



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, 100 kHz sample rate each channel
- **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.station, 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 kVDC over 1 minute
- **Electromagnetic Compatibility**
according EN 61000-4 and EN 55011
- **Categories**
1000 V CAT II and 600 V CAT III
- **Power supply 10...30 VDC**
- **DIN rail mounting (EN 60715)**

