

## Description

The **USB-232** is an interface module that allows a USB 1.1 or USB 2.0 port to talk to US Digital RS232 devices such as the **X3** MEMS inclinometer. The **USB-232** interface is usually ordered with a US Digital device and comes with the necessary US Digital drivers, DLLs and Demo software designed for the product. This adapter is not intended to talk to non-US Digital devices. For more information about the X3M MEMS inclinometers and related documents, see the X3M product page.

The module has two connectors, J1 and J2. J1 is a standard USB type B receptacle and J2 is a 5-pin finger latching male connector typically used to interface with the CA-FC5-SH-MIC4-6 cable assembly. Note: J2 is not a DB-9 style connector commonly used for RS232; instead, it is a smaller connector that also provides power along with RS232 signals.

A green LED, next to the USB connector, is lit when the USB connection is established with the host.



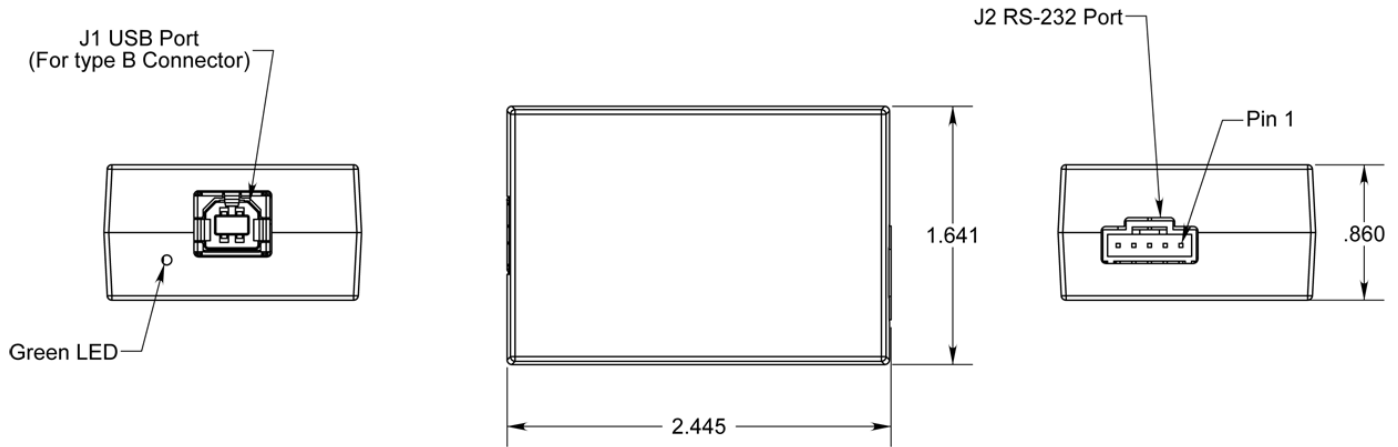
## Features

- ▶ USB 1.1 device communicates at 12 Mbit/sec
- ▶ Compatible with USB 2.0 hubs and host adapters
- ▶ USB certified drivers are included for Windows 2000/XP/Vista
- ▶ Supports USB to RS232 two-wire communication and provides 5VDC @ 480 mA to external devices
- ▶ USB Enhanced ESD protection of up to 15 kV (human body model)
- ▶ Supports USB suspend and resume modes
- ▶ US Digital warrants its products against defects in materials and workmanship for two years. See complete warranty for details.

## Software

- ▶ [www.usdigital.com/support/software/usb-com-port-driver](http://www.usdigital.com/support/software/usb-com-port-driver)
- ▶ [www.usdigital.com/assets/USDProducts.zip](http://www.usdigital.com/assets/USDProducts.zip) (.zip file with installer)

## Mechanical Drawing



### Absolute Maximum Ratings

Parameter	Min.	Max.	Units
Storage Temperature	-40	100	C
Operating Temperature	0	70	C
Humidity (non-condensing)	0	95	%

### Electrical

Parameter	Min.	Typ.	Max.	Units	Notes
USB Port Quiescent Current	20	-	-	mA	1
RS232 PWR Pin Current	-	-	480	mA	3
RS232 Output High Voltage	5.0	5.4	-	V	4
RS232 Output Low Voltage	-5.0	-5.4	-	V	4
RS232 Input Voltage Range	-25	-	25	V	5
RS232 Input Voltage Threshold	±3.0	-	-	V	6
RS232 Input Resistance	3	5	7	kΩ	-

**Notes**

- This is the current drawn from the USD Port by the USB-232 adapter with no devices attached.
- This is the +5 V power as supplied by the USB port per the USB specification.
- This is the +5 V maximum current that may be supplied to the external RS232 device.
- These are the RS232 voltage levels in and out of the RS232 connector.
- This is the maximum useful voltage that the RS232 connector will accommodate.
- These are the minimum RS232 signal voltages necessary for reliable communication.

### Pin-outs

#### J1 USB Port Pin-Out

Pin	Name	Description
1	PWR	USB power input (4.75 V - 5.25 V @ 500 mA, standard high PWR mode)
2	D-	USB data - line
3	D+	USB data + line
4	GND	USB ground

#### J2 RS232 Port Pin-Out

Pin	Name	Description
1	GND	Ground for power and TX/RX lines
2	NC	No Connection
3	RX	RS232 RX signal (input to the USB-232)
4	PWR	+5 V (nominal) power for external RS232 device
5	TX	RS232 TX signal (output from the USB-232)

### Timing Specifications

Parameter	Min.	Typ.	Max.	Units
RS232 Data Rate	1.2	-	115.2	kBaud

### Cables and Connectors

#### Serial Output (sold separately):

Part #	Description
CA-FC5-SH-MIC4-6	6' shielded cable 4-pin micro connector to 5-pin finger-latching connector.*

\* Note: Other length cables are also available. Maximum length is 200'.

#### USB (sold separately):

Part #	Description
CA-UA-USB-UB-3	3' cable with USB type-A to USB type-B male connectors.
CA-UA-USB-UB-6	6' cable with USB type-A to USB type-B male connectors.
CA-UA-USB-UB-10	10' cable with USB type-A to USB type-B male connectors.
CA-UA-USB-UB-15	15' cable with USB type-A to USB type-B male connectors.

### Product Change Notifications

Title	Date	Description	Download
PCN 1011	9/21/2011	The AD2B, AD4B, AD7, EADAPT, EDAC2, EDIVIDE, EPOT, EQUAD, ESUM, ESWITCH, ETACH2, SEI-USB, USB-232 currently utilizes a printed thermal transfer label. This label will no longer be used and will be replaced by laser marking directly onto the housing of the product. The purpose for this change is to create a more durable solution, and eliminate the possibility of the label being inadvertently removed from the housing.	Download
EOL USB-232 - PCN 1033	6/17/2013	This PCN is a formal notification that US Digital is discontinuing the USB-232.	Download

### USB - RS232 Network



### Base Pricing

Quantity	Price
1	\$32.00
10	\$27.20

For volume discounts, please contact us at [sales@usdigital.com](mailto:sales@usdigital.com) or 800.736.0194.