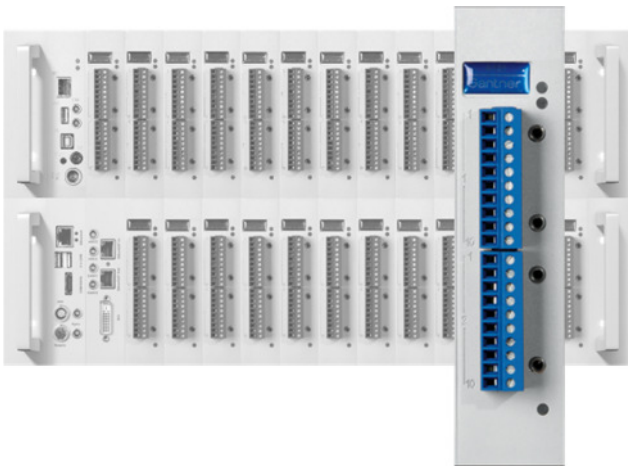




Q.raxx A111

Measurement Plug-in Module for IEPE Sensors and 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:

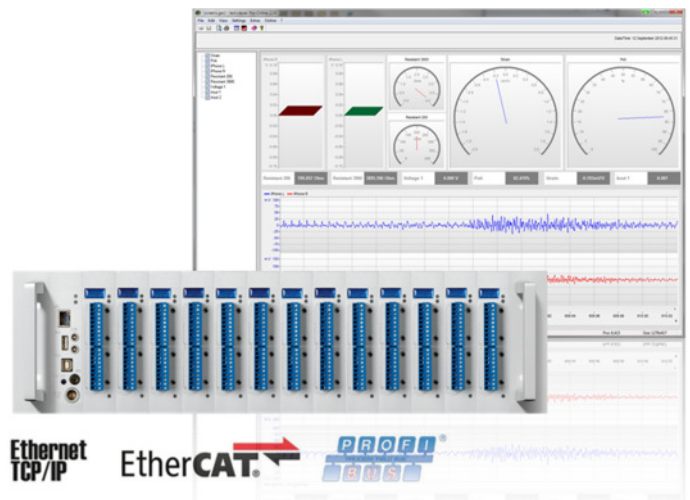
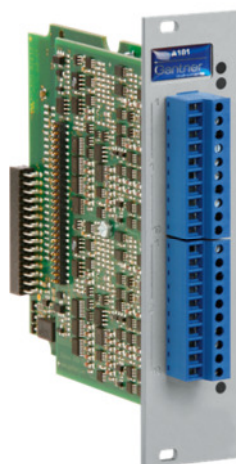
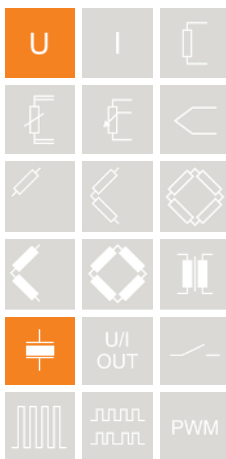
Dynamic signal acquisition up to 100 kHz, inputs and outputs for all types of signals, galvanic isolation of inputs and outputs, multi-channel solutions, high density packaging and intelligent signal conditioning for all kind of test applications.

Most important features of the system:

- **High density and flexibility**
up to 13 plug-in modules in one system in any constellation, flexible plug selection
- **Test Controller Q.station or Q.gate selectable**
Ethernet TCP/IP for configuration and data transfer, EtherCAT, internal memory expandable by USB device, logging features, PAC functionality, IRIG synchronization for details please see separate Test Controller data sheets
- **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 A111:

- **4 galvanic isolated analog input channels**
IEPE sensors, voltages
- **Fast high accuracy digitalization**
24 bit ADC, 100 kHz sample rate per channel
- **Signal conditioning**
16 virtual channels, linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- **Galvanic isolation**
channel to channel to power supply and to interface, V_{iso} 500 VDC



