

PC requirements, settings, and LAN connection guide

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Symbols

Explanations of symbols & labels on the device or in the user manual:

The following symbols are used in this guide:



The danger sign warns about a hazard. It calls attention to a procedure or practice which, if not adhered to, could result in injury or loss of life.

Do not proceed beyond a danger sign until the indicated conditions are fully understood and met.



The warning sign denotes a hazard. It calls attention to a procedure or practice which, if not adhered to, could result in severe injury or damage or destruction of parts or all of the equipment. Do not proceed beyond a warning sign until the indicated conditions are fully understood and met.



The caution sign denotes a hazard. It calls attention to a procedure or practice which, if not adhered to, could result in damage or destruction of parts or all of the equipment. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.

The attention sign signals relevant information. Read this information, as it might be helpful.

Safety practices

It is assumed that the individual using this manual has sufficient training in the service of Personal Computers/installation of peripherals and is aware of the potential hazards including (but not limited to) electrical hazards. Make certain that you are familiar with the contents of this manual before working on the Personal Computer.


The following safety practices and protective measures are intended to ensure safe installation of the LAN-kit.

Electrical hazards



Never open a device when it is connected to an electrical power source! Removal of protective panels on the instrument can result in exposure to potentially dangerous voltages which may lead to **severe injury or loss of life!** The instrument may only be opened by authorized service engineers of the manufacturer or a company authorized by the manufacturer.



 WARNING - RISK OF ELECTRIC CHOCK
DISCONNECT POWER BEFORE SERVICING
AVERTISSEMENT - RISQUE DE CHOC ELECTRIQUE
COUPER L'ALIMENTATION AVANT LA MAINTENANCE

Note: There is no need to remove panels during the installation of the LAN-kit.

Electrostatic hazards



Take precautions against electrostatic discharge during installation to prevent damage of the electronic parts

Spare parts and service availability

Manufacturer provides a variety of services to support her customers after warranty expiration. Repair service can be provided on a time and material basis. Contact your local supplier for servicing. Technical support and training can be provided by qualified chemists on both contractual or as-needed basis.

CHAPTER 1

PC requirements

For installation of an ALEXYS™ system (2024 model), each individual instrument needs to be connected to a Personal Computer (PC) and LAN gigabit network switch for instrument control. A PC and network switch are **not** part of the Antec ALEXYS LC system and must be purchased separately from a local store due to differences in regions.



Make sure to acquire a PC and a LAN network switch before an ALEXYS installation.



Hardware & OS

Table 1. Recommended PC requirements for control over an ALEXYS system

Parameter	Details
Processor/RAM	Intel i5 - 9000 family or better, 3 GHz with 16 GB RAM memory
Hard disk	SSD or M.2 drive, NTFS partition with at least 60 GB free space
Monitor	1920x1080, 1280x1024 or 1680x1050, 64K (16 bit High color)
Ports	3 free USB ports (at least 1 is USB type 3.0) 1 free LAN port (on-board/PCI)
OS	Microsoft Windows 11 and 10 Win 11 support from Clarity CDS 8.7 *For older Windows 8 and 7: contact supplier.
Version	Europe or US
Service packs	Updated to latest
Language	English
Installation	'Clean' install (no installation of vendor-supplied software/tools)



Table 2. Examples of suitable Gigabit Network Switches

Brand	Model/type
TP-link	TL-SG105(S), 5-Port Metal Gigabit Switch https://www.tp-link.com/en/products/details/cat-4763_TL-SG105.html
NETGEAR	GS105 (E), 5 Port Gigabit Ethernet Unmanaged Switch https://www.netgear.com/support/product/GS105.aspx
LINKSYS	LGS105, 5 port Gigabit Switch https://www.linksys.com/us/p/P-LGS105



LAN Connection Kit

The LAN connection kit 250.0180 contains instructions and all additional cables to set up the communication with the PC. Most PCs are equipped with only one LAN-port, and as this will be used to connect with the ALEXYS system, an additional USB-LAN adapter is provided with this kit to be able to stay connected to the internet.



Only use the PC on-board LAN port to make the connections with the ALEXYS instruments! Using a USB LAN adapter may lead to instrument connection errors.

The following parts are supplied in the LAN connection kit:

- Instructions manual
- 5 x LAN (UTP) cable, 1.5m
- 1 x USB3.0 hub with LAN adapter



A LAN switch is not part of the ALEXYS system! It must be acquired locally. See Table 2 for recommended models.

Software

Table 2. Advised software programs

Software	Details
PDF reader	Manuals are provided in PDF file format
MS Office*	Excel and Word for data reporting and qualification procedures



*) Tip: Microsoft Office online is a free version which allows the creation of Office files in your browser. See <https://www.microsoft.com/en-us/> for more information.

When the software is using MS Office for example to export data, only the (paid) app version of Office will work.

CHAPTER 2

Local Area Network settings

All instruments provided by Antec Scientific are default set to have a fixed IP address starting with the numbers 192.168.5. To enable communication between the computer and these instruments through a network switch, the IP address of the computer LAN port should first be set to 192.168.5.10.

Install the network switch

A 5 port switch has 4 LAN ports available for ALEXYS instruments. To install the switch, do the following:

1. Connect the switch to a power source with the power adapter.
2. The lights should turn on
3. Use one of the provided LAN (UTP) cables from the kit to connect the switch to the PC's on-board LAN port
4. Adjust the IP address of the computer LAN port as pointed out below.



