

RS485/USB Media converter



Contents

General	3
Specifications	3
Operations	4
Startup	4
Delivered Accessories	6
Bill of Materials	6
Schematic	7

Figures

Figure 1 Rear Panel Connections.....	4
Figure 2 Com Port Identification	4
Figure 3 Com Port Selection.....	5

General

The RS232/RS485 Media Converter is designed to test digital sensors by supplying power to the sensor and converting the RS-485/422 signal to a standard USB signal so that any Personal Computer with a USB port can monitor the output of the sensor. The USB protocol was selected due to the fact that most modern laptop computers no longer support the RS232 protocol and all computers have at least one USB data port. It can be used with a variety of sensors as long as the sensor test software is available. This includes, but not limited to, Matre Instruments digital sensors and ClampOn sand detectors to name a few.

Not all RS-485 signals follow the standard configuration for polarity. A front panel reversing switch allows the RS-485 signal polarity to be reversed without having to switch the sensor's data connection. If the received data is not displayed on the PC, switch the RS-485 polarity and see if this does not solve the problem.

While the converter provides for two way communications, most sensors only transmit data. Therefore, only the RX LED will indicate data activity.

All connections are on the rear panel. The sensor terminal strip has the sensor input and power supply output.

Specifications

Parameter	Value
Input Voltage	85 VAC to 264 VAC
Inrush Current	COLD START 30A/115VAC 60A/230VAc
Output Voltage	24 VDC
Output Current	0-2.5 ADC
Line Regulation	±1.0%
Load Regulation	±1.0%
Operating Temperature	0 to 70°C
Storage Temperature	-20 to +70°C
Power Supply Safety Approvals	NEC class 2 / LPS compliant; UL; CE
Data Rate	300 to 230.4K
Media Converter Power	USB Port Powered



Figure 1 Rear Panel Connections

Operations

Startup

When the media converter is used for the first time with any computer, the computer should indicate new hardware found. In most cases, Windows will find and install the correct driver. You will have to find what com port that Windows assigned to the USB port as follows:

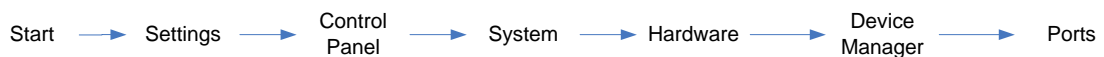


Figure 2 Com Port Identification

Click on “Start” and follow the path shown above. When you have the “Ports” box open, you should see the port that is assigned to the USB port for the converter. This port number will be used with the test software.

You can change the port assignment if necessary to any unused com port as follows:



Figure 3 Com Port Selection

If Windows does not assign the driver, the correct driver with instructions is on the disk furnished.

After the port is selected, follow the steps for operation.

1. The input toggle switch should be switched off and the RS485 switch to normal.
2. Connect the input power cable to P1. The supply voltage can be connected to any AC power source from 85 to 260 VAC.
3. Connect the 24 VDC power from the media converter to the sensor under test observing the correct polarity.
4. Connect the RS485 data lines from the sensor under test to the media converter’s RS485 terminals observing the correct polarity.
5. Turn on the main power. The front panel power lamp should be illuminated.
6. Connect the supplied USB cable from the media converter to the test computer. The green USB power indicator lamp should be illuminated. (For first time use see above)
7. The test software for the sensor under test should have been loaded on the test computer. Start the test software and configure it for the correct com port defined above. Set the data rate per the sensor under test.
8. The sensor’s data should appear in the test software (Note: this manual does not describe the test software’s operation)
9. If the sensor’s data does not appear on the test software, switch the polarity of the RS485 (front panel switch) and observe the data. If the data still does not appear, verify if the “RX” light is flashing approximately once per second for most sensors. If not, the sensor under test is probably defective.

In normal operation, the green “RX” data light should flash for every data packet from the sensor under test.

Operations and Maintenance Manual

OMM100055

5/6/2012

Delivered Accessories

Item	Description
P100032	Power Cable
P1000XX	USB Cable
OMM100055	This Manual
CD100055	USB Drivers

Bill of Materials

Item	Part Number	Description
D1	55B/TO	24VDC LED
F1	3AG 2A	Fuse with HKP fuse holder
M1	USBA4	RS485 > USB Converter
SW1	SPST	Toggle Switch
SW2	DPDT	Toggle Switch
U1	MDR-60-24	24VDC 2.5A Power Supply

Schematic

