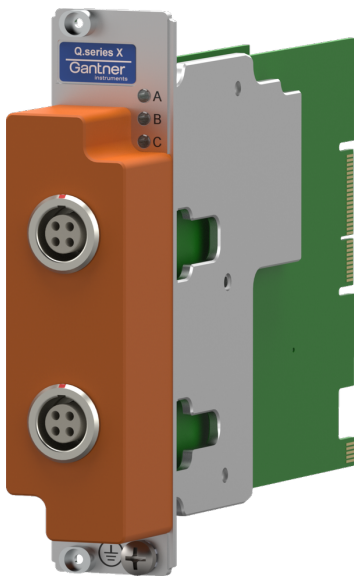


Q.raxx XL A121 LEMO

High Isolation Multi-Purpose Module

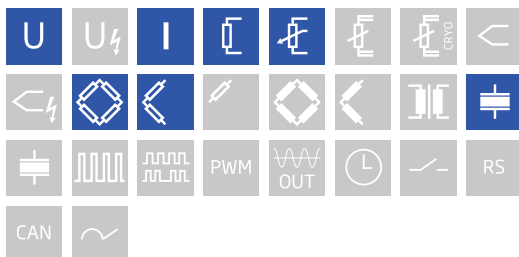
Q.raxx XL is a new addition to the Q.series product family - the ideal 19" rackmount DAQ solution for applications that require high channel density and custom sensor terminations. Q.raxx XL DAQ systems can utilize an integrated, high-performance controller for communication, control, and data logging 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

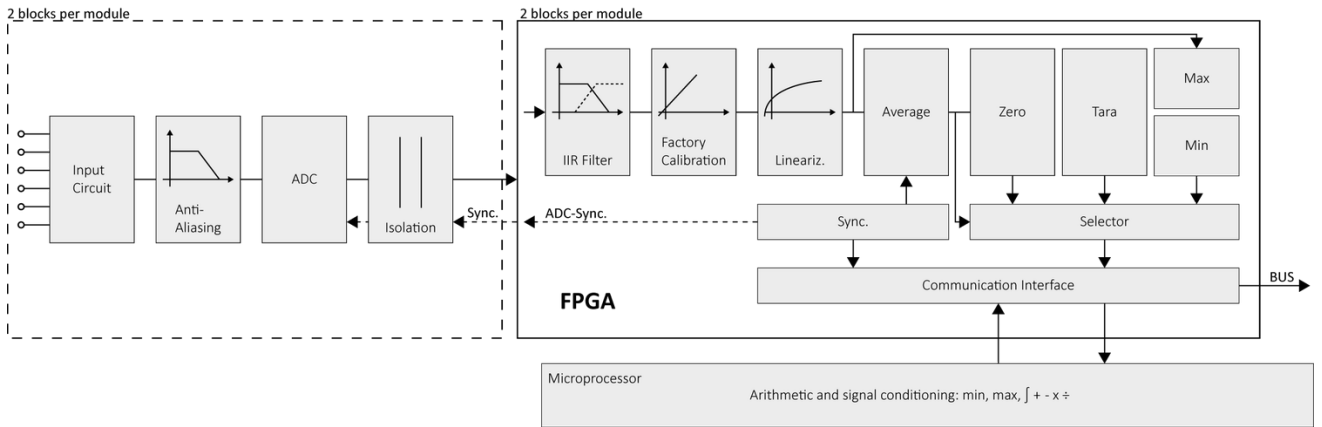
- 2 high galvanic isolated input channels
voltage, current, Pt100, potentiometer, full- and half bridges, IEPE, isolation voltage 1200 VDC permanent
- Signal conditioning
linearization, digital filter, average, scaling, min/max storage, arithmetic, alarm
- Fast high accuracy digitalization
24 bit ADC, 100 kHz sample rate each channel
- Galvanic isolation
channel to channel to power supply and to interface
- Categories
1000 V CAT II and 600 V CAT III



