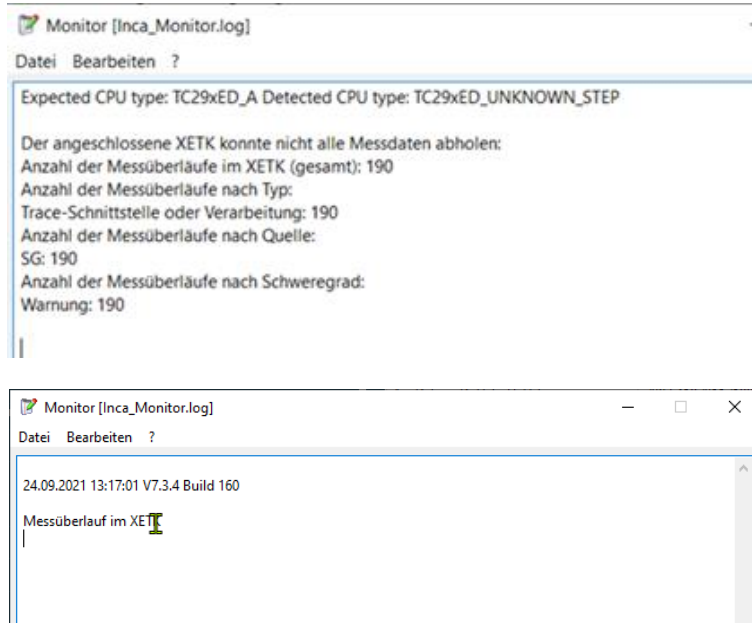




## Question:

**How can I avoid that my measurement stops due to an XETK measure overflow?  
 Message: "Measure overflow in the XETK" or "XETK measure overflow".**



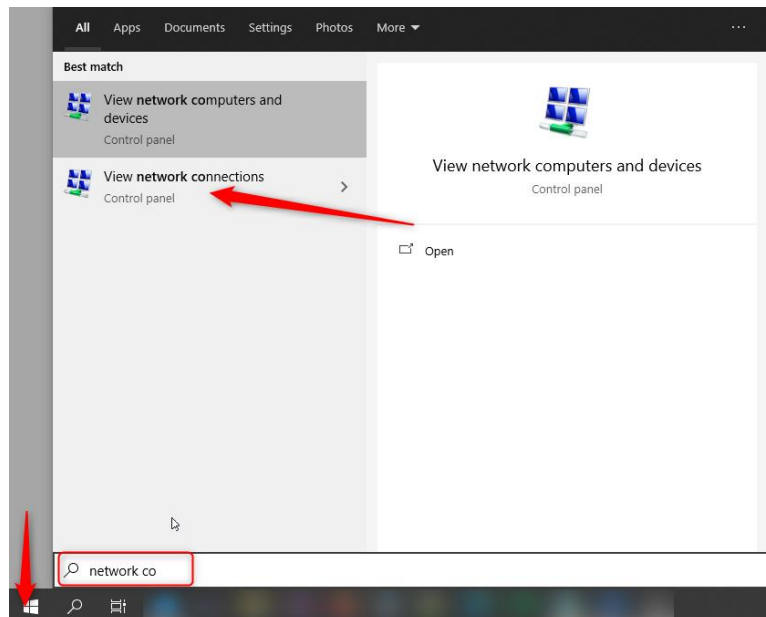
## Answer:

