

## Q.brixx A108

## Multi Channel Module for Dynamic Voltages



The Q.brixx product line is designed for portable 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 mobile and stationary performance testing and structural monitoring.

The wide range of available modules and the flexibility of the system configuration allows an optimized solution for each single task. Up to 16 modules in one system plus a Controller Unit provide a powerful package with PAC functionality, logging possibilities and an Ethernet TCP/IP interface.

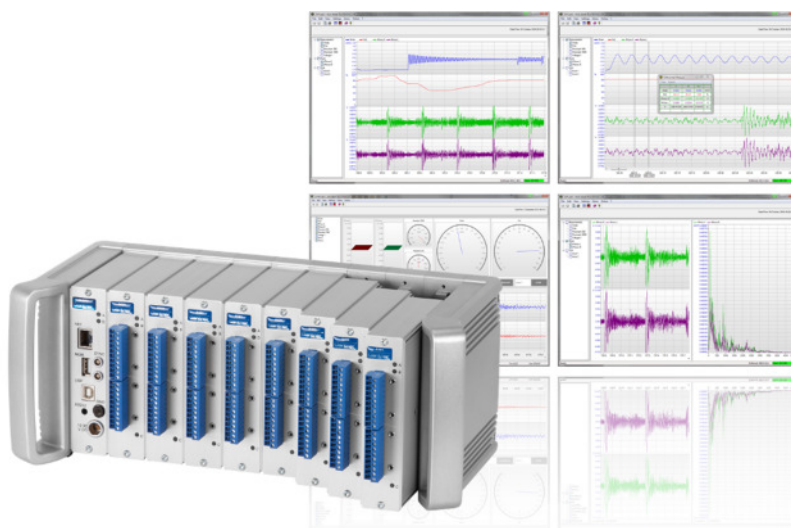
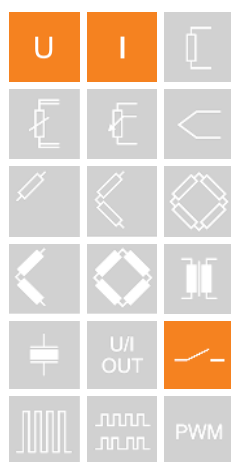
Conclusion: Dynamic signal acquisition up to 100 kHz, inputs and outputs for all types of signals, galvanic isolation of inputs and outputs, multi-channel solutions, high density packaging and intelligent signal conditioning for mobile application.

### Most important features of the system:

- **High density and flexibility**  
up to 16 modules in one system in any constellation
- **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 module A108:

- **8 galvanic isolated input channels**  
differential voltage, current via shunt connector  
Isolation voltage 100 VDC
- **High accuracy digitalization**  
24 bit ADC, 10 kHz sample rate per channel
- **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, RMS, arithmetic, alarm
- **Galvanic isolation**  
channel to channel to power supply and to interface,  $V_{iso}$  500 VDC

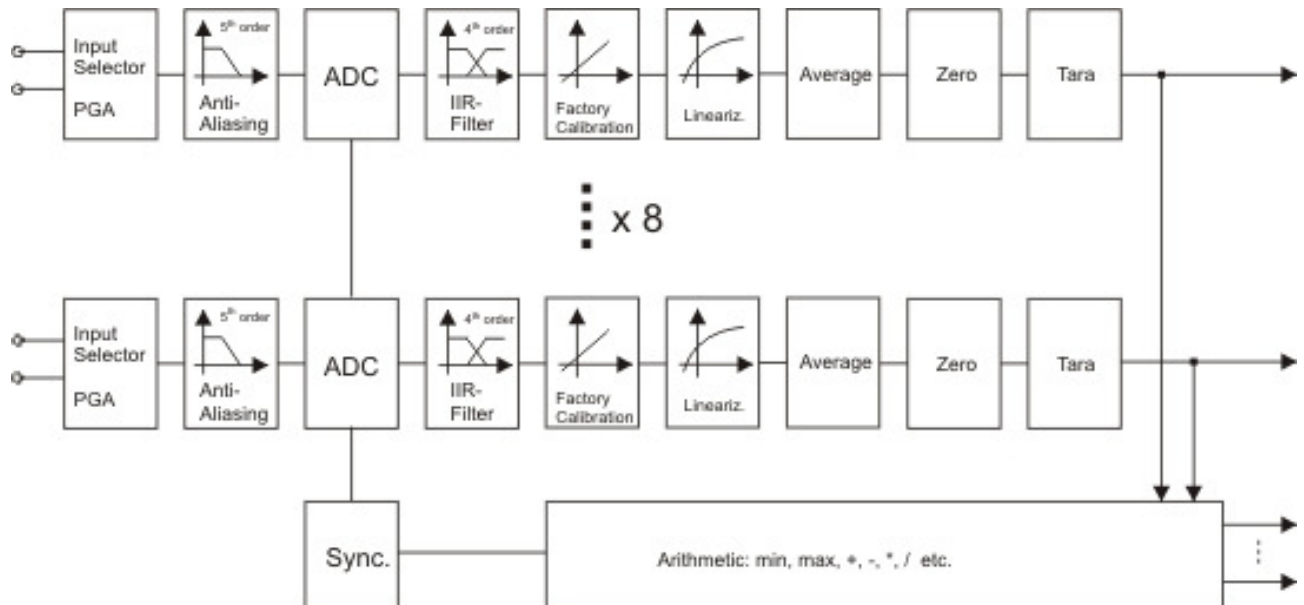




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### Block Diagram



Analog Inputs			
Number	8		
Accuracy	0.01 % typical		
	0.025 % 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	500 VDC channel to channel to power supply to interface <sup>3</sup>		
Measurement Voltage	Range	max. Deviation	Resolution
	±10 V	±2 mV	1.5 µV
Input resistance	>1 MΩ		
Long term drift	<25 µV / 24 h; <100 µV / 8000 h		
Temperature influence	on zero	on sensitivity	
	<50 µV / 10 K	<0.01 % / 10 K	
Signal-noise-ratio	>100 dB at 100 Hz	>120 dB at 1 Hz	

<sup>1</sup> according EN 61326: 2006, appendix B

<sup>2</sup> according EN 61326: 2006, appendix A

<sup>3</sup> noise pulses up to 1000 VDC, permanent up to 250 VDC



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Analog/Digital-Conversion	
Resolution	24 bit
Sample rate	10 kHz per channel
Conversion method	Sigma-Delta (group delay time 600 µs)
Anti-aliasing filter	2 kHz, 3 <sup>rd</sup> order
Digital filter	IIR, low pass, high pass, band pass, 4 <sup>th</sup> order, 1 Hz up to 1 kHz in steps 1, 2, 5
Averaging	configurable or automated according the selected data rate
Digital In/Outputs	
Number	4, 2 digital inputs, 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



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### **Warm Up Time**

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

Valid from July 2015. Specification subject to change without notice  
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