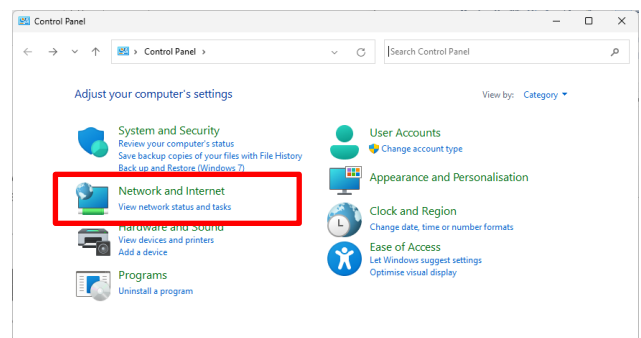
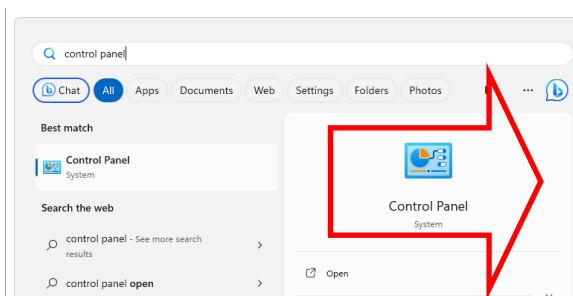
Only use the PC on-board LAN port to make the connection with the network switch. Never connect the network switch over a USB LAN adapter, as this may lead to instrument connection errors.

Adjust the IP address of the LAN port on the computer



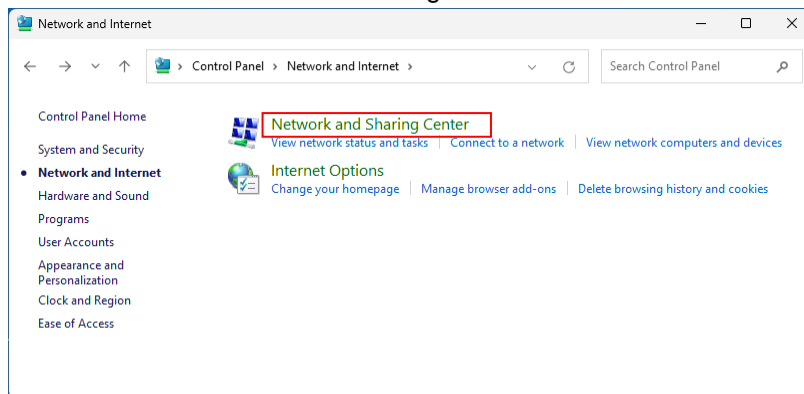
Note: make sure to make the adjustments to the correct PC internal LAN adapter, not the USB-LAN adapter!

To change the IP address of the computer LAN port, open the Control Panel (use the search bar to find it):

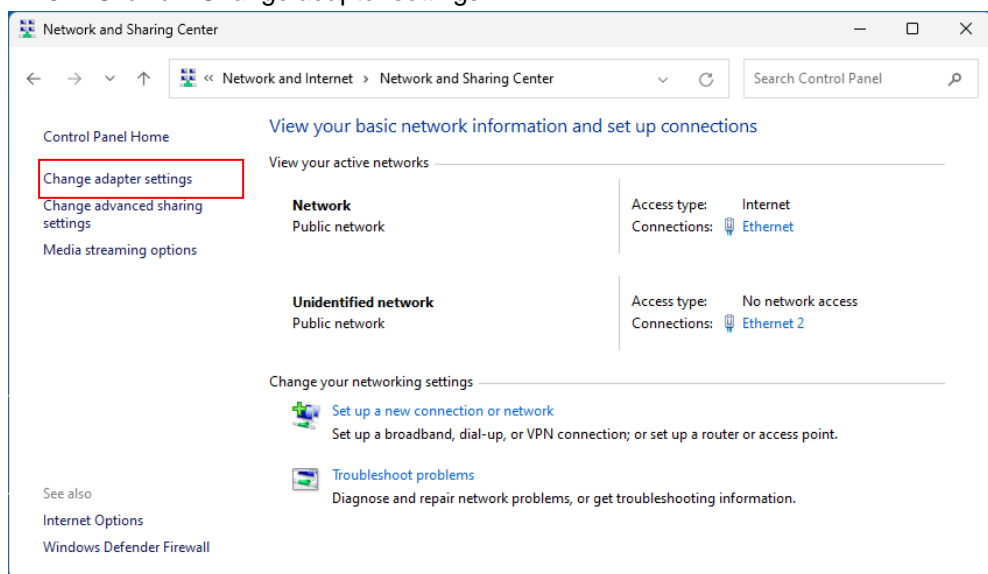


1. Select 'Network and Internet'

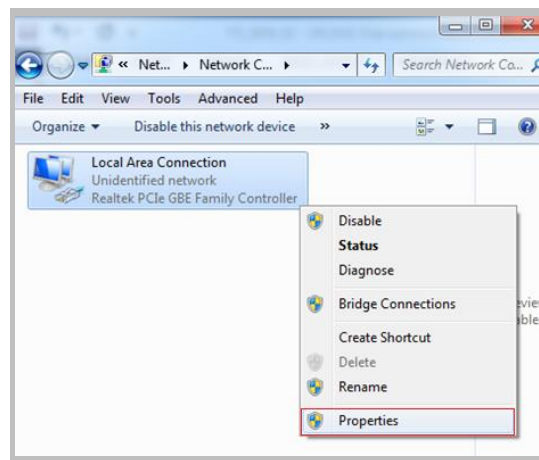
2. Click on 'Network and Sharing Center'.