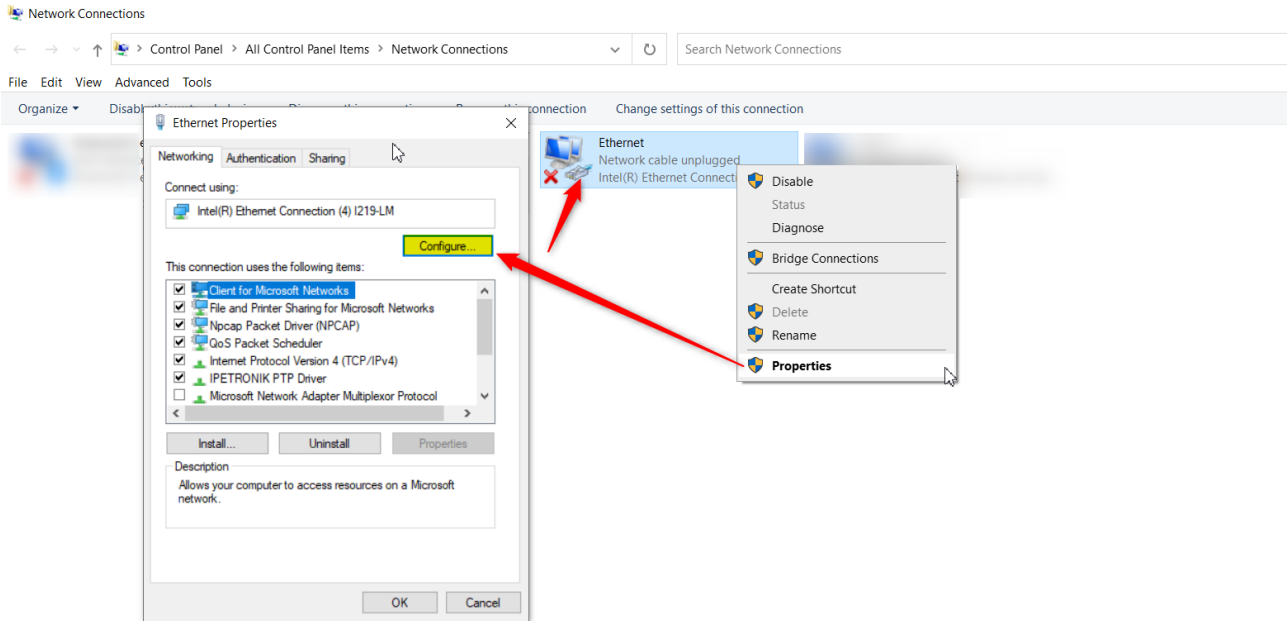
**Stops or interrupts of measurements are indices that the network card cannot process all measure data and therefore it comes to a measure overflow**

It is recommended to configure the network as described in the following steps.

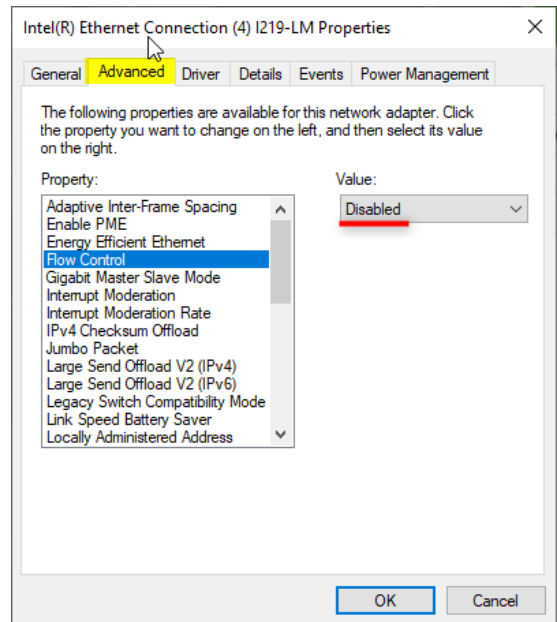
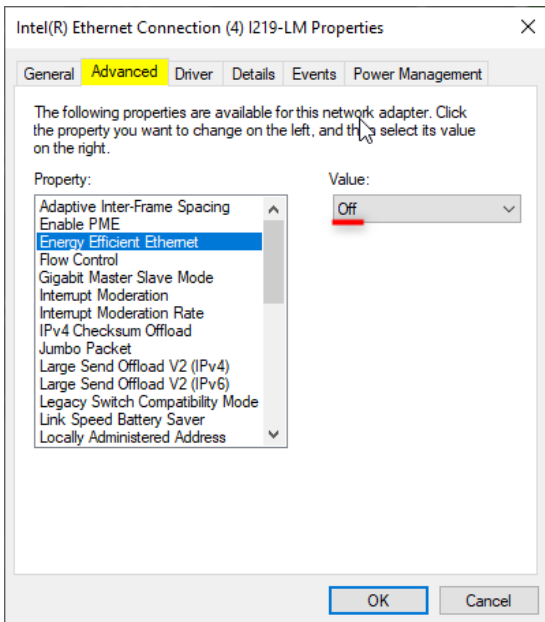
To adapt are in the tabs **Advanced** the options *Energy Efficient Ethernet*, *Flow Control*, *Interrupt Moderation* and *Interrupt Moderation Rate* and in the tab **PowerManagement** the *Energy Efficient Mode*.

