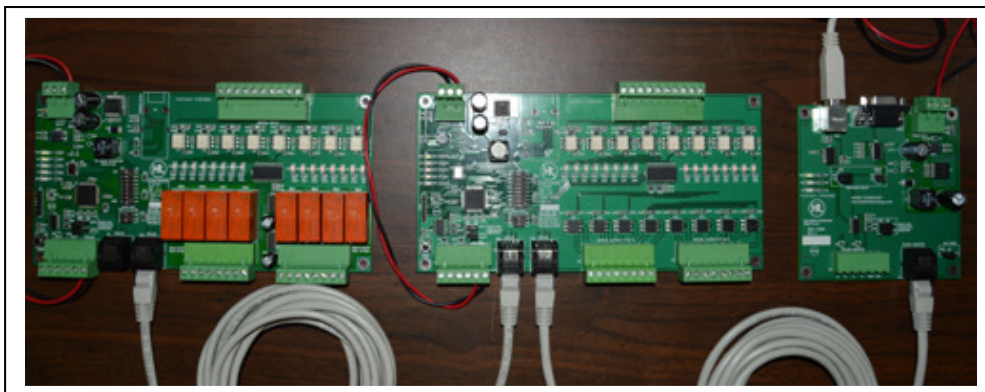
Driver	MAX232
Isolation	None
Status LED	RX and TX indicators

- **J2: RS232 Connector 9-pin DSUB**

J7 Pin Number	Description
2	Transmitter
3	Receiver
5	Ground
1, 4, 6, 7, 8, 9	Not Connected

8. Bus Power Jumper (JMP3)

Set JMP3 to PWR position to power the slave modules directly from the RS422 bus.



9. USB/RS232 Select

Jumpers J3 and J6 are used to select the host interface, USB or RS232. To select USB, install J6 RX and TX jumpers. To select RS232, install J3 RX and TX jumpers. One set of jumpers must be installed at one time.

10. Bus Termination

For normal operation, JMP1 and JMP2 must be in TER position.

11. Manual Change History

Date	Revision	Change
7/9/2015	REV1.00	Initial version of this manual

12. Hardware Limited Warrnty

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No merchandise may be returned for credit, exchange, or service without prior authorization from. To obtain warranty service, contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number, and return address. Authorized returns must be shipped freight prepaid to Haidar Technology with the RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. Haidar reserves the right in its sole and absolute discretion to charge a 15% restocking fee, plus shipping costs, on any products returned with an RMA.

Return freight charges following repair of items under warranty shall be paid by Haidar, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.