

# Q.raxx XE A108

## Voltage Measurement Module

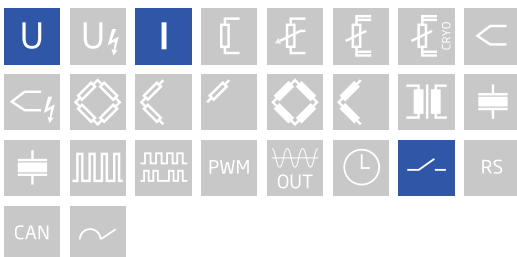
Q.raxx XE is an new addition to the Q.series product family - the ideal 19" rackmount EtherCAT DAQ solution for applications that require high channel density and custom sensor terminations. Q.raxx XE DAQ systems can consist of an integrated EtherCAT bus coupler for communication and 10 measurement modules capable of up to 100 kHz sampling per channel with short cycle times and low jitter for accurate synchronization

- According 19"-standard IEC
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- High density and flexibility with 13 modules in one system in any constellation
- FoE ( file access over EtherCAT, ETG.1000.5) and CoE (CAN over EtherCAT, ETG.50001.1)

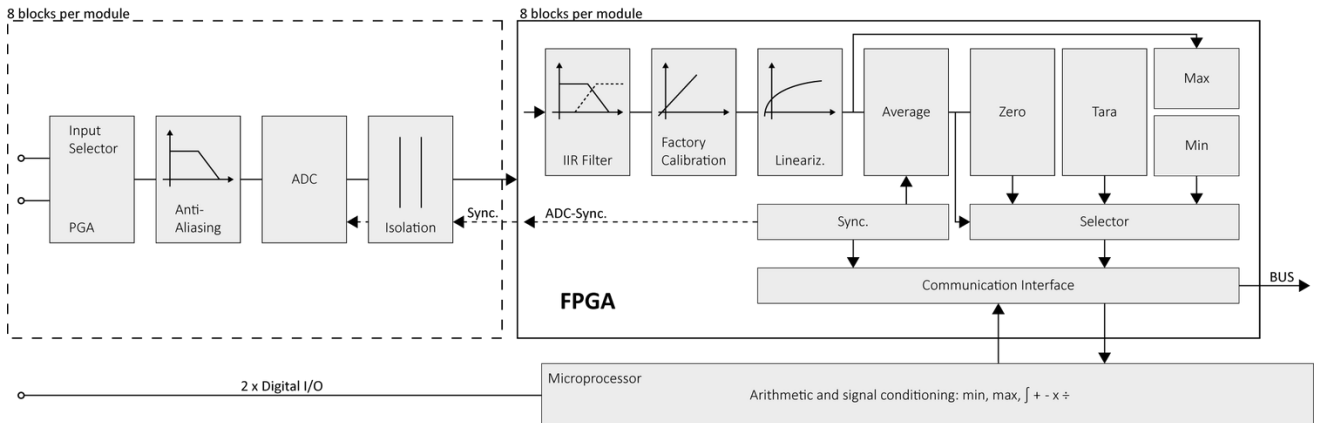


### Key Features

- 8 Analog input channels  
differential voltage, current (with shunt resistor)
- 2 Digital inputs and outputs  
status, trigger, tare, alarm, command
- 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  
Channel to channel, channel to power supply, and channel to bus

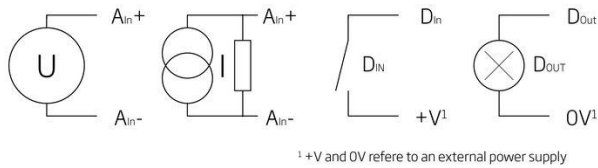
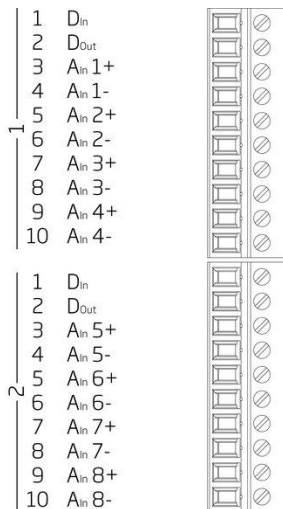


### Block diagram



### Technical Data

#### Terminal assignment 10pole screw



### Analog Input

Channels	8
Isolation voltage	500 VDC channel to channel, to power supply, and channel to bus <sup>1</sup>

<sup>1</sup> 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 µV	
Long-term stability	<50 µV / 24 hrs	<200 µV / 8000 hrs
Temperature drift	<200 µV / 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 MΩ	
Oversvoltage protection	± 200 V	

### Measurement Mode Current (Only with Q.series Terminal SR [791989])

Input range	±25 mA
Shunt resistance	100 Ω
Shunt tolerance	0.1 %
Resolution	15 nA
Long-term stability	<500 nA / 24 hrs
Temperature drift	<150 ppm / 10 K

### Digital I/Os

Channels	4 (2 digital inputs and 2 digital outputs)
Mode(s) of operation	status, tare, reset
Input voltage	30 VDC max.
Logic voltage	< 2 VDC (Low) >10 VDC (High)
Mode(s) of operation	status, alarm
Output voltage	10 to 30 VDC (external supply required)
Contact	open drain p-channel MOSFET
Load capacity	30 VDC / 100 mA (ohmic load)

### 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.raxx XE A108

## Voltage Measurement Module

### 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

### Mechanical information

Material	Aluminum
Measurements (W x H x D)	30x 128 x 120mm
Weight	approx. 200 g

### Ordering Information

Article number	512319
Accessories	Terminal SR, article number 791989

### 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