



USB Driver

Installation Manual

Issue 1.00

**Detailed guide for the installation of Actisense USB Drivers
under the following operating systems:**

- Windows XP / 2000
- Windows Vista

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Important notices

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Active Research Limited will not be held responsible for any damage to the user that may result from accidents or any other reasons during operation of the user's unit according to this document.

Foreword

Here at Active Research Limited we recognise that instructions are often skipped, so we have aimed to write this document in an informative yet direct manner that will aid the user. We have tried to cover all the points a typical user may need to know.

Please read all sections before installing and using the **Actisense** product and any related software programs.

Introduction

This guide gives detailed instruction for the USB driver installation and COM port configuration for the most common operating systems. Many of the instructions will be familiar to the experienced user, whilst the steps detailed within this guide will help the inexperienced user have trouble free installations.

To make this guide cover all of the **Actisense** USB products, the product name used throughout this guide will be simply '**Actisense device**'. Where this appears on the screenshots, the actual text shown will be product specific according to that shown in **table 1**.

All **Actisense** USB compatible devices make use of a Virtual Serial Port driver, also known as the 'Virtual COM Port Driver' (VCP). This driver interfaces between the USB port on the computer and the **Actisense** product. This driver allows software running on the computer to communicate with the **Actisense** device as if it was connected to a standard serial port, when in fact all communication is done over the USB connection.

Under Windows the required driver installation comes in two separate packages. The first driver is called the 'Serial Converter' which converts the USB data packets to a serial data stream. The second driver, called the 'Actisense USB Serial Port', makes the USB connection appear as a COM port on the computer.

Product	Serial Converter Driver Text	Actisense USB Serial Port Text
NDC-3-USB	Actisense NDC USB Serial Converter	Actisense NDC
NDC-4-USB	Actisense NDC USB Serial Converter	Actisense NDC
NGT-1-USB	Actisense NGW/NGT NMEA 2000 Gateway	Actisense NGW/NGT
NGW-1-USB	Actisense NGW/NGT NMEA 2000 Gateway	Actisense NGW/NGT
USG-1-422	Actisense USG USB Serial Gateway	Actisense USG
USG-1-485	Actisense USG USB Serial Gateway	Actisense USG

Table 1 – Actisense products installation text

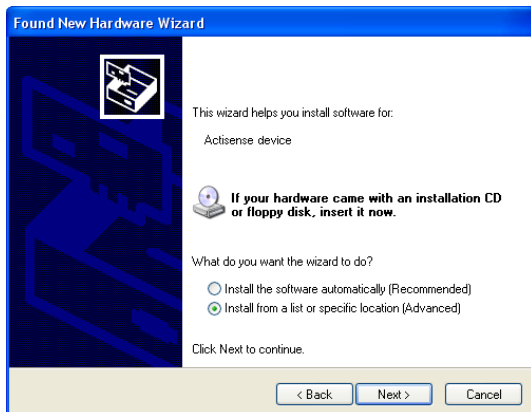
Windows XP / 2000

Driver Installation Guide

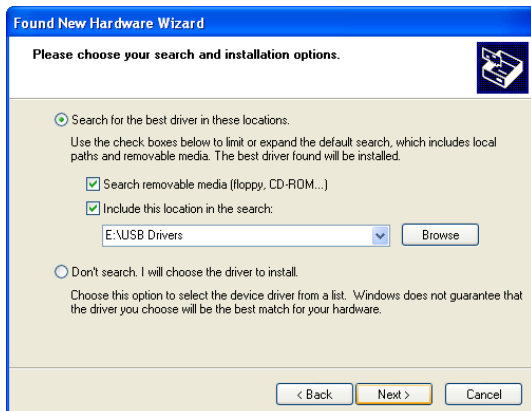
1. Make sure the **Actisense device** is connected to an available USB port on the PC. The standard Windows 'Found New Hardware Wizard' window will then appear. Select the **'No, not this time'** option, to allow driver installation from the **Actisense CD** which was supplied with your Actisense product.



