Q.brixx X station B

Controller

Q.station X is a high-performance edge controller for data acquisition, which provides accurate synchronization of measurement data, high-speed redundant data logging, and parallel communication over TCP/IP, CAN, ProfiNET, Modbus, and EtherCAT. The Q.station X comes with an optional full-featured programmable application controller designed for complex control and automation tasks.

- High density and flexibility with16 modules in one system in any constellation
- Connectable to Controller Q.station

- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Power supply 10 … 30 VDC

Key Features

- **Very high data rates up to 100 kHz each channel**
  100 kHz at 16 channels (4 each UART line), 10 kHz at 128 channels

- **64 Q.bloxx modules connectable**

- **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

- **Synchronization and time stamp of measurement values**
  IRIG 2 based master slave principle on RS485 standard system synchronization ±1 µs 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

- **PAC functionality with extensive library (T versions)**
  fast PID controllers, process control, data logging, transfer functions, mathematics, Boolean combinations, function generators

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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
Isolation voltage	500 V

Module Slave Interface (UART)

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

USB Interface

Channels	2
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)

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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 ± 1 µs

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

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

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 GI.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	Aluminum
Measurements (W x H x D)	30x 145 x 135mm
Weight	approx. 500 g

Ordering Information

Article number	527325
Accessories	E1 B (ProfiNET) extension, article number 510721
	E3 B (EC) extension, article number 584631
	E4 B (ETH) extension, article number 641625

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