



Q.raxx A103

Multi Channel Plug-in Module for Voltages



The Q.raxx product is based on the standardized 19" technology and is designed for measurements with a high level of flexibility, reliability and accuracy. The range of applications starts from small stand-alone solutions up to networked multi-channel applications in the field of stationary testing and assembly.

The wide range of available plug-in modules and the flexibility of the system configuration allows an optimized solution for each single task. Up to 13 plug-in modules in one system plus a Controller Unit provide a powerful package with PAC functionality, logging possibilities and an Ethernet TCP/IP interface.

Conclusion:

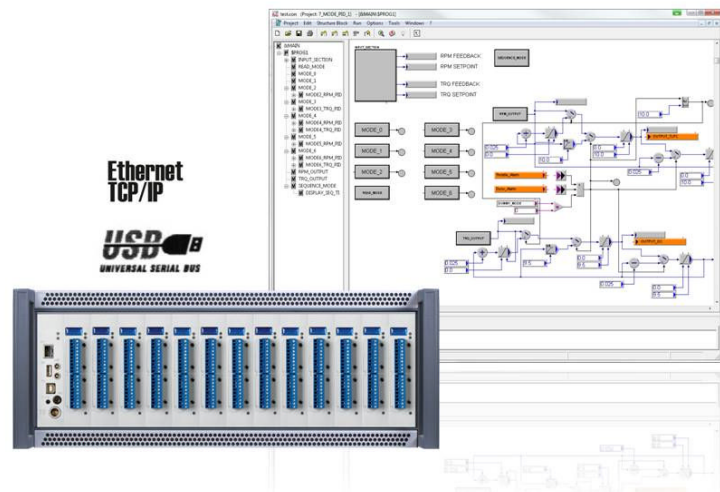
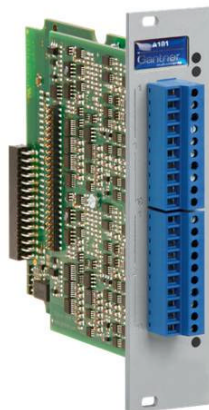
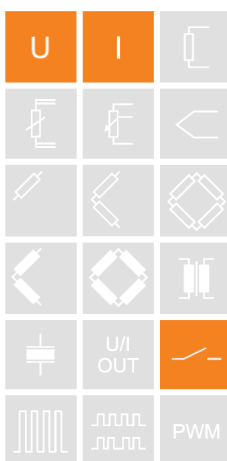
Dynamic signal acquisition up to 100 kHz, inputs and outputs for all types of signals, galvanic isolation of inputs and outputs, multi-channel solutions, high density packaging and intelligent signal conditioning for all kind of test applications.

Most important features of the system:

- **High density and flexibility**
up to 16 plug-in modules in one system in any constellation, flexible plug selection
- **Test Controller inclusive**
Ethernet TCP/IP for configuration and data transfer, 16 MByte data memory, expandable by USB device, logging features, PAC functionality, IRIG synchronization
- **Robust and reliable**
stable and compact aluminum housing, easy to carry
electromagnetic compatibility according EN 61000-4 and EN 55011
Temperature range -20 up to +60°C
power supply 10 up to 30 VDC

Most important features of the plug-in A103:

- **8 galvanic isolated input channels**
differential voltage, current via shunt connector
Isolation voltage 100 VDC
- **High accuracy digitalization**
24 bit ADC, 100 Hz sample rate per channel with 8 active channels, sum sample rate 800 Hz
- **2 digital in and 2 outputs**
input: state, tare, memory reset
output: state, alarm, threshold
- **Signal conditioning**
linearization, digital filter, average, scaling, min/max storage, arithmetic, alarm
- **Galvanic isolation**
channels to power supply and to interface, V_{iso} 500 VDC