2. Insert the **Actisense CD**, choose the **'Install from a list or specific location'** option, and click **'Next'**.



3. Make sure the **'Include this location in the search'** option is ticked, and use the **'Browse'** button to locate the **'USB Drivers'** directory on the **Actisense CD**.

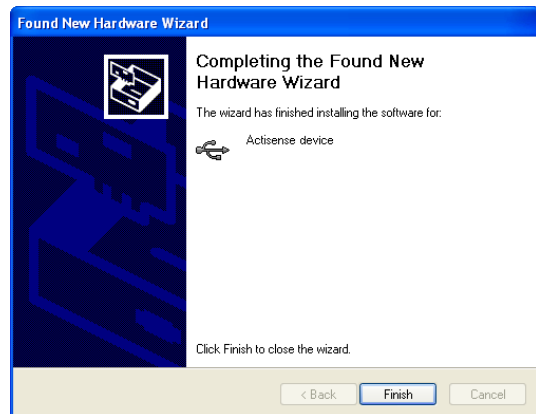


4. The **'Actisense USB Serial Converter'** driver is not Microsoft Windows certified, but it has been tried and tested for stable and reliable operation with the **Actisense** device. Click **'Continue Anyway'** to carry on with the installation.



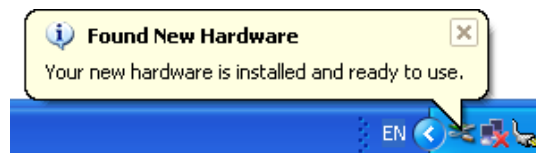
5. If the **Actisense** driver has been installed previously, Windows will request the user to confirm if it should replace the "FTLang.dll" file. Click on **'Yes'** to carry on.

6. The **'USB Serial Converter'** driver is now installed, click **'Finish'** to complete the wizard, and wait for the **'Found New Hardware Wizard'** to appear again.



This second wizard will guide you through the **'USB Serial Port'** driver installation.

7. Follow steps 1 to 5 above for the **'USB Serial Port'** driver installation and click **'Finish'** to complete.



'Your new hardware is installed and ready to use' bubble will appear in the bottom right corner of your screen when the installation is complete.

USB Configuration

To communicate with the **Actisense device**, the COM port number that Windows has allocated to the USB port needs to be determined. The following guide will detail how to perform this standard operation.

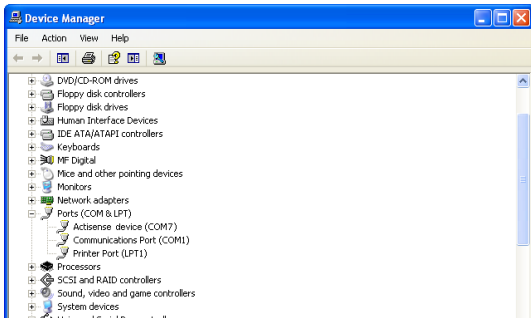
The **Actisense device** is USB port independent: plugging the unit into a different USB port will **not** require the drivers to be installed again, and will **automatically setup the new connection to use the same COM Port number on each and every USB port.**

Once configured, the **COM port number will not change unless instructed to do so by the user.**

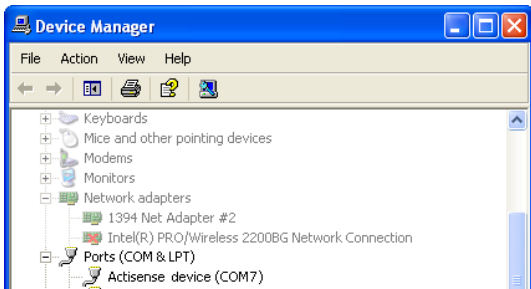
This is very useful when the **Actisense device** is working in unison with a software program that is set up to use a particular COM port, as the user does not need to re-select a different COM port every time the PC reboots, or the cable is swapped between two USB ports.

