

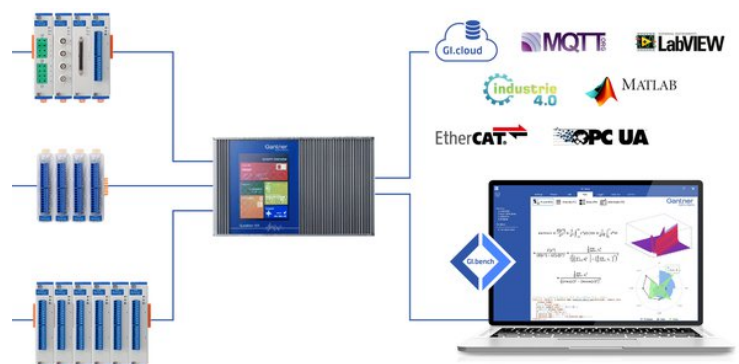
Q.brixx brings the performance and functionality of Q.bloxx into a scalable, portable, and rugged form factor. Q.brixx DAQ systems can consist of up to 16 measurement modules and an integrated, high-performance controller for communication, control, and data logging purposes. With a robust aluminum housing capable of withstanding severe shock and vibration, Q.brixx is ideal for on-the-go applications in potentially harsh environments.

- Electromagnetic compatibility according EN 61000-4 and EN 55011
- Robust and reliable stable and compact aluminum housing, easy to carry
- Power supply 10 ... 30 VDC
- Temperature range -20 up to +60°C
- High density and flexibility up to 16 modules in one system in any constellation



### Key Features

- Very high data rates up to 100 kHz each channel  
100 kHz at 8 channels (2 each UART line), 10 kHz at 128 channels
- Ethernet interface for configuration and data output  
1 Gig-E, TCP/IP, UDP, up to 16 MB/s Modbus TCP/IP, ASCII, High Speed Port Web server, web client and e-mail
- Fieldbus interface  
EtherCAT-Slave, 1024 variables read and write at 10 kHz  
1 x CAN (CAN-FD), 2 x USB 2.0, 4 MB/s
- Synchronization and time stamp of measurement values  
IRIG 2 based master slave principle on RS485 standard system  
synchronization  $\pm 1 \mu\text{s}$  applicable
- Data buffer memory dyn. 500 MByte, stat. 4 GByte  
expandable over USB (up to 1000000 measurements/s) and SD card
- 6 digital inputs  
direct connection of encoder for fast angle measurement frequency, PWM and counter measurements, state signals



### Technical Data

#### Micro Controller

Typ	Atom Z530; 1,6 GHz
RAM	1 GByte, 500 MByte available for data storage
Flash	4 GByte
Real Time Clock (RTC)	Battery buffered
Watchdog	programmable
OS	Real-time Linux

#### Ethernet Interface

Number of channels	2048 Byte Data (512 variables read and 512 variables write)
Baud rate	1 Gigabit/s (1-Gig-E)
Data rate	Online and Block transfer to 16 MByte/s (32 variables at 100 kHz)
Protocols	TCP/IP, UDP, Modbus TCP (Master and Slave), ASCII, High Speed Port
	Webserver and WebClient
Isolation voltage	500 V

#### EtherCAT Interface-Slave

Electrical standard	Ethernet
Data rate	1024 Byte Data (253 variables read and 253 variables write)
Baud rate	100 Mbps
Cycle time	≥100 µs
isolation voltage	500 V

#### CAN-Interface

Channels	1
Electrical standard	CAN2.0
Baud rate	1 Mbps
Configuration	CAN DBC files
CAN-FD	Optional, with USB-Adapter

#### Module Slave Interface (UART)

Channels	4
Baud rate	9,6 kbps, to 48 Mbps (100.000 measurements/s)
Connectable devices	max. 16 modules at one UART
isolation voltage	500 V

#### USB Interface

Channels	4
Version	USB 2.0
Data rate	To 4 MByte/s (to 1.000.000 measurements/s)