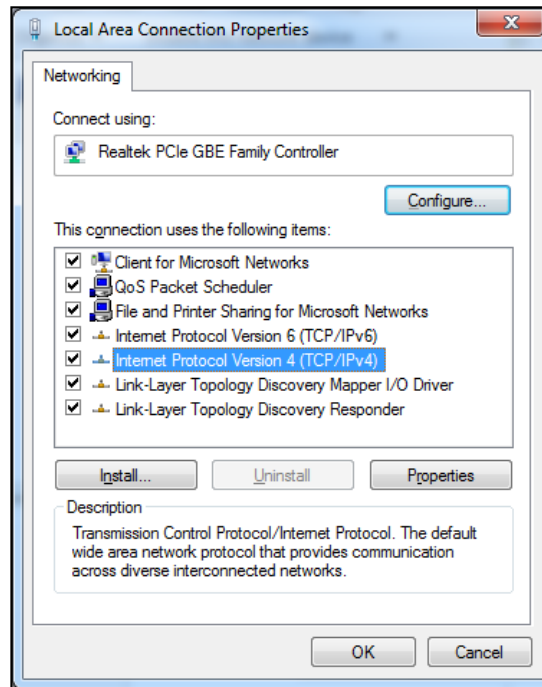
3. Click on 'Change adapter settings'.



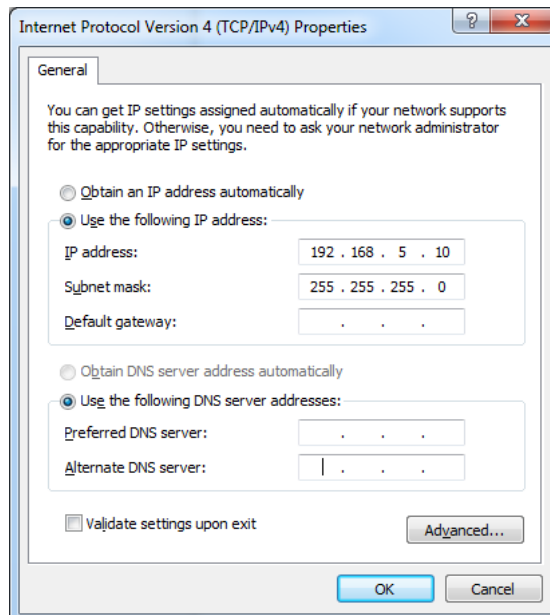
4. Right-click on the Local Area Connection icon of the LAN port in your PC and click to open its Properties window.



5. Double-click in the items list on 'Internet Protocol Version 4 (TCP/IPv4)' to open its properties window.



6. Set the properties as in the screen dump below
 - IP address: **192.168.5.10**
 - Subnet mask: 255.255.255.0
 - Gateway and DNS fields empty



7. Close the menu(s) by clicking the 'OK' button.

The network IP address of the LAN adapter is now configured for communication with the ALEXYS instruments.

Connect the instruments to the switch

Use the LAN (UTP) cables provided in the LAN connection kit (pn. 250.0180) to connect each instrument of the ALEXYS system to one of the ports of the switch.



Do not use any of the LAN cables from the accessory-kits of the individual instruments, as some have different and incompatible features.

The communication hardware between instruments and control software is now in place and ready for use.

Optional: installation of an alternative LAN-port for internet connection

In case a wifi adaptor or additional free LAN port (either on-board or PCIe) is available, then the following 4 steps can be skipped, and the USB hub with LAN adapter from the LAN connection kit (pn. 250.0180) will not be used.



Do not use the USB LAN adapter to make the connection with the ALEXYS system! This can result in a loss of communication with the ALEXYS system.

1. Connect the power adapter to the USB3.0 hub-LAN adapter and insert the USB cable to a free USB3.0 port on the computer. This power adapter is only needed in case an external drive is connected to the USB port.
2. If the device does not auto-install, use the CD and instructions provided with the hub.
3. Disconnect the internet/intranet cable from the computer and connect it to the LAN port of the USB hub.
4. Double-check that the internet/intranet is functioning by opening a webpage.

CHAPTER 3

Computer settings

The use of laboratory instruments that are under the control of a Chromatography Data System (CDS) requires an uninterrupted digital connection with the computer. For a stable digital communication, we recommend checking/adjusting the following settings:

Table 3. General settings

Item	Details
Clarity installation	Disable memory integrity in Windows 10 and 11 (Specific for installation of earlier versions of Clarity dongles)
Virus scanner	Exclude scans of read/write actions in the CDS data folder
Windows update	Pause the automated installation of updates. Run Windows updates manually when the ALEXYS is not in use, as a restart of the PC may be needed.
Firewall	Indicate the CDS executables to be trusted apps
Energy saving	Deactivate all power saving options (auto shutdown, sleep, hybrid sleep, and hibernate mode) of the computer hardware incl. USB and LAN ports
User accounts	Administrator rights (during installation)
21CFR part 11*	An NTFS file system with properly set and administered user privileges

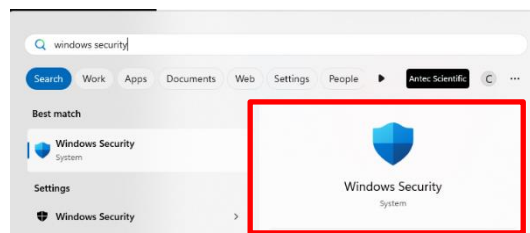
*) If required. For more info on how to set up Clarity for 21CFR part 11 compliance please refer to the following manual: <https://downloads.dataapex.com/documentation/clarity/manuals/solutions/clarity-in-regulated-environment.pdf>

This document shows the detailed settings and screen dumps for a computer that will be running under **Windows 11** (and Clarity CDS as an example).