Step by step guide

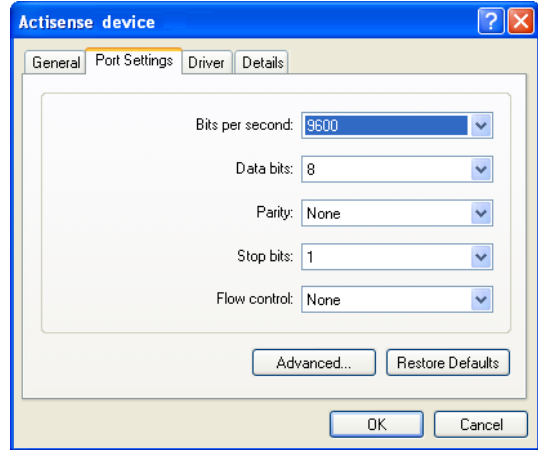
1. Make sure the **Actisense device** is connected to an available USB port on the PC. From the Windows **'Control Panel'**, open the **'System Properties'** window and click on the **'Hardware'** tab.



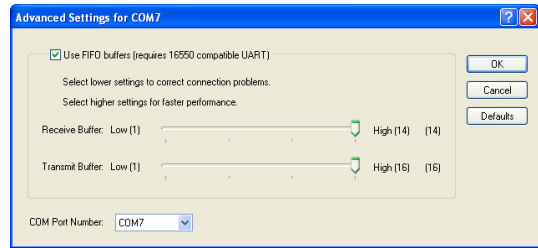
2. Click on **'Device Manager'** and expand the **'Ports (COM & LPT)'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list, followed by the allocated COM port number.



3. Double click on the port icon for the **'Actisense device'** and the port properties window will appear. Click on the **'Port Settings'** tab. Here you can set the default settings for the **Actisense device**. **It is not necessary to change the default settings here - as each software program will define these settings itself.**



4. Click on the **'Advanced'** button and choose a different COM Port number if required (to make it compatible with the software reading the **Actisense device's** NMEA data).



The other settings are already optimised for the **Actisense device** and should be left in the default values. Click on **'OK'** button to save the new settings.

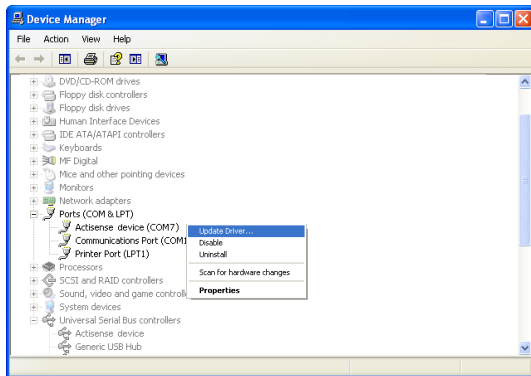
5. On some systems, a restart may be required before the new COM Port number is available for selection in a software program.

Update Driver

1. Make sure the **Actisense device** is connected to an available USB port on the PC. From the Windows **'Control Panel'**, open the **'System Properties'** window and click on the **'Hardware'** tab.



2. Click on **'Device Manager'** and expand the **'Universal Serial Bus controllers'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list.



3. Right click on the **'Actisense device'** and click on **'Update Driver...'**.

4. This will start the same installation as for a new driver so steps 2-5 from the **Windows XP / 2000 Driver Installation Guide** section should be followed, locating the driver on your computer or CD.

5. Again in the device manager expand the **'Ports (COM & LPT)'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list, followed by the allocated COM port number.

