

OR 485

Features

- RS485 Bus Diagnostic Function
- Modbus Communication Protocol
- 2 Baudrate Settings: 9600bps and 19200bps
- Diagnostic Waveform Display
- Communication Status Display
- Isolated Power Supply and Opto Isolated Communication
- In-Circuit Serial Programming ICSP

Design Features

The OR 485 is an externally powered isolated converter/repeater with added diagnostic features.

There are two input ports which can be jumper selected:

- One for PC (RS232)
- The other one is for upper level RS485 bus (RS485)

Available are two isolated, half-duplex, RS485 output ports to connect to the network.

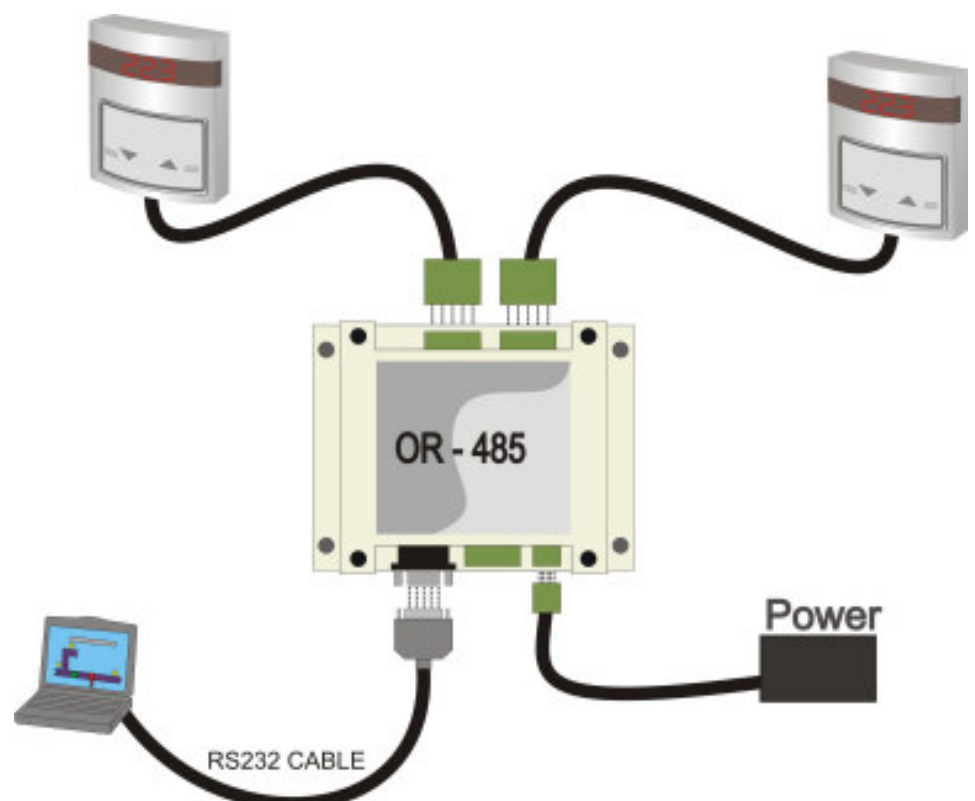
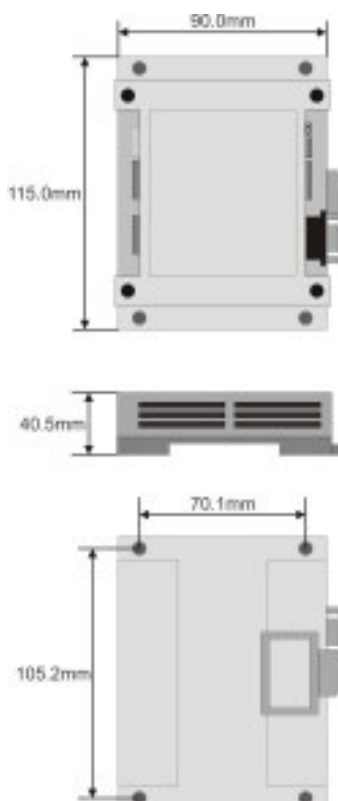
The OR 485 has the capability to detect common wiring mistakes on the output side and report them using Modbus protocol or LED