To come into this menu you have to click on the Windows icon and enter **network connection** as the search text and click on View network connections.

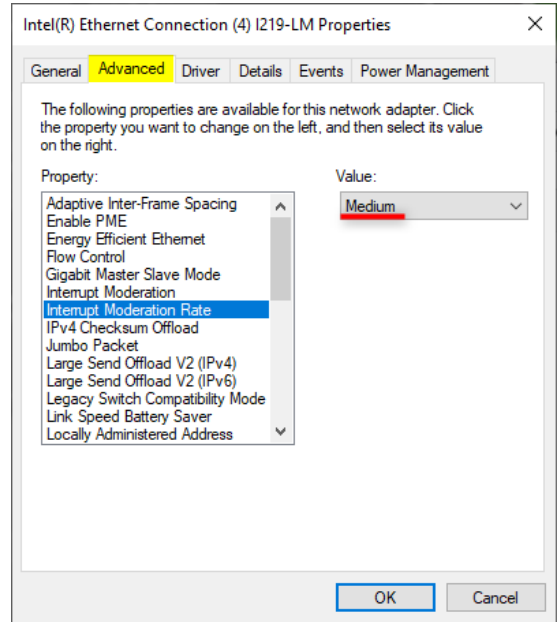
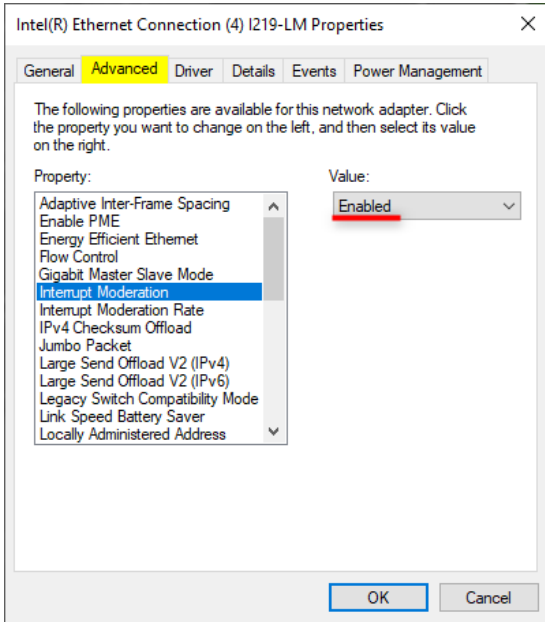