### Digital Inputs

Channels	6
Function	configurable counter, frequency-, PWM- and status Measuring, encoder input for measurement synchronization
Input voltage / Input current	max. 30 VDC / max. 1,5 mA
Lower / upper logic levels	< 1 V (low) / > 3,5 V (high)

### Synchronization of a Multi Controller System

Interface	RS485 Electrical standard
Mode	Master Slave Prinzip, IRIG 2 Electrical standard
	Synch. Master and Slave
Accuracy	System synchronization $\pm 1 \mu\text{s}$

### Power Supply

Input voltage	10 to 30 VDC. overvoltage and overcurrent protection
Power consumption	approx.. 12W

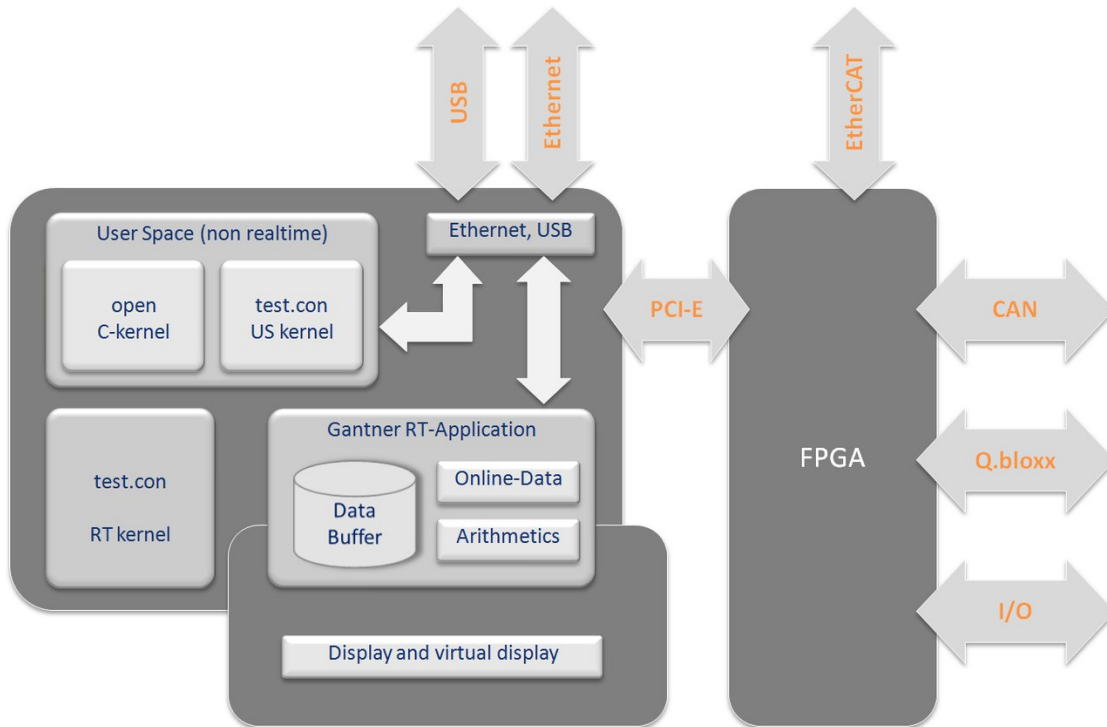
### Electromagnetic Compatibility

According to	EN 61000-4 and EN 55011
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### Environmental

Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +85°C
Relative humidity	5 % to 95 % at 50°C, non-condensing

