

## Isolated USB to 2 or 4 Port RS-232 Converter

Models: USO9ML2-2P & USO9ML2-4P

### Features

- ✓ Connects multiple RS-232 devices to your USB Port
- ✓ 2000 V RMS Port-to-Port Optical Isolation
- ✓ 15 KV ESD Surge Protection
- ✓ USB Port Powered or External Power
- ✓ Supports USB 2.0 (Backward Compatible)
- ✓ RS-232 Data Rates up to 460.8 kbps
- ✓ LED's to indicate data flow on RS-232 ports
- ✓ High retention USB interface ensures a reliable connection
- ✓ Automatic Configuration on Windows 98, ME, 2000, XP, and Vista



### Functional Description

Connect legacy RS-232 devices to a USB port and gain 2000 V RMS isolation from voltage spikes and ground loops. Universal Serial Bus (USB) has become the connectivity workhorse of today's PCs, replacing the familiar serial ports. However, many commercial and industrial devices still use the RS-232 interface. To connect these devices to modern PCs and provide protection from electrical transients, you need a simple and reliable conversion solution. The USO9ML2-2P and USO9ML2-4P offer this solution. Simply plug the converter into an available USB port on your computer or USB hub and install the drivers supplied on CD ROM. The device will show up as additional COM ports in the Windows Device Manager which are fully compatible with your Windows applications. A one meter USB cable is included.

### Ordering Information

Model Number	Description
USO9ML2-2P	Isolated USB to 2 Port RS-232 Converter
USO9ML2-4P	Isolated USB to 4 Port RS-232 Converter
Accessories	
USBAMB-3F	3 ft (1 M) USB Cable (One Included)
USBAMB-6F	2 m (6ft) USB Cable
9PAMF6	2 m (6 ft) DB9 Male to DB9 Female Cable
9PAMF10	3 m (10 ft) DB9 Male to DB9 Female Cable
232NM9	3 m (6 ft) DB9 Female to DB9 Female Null Modem Cable
232NM9MF10	3 m (10 ft) DB9 Male to DB9 Female Null Modem Cable
MDR-20-24	DIN Rail Mount, 24 VDC, 1 A Power Supply
12DC1AST	DC Power supply Unregulated 12VDC@1000mA



## Specifications

### Serial Technology

RS-232 Configuration	DTE
RS-232 Connector	DB9 Male (DTE)
Data Rate	460.8 kbps (max)
Isolation	2000 V (Port-to-Port) Optical
Surge Protection	15 KV ESD

### USB Technology

Connector	USB Type B Female, high retention Withdrawal > 15 N
Standard	1.1 and 2.0 Compatible
Data Rate	12 Mbps

### Power

Source	USB Port or External Source
Input Voltage	5 VDC from USB Port or 10 - 30 VDC External Power Supply
Consumption	Higher Power Device (>100 mA) USO9ML2-2P: 3 Watts, External Power Supply USO9ML2-4P: 5 Watts, External Power Supply

### Software

Driver CD	Windows 98, ME, 2000, XP, Vista
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### Mechanical

Dimensions	6.5 x 1.2 x 3.1 in (16.4 x 3.0 x 8.0 cm) without Flanges 7.5 x 1.2 x 3.1 in (19.0 x 3.0 x 8.0 cm) with Flanges
Weight	2 Port 0.73 lbs (331.1 g), 4 Port 0.77 lbs (349.3 g)

### Environmental

Operating Temp	32 to 158 °F (0 to 70 °C)
Storage Temp	-40 to 185 °F (-40 to 85 °C)
Operating Humidity	0 to 95 % (Non-condensing)
MTBF (USO9ML2-2P)	118245 hours
MTFB (USO9ML2-4P)	61861 hours
MTBF Method	Parts Count Reliability Prediction

### Regulatory

Approvals	FCC, CE, UL
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### RS-232 Pin-out (DTE / DB9 Male)

PIN	Direction	Signal Name
1	Input	DCD (Receive Line Signal Detector)
2	Input	RD (Receive Data)
3	Output	TD (Transmit Data)
4	Output	DTR (DTE Ready)
5	N/A	SG (Signal Ground)
6	Input	DSR (DCE Ready)
7	Output	RTS (Request to Send)
8	Input	CTS (Clear to Send)
9	Input	RI (Ring Indicator)