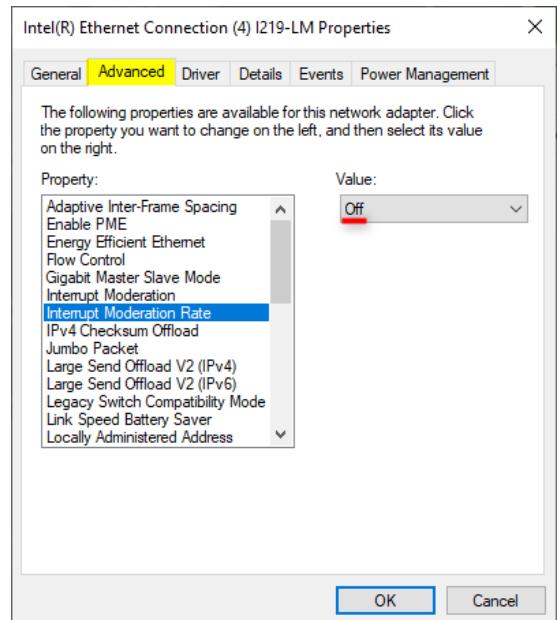
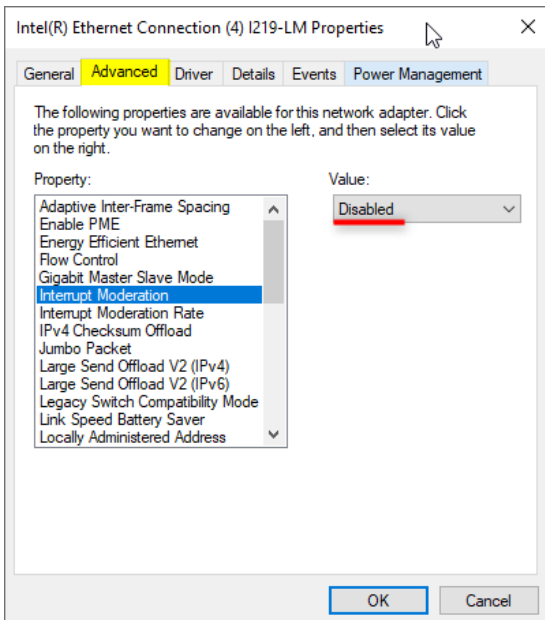
For all (F/X)ETK we recommend to disable over the tab **Advanced** the options *Energy Efficient Ethernet* and *Flow Control*.



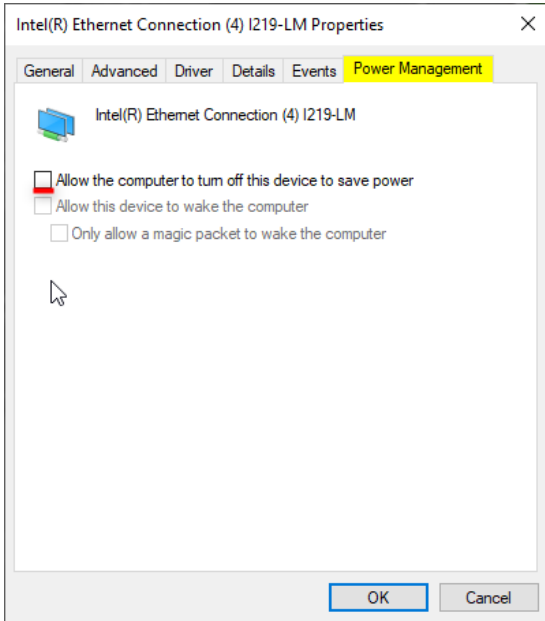
For XETK and BR\_XETK we recommend to enable the option *Interrupt Moderation* with the *Interrupt Moderation Rate* set to *Medium*.



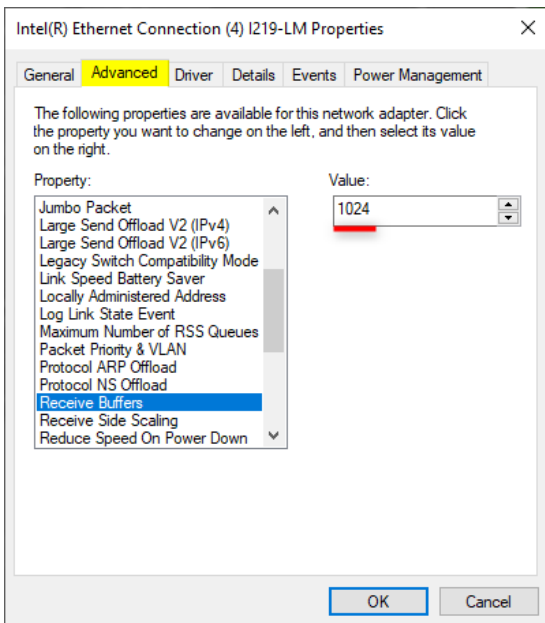
For ETK and FETK (and (BR\_)XETK when the *Medium* rate for Interrupt Moderation Rate doesn't help) we recommend to disable *Interrupt Moderation* and set *Interrupt Moderation Rate* to *Off*.



