Q.station XT

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.

- RS485 fieldbus interface up to 48 Mbps: LocalBus, up to 115.2 kbps: Modbus-RTU, ASCII
- Connectable to Controller Q.station X
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Power supply 10 ... 30 VDC
- DIN rail mounting (EN60715)



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 1,000,000 measurements/s) and SD card
- **6 digital Inputs**
  direct connection of encoder for angular position, PWM, counter and status signals.
- **PAC functionality with extensive library (T versions)**
  fast PID controllers, process control, data logging, transfer functions, mathematics, Boolean combinations, function generators



Technical Data

Micro Controller

Typ	Intel Atom E3851 Single-Core 1.46 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 up to 16 MByte/s (32 variables at 100 kHz)
Protocols	TCP/IP, UDP, Modbus TCP (Master and Slave), ASCII, High Speed Port, IEEE-1588 PTP Client
Isolation voltage	500 V

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

CAN-Interface

Channels	1
Electrical standard	CAN2.0
Baud rate	1 Mbps
Configuration	CAN DBC files
CAN FD	Optional (via USB-Adapter)

USB Interface

Channels	2
Version	USB 2.0
Data rate	To 4 MByte/s (to 1,000,000 measurements/s)

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Digital Inputs

Channels	6

Function	configurable counter, PWM- and status, encoder input for measurement synchronization
Input voltage	max. 30 VDC
Input current	max. 1.5 mA

Logic levels	
TTL:	< 1 V (Low)
	> 3.5 V (High)
HTL:	3 V to5 V (Low)
	11 V to 30 V (High)

Synchronization of a Multi Controller System

Interface	RS485 Electrical standard
Mode	Master-slave principle, IRIG 2 Electrical standard
	Synch. Master and Slave
Accuracy	System synchronization ± 1 µs

Electromagnetic Compatibility

According to	EN 61000-4 and EN 55011

Power Supply

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

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

Mechanical information

Material	Aluminium and ABS
Measurements (W x H x D)	30 x 145 x 135mm
Weight	approx. 500 g
Protection class	IP20

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Ordering Information

Article number	543020
Accessories	GI.bench, article number -
	GI.cloud, article number -
	E1 T (ProfiNET) extension, article number 580829
	E3 T (EC) extension, article number 584328
	E4 T (ETH) extension, article number 641524

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