

ADQ10GBE

ADQ10GBE is a dual 10 Gbit Ethernet card for cPCIe and PXIe modular instruments. ADQ10GBE enables a very high-speed data connection from the modular instrument to an external computing or storage device.



Introduction

The ADQ10GBE is the solution that enables connection from a modular cPCIe/PXIe instrument to a 10 Gbit Ethernet network. The ADQ10GBE allows for up to 20 Gbit/s data transfer. See **Figure 1** on how the ADQ10GBE is used in a systems design.

The ADQ10GBE is a tailored solution when the modular instruments require a high data throughput link to an external computing and storage system.

The ADQ10GBE can take 2 SFP+ modules for electrical or optical networks.

Features

- 2 x 10 Gbit Ethernet connections
- Generation 2, 8 lanes, PCIe link to the modular instrument system.
- Maximum data rate 20 Gbit/s

Applications

- RADAR
- LIDAR
- High-speed data recording
- Test and measurement
- Big physics
- Analytical systems

Software support

- C/C++ API
- Software development kit
- Drivers
- Windows 7
- Windows 8/8.1
- Linux

Ordering information

PRODUCT	ORDER CODE
ADQ10GBE	ADQ10GBE-PXIE

Note that SFP+ modules are not included since each system might require a different type of physical layer.

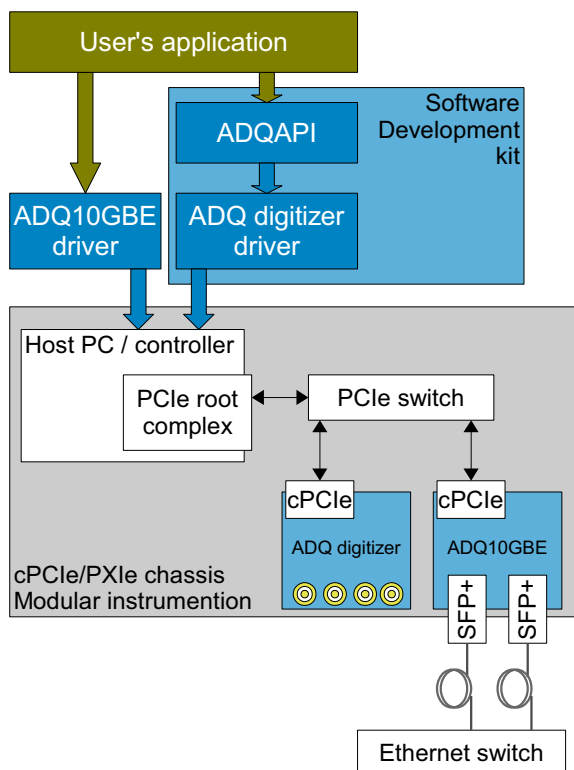


Figure 1: Using the ADQ10GBE cPCIe/PXIe network card in a modular instrument.

Technical data¹

Table 1:

KEY PARAMETERS	
Ethernet data rate	2 x 10 Gbits/s
PCIe interface	Gen2 x 8
Operating temperature	0 – 45 °C
Storage temperature	-20 – 70 °C
Relative humidity, non-condensing	5% – 95%
PXIe card size	1 slot 3U 4TE
Supply voltage	12 V
Power consumption	8 W

Table 2:

LED INDICATORS	IDLE	ACTIVE
Ethernet link activity (green)	OFF	ON or flashing
Ethernet link status (yellow)	OFF: no link	ON: 10GbE link up
Ethernet 10GbE status (yellow)	OFF: no link	ON: 10GbE link up
Power (green)		

Table 3:

OPERATING SYSTEM	
Windows 7	32b and 64b
Windows 8 / 8.1	
Linux ¹	

1. Please contact an SP Devices sales representative for information about supported Linux distributions

Table 4:

CERTIFICATION AND COMPLIANCE
CE

Ethernet connection

The ADQ10GBE is equipped with 2 Ethernet MAC controller with transceivers. The SFI transmit and receive signals are connected to interface housings. These housings support several physical layers. The physical layer module should be in SFP+ format. The ADQ10GBE supports 10Gbase-SR, 10Gbase-CR, and 10Gbase-CU

Software support

The ADQ10GBE is connected to the host PC via the PCIe bus. Required drivers are supplied².

The control of an ADQ series digitizer is via the software development kit, which is included with the purchase of an ADQ series digitizer. When the ADQ10GBE is operated together with an ADQ series digitizer, the user's software ties the digitizer together with ADQ10GBE, **Figure 1**.

The ADQ10GBE may also operate as a network card without a digitizer. Then the user's software interfaces only to the driver of the ADQ10GBE.

SFP+ modules for physical layer

SFP+ modules has to be added to the ADQ10GBE. **Figure 1** shows a typical optical module.



**Typical module
Not included**

Figure 1: A typical optical SFP+ module for the ADQ10GBE cPCIe/PXIe network card.

1. All values are typical unless otherwise noted.

2. The ADQ10GBE is a general network card and it is not necessary to use it together with a digitizer.

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