

## Q.raxx A128

High Isolation Plug-in for Dynamic High 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:

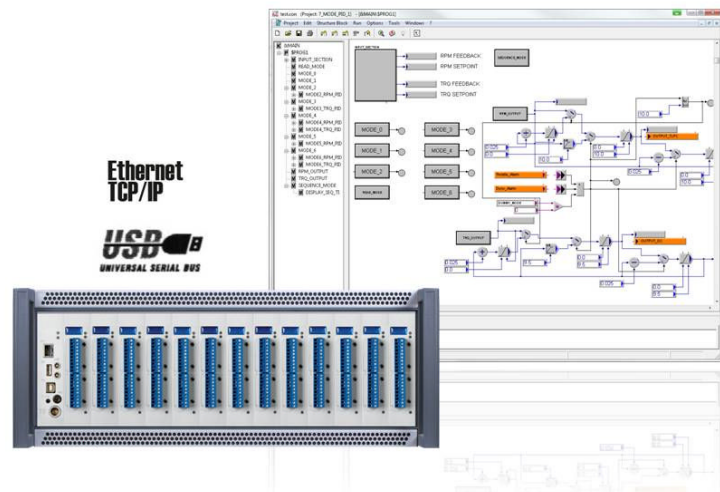
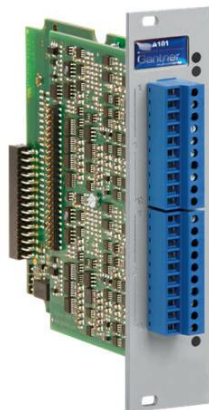
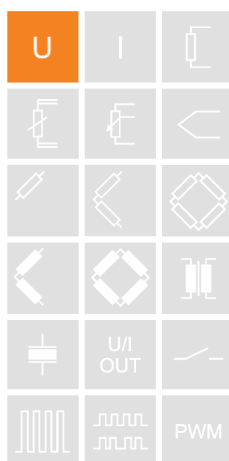
Dynamic signal acquisition up to 100 kHz, inputs and outputs for all types of signals, galvanic isolation of inputs and outputs, multi-channel solutions, high density packaging and intelligent signal conditioning for all kind of test applications.

### 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 A128:

- **4 high galvanic isolated input channels**  
differential voltage, isolation voltage 1200 VDC permanent
- **4 measuring ranges selectable each channel**  
 $\pm 40$  V;  $\pm 120$  V,  $\pm 400$  V,  $\pm 1200$  V
- **Fast high accuracy digitalization**  
24 bit ADC, 50 kHz sample rate per channel with 4 active channels, 100 kHz sample rate per channel with 2 active channels
- **Signal conditioning**  
linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- **Galvanic isolation**  
channel to channel to power supply and to interface  
isolation voltage 1200 VDC / 858 VACrms  
test voltage 5 kVrms over 1 minute

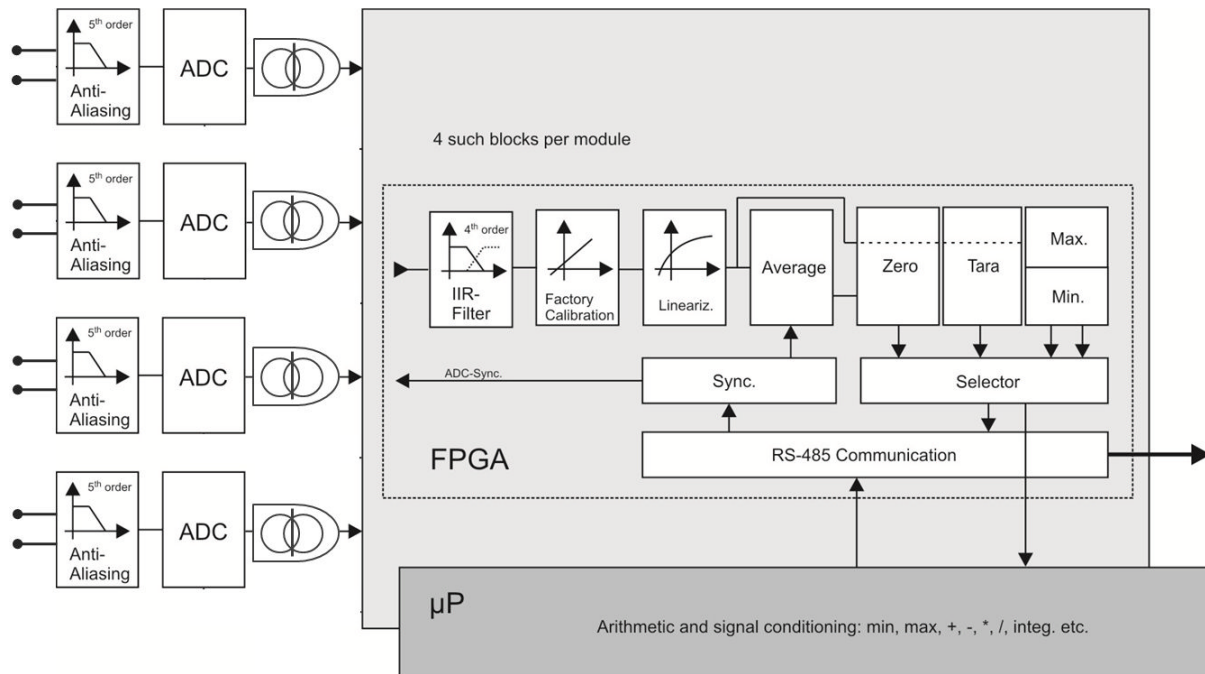




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## Block Diagram



Analog Inputs			
Number	4		
Accuracy	0.01 % typical		
	0.02 % in controlled environment <sup>1</sup>		
	0.05 % in industrial area <sup>2</sup>		
Linearity error	0.01 % of the final value typical		
Repeatability	0.003 % typical (within 24 h)		
Isolation voltage	1200 VDC permanent, channel to channel to power supply to interface <sup>3</sup>		
Measurement Voltage			
	Range	max. Deviation	Resolution
	±1200 V	±300 mV	6 mV
	±400 V	±100 mV	2 mV
	±120 V	±30 mV	600 µV
	±40 V	±10 mV	200 µV
Input resistance	>10 MΩ		
Long term drift	<1 mV / 24 h; <2.5 mV / 8000 h		
Temperature influence	on zero	on sensitivity	
	<5 mV / 10 K	<0.05 % / 10 K	
Signal-noise-ratio	> 100 dB at 100 Hz		

<sup>1</sup> according EN 61326: 1997, appendix B

<sup>2</sup> according EN 61326: 1997, appendix A

<sup>3</sup> High Voltage lifetime (TDDB E Model): Time to fail approx. 4 years at 1200 VDC and 60 °C permanent



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<b>Analog/Digital-Conversion</b>	
Resolution	24 bit
Sample rate	50 kHz at 4 active channels, 100 kHz at 2 channels
Conversion method	Sigma-Delta (group delay time 380 $\mu$ s)
Anti-aliasing filter	20 kHz, 5 <sup>th</sup> order per channel
Digital filter	IIR, low pass, high pass, band pass, 4 <sup>th</sup> order, 1 Hz up to 10 kHz in steps 1, 2, 5
Averaging	configurable or automated according the selected data rate
<b>Power Supply</b>	
Power supply	10 up to 30 VDC, overvoltage and overload protection
Power consumption	approx. 2 W
Influence of the voltage	<0.001 %/V
<b>Environmental</b>	
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
<b>Dimension</b>	
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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