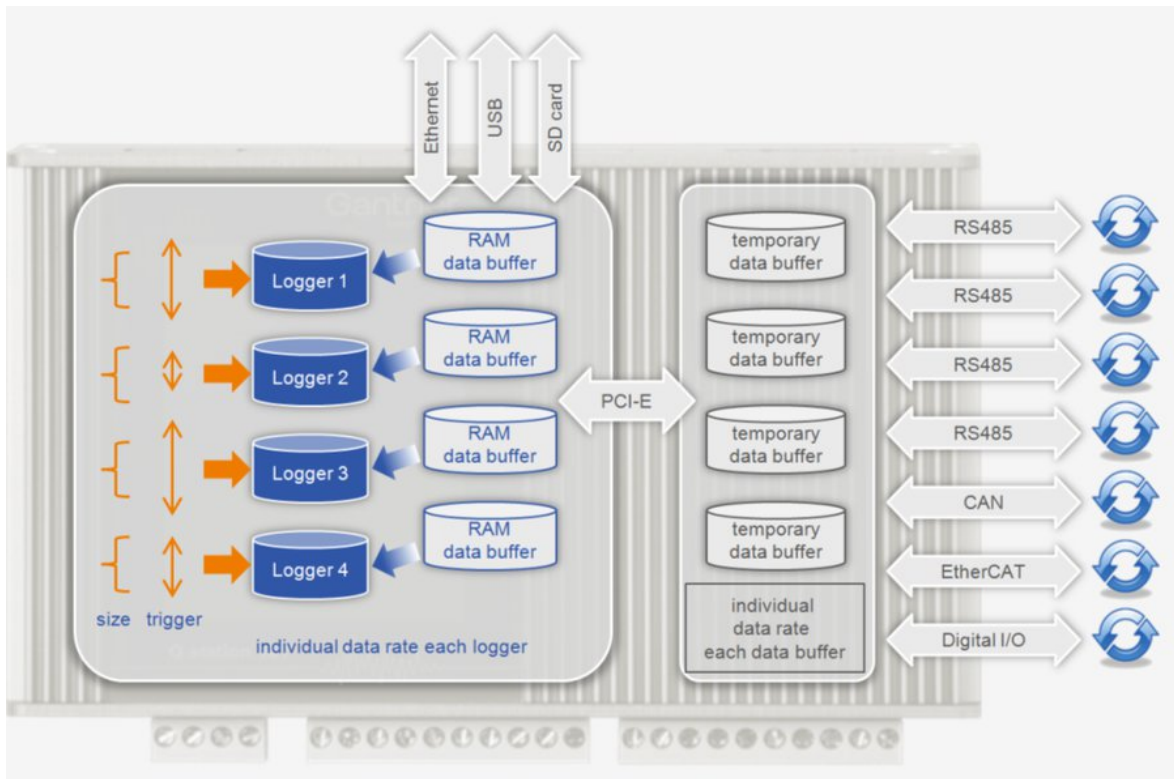
## Functional Diagram



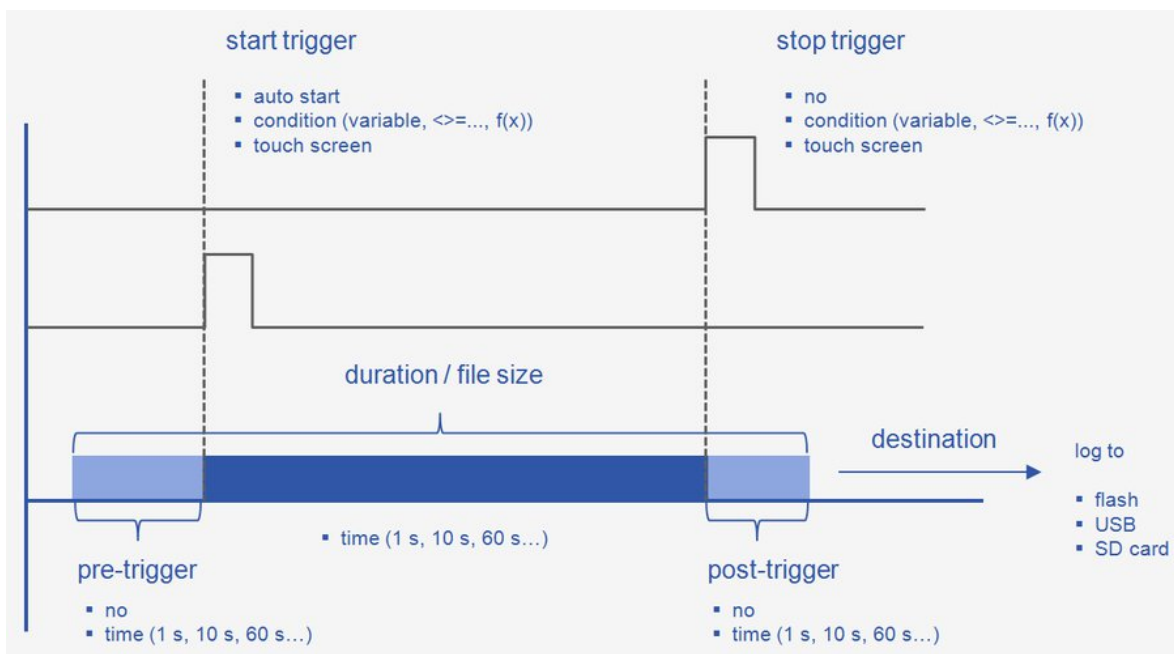
### Logging function

With Controller Q.station a very flexible and powerful data logging is possible.

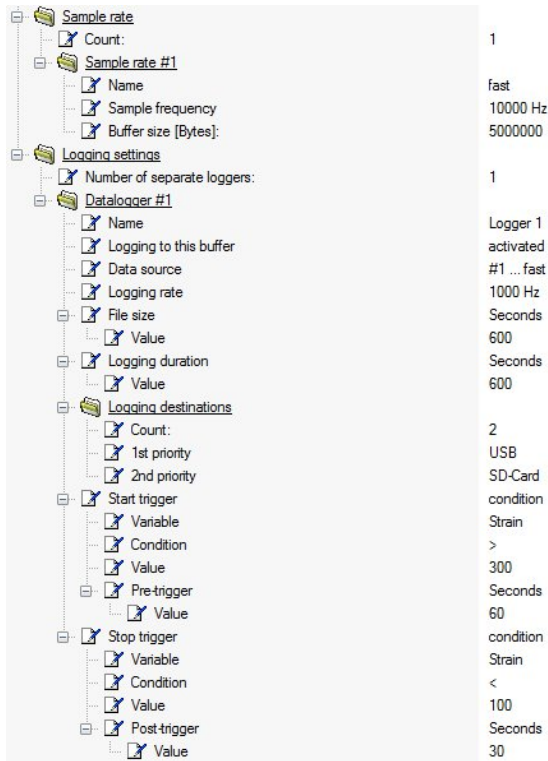
Four data buffers (RAM) with different configurable data rates can be assigned to the measurement and I/O signals.



According to the configuration of up to 20 loggers occurs the logging of the buffer data at a selectable medium (intern. Flash, USB, SD-Card) with selectable logging rates, storage duration, start and stop trigger (auto start, condition, touch) with or without pre- and post-trigger.



Exemplary logger configuration with the software test.commander



## Software Add-On

Matlab	Available for 32/64-bit Versions, read buffer data
DasyLab	For DasyLab Versions > = 15, read buffer data, read/write online values
LabView	For Versions > = 2016 (older versions per request), Available in 32/64-bit, read buffer data, read/write online values
test.con	Simple graphical programming for edge computing devices

## Plug-ins

Available Plug-ins need Gl.monitor for configuration, output files can be send automatically to configured receivers	
Rainflow	Cycle counting algorithm Rainflow HCM according to Colormann Seeger with matrix in .scv format
FFT	Frequency analysis with selectable window type, frequency range and channels of bins (resolution) with output in .scv format

## Mechanical Information

Material	Aluminium
Measurements (W x H x D)	135 x 125 x 155 mm
Weight	approx. 400 g

## Ordering Information

Article number	801324
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# Q.brixx station

Controller

## Gantner Instruments

Austria | Germany | France | Sweden | India | USA | China | Singapore

Montafonerstraße 4 · A-6780 Schruns · T +43 55 56 · 77 463-0

[office@gantner-instruments.com](mailto:office@gantner-instruments.com)

[www.gantner-instruments.com](http://www.gantner-instruments.com)