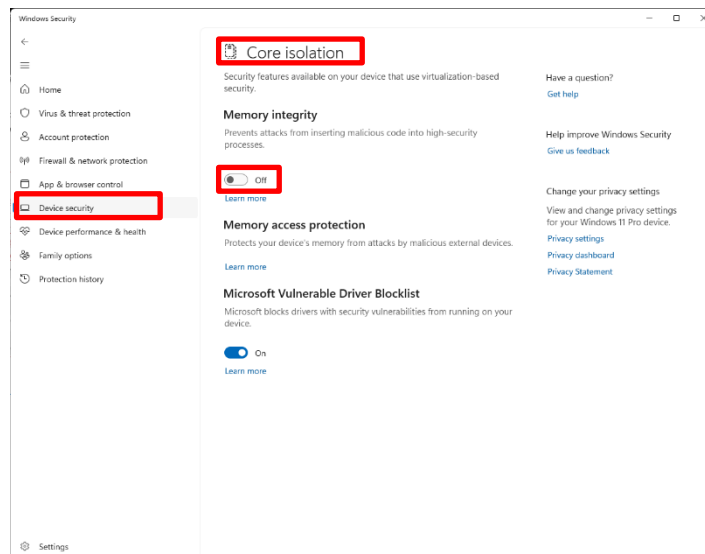
Disabling Memory Integrity / Core Isolation

Each Clarity license key is tied to a USB dongle, which has to be plugged in to the PC in order to keep Clarity software running. During Clarity installation, the USB driver is installed together with the Clarity software. However, on the latest version of Windows Security, the 'Memory integrity' option prevents the installation of such USB drivers.

To turn off 'Memory integrity', open 'Windows Security' settings (use the search bar to find it).



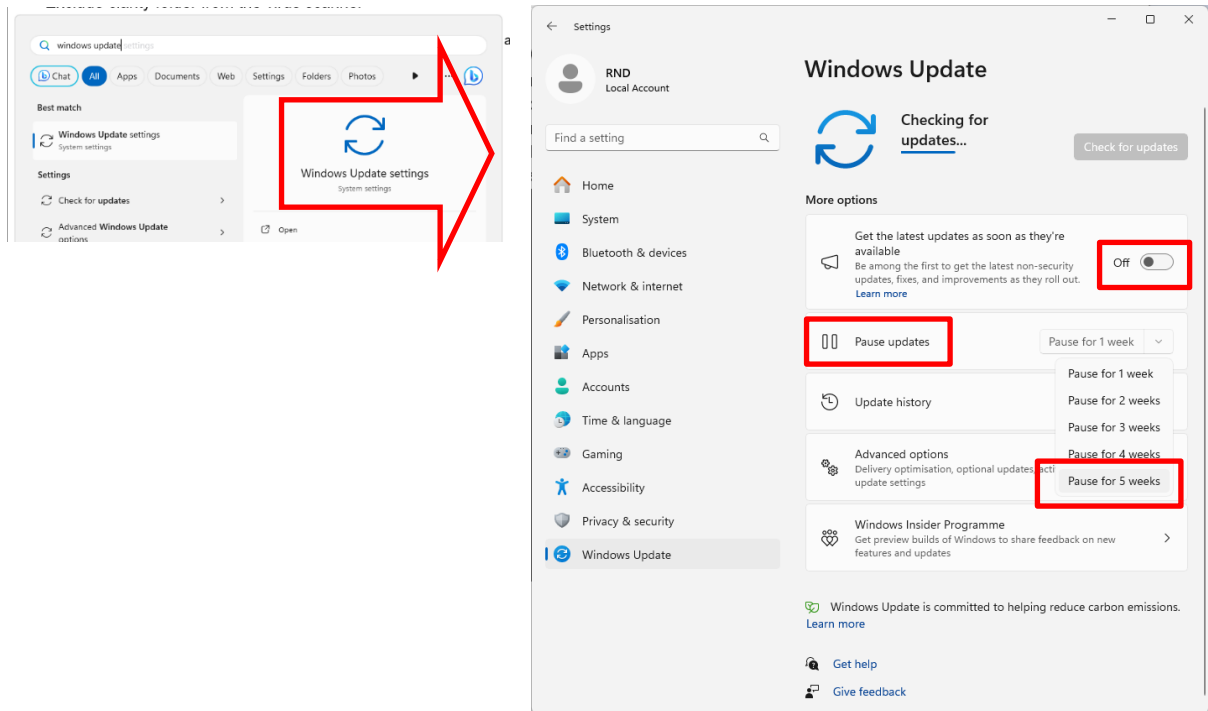
1. Select 'Device security'
2. Turn off the 'Memory integrity' option under Core isolation.



3. Restart the PC for the changes to take effect.

Pause Windows Updates

By default, the Windows Update feature is enabled on Windows 11 and the system will continuously scan for updates. To pause the Windows update, open the Windows Update settings (use the search bar to find it).