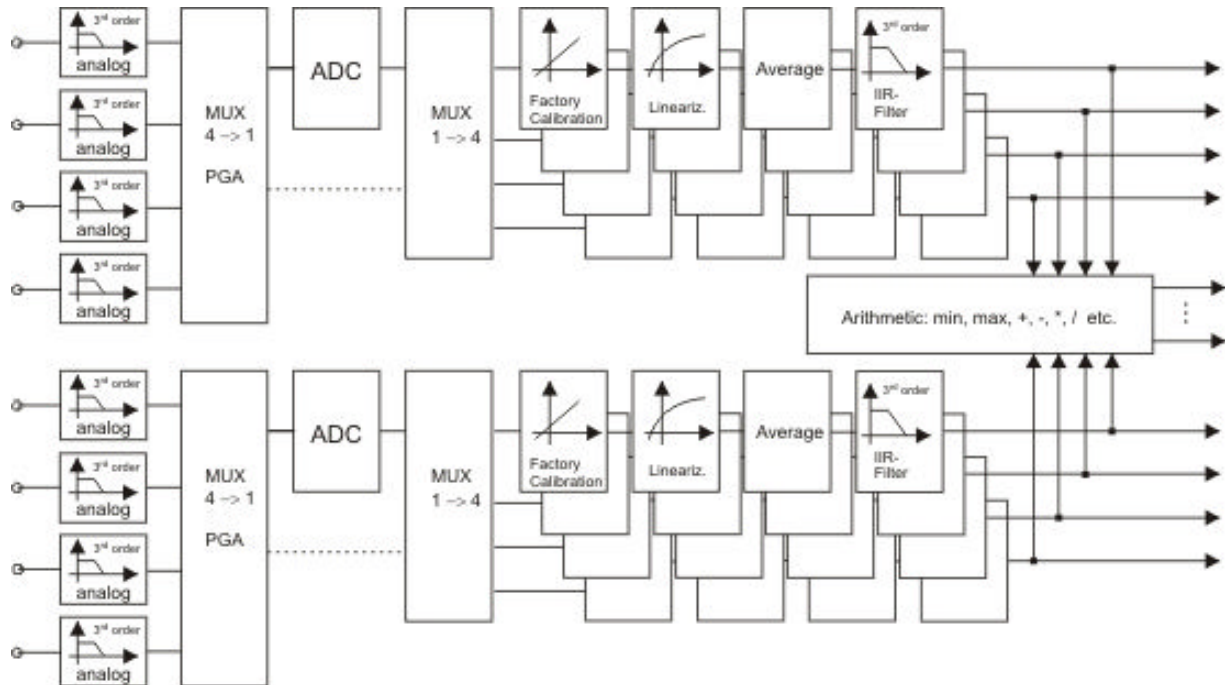




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Block Diagram



Analog Inputs			
Number	8		
Accuracy	0.01 % typical		
	0.02 % in controlled environment ¹		
	0.05 % in industrial area ²		
Linearity error	0.01 % of the final value typical		
Repeatability	0.003 % typical (within 24 h)		
Isolation voltage	100 VDC permanent, channel to channel		
	500 VDC channels to power supply to interface ³		
Measurement Voltage			
	Range	max. Deviation	Resolution
	±10 V	±2 mV	40 µV
Input resistance	>10 MΩ		
Long term drift	<100 µV / 24 h; <250 µV / 8000 h		
Temperature influence	on zero		on sensitivity
	<50 µV / 10 K		<0.05 % / 10 K
Signal-noise-ratio	>100 dB at 100 Hz		>120 dB at 1 Hz

¹ according EN 61326: 1997, appendix B

² according EN 61326: 1997, appendix A

³ noise pulses up to 1000 VDC, permanent up to 250 VDC



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Analog/Digital-Conversion	
Resolution	24 bit
Sample rate	100 Hz at 8 active channels, 400 Hz at 2 active channels
Conversion method	Sigma-Delta
Anti-aliasing filter	low pass 3 rd order per channel (-3 dB at 20 Hz)
Digital filter	IIR, low pass, high pass, band pass, 4 th order, 1 Hz up to 10 Hz in steps 1, 2, 5
Averaging	configurable or automated according the selected data rate
Digital In/Outputs	
Number	4, 2 digital inputs and 2 digital outputs
Input	state, tare, reset
Input voltage	max. 30 VDC
Input current	max. 0,5 mA
Upper threshold	>10 V (high)
Lower threshold	<2.0 V (low)
Output	state, alarm
Contact	open drain p-channel MOSFET
Load	30 VDC / 100 mA (ohmic load)
Power Supply	
Power supply	10 up to 30 VDC, overvoltage and overload protection
Power consumption	approx. 2 W
Influence of the voltage	<0.001 %/V
Environmental	
Operating temperature	-20°C up to +60°C
Storage temperature	-40°C up to +85°C
Relative humidity	5 % up to 95 % at 50°C, non condensing
Dimension	
Front plate (W x H)	(30 x 128) mm
Depth	118 mm



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Warm Up Time

All declarations are valid after a warm up time of 45 minutes.

Valid from January 2011. Specification subject to change without notice
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