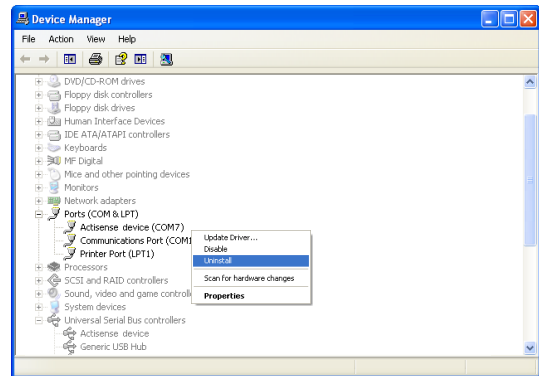
6. Repeat steps 2-5 from the **Windows XP / 2000 Driver Installation Guide** section with this driver.

Uninstall Driver

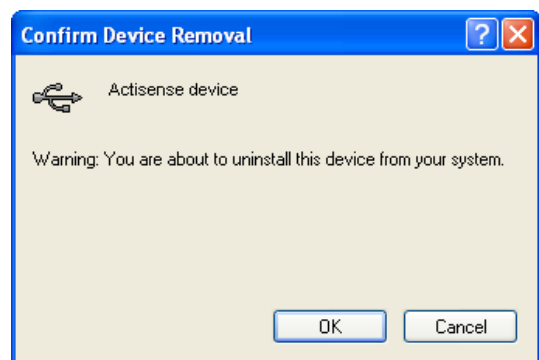
1. Make sure the **Actisense device** is connected to an available USB port on the PC. From the Windows **'Control Panel'**, open the **'System Properties'** window and click on the **'Hardware'** tab.



2. Click on **'Device Manager'** and expand the **'Universal Serial Bus controllers'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list.



3. Right click on the **'Actisense device'** and click on **'Uninstall'**.



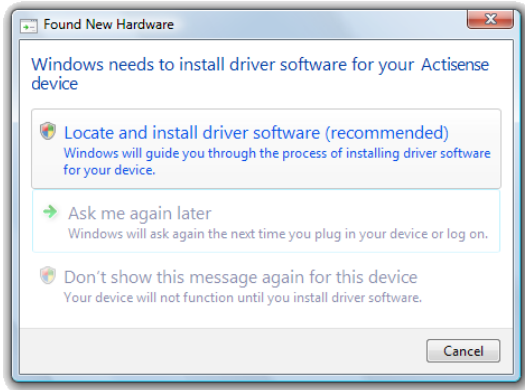
4. A confirmation message will appear, click **'Ok'** to continue.

This single operation should remove both the USB and Virtual COM Port (VCP) drivers from Windows.

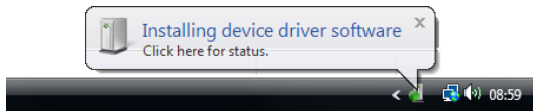
Windows Vista

Driver Installation Guide

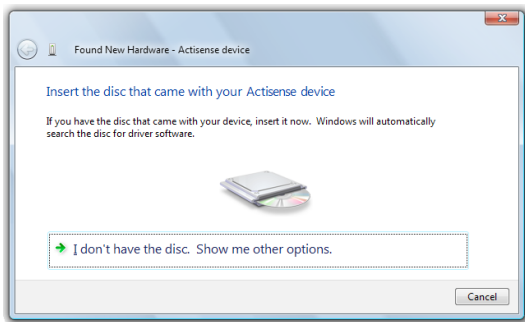
1. Make sure the **Actisense device** is connected to an available USB port on the PC. The standard Windows 'Found New Hardware' window will then appear. Insert the **Actisense CD**, choose the '**Locate and install driver software (recommended)**' option.



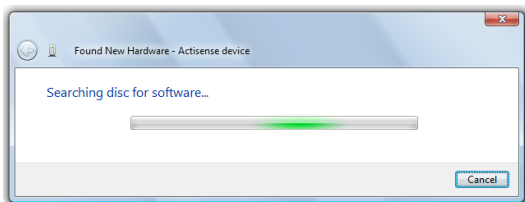
The '**Installing device driver software**' bubble will then appear.



2. Windows should automatically detect the drivers on the CD, otherwise make sure the CD is inserted and click '**Next**'.