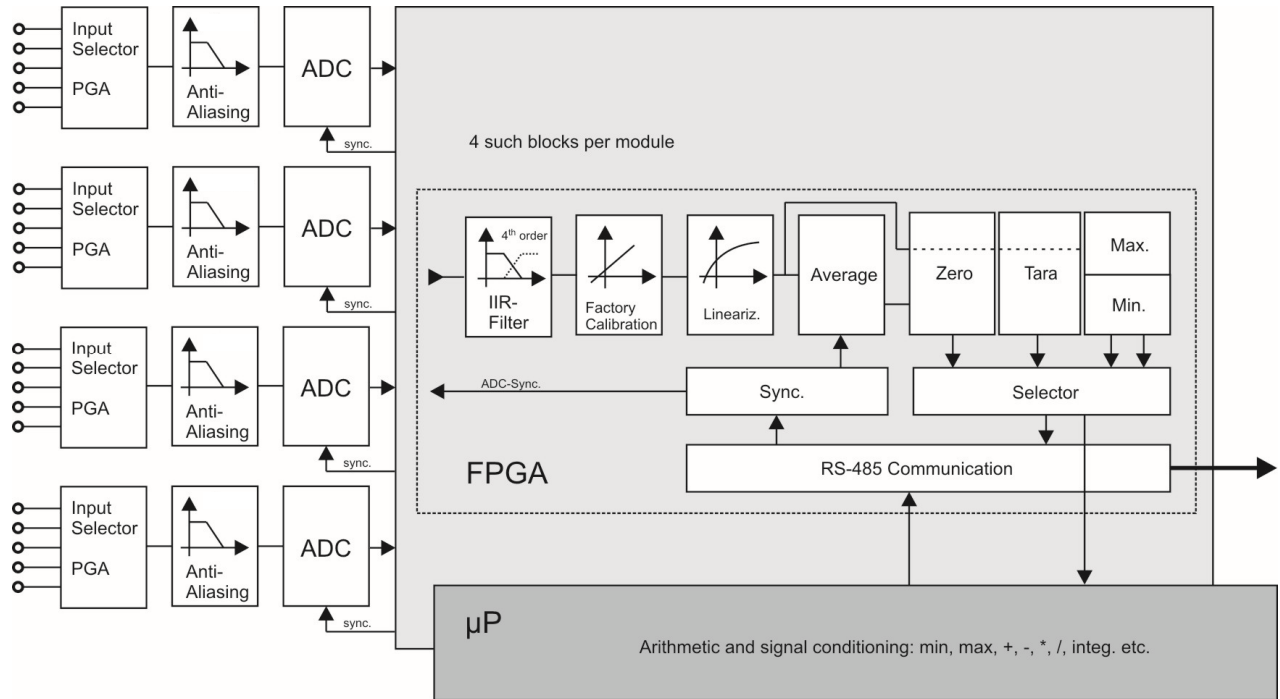
Ethernet TCP/IP EtherCAT PROFIBUS



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Measurement Plug-in Module for IEPE Sensors and Voltages

Block Diagram



Analog Inputs													
Number	4												
Accuracy	0.01 % typical												
	0.025 % 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	500 VDC channel to channel to power supply to interface ³												
Measurement Voltage													
	<table border="1"> <thead> <tr> <th>Range</th> <th>max. Deviation</th> <th>Resolution</th> </tr> </thead> <tbody> <tr> <td>±10 V</td> <td>±2 mV</td> <td>1.2 µV</td> </tr> <tr> <td>±1 V</td> <td>±0.2 mV</td> <td>120 nV</td> </tr> <tr> <td>±100 mV</td> <td>±20 µV</td> <td>12 nV</td> </tr> </tbody> </table>	Range	max. Deviation	Resolution	±10 V	±2 mV	1.2 µV	±1 V	±0.2 mV	120 nV	±100 mV	±20 µV	12 nV
Range	max. Deviation	Resolution											
±10 V	±2 mV	1.2 µV											
±1 V	±0.2 mV	120 nV											
±100 mV	±20 µV	12 nV											
Input resistance	>1 MΩ												
Long term drift	<20 µV / 24 h, <200 µV / 8000 h												
Temperature influence	on zero	on sensitivity											
	<50 µV / 10 K	<0.01 % / 10 K											
Signal-noise-ratio	> 90 dB at 1 kHz	>120 dB at 1 Hz											
		range ±1 V											

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



Q.raxx A111

Measurement Plug-in Module for IEPE Sensors and Voltages

Measurement IEPE sensor	Range	max. Deviation	Resolution
	±10 V	±10 mV	40 µV
	±1 V	±1 mV	4 µV
	±100 mV	±0,1 mV	0,4 µV
Supply	Constant current 4 mA		
Minimum input frequency	0.5 Hz		
Limit frequency	20 kHz		
Temperature influence	on zero	on sensitivity	
	<10 µV / 10 K	<0.025 % / 10 K	
Analog/Digital-Conversion			
Resolution	24 bit		
Sample rate	100 kHz		
Conversion method	Sigma-Delta (group delay time 380 µs)		
Anti-aliasing filter	20 kHz, 3 rd order		
Digital filter	IIR, low pass, high pass, band pass, 4 th order, 1 Hz up to 10 kHz in steps 1, 2, 5		
Averaging	configurable or automated according the selected data rate		
Power Supply			
Power supply	10 up to 30 VDC, overvoltage and overload protection		
Power consumption	approx. 2.5 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		



Q.raxx A111

Measurement Plug-in Module for IEPE Sensors and Voltages

Warm Up Time

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

Valid from October 2015 2015. Specification subject to change without notice
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