

Computer settings

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The use of laboratory instruments that are under 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:

- 1. Windows update Pauze the automated installation of updates
- 2. Virus scanner Exclude the CDS data folder for the scanner
- 3. Firewall Indicate the CDS executables to be trusted apps
- 4. Energy saving Deactivate all power saving options (auto shutdown, sleep, hybrid sleep and hibernate mode) of the computer hardware incl. USB and LAN ports

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).

## 1. 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).

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Windows update settings	Web Settings Folders Photos	D	D Wi	ndows Update	
Best match	Windows Update settings	Find a setting	a (	Checking for updates	Check for updates
C Check for updates	System settings		More	e options	
C Advanced Windows Update	> C Open	<ul> <li>System</li> <li>Bluetoo</li> <li>Networi</li> <li>Persona</li> <li>Apps</li> </ul>	th & devices S k & internet Ilisation	Get the latest updates as soon as th available Be among the first to get the latest non- updates, fires, and improvements as they Learn more	ey're security roll out. Pause for 1 week > Pause for 1 week
		Account	language	Update history	Pause for 2 weeks Pause for 3 weeks
		<ul> <li>Gaming</li> <li>Accessit</li> </ul>	oility	Advanced options Delivery optimisation, optional updates, update settings	Pause for 4 weeks acti Pause for 5 weeks
		Privacy	& security	Windows Insider Programme Get preview builds of Windows to share features and updates	feedback on new >
			ی Learr اور	Windows Update is committed to helpin 1 more Get help Give feedback	g reduce carbon emissions.

Change the current settings to the following:

- 1. Turn off option "Get the latest updates as soon as they're available".
- 2. Pause updates (choose the maximum of 5 weeks).

# 2. 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):

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		Windows Security		- 0
Q virus and threat	Web Settings Folders Photos	÷ ← =	Virus & threat protection Protection for your device against threats	Have a question?
Best match		G Home	Hotection for your device against tireate.	Get help
Virus & threat protection System settings		Virus & threat protection Account protection	S Current threats No current threats.	Who's protecting me?
Search the web	Virus & threat protection System settings	(r) Firewall & network protection	Last scan: 02/01/2024 09:20 (quick scan) 0 threat(s) found. Scan lasted 1 minutes 43 seconds 42072 files cannot	Manage providers
yirus and threat protection	C Open	Device security	Quick scan	Give us feedback
settinas	· · · · · · · · · · · · · · · · · · ·	Device performance & health	Scan options	Change your privacy settings
		<ul> <li>Family options</li> <li>Protection history</li> </ul>	Allowed threats Protection history	View and change privacy settings for your Windows 11 Pro device. Privacy settings
			<b>Virus &amp; threat protection settings</b> No action needed.	Privacy dashboard Privacy Statement
			Manage settings	
			G Virus & threat protection updates Security intelligence is up to date. Last update: 03/01/2024 08:53	
		Settings	Protection updates	

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

Windows Security			
$\leftarrow$	On On		
=	Learn more		Exclusions
G Home			
O Virus & threat protection	Controlled folder access		Add or remove items that you want to exclude from Microsoft Defender Antivirus scans
& Account protection	Protect files, folders, and memory areas on your device from unauthorised changes by unfriendly applications.		meroson benndel Antwids scans.
6t0 Firewall & network protection	Manage Controlled folder access		
App & browser control			+ Add an exclusion
Device security	Exclusions	ion	
S Device performance & health	Microsoft Defender Antivirus won't scan items that have been excluded. Excluded items could contain threats that make your device vulnerable.		C:\Clarity
😣 Family options	Add or remove exclusions		Folder
Settings	Paul of remove exclusions		

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

## 3. 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):

		🔯 Control Panel	- 🗆 X
		$\leftarrow \rightarrow \checkmark \uparrow$ 🕺 > Control Panel >	✓ C Search Control Panel
Q control panel			
(b) Chat All Apps Documents Web	Settings Folders Photos ()	Adjust your computer's settings	View by: Category 🔻
Best match		System and Security Review your computer's status Save backup copies of your files with File History	User Accounts
Control Panel System		Back up and Restore (Windows 7) Network and Internet	Appearance and Personalisation
Search the web	Control Panel	Hardware and Sound	Clock and Region Change date, time or number formats
<ul> <li>Control panel - See more search</li> <li>results</li> <li>&gt;</li> <li>&gt;</li> <li>Control panel open</li> </ul>	System	View devices and printers Add a device Programs Uninstall a program	Ease of Access Let Windows suggest settings Optimize visual display

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.



it are th	e risks of allowing an app to communicate?		🛛 💔 Ch	ange settings
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elect the sted and	app that you want to add or dick Browse to find one that is then click OK.	not	Private	Public
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			<b>V</b>	<b>Z</b>
ath:	C:\Clarity\Bin\Clarity.exe Brows		Details	Remove
hat are t	he risks of unblocking an app?		Allow an	other app
u can ch	oose which network types to add this app to.			F.F

## 4. 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.

#### 4a. 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.

his device to wake the compute

- 9. Right-click on the Ethernet adapter and click properties.
- 10. Go to tab "Power Management" and uncheck "Allow the computer to turn off this device to save power". Click OK when done.



#### 4b. 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. Then click on Change advanced power settings.

$\leftarrow \rightarrow \checkmark \uparrow$	Search Control Panel	
	Change settings for the plan: High performance	
	Choose the sleep and display settings that you want your computer to use.	
	2 Turn off the display: Never	
	Put the computer to sleep: Never ~	
	Change advanced power settings	
	Restore default settings for this plan	

- 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%

🗃 Power Options	?	×
Advanced settings		
Select the power plan that you want to custon choose settings that reflect how you want you to manage power.	nise, ther Ir compu	n iter
High performance [Active] $\checkmark$		
😑 Hard disk		
Turn off hard disk after		
Setting: Never		
Internet Explorer		
Desktop background settings		
□ Slide show		
Setting: Paused		
Wireless Adapter Settings		
Power Saving Mode		
Setting: Maximum Performance		
Sleep		
Sleep after		
Setting: Never		
<ul> <li>Allow wake timers</li> </ul>		
Setting: Disable		
USB settings		
USB selective suspend setting		1
Setting: Disabled		
Intel(R) Graphics Settings		
Intel(R) Graphics Power Plan		
Setting: Maximum Performance		
PCI Express		
Processor power management		
Minimum processor state		
Setting: 100%		
Maximum processor state		
Setting: 100%		
Display		
Turn off display after		
Setting: Never		
Multimedia settings		1
<u>R</u> estore plan de	efaults	
OK Cancel		ply

5. Click OK when done and save changes.

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