

# Q.raxx XL A122 SEB

Module for Measuring Electrical Power

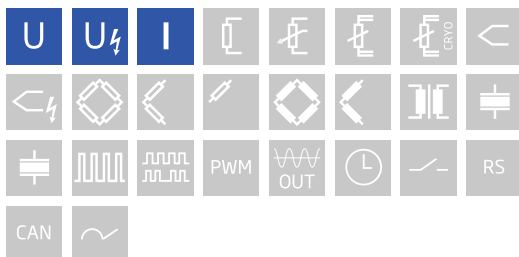
Q.raxx XL is a new addition to the Q.series product family - the ideal 19" rackmount DAQ solution for applications that require high channel density and custom sensor terminations. Q.raxx XL DAQ systems can utilize an integrated, high-performance controller for communication, control, and data logging purposes. With a controller, multiple Q.raxx XL systems can be synchronized to each other allowing for efficient DAQ distribution with low jitter and gradual expansion up to thousands of channels.

- High Density  
up to 13 I/O modules per Q.raxx 3U chassis with up to 16 channels per I/O module
- User Friendly  
front panel indicators for module status, power, and input range error
- Fully Customizable  
multiple front panel termination options available
- Maximum Flexibility  
parallel communication available in TCP/IP, CAN, PROFIBUS, Modbus, and EtherCAT
- Gantner's Quality Standard  
integrated filtering, galvanic isolation & signal/sensor conditioning per channel



## Key Features

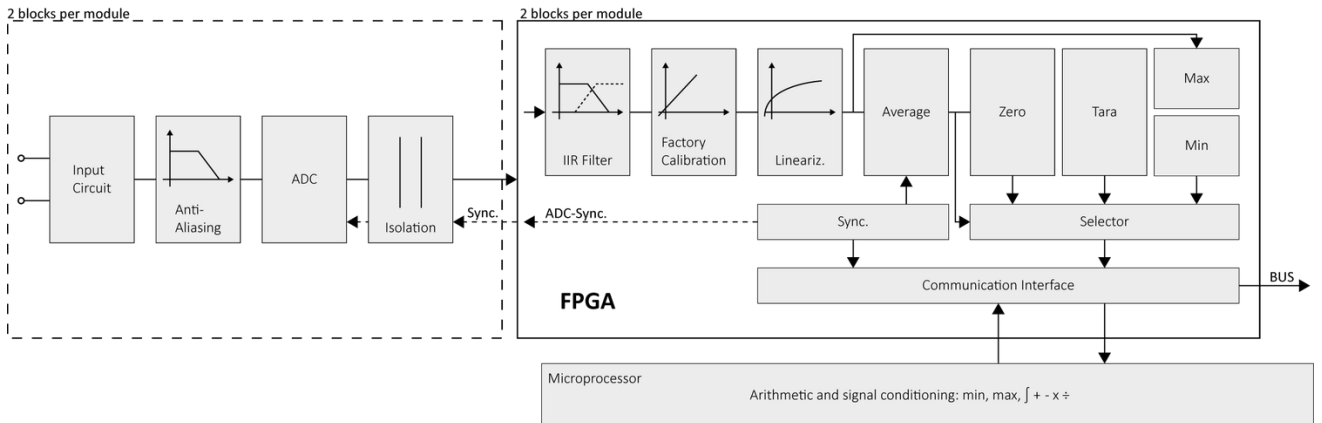
- 2 voltage input channels  
1 inputs for voltage measurement  
measuring ranges  $\pm 40\text{ V}$ ,  $\pm 120\text{ V}$ ,  $\pm 400\text{ V}$ ,  $\pm 1200\text{ V}$   
1 inputs for current measurement via shunt resistors measuring ranges  
 $\pm 80\text{ mV}$ ,  $\pm 240\text{ mV}$ ,  $\pm 800\text{ mV}$ ,  $\pm 2400\text{ mV}$
- 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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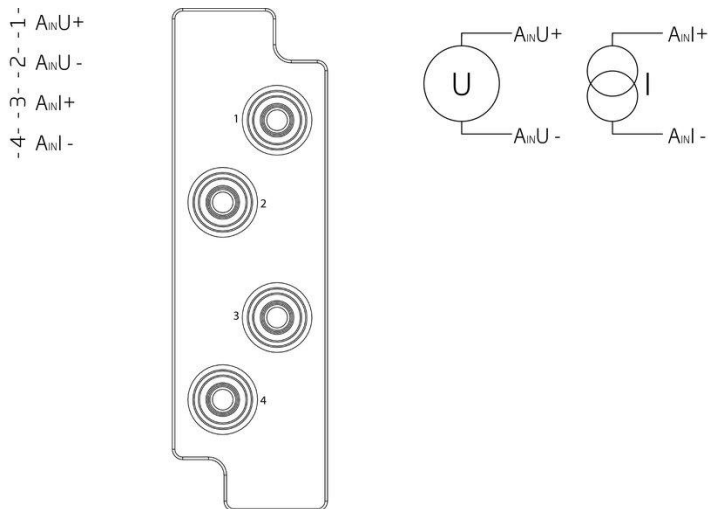
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## Block diagram



## 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 <sup>1</sup>

<sup>1</sup> noise pulses up to 1000 VDC, continuous up to 250 VDC

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## 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 environment<sup>1</sup>

With configuration: Low-pass 10Hz<sup>2</sup>

Specifications subject to change without notice

<sup>1</sup> according to EN 61326 2006: appendix B

<sup>2</sup> 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
Measurements (W x H x D)	30x 128 x 150mm
Weight	approx. 200 g

## Ordering Information

Article number	641322
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