Additionally over the tab **Power Management** it should be not allowed that the computer can turn off the device to save power.

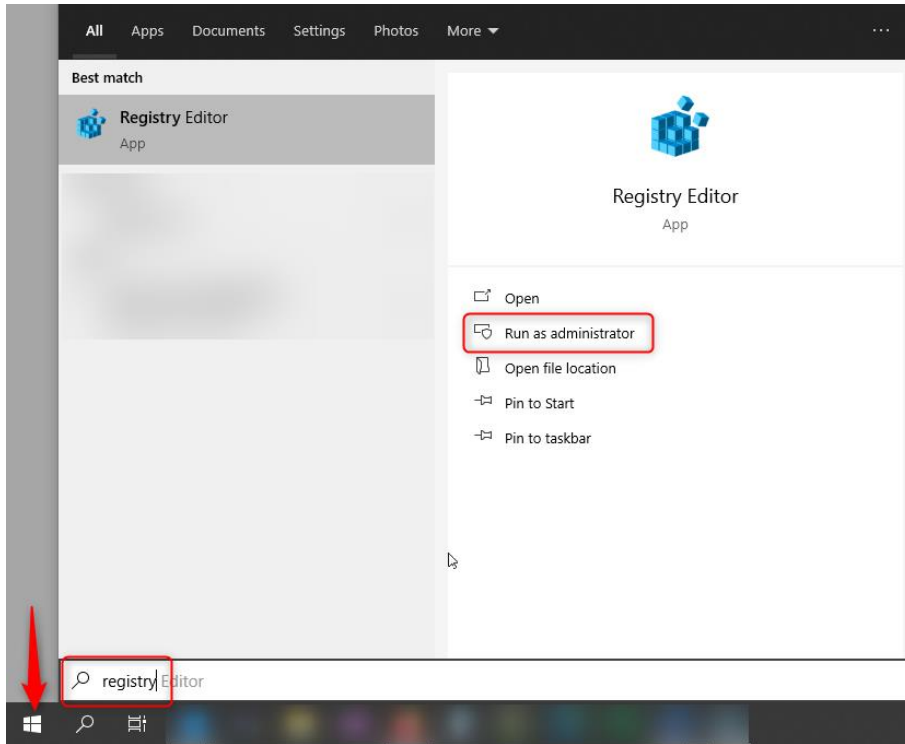


For (BR\_)XETK the *Receive Buffers* can be increased from 256 to 1024.



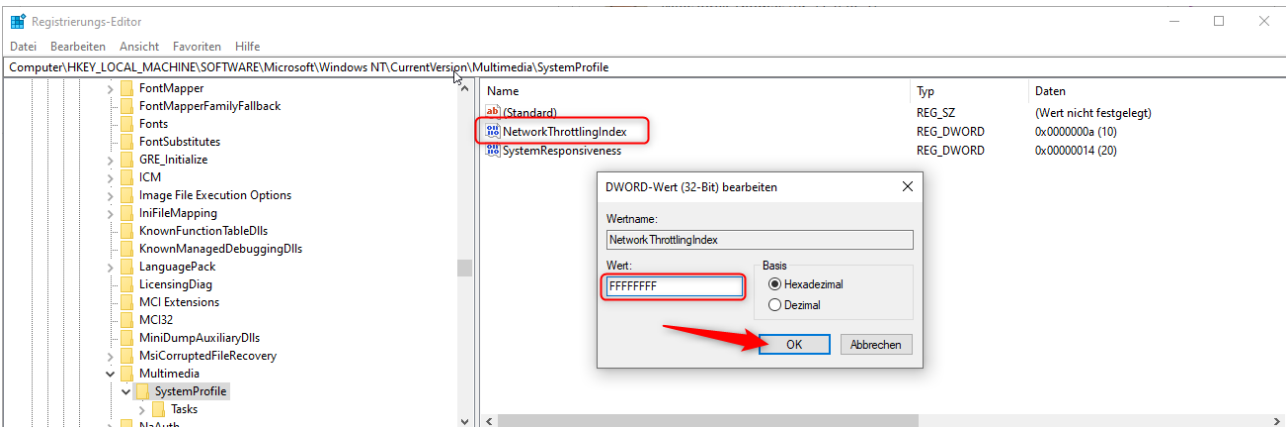
Additionally the Multimedia Timer on the network card can be restricted on some computer types. This can be deactivated in the Windows registry. To do this the Windows registry must be opened with admin rights.