Technical Data

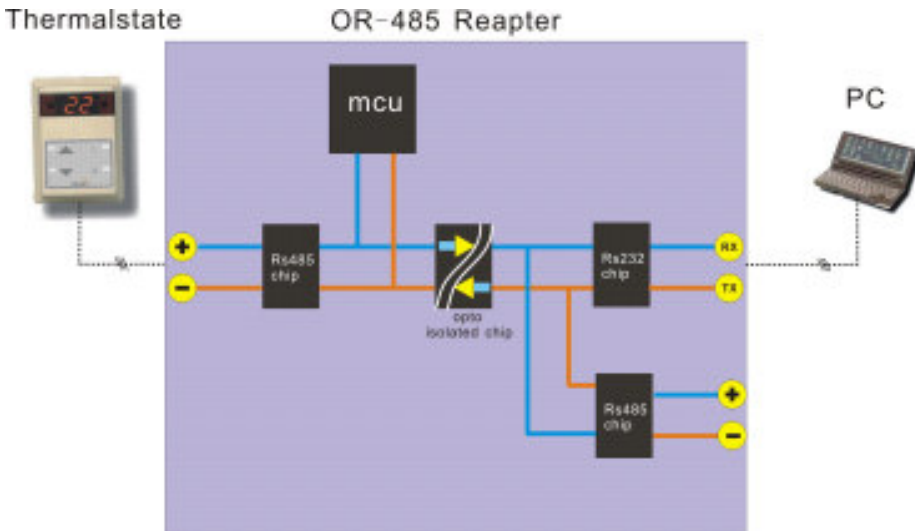
Power Supply	12-24Vdc +/-20%
Power Consumption	80mA at 24Vdc
Power Supply Protection	against polarity inversion
Dimensions	40,5 x 90 x 115mm (HxWxD)
Ambient Temperature	10-50C
Enclosure Rating	IP31
Material Enclosure	Flame Proof Plastic
Colour	Grey
Weight	180g
Conformity	CE-marked

Ordering

OR 485 Opto-Isolated Converter/Repeater



Structure



Diagnose and Displaying Waveform

The OR 485 can detect the RS485-bus signal, and analyze 3 channels (A, B, GND) voltage, judge it normal or error, and display the error information to the LED on the panel at the same time.

There are many registers in the MCU and PC could read them through standard Modbus commands.

For example if PC send a command (enable getting waveform)

OR 485 will sample the data at once and then this process finished, it will enable the flag(waveform ready).

PC can get the waveform when it find this flag be enabled

Network Capabilities

The OR 485 could connect PC directly, and PC also communicate with any controller on the RS485 Bus through this device, it could be used like repeater on the RS485 Bus

Register List for the Communication

The system use standard Modbus communication protocol.

There are several registers for the application that can be used for the communication with PC software.

General purpose Register list

Note: When using the Modbus Poll software, addressing should be set to "Protocol Addresses (Base 0)" under the "Display" menu.

Address	Bytes	Range	Defaults	Description
0 to 3	4	-	-	Serial Number, 4 byte value ,Read-only
4 - 5	2	-	-	Software Version – 2 byte value. Read-only
6	1	0 - 255	55	ADDRESS. Modbus device address,
7	1	0 - 255	-	Product Model
8	1	0 - 255	-	Hardware Revision
17 to 99				Blank, for future use

System application Register list

Note: When using the Modbus Poll software, addressing should be set to "Protocol Addresses (Base 0)" under the "Display" menu.

Address	Bytes	Range	Defaults	Description
100 - 134	70	0 - 1024	0	Channel A waveform sample data, Read only
135 - 169	70	0 - 1024	0	Channel B waveform sample data, Read only
170	1	0, 1	0	Channel A sample ready state, 1 is ok , 0 is not ready, Read only
171	1	0, 1	0	Channel B sample ready state, 1 is ok , 0 is not ready, Read only
172	1	0, 1	0	Channel A start sample data, 1 is start, 0 is no action
173	1	0, 1	0	Channel B start sample data, 1 is start, 0 is no action
174	1	10 - 15	15	RS485 bus state, 10 GND error,11 channel a error, 12 channel b error, 13 communication error, no input data from RS485 bus, 15 bus state is normal, readonly
175	1	1 - 3	1	analog data gain value

note: *Byte format :start + 9 bits data + stop = 11 bits *Baud rate: 19200