Q.brixx XE A111 HB 30V

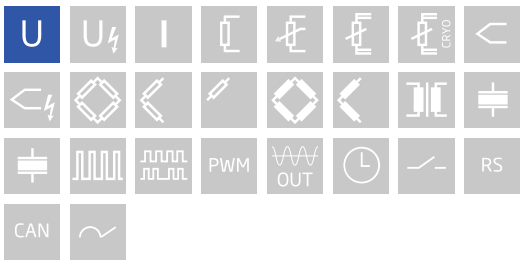
Measurement Module for Voltages

Q.brixx XE is a new addition to the Q.series product family - the ideal EtherCAT DAQ solution for on-the-go applications in potentially harsh environments. Q.brixx XE DAQ systems consist of up to 10 measurement modules capable of up to 100 kHz sampling per channel and an integrated EtherCAT bus coupler providing short cycle times and low jitter for accurate synchronization, all within a robust aluminum housing capable of withstanding severe shock and vibration without sacrificing performance.

- DC (distributed clock) for data synchronization
- FoE (file access over EtherCAT, ETG.1000.5) and CoE (CAN over EtherCAT, ETG.50001.1)
- Configurable PDO mapping to optimize the data throughput
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Power supply 10 ... 30 VDC

Key Features

- **4 galvanic isolated analog input channels**
  With 45 kHz bandwith
- **High input range**
  ±30 V to read raw values from machinery protection systems
- **High-accuracy digitization**
  24-bit ADC, 100 kHz sample rate per channel
- **Signal conditioning**
  16 virtual channels, linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- **Galvanic isolation**
  Channel to channel, channel to power supply, and bank



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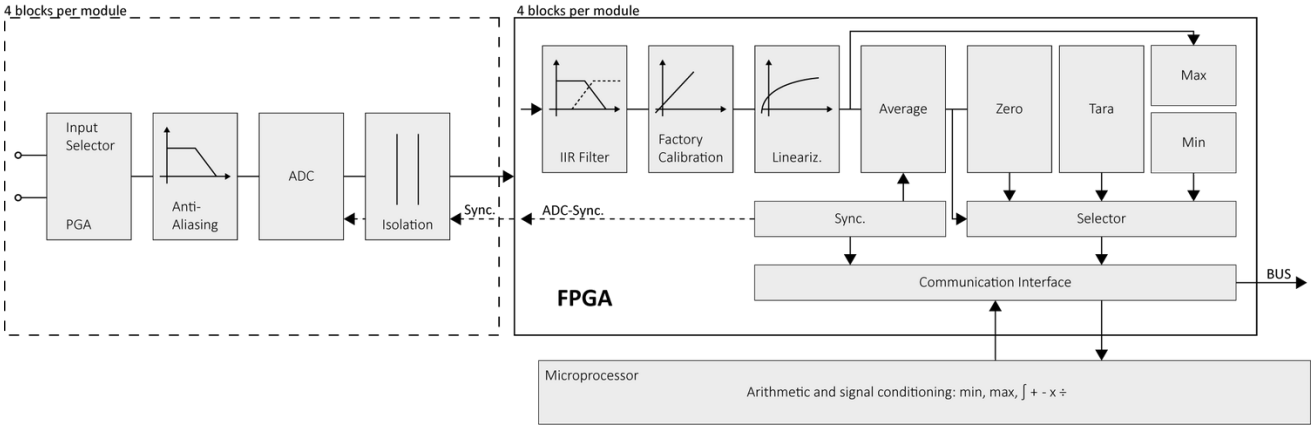
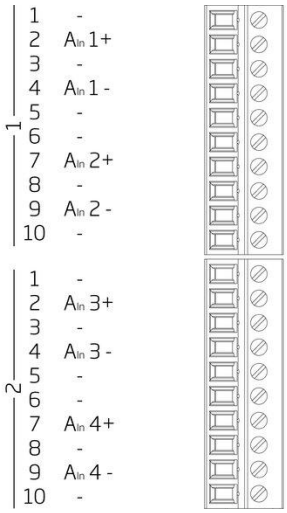
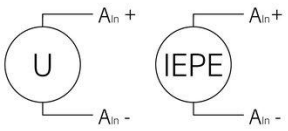
Block diagram



Technical Data

Terminal assignment 10pole screw





Analog Input

Channels	4
Accuracy	0.01 % typical
	0.025 % in controlled environment [1]
	0.05 % in industrial area [2]
Linearity error	0.01 % typical full-scale
Repeatability	0.003 % typical (within 24 hrs)
Input impedance	>10 MΩ (unless otherwise stated)
Isolation voltage	500 VDC channels, to power supply, channel to bus [3]
Overvoltage protection	±33 V
Max. Common-mode voltage (CMV)	250 VDC

[1] according to EN 61326 2006: appendix B
[2] according to EN 61326 2006: appendix A
[3] noise pulses up to 1000 VDC, continuous up to 250 VDC

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Measurement Mode Voltage

Input range	Margin of error	Resolution	Input impedance
±30 V	±6 mV	3.6 µV	>2 MΩ
Long-term stability (range ±1 V)	<60 µV / 24 hrs	<600 µV / 8000 hrs	
Temperature drift (range ±1 V)	<150 µV / 10 K Offset drift	<0.01 % / 10 K Gain drift	
Signal-to-noise ratio	>90 dB at 1 kHz	>120 dB at 1 Hz	
Dynamic range	109 dB @ ±10 V		
Input impedance	2.1 MΩ || 50 pF		

Analog/Digital Conversion

Resolution	24-bit
Sample rate	100 kHz per channel
Modulation method	sigma-delta
Bandwidth	45 kHz, ±3 db
Digital filters	Infinite impulse response (IIR), low-pass, high-pass, Butterworth or Bessel (2nd, 4th, 6th or 8th order), frequency range 0.1 Hz to 20 kHz (adjustable via software)
Averaging	configurable or automatic according to the selected data rate

Communication Interface EtherCAT

Electrical standard	RS-485, 2-wire
Protocols	EtherCAT (LVDS)

Power Supply

Input voltage	10 to 30 VDC, overvoltage and overcurrent protection
Power consumption	2.5 W (approx.)
Input voltage influence	<0.001 % / V

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

Remarks

Are subject to a warm-up period of at least 45 minutes
Specifications subject to change without notice

Mechanical information

Material	Aluminum
Measurements (W x H x D)	30x 137 x 135mm
Weight	approx. 500 g
Protection class	IP40

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Ordering Information

Article number	695129

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