For this, click on the Windows icon and enter **registry**. Now start the Windows registry on clicking on **Run as administrator**:



Go to the path:

**Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Multimedia\SystemProfile** and open the key NetworkThrottlingIndex and enter the value FFFFFFFF:



After the setting a system restart is necessary in order to activate this setting.

Problems with measurement interruptions can also arise if a computer is connected in parallel to the company network (via LAN or WLAN) and a Windows policy update has been triggered. It is recommended to either measure in flight mode in INCA or to update to Windows version 21H1 or higher.

Furhter information to Windows version 21H1:

<https://blogs.windows.com/windowsexperience/2021/02/17/introducing-the-next-feature-update-to-windows-10-version-21h1/>



## Additional information:

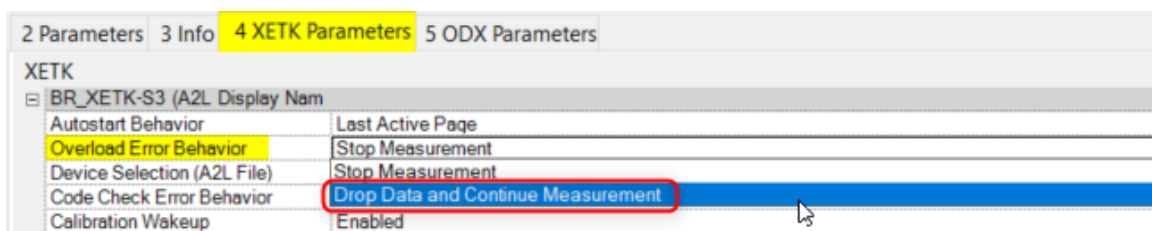
**Control Flow:** Flow control was introduced to stabilize Ethernet connections. If a network station sends data faster than the recipient can process it he can ask for a time-limited break. Originally the flow control was used to keep network connections stable, even with Ethernet cards with a very small buffer memory: If data came in in rapid sequences the controller could occasionally say "stop" from time to time. With gigabit connections it can happen in some combinations that the controls of the card and switch do not harmonize one hundred percent and slow down data transmission.

**Interrupt Moderation (Rate):** This setting is intended to relieve the CPU of your PC a little. Normally every received data packet is processed immediately. For this, other tasks are interrupted and continued after processing. Switching the CPU always takes a little time. By switching on interrupt moderation the Ethernet interface waits a little before processing the received data packets. Data packets received in the meantime are then processed at the same time thus saving switching processes. Waiting increases the latency.

The settings leads that the network traffic is processed by the ES devices without delay and that a buffer overflow in the (BR\_)XETK cannot occur.

*Be aware that disabling the Interrupt moderation would increase CPU load as it must serve for every Data packet. This could cost performance impact on other application running in the PC.*

Since INCA 7.3.5 there has been the setting should a measurement overflow occur that the measurement does not stop but the measurement data is dropped and the measurement is continued. You can find this option in the hardware configuration under XETK parameters.





## In case of further questions:

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Please feel free to contact our Support Center, if you have further questions.

Here you can find all information: <http://www.etas.com/en/hotlines.php?langS=true&>

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