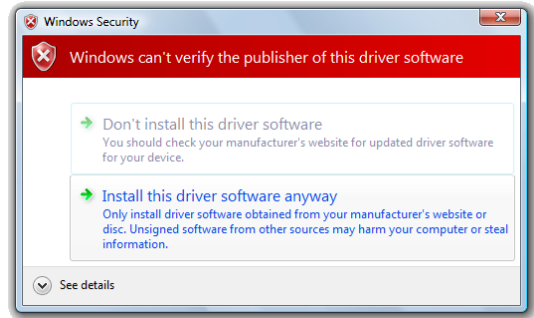


4. Windows will then search for the driver.

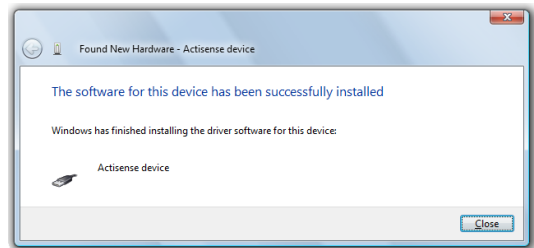


5. The '**Actisense USB Serial Converter**' driver is not Microsoft Windows certified, as the required **Actisense device** details have been added to the certified driver. This driver is however identical in operation to the one certified by Microsoft and has been tried and tested for stable and reliable operation with the **Actisense device**.

Click '**Install this driver software anyway**' to carry on with the installation.



6. The '**USB Serial Converter**' driver is now installed, click '**Close**' to complete the wizard, and wait for the '**Found New Hardware**' window to appear again.



This second wizard will guide you through the '**USB Serial Port**' driver installation.

7. Follow steps 1 to 6 above for the '**USB Serial Port**' driver installation and click '**Finish**' to complete.

'**Your new hardware is installed and ready to use**' bubble will appear in the bottom right corner of your screen when the installation is complete.

USB Configuration

To communicate with the **Actisense device**, the COM port number that Windows has allocated to the USB port needs to be determined. The following guide will detail how to perform this standard operation.

The **Actisense device** is USB port dependent: plugging the unit into a different USB port will require the drivers to be installed again. This may therefore automatically set the unit up with a different COM Port number on each USB port.

To allow the unit to be easily unplugged from one USB port and connected to another available USB port on the same PC without the COM Port number changing the drivers must be installed for every USB port. Plug the **Actisense device** into each required USB port that you in turn, install the USB drivers and manually change the allocated COM port number to the same number for each USB port.

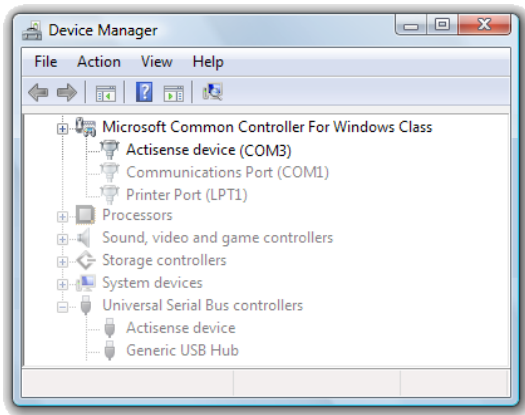
Once configured, the COM port number will not change unless instructed to do so by the user.

This is very useful when the **Actisense device** is working in unison with a software program that is set up to use a particular COM port, as the user does not need to re-select a different COM port every time the PC reboots, or the cable is swapped between two USB ports.

