

Q.bloxx XE A108 BNC

Voltage Measurement Module

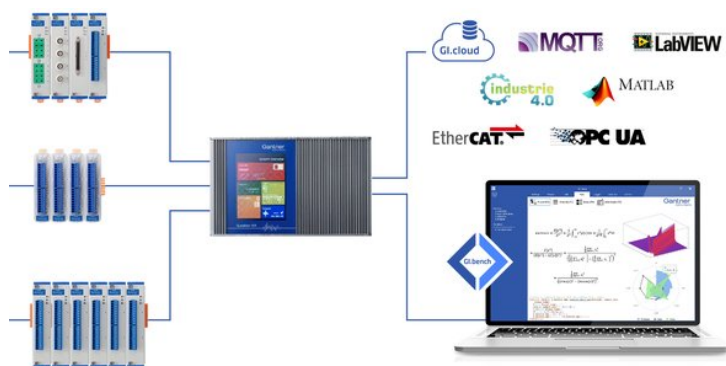
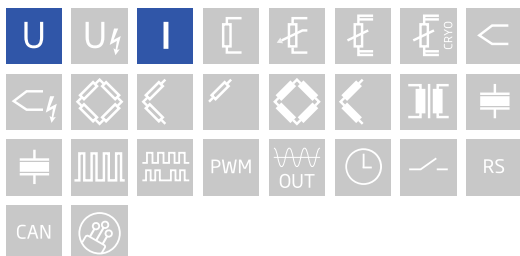
Q.bloxx XE is a new addition to the Q.series product family - the ideal EtherCAT DAQ solution for widely distributed installations that require higher performance and custom sensor terminations. Q.bloxx XE measurement modules possess integrated signal conditioning and arithmetic functions, packaged in modular, DIN Rail mountable enclosures that easily snap together for system expansion and are capable of measuring up to 100 kHz per channel with short cycle times and low jitter for accurate synchronization.

- RS-485, 2-wire, EtherCAT (LVDS)
- 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 and DIN rail mounting (EN60715)



Key Features

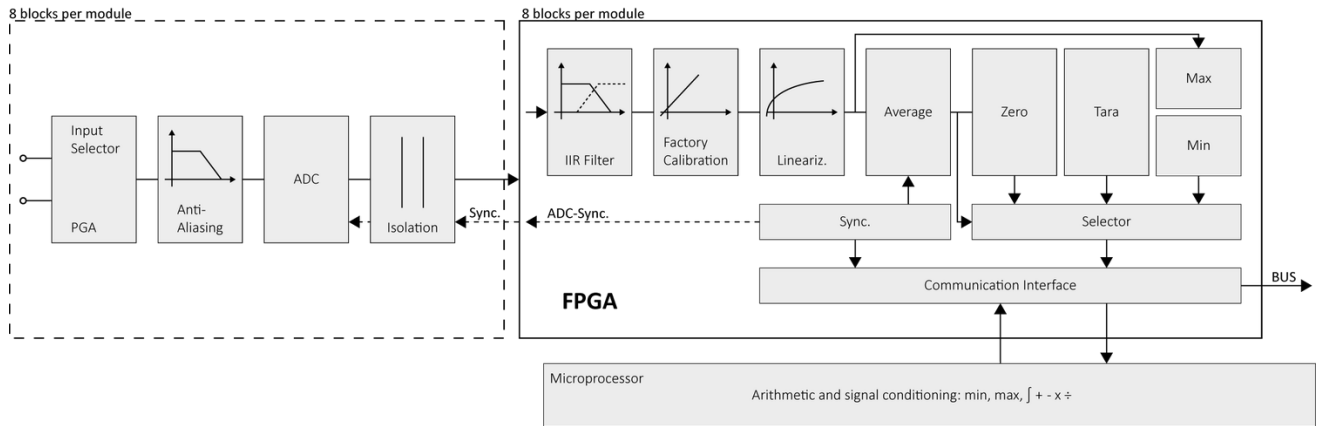
- 8 Analog input channels
differential voltage, current (with shunt resistor)
- High-accuracy digitization
24-bit ADC, 20 kHz sample rate per channel
- Signal conditioning
linearization, filtering, average, scaling, min/max, RMS, arithmetic, alarm
- 3-Way galvanic isolation
500 VDC channel to channel, channel to power supply, and channel to bus



Q.bloxx XE A108 BNC

Voltage Measurement Module

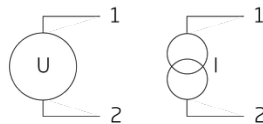
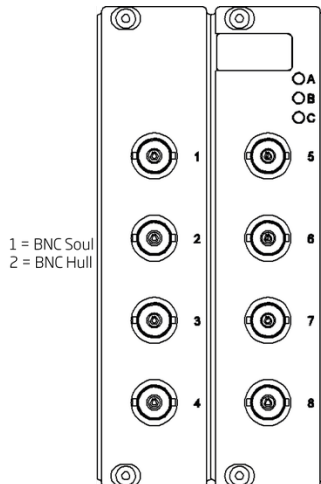
Block diagram



Technical Data

Terminal assignment BNC

- 1 $A_{IN} +$
- 2 $A_{IN} -$



Analog Input

Channels	8
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)
Isolation voltage	500 VDC channel to channel, to power supply, and channel to bus ³

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

Voltage Measurement

Input range	± 10 VDC	
Margin of error	± 2 mV	
Resolution	1.5 μ V	
Long-term stability	< 50 μ V / 24 hrs	< 200 μ V / 8000 hrs
Temperature drift	< 200 μ V / 10 K Offset drift	< 100 ppm / 10 K Gain drift
Signal-to-noise ratio	> 100 dB at 100 Hz	> 120 dB at 1 Hz
Input impedance	> 1 M Ω	
Overvoltage protection	± 200 V	

Measurement Mode Current (Only with Q.series Terminal SR)

Input range	± 25 mA
Margin of error	± 22 μ A
Resolution	15 nA
Long-term stability	< 500 nA / 24 hrs
Temperature drift	< 150 ppm / 10 K
Input impedance	100 Ω

Analog-to-Digital Conversion

Resolution	24-bit
Sample rate	20 kHz per channel
Modulation method	sigma-delta
Anti-aliasing filter	2 kHz, 3rd order
Digital filters	Infinite impulse response (IIR), low-pass, high-pass, band-pass, band-stop, Butterworth or Bessel (2nd, 4th, 6th or 8th order), frequency range 0.1 Hz to 1 kHz (adjustable via software)
Averaging	configurable or automatic according to the user-defined data rate

Communication Interface EtherCAT

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

Input Power

Input voltage	10 to 30 VDC, overvoltage and overcurrent protection
Power consumption	2 W (approx.)
Input voltage influence	< 0.001 % / V

Environmental Specifications

Electromagnetic compatibility (EMC)	according to IEC 61000-4 and EN 55011
Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +85°C
Relative humidity	5 - 95 % at 50°C (non-condensing)

Q.bloxx XE A108 BNC

Voltage Measurement Module

Remarks

Validity of all listed specifications are subject to a warm-up period of at least 45 minutes

Specifications subject to change without notice

Mechanical information

Material	Aluminum and ABS
Measurements (W x H x D)	60x 145 x 135mm
Weight	approx. 700 g

Ordering Information

Article number	628327
----------------	--------

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
www.gantner-instruments.com