

Q.bloxx XL A122 SEB

Module for Measuring Electrical Power

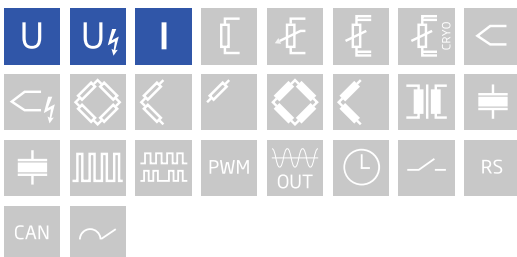
Q.bloxx XL is a new addition to the Q.series product family - the ideal DAQ solution for widely distributed installations that require higher performance and custom sensor terminations. Q.bloxx XL products are packaged in modular, DIN Rail mountable enclosures that easily snap together for system expansion. Flexibility in distribution allows for highly synchronized data that is less prone to noise due to shorter sensor cable runs to the subject.

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



Key Features

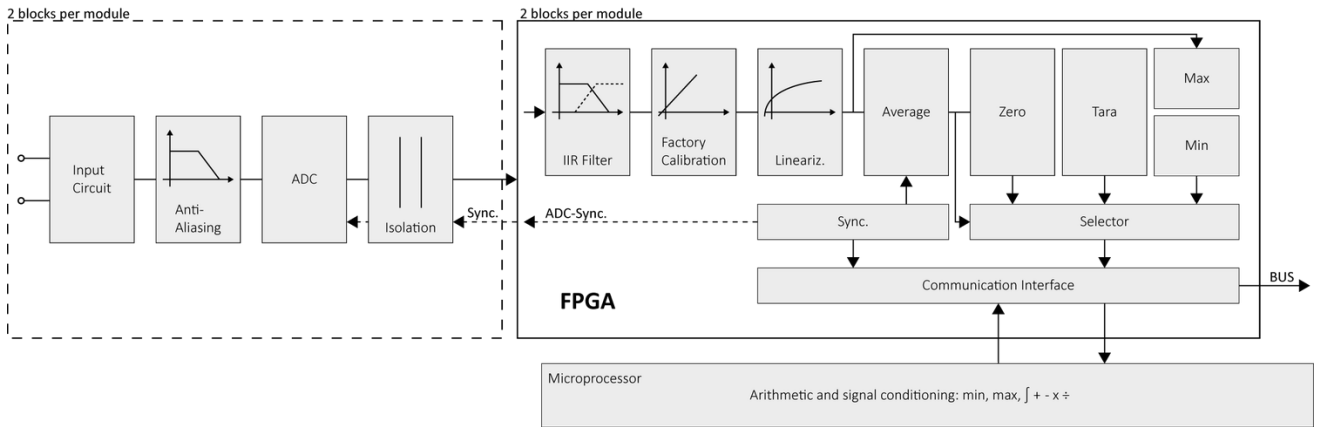
- 2 voltage input channels
1 inputs for voltage measurement
measuring ranges $\pm 40\text{ V}$, $\pm 120\text{ V}$, $\pm 400\text{ V}$, $\pm 1200\text{ V}$
1 inputs for current measurement via shunt resistors measuring ranges
 $\pm 80\text{ mV}$, $\pm 240\text{ mV}$, $\pm 800\text{ mV}$, $\pm 2400\text{ mV}$
- Signal conditioning
linearization, digital filter, average, scaling, min/max storage, RMS, alarm
- Fast high accuracy digitalization
19 bit SAR ADC, 100 kHz sample rate per channel
- Galvanic isolation
channel to channel to power supply and to interface
- Categories
1000 V CAT II and 600 V CAT III



