

Q.raxx A123

High Isolation Module for Voltages

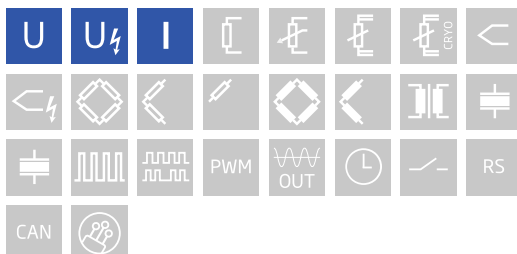
Q.raxx is the ideal 19" rackmount DAQ solution for applications that require high channel density. Q.raxx DAQ systems can utilize an integrated, high-performance controller for communication, control, and data logging purposes. With a controller, multiple Q.raxx systems can be synchronized to each other 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

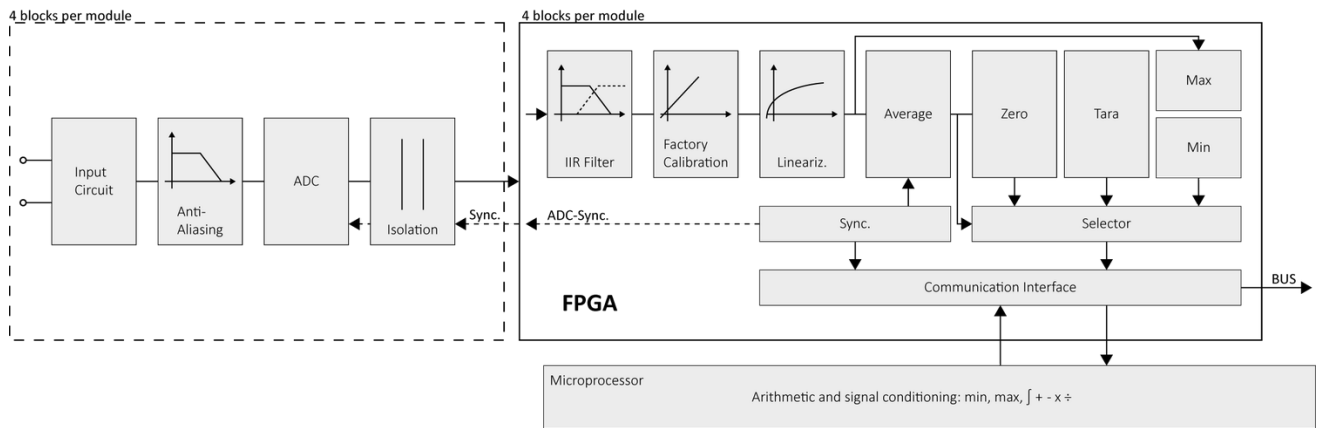


Key Features

- **4 galvanically isolated input channels**
Voltages at high potential, ranges 100 mV, 1 V, 10 V
- **Signal conditioning**
16 virtual channels, linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- **Fast high accuracy digitalization**
24 bit ADC, 100 kHz sample rate per channel
- **Galvanic isolation**
channel to channel to power supply and to interface
isolation voltage 1200 VDC / 848 VACrms
test voltage 5 kVDC over 1 minute
- **Categories**
1000 V CAT II and 600 V CAT III



Block diagram



Technical Data

Analog Inputs

Channels	4
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 h)
Isolation voltage	1200VDC continuous, channel to channel to power supply channel to bus ³

¹ according to EN 61326 2006: appendix B

² according to EN 61326 2006: appendix A

³ High voltage lifetime (TDD B E Model): time to fail approx. 4 years at 1200 VDC and 60 °C

Measurement Mode Voltage

Input-type	differential		
Error	range	max. error	resolution
	±10 V	±2 mV	1.2 µV
	±1 V	±200 µV	120 nV
	±100 mV	±20 µV	12 nV
Input impedance	> 10 MΩ		
Temperature influence	Offset drift	Gain drift	
	< 200 µV / 10 K (range ±10 V)	<0.01 % / 10 K	
	<50 µV / 10 K (range ±1 V)		
	< 50 µV / 10 K (range ±100 mV)		
Long-term stability	at range ±10 V	at range ±1 V and ±100 mV	
	< 50 µV / 24 h	< 10 µV / 24 h	
	< 200 µV / 8000 h	< 40 µV / 8000 h	
Signal-to-noise ratio	>100 dB at 100 Hz		
overvoltage protection	100 VDC continuous	500 VDC max. 100 ms	

Analog/Digital-Conversion

Resolution	24-bit
Update rate	100 kHz
Modulation method	Sigma-Delta
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

Protocols	proprietary Localbus (115200 bps to 24 Mbps, latency <100 ns) ASCII (19200 bps to 115200 bps) Modbus RTU Profibus-DP (19200 bps to 12 Mbps) (special Firmware required)
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.. 2 W
Input voltage influence	<0.001 %/V

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

Warm-up time	Validity of all listed specifications are subject to a warm-up period of at least 45 minutes
	Specifications subject to change without notice

High Voltage Warnings



- Attention High voltage device, Danger for 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 safely and continuous 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.

Base is the european standard EN61010-1

Mechanical information

Material	Aluminum
Measurements (W x H x D)	30 x 128 x 118 mm
Weight	approx. 100 g

Ordering Information

Article number	111419
----------------	--------

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