

Inertia-Link[®] 3DM-GX2[®] Orientation Sensors



Interfacing the EasySync[™] RS-422 Adapter

Overview

MicroStrain's Inertia-Link[®] and 3DM-GX2[®] can be outfitted with an RS-422 communications interface. Many RS-422 to USB or RS-232 adapters exist. MicroStrain uses and can provide the EasySync[™] RS-422 Adapter. This technical note describes how the EasySync[™] can be interfaced with the Inertia-Link[®] and 3DM-GX2[®] orientation sensors.

EasySync[™]

The EasySync[™] USB Industrial I/O Adapter Model ES-U-3001-M <http://www.easysync-ltd.com/> comes with a USB cable and driver software. The USB cable connects the EasySync[™] to the host computer, providing both communications and power to the EasySync[™]. The driver software instantiates a virtual serial communications port on the host. In the Microsoft Windows[®] operating system, the driver appears in Device Manager under Ports (COM&LPT) as shown below (highlighted blue). In this example we see that serial port 8 has been assigned. The communication chain results in the Inertia-Link[®] or 3DM-GX2[®] being treated as if connected to a standard serial port. As instructed in the EasySync[™] manual, the red dip switches should all be in the ON position to provide RS-422 service. Finally the Inertia-Link[®] and 3DM-GX2[®] RS-422 communication and power cable (MicroStrain part number 6212-1070) connects the EasySync[™] to the sensors. Power for the sensors is connected through the power pigtail on the MicroStrain cable.



Interfacing the EasySync™ RS-422 Adapter

Software

MicroStrain provides Inertia-Link® software with each Inertia-Link® and 3DM-GX2® starter kit. When employing this software, the user should enable the serial port that has been assigned to the EasySync™. For example:

- After finding No Devices, right-click No Devices.
- A drop-down menu will appear.
- Click Select Serial Adapter Ports.
- The Select Scan Channels window will appear.
- Click the appropriate serial port number so that it is darkened. In our Device Manager view above we see that serial port 8 was assigned.
- Click OK and the Select Scan Channels window will disappear.
- Right-click No Devices again and the scanning will start.
- The sensor will now be found and available for further sampling by the software.

If you are developing software using the Inertia-Link® and 3DM-GX2® Data Communications Protocol manual, the EasySync™ virtual serial communications port should be treated as any other serial port. The serial port configuration (baud rate, etc.), all commands and responses are identical to those described for RS-232 communication.



MicroStrain, Inc.

459 Hurricane Lane, Suite 102

Williston, VT 05495 USA

www.microstrain.com

ph: 800-449-3878

fax: 802-863-4093

support@microstrain.com