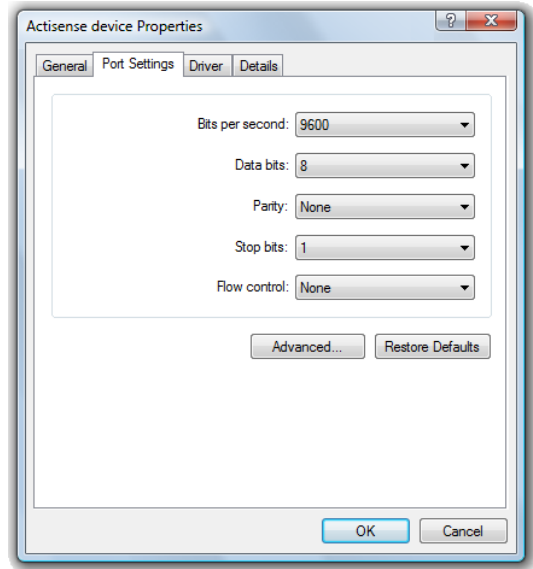
Step by step guide

1. Make sure the **Actisense device** is connected to an available USB port on the PC. From the '**Computer**', open the '**System Properties**' window and click on '**Device Manager**'. Expand the '**Ports (COM & LPT)**' list by clicking on the '+' sign next to it.

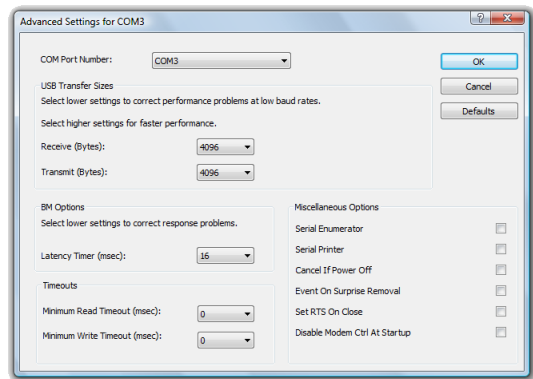
You will find the '**Actisense device**' in the list, followed by the allocated COM port number.



2. Double click on the port icon for the '**Actisense device**' and the port properties window will appear. Click on the '**Port Settings**' tab. Here you can set the default settings for the **Actisense device**. **It is not necessary to change the default settings here - as each software program will define these settings itself.**



3. Click on the '**Advanced**' button and choose a different COM Port number if required (to make it compatible with the software reading the **Actisense device's** NMEA data).



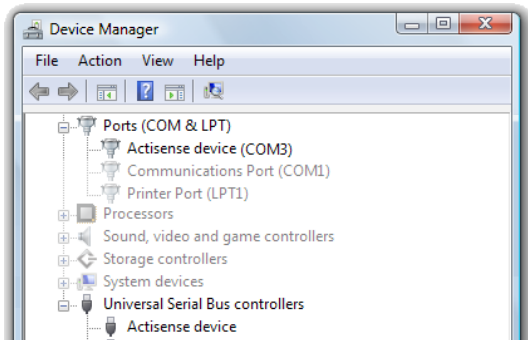
The other settings are already optimised for the **Actisense device** and should be left in the default values. Click on '**OK**' button to save the new settings.

4. On some systems, a restart may be required before the new COM Port number is available for selection in a software program. Check what ports are available in the specific software before performing a restart.

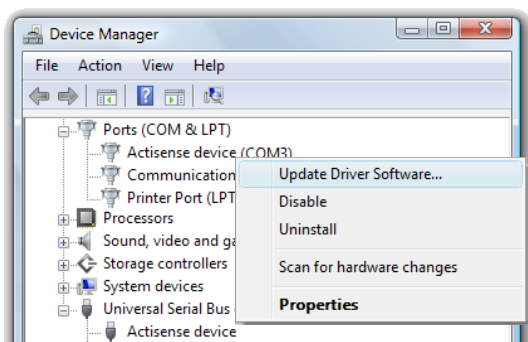
Update Driver

1. Make sure the **Actisense device** is connected to an available USB port on the PC. From the **'Computer'**, open the **'System Properties'** window and click on **'Device Manager'**.

2. Expand the **'Universal Serial Bus controllers'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list.



3. Right click on the **'Actisense device'** and click on **'Update Driver Software...'**.



4. This will start the same installation as for a new driver so steps 2-6 from the [Windows Vista Driver Installation Guide section](#) should be followed, locating the driver on your computer or CD.

