# Q.raxx XE A108-5V 8xBNC

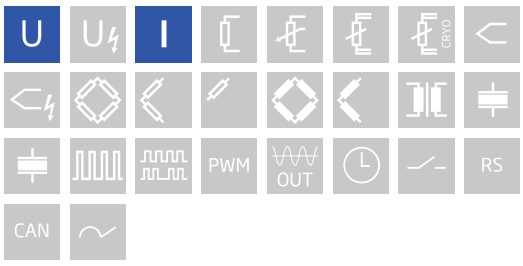
## Voltage Measurement Module

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 with13 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

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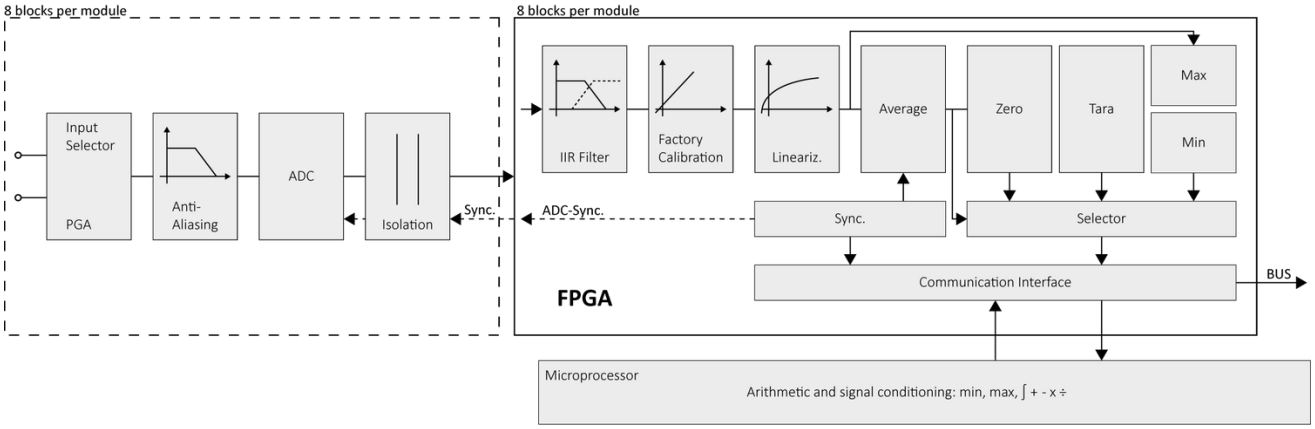
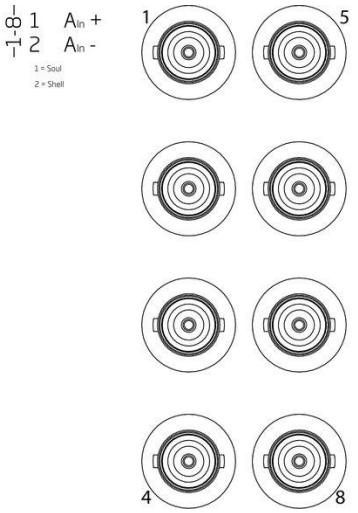
## Voltage Measurement Module

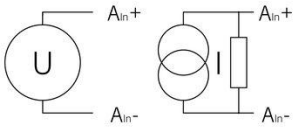
## Block diagram




## Technical Data

### Terminal assignment 10pole screw




### 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) |

[1] according to EN 61326 2006: appendix B
[2] according to EN 61326 2006: appendix A

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## Voltage Measurement Module

### Voltage Measurement

| | | |
|---|---|---|
| Input range | ±5 VDC | |
| Margin of error | ±1 mV | |
| Resolution | 750 nV | |
| Long-term stability | <25 µV / 24 hrs | <100 µV / 8000 hrs |
| Temperature drift | <100 µV / 10 K Offset drift | <50 ppm / 10 K Gain drift |
| Signal-to-noise ratio | >100 dB at 100 Hz | >120 dB at 1 Hz |
| Input impedance | > 1 MΩ | |
| Overvoltage protection | ± 200 V | |

### Analog-to-Digital Conversion

| | |
|---|---|
| Resolution | 24-bit |
| Sample rate | 10 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 |
| 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) |

### Remarks

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

# Q.raxx XE A108-5V 8xBNC

## Voltage Measurement Module

### Mechanical information

| | |
|---|---|
| Material | Aluminum |
| Measurements (W x H x D) | 60x 128 x 120mm |
| Weight | approx. 300 g |

### Ordering Information

| | |
|---|---|
| Article number | - |


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