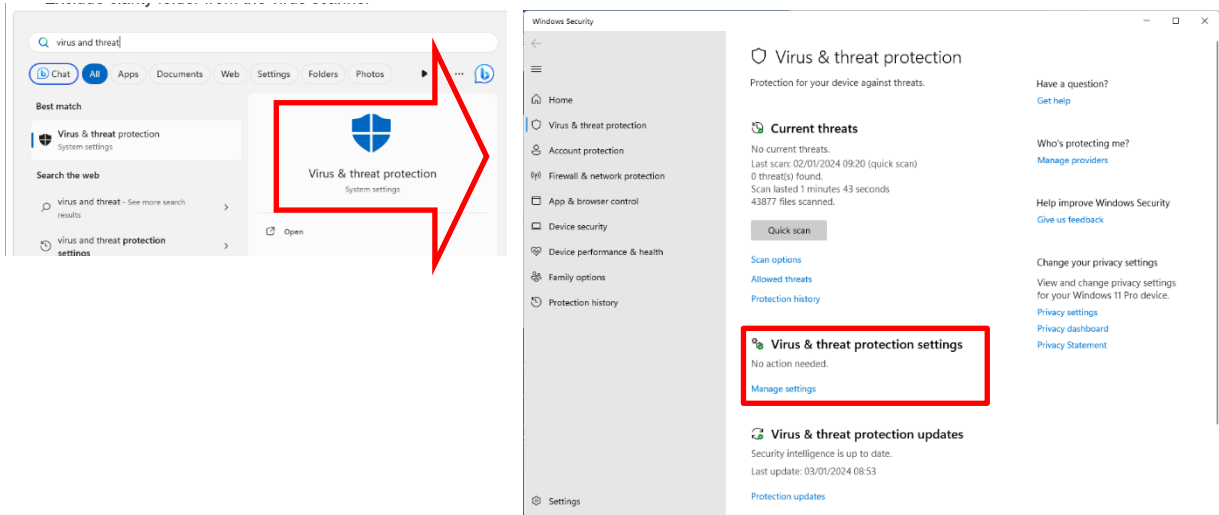


Change the current settings to the following:

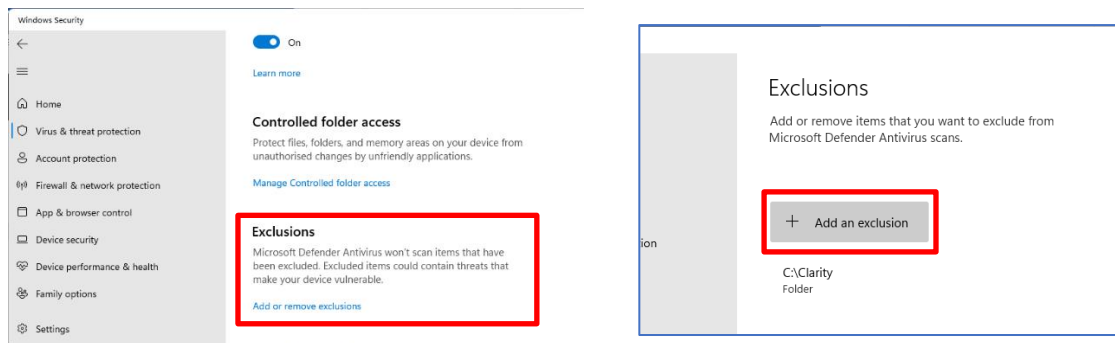
4. Turn off the option “Get the latest updates as soon as they’re available”.
5. Pause updates (choose a maximum of 5 weeks).

Exclude the CDS folder from the virus scanner

To exclude the Clarity CDS program and data folder from the virus scanner, open the Windows Virus & threat protection (use the search bar to find it):



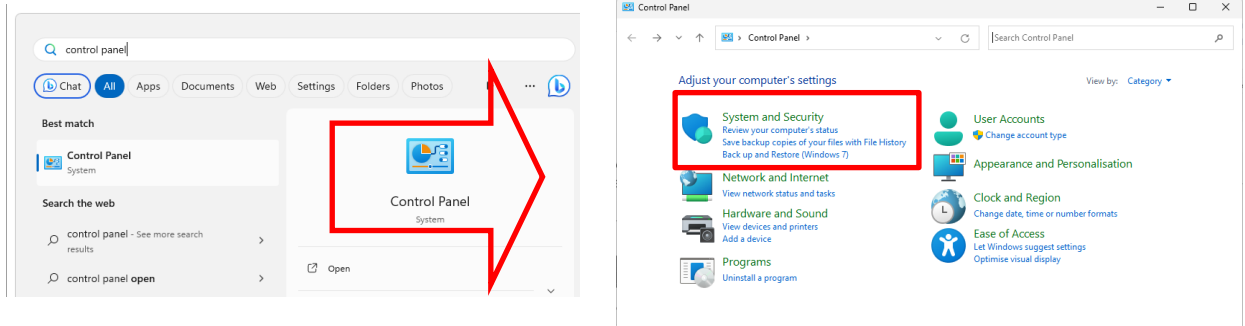
1. Select 'Manage settings'
2. Scroll down to the sub-setting "Exclusions" and click on "add or remove exclusions".



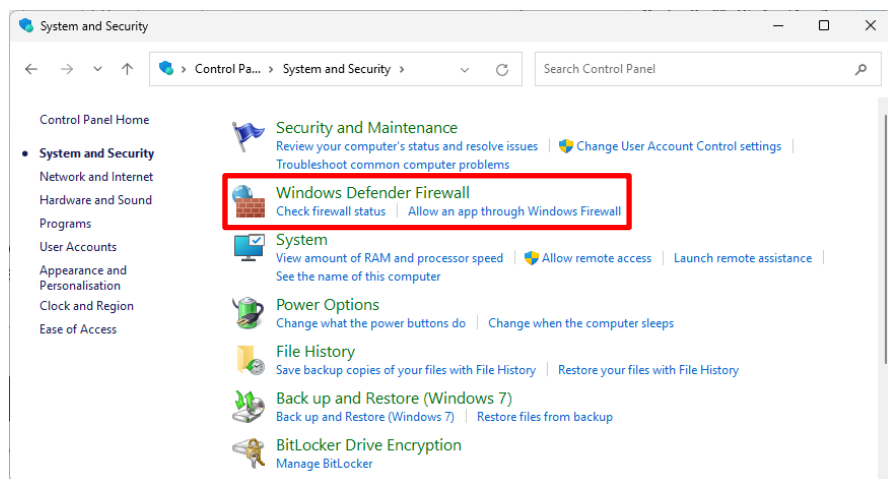
3. Add the CDS-related program/data folder (Clarity in this example) to the exclusions list.