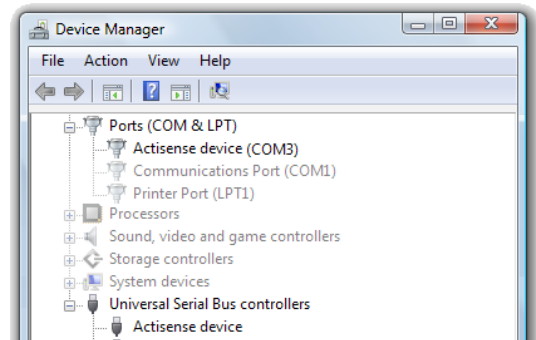
5. Again in the device manager expand the **'Ports (COM & LPT)'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list, followed by the allocated COM port number.

6. Repeat steps 2-6 from the [Windows Vista Driver Installation Guide section](#) with this driver.

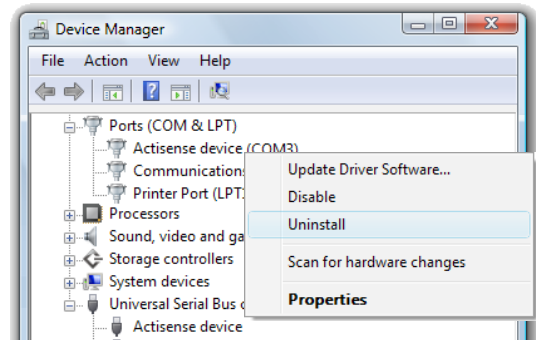
Uninstall Driver

1. Make sure the **Actisense device** is connected to an available USB port on the PC. From the **'Computer'**, open the **'System Properties'** window and click on **'Device Manager'**.

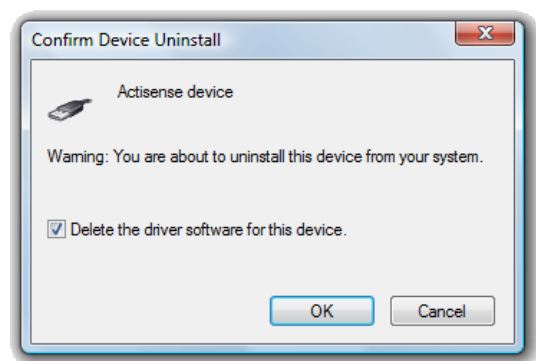
2. Expand the **'Universal Serial Bus controllers'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list.



3. Right click on the **'Actisense device'** and click on **'Uninstall'**.



4. A confirmation message will appear, tick the box labelled **'Delete the driver software for this device.'** and click **'OK'** to continue.



5. In the device manager, expand the **'Ports (COM & LPT)'** list by clicking on the **'+'** sign next to it. You will find the **'Actisense device'** in the list, followed by the allocated COM port number and repeat steps 3-4 with this driver.

6. Unplug the device when finished.

Current USB product codes

NDC-4-USB	NMEA 0183 Data Combiner / Multiplexer 4 isolated inputs, 2 ISO-Drive outputs & a bi-directional USB port
NGT-1-USB	NMEA 2000 ↔ USB Interface Standard version required to connect the NMEA 2000 network to the USB port of a computer running Actisense certified software
NGW-1-USB	NMEA 2000 ↔ NMEA 0183 Gateway Special version required to connect the NMEA 2000 network to the USB port of a computer running NMEA 0183 compatible software
USG-1-422	USB ↔ Serial Gateway For use with NMEA 0183 and RS422 bi-directional interfaces
USG-1-485	USB ↔ Serial Gateway For use with RS485 industrial bi-directional interfaces

Retired USB product codes

NDC-3-USB	NMEA 0183 Data Combiner / Multiplexer 4 isolated inputs, 2 outputs & USB port
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