Q.raxx XL A121 LEMO

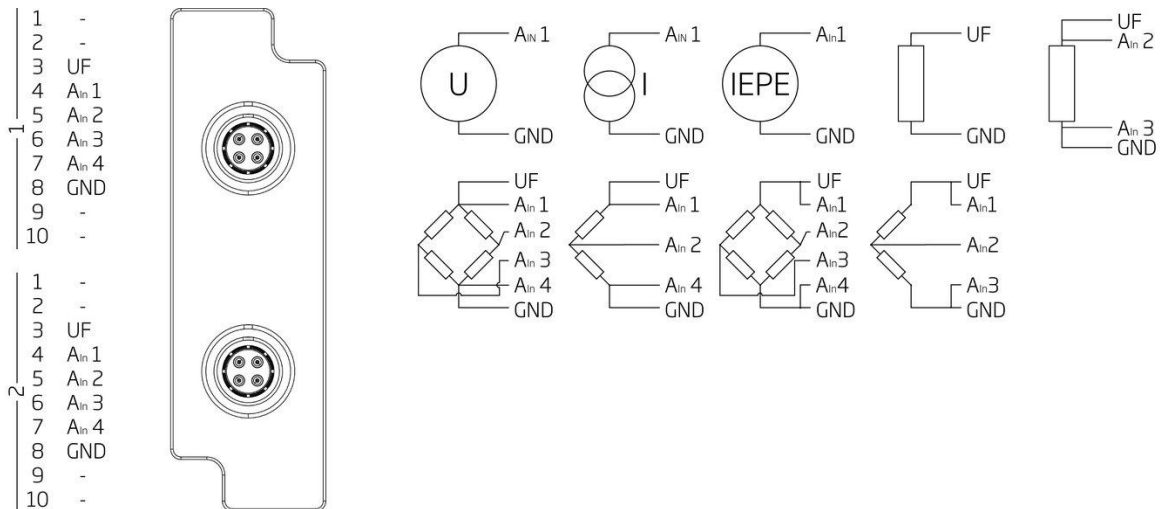
High Isolation Multi-Purpose Module

Block diagram



Technical Data

Terminal assignment Lemo



Mounting socket: LEMO EGG.2B.436.CJA

Mating connector: FGG.2B.436.CJLD52Z

Analog Inputs

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

Q.raxx XL A121 LEMO

High Isolation Multi-Purpose Module

Measurement Mode Voltage

	Range	Margin of error	Resolution
Error	±10 V	±2 mV	1.2 µV
	±1 V	±0.2 mV	120 nV
	±100 mV	±20 µV	12 nV
Input impedance	>10 MΩ		
Long-term drift	<20 µV / 24 h	<200 µV / 8000 h	
Temperature influence	Offset drift		Gain drift
	<50 µV / 10 K	<0.2 % / 10 K	
Signal-to-noise ratio	>100 dB at 100 Hz		

Measurement Mode Current

	range	max. error	resolution
Error Internal shunt resistor 50 Ω	±25 mA	±5 µA	3.0 nA
	Long-term drift <0.5 µA / 24 h <5 µA / 8000 h		
Temperature influence	Offset drift		Gain drift
	<1 µA / 10 K	<0.025 % / 10 K	

Measurement Mode Resistance / RTD

	range	max. error	resolution
Resistance, 2-wire	100 kΩ	±100 Ω	12 mΩ
Resistance, 2- and 4-wire	4 kΩ	±1 Ω	0.5 mΩ
Resistance, 2- and 4-wire	400 Ω	±0.1 Ω	48 µΩ
Pt100, 2- and 4-wire	-200 to +850°C	±0.25°C	0.2 m°C
Pt1000, 2- and 4-wire	-200 to +850°C	±1°C	0.2 m°C
Long-term drift	<0.01°C / 24 h	<0.1°C / 8000 h	
Temperature influence	Offset drift (range 400 Ω)		Gain drift
	<10 mΩ / 10 K	<0.025 % / 10 K	

Measurement Mode Potentiometer

Allowable potentiometer resistance	1 kΩ to 10 kΩ		
Long-term drift	<0.01 % / 24 h	<0.1 % / 8000 h	
Temperature influence	Offset drift		Gain drift
	<0.0001 / 10 K	<0.02 % / 10 K	

Measurement Mode Bridge

Bridge configuration(s)	half- and full-bridge, 5-/6-wire		
Accuracy class	0.05		
Bridge resistance	>100 Ω		
Bridge excitation	2.5 VDC, nominal		
Measurement range	±2.5 mV/V, ±5 mV/V, ±10 mV/V, ±25 mV/V, ±500 mV/V		
Long-term drift	<0.12 µV/V / 24 h	<1.2 µV/V / 8000 h	
Temperature influence	Offset drift		Gain drift
	<0.2 µV/V / 10 K	<0.05 % / 10 K	

Q.raxx XL A121 LEMO

High Isolation Multi-Purpose Module

Measurement Mode IEPE Sensor

	range	max. error	resolution
Error	±10 V	±10 mV	1.2 µV
	±1 V	±1 mV	120 nV
	Supply	constant current 4 mA	
Input frequency range	0.5 Hz to 10 kHz		
Temperature influence	Offset drift (range 10 V)	Gain drift	
	<10 µV / 10 K	<0.025 % / 10 K	

Analog/Digital Conversation

Resolution	24-bit
Update rate	100 kHz (measurement thermocouple 8 Hz)
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 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.. 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

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

Q.raxx XL A121 LEMO

High Isolation Multi-Purpose Module

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	577431
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