



## Q.bloxx A128

### High Isolation Module for Dynamic High Voltages



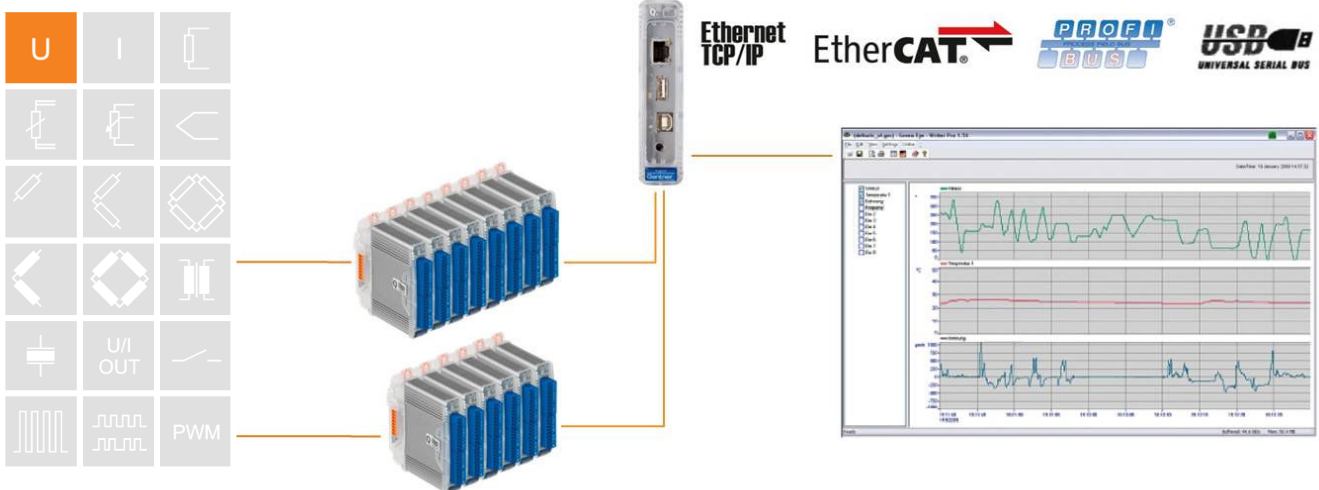
The Q.series has been designed for demanding measurements found in today's most industrial measuring and testing environments. The range of applications starts from single stand-alone solutions up to networked multi-channel applications in the field of component testing, engine testing, process performance testing and structural monitoring.

The range and flexibility of the modules allows an optimized solution for each single task: 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.

Data exchange between Test Controller and automation level is communicated via Ethernet TCP/IP or fieldbus systems like EtherCAT or Profibus-DP and additional Ethernet-based industrial standards.

#### Most important features:

- **4 high galvanic isolated input channels**  
differential voltage,  
isolation voltage 1200 VDC permanent
- **4 measuring ranges selectable each channel**  
±40 V; ±120 V, ±400 V, ±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
- **RS485 fieldbus interface**  
up to 48 Mbps: LocalBus  
up to 115.2 kbps: Modbus-RTU, ASCII
- **Connectable to any Test Controller**  
e.g. Q.gate or Q.pac
- **Galvanic isolation**  
channel to channel to power supply and to interface  
isolation voltage 1200 VDC / 858 VACrms  
test voltage 5 kVrms over 1 minute
- **Electromagnetic Compatibility**  
according EN 61000-4 and EN 55011
- **Power supply 10...30 VDC**
- **DIN rail mounting (EN 50022)**

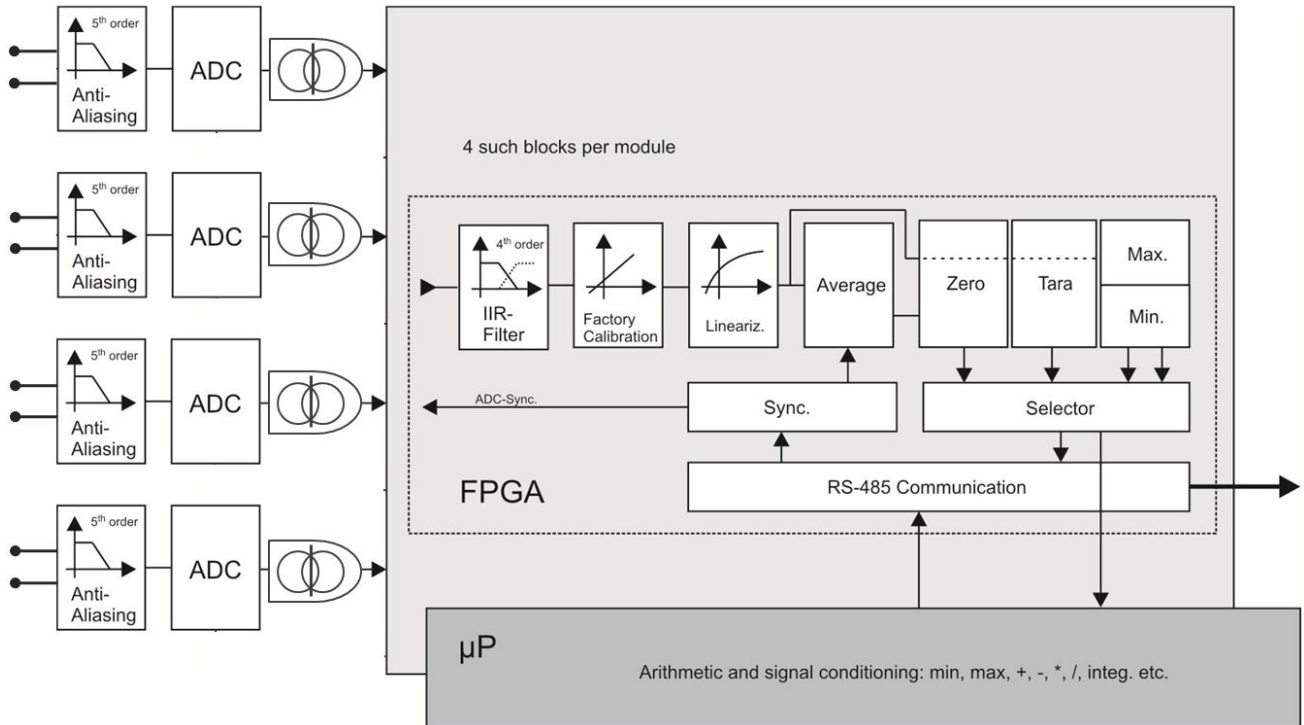




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## Block Diagram



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>Communication Interface</b>	
Standard	RS-485, 2-wire
Data format	8e1
Protocols	Local-Bus: 115200 bps up to 48 Mbps Modbus-RTU, ASCII: 19200 bps up to 115200 bps
Connectable devices	max. 32
<b>Mechanical</b>	
Case	Aluminum and ABS
Dimensions (W x H x D)	(27 x 120 x 105) mm
Weight	approx. 200 g
Mounting	DIN EN-rail



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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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