Allow the CDS app to communicate through the Windows firewall

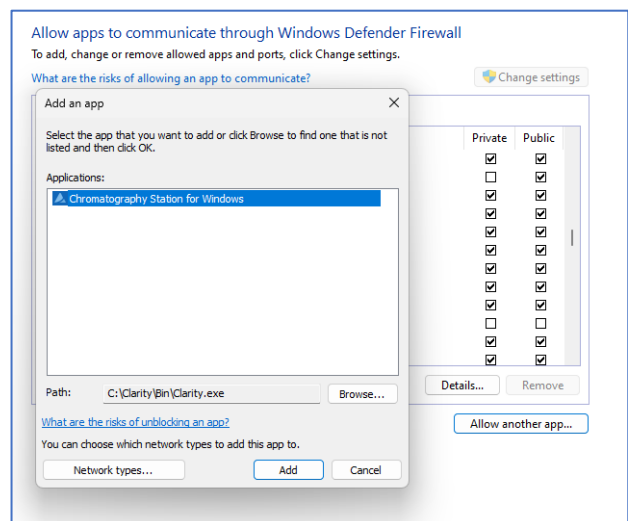
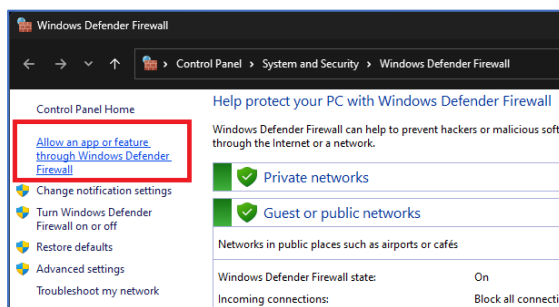
To let the Clarity CDS program executable through the Window firewall, open the Control Panel (use the search bar to find it):



1. Select 'System and Security'
2. Click on 'Allow an app or through Windows Firewall'.



3. Click on 'Allow an app or feature through Windows Defender Firewall' and add the Clarity CDS executable (Browse for C:\Clarity\Bin\Clarity.exe) to the list of apps. Click OK when done.

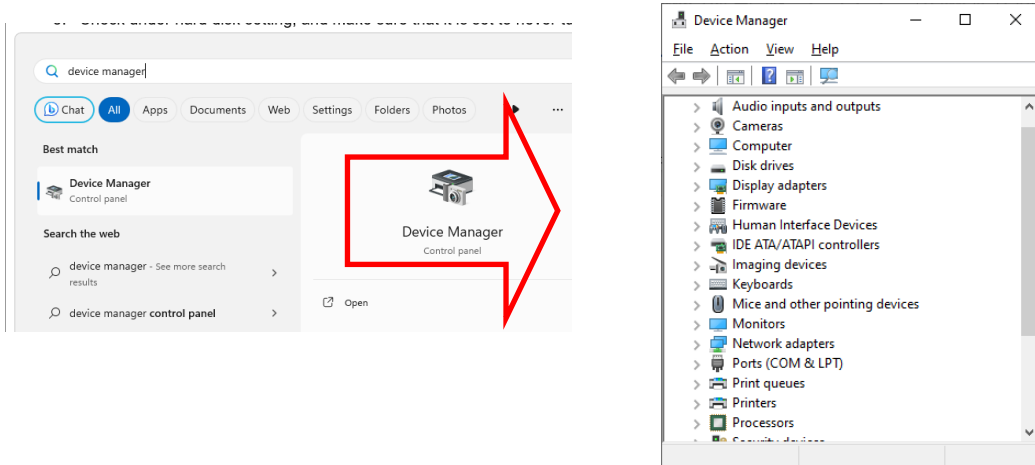


Energy saving and power management settings

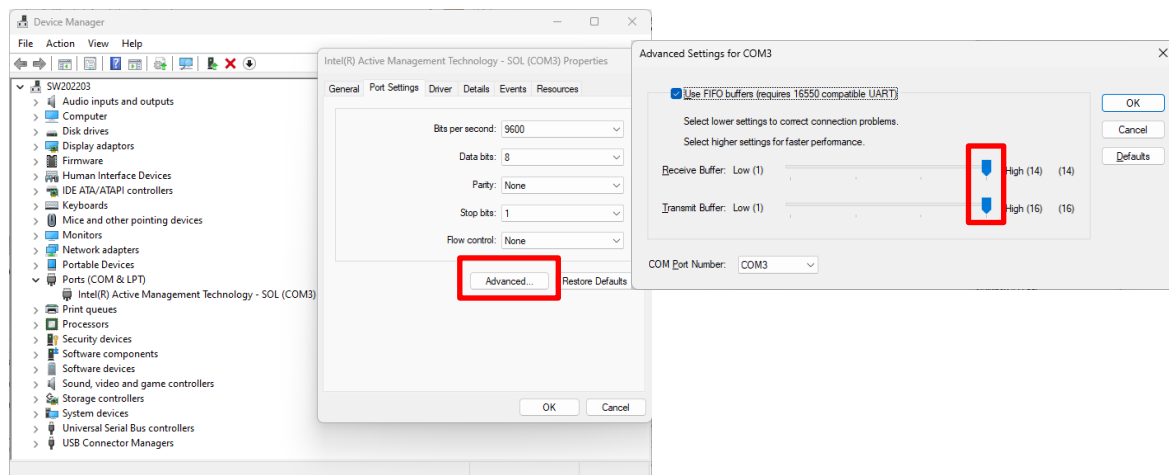
There are two locations at which the power and energy management needs to be adjusted: in the Device Manager and in the Power Options windows.