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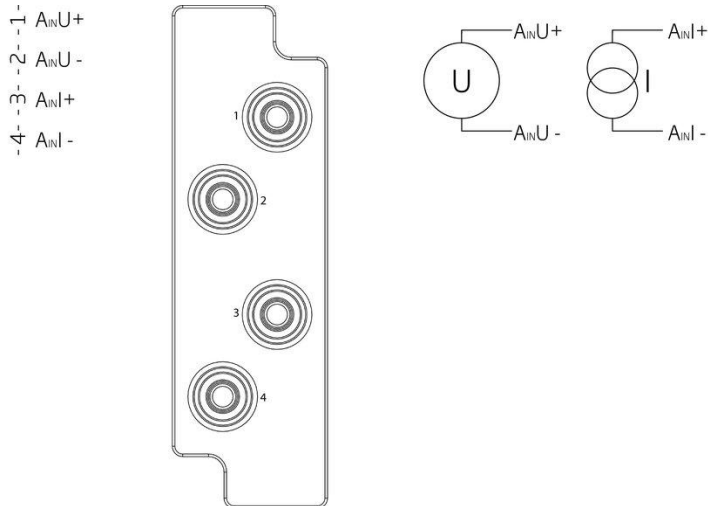
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Block diagram



Technical Data

Terminal assignment High Voltage Banana



Analogue Inputs

Channels	2
Isolation voltage	1200 VDC continuous, channel to channel to power supply channel to bus ¹

¹ noise pulses up to 1000 VDC, continuous up to 250 VDC

Measurement Mode Voltage

	range	max. error	resolution	Long-term drift
Error Channel 1	±1200 V	±300 mV	6 mV	<50 mV / 24 h <200 mV / 8000h
	±400 V	±100 mV	2 mV	<20 mV / 24h <60 mV / 8000 h
	±120 V	±30 mV	600 µV	<5 mV / 24h <20 mV / 8000h
	±40 V	±10 mV	200 µV	<2 mV / 24 h <6mV / 8000 h
Temperature influence	Offset drift		Gain drift	
	<50 mV / 10 K		<0.025 % / 10 K	

Measurement Mode Current

	range	max. error	resolution	Long-term drift
Via Shunt Channel 2	±2400 mV	±600 µV	12 µV	<100 µV / 24 h <300 µV / 8000h
	±800 mV	±200 µV	4 µV	<30 µV / 24h <100 µV / 8000 h
	±240 mV	±60 µV	1.2 µV	<10 µV / 24h <30 µV / 8000h
	±80 mV	±20 µV	0.4 µV	<3 µV / 24 h <10 µV / 8000 h
Temperature influence	Offset drift		Gain drift	
	<10 µV / 10 K		<0.02 % / 10 K	

Analog/Digital-Conversion

Resolution	19-bit
Update rate	100 kHz
Modulation method	SAR (successive approximation)
Anti-aliasing filter	20 kHz, 3rd order
Digital filters	Infinite impulse response (IIR), low-pass, high-pass, band-pass, Butterworth or Bessel (2nd, 4th, 6th or 8th order), frequency range 0.1 Hz to 10 kHz (adjustable via software)
Averaging	configurable or automatic according to the selected data rate

Communication Interface Localbus

Protocols	proprietary Localbus (115200 bps to 48 Mbps, latency <100 ns) ASCII (19200 bps to 115200 bps) Modbus RTU
Data format	8E1
Electrical standard	ANSI/TIA/EIA-485-A, 2-wire

Power Supply

Input voltage	10 to 30 VDC, overvoltage and overcurrent protection
Power consumption	approx.. 3 W
Input voltage influence	<0.001 %/V

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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
Pollution degree	1

Remarks

Are subject to a warm-up period of at least 45 minutes

in a controlled electromagnetic environment¹

With configuration: Low-pass 10Hz²

Specifications subject to change without notice

¹ according to EN 61326 2006: appendix B

² according to EN 61326 2006: appendix A

High Voltage Warnings



- Attention! High voltage device! - Danger to life and health in case of non regular use.
- Only special and sufficient educated persons are permitted to handle this device only.
- All metal housing parts must be safe and permanently connected to protected earth PE.
- Only contact protection plugs and cables may be used. All parts must be approved for voltages up to 1200 VDC.
- During installation, the whole system must be without voltage and safely be disconnected from the mains.
- All relevant safety regulations must be considered.
- Do not operate with damaged casing.

Base is the european standard EN61010-1

Mechanical Information

Material	Aluminum and ABS
Measurements (W x H x D)	30x 145 x 160mm
Weight	approx. 500 g
Protection class	IP20

Ordering Information

Article number	640927
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