Background info:

On the latest IQAN master modules there is an Ethernet port for communication.

On most of the previous master modules in the IQANdesign platform, there is a choice between two communication interfaces between the PC and the master module:

• USB (MC2, MC2-M14, MD3, and MD3-M15 only)
• CAN

CAN is the preferred diagnostic interface.

While USB is an interface that fast and available on any laptop; it has some inherent limitations.

Due to its high speed and low signal amplitude, it is sensitive to disturbances. When performing run-time diagnostics such as measure on a mobile machine, this can lead to problems with constant termination of the measurement.

Another issue when connecting a PC directly to a master module is that there is a risk of damage due to voltage variations causing over current in the USB-ground. Therefore, connecting without galvanic isolation should be avoided.

Recommended interfaces:

By using an isolated USB-CAN interface, it is possible to have an interface that is both robust to interference and that can survive voltage variations.

The CAN adapter needs to be supported by the IQAN software, currently the following models work:

Manufacturer/model	Website for information	Image of device
National Instruments NI USB-8473 (being phased out by NI)	sine.ni.com	
National Instruments NI USB-8502 (replacement for above, not tested)	sine.ni.com	

IXXAT USB-to-CAN compact v2	www.ixxat.com	
Kvaser Leaf Light HS v2 Leaf Professional Rugged HS BlackBird v2 Leaf Light R v2	www.kvaser.com	
PEAK PCAN-USB (from IQANdesign 4.06)	www.peak-system.com	

Other adapters have been reported to work and may also be used, for example:

• Parker Vansco USB-DLA
• CAT CA3 (made by Parker Vansco)
• Nexiq USB-link (has worked, but not supported)
• Dearborn DPA5 (has worked, but not supported)

Use diagnostic CAN bus

If possible, there should be a dedicated bus for PC-diagnostics on the machine. If this is not possible, PC-diagnostics can be mixed with ICP (expansion module) or J1939, but the amount of traffic on that bus needs to be limited.

Multiple master modules

Multiple master modules can be connected to the diagnostic bus, but they must be uniquely identified by module type and address.

Using the PC tools

Select CAN under communication options.

Unlike USB, the USB-CAN adapter needs to be connected to the PC before IQANdesign/IQANrun is started. If communication does not work, restart IQANdesign/IQANrun.