Energy saving and power management settings in the Device manager

1. Open the Device Manager (use the search bar to find it):

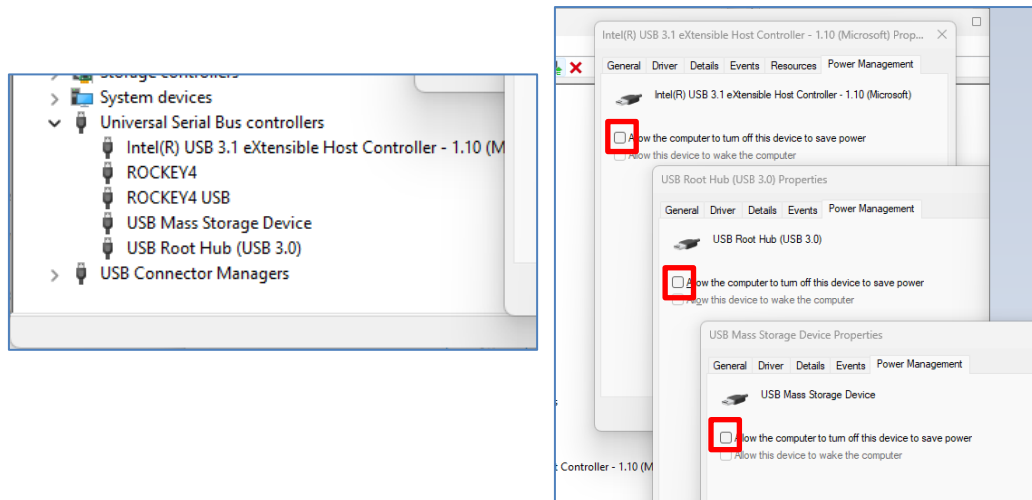


2. Open the 'Ports (COM & LPT)' list
3. Right-click and open properties boxes for each COM-port that is used by the CDS.
4. Open the 'Advanced' option for the active COM ports and set the transmit and receive buffers both to High.

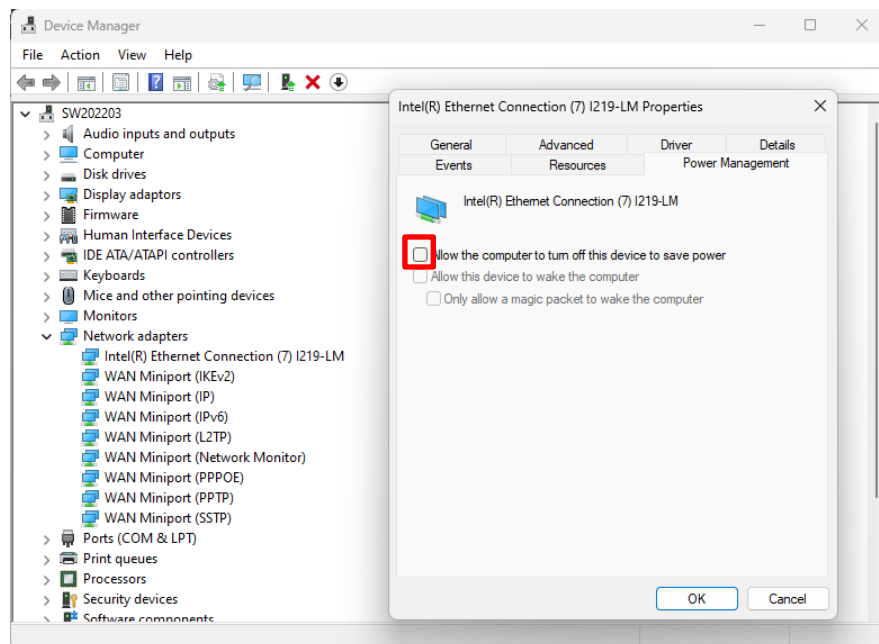


5. Open the 'Universal Serial Bus controllers' list
6. For each listed item, right-click and select properties.

7. In all tabs ‘Power management’ uncheck the option “Allow the computer to turn off this device to save power”.

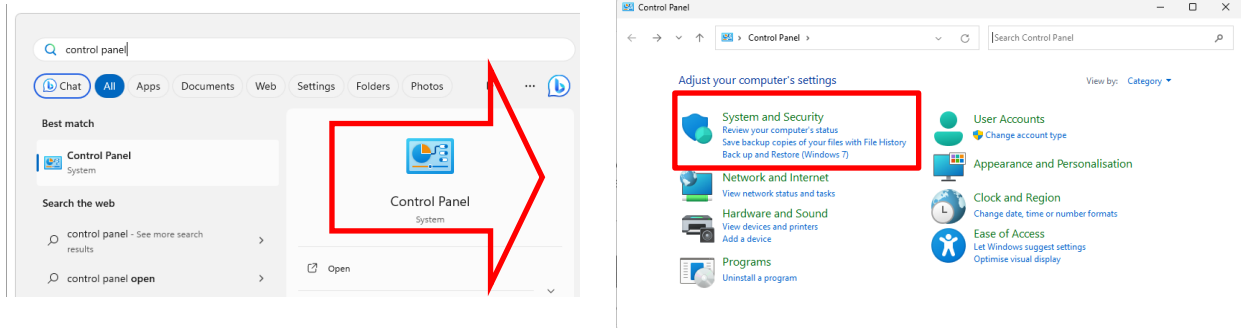


8. Open the “Network adapters” and find the Ethernet adapter that is used for communication with the instruments.
9. Right-click on the Ethernet adapter and click Properties.
10. Go to the tab “Power Management” and uncheck “Allow the computer to turn off this device to save power”. Click OK when done.

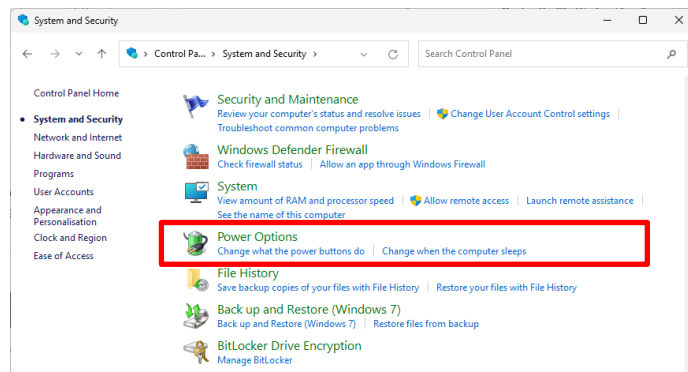


Detailed Power Options settings

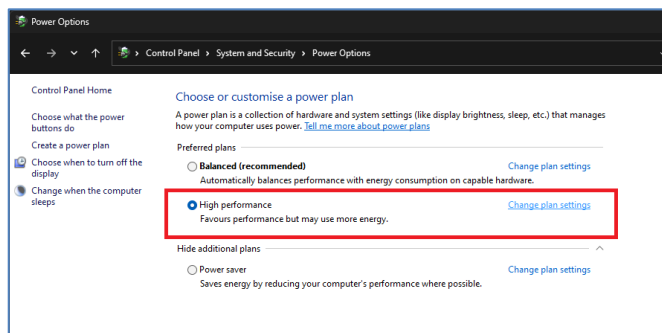
Open the Control Panel (use the search bar to find it), and select the 'System and Security' settings:



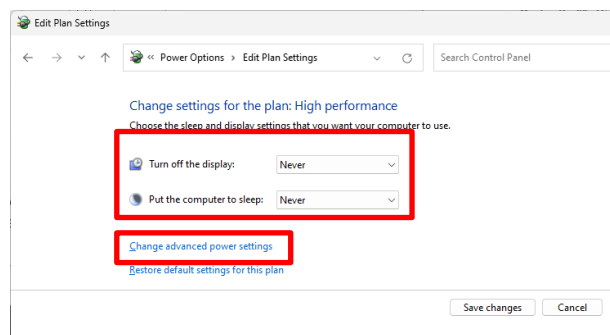
1. Click on 'Power Options.'



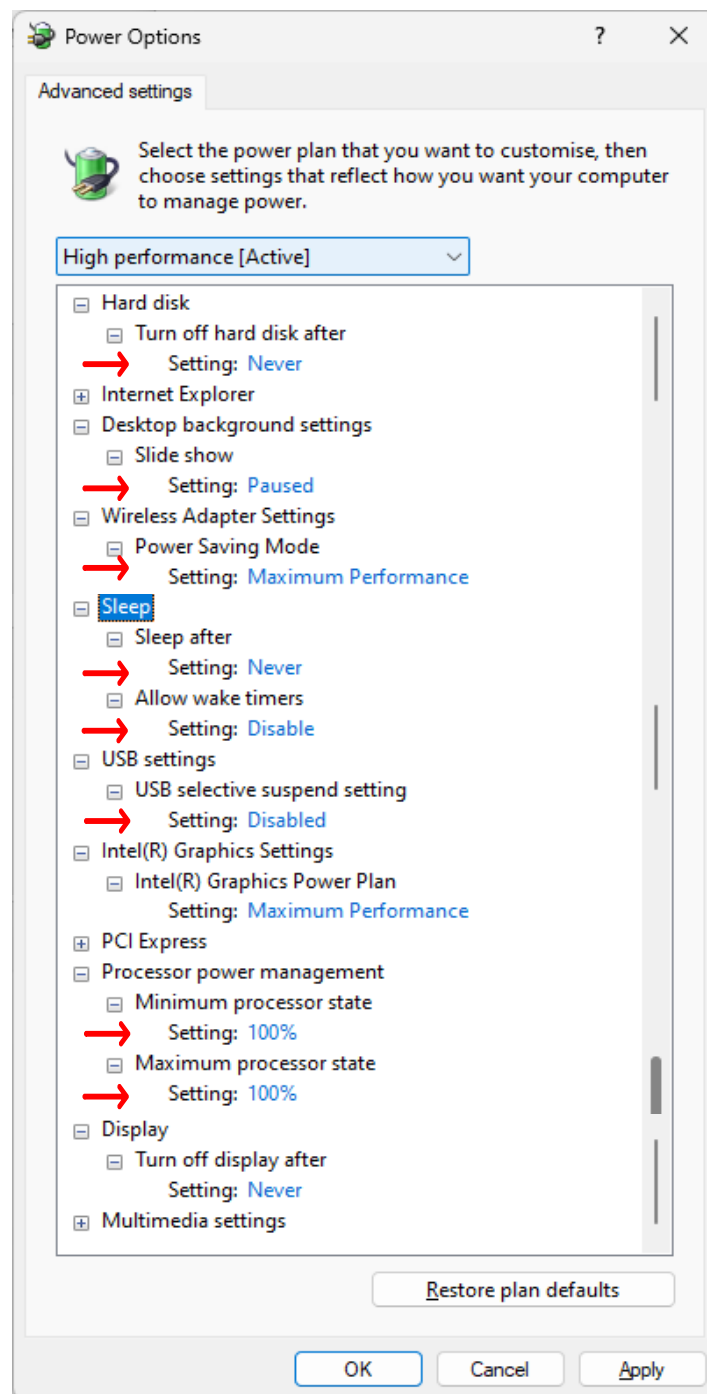
2. Choose 'High Performance' and then open the 'Change plan settings' menu.



3. A new window will appear. Change the sleep settings to 'Never' for both the display and the computer. The monitor can be turned off manually by pressing the power button on the monitor. Then click on Change advanced power settings.



4. A dialog box will appear.
 - a. Hard disk settings: make sure that it is set to never turn off the hard disk.
 - b. Desktop background settings: set the slide show to pause.
 - c. USB settings: disable the USB selective suspend setting.
 - d. Processor power management: set min and max processor state to 100%



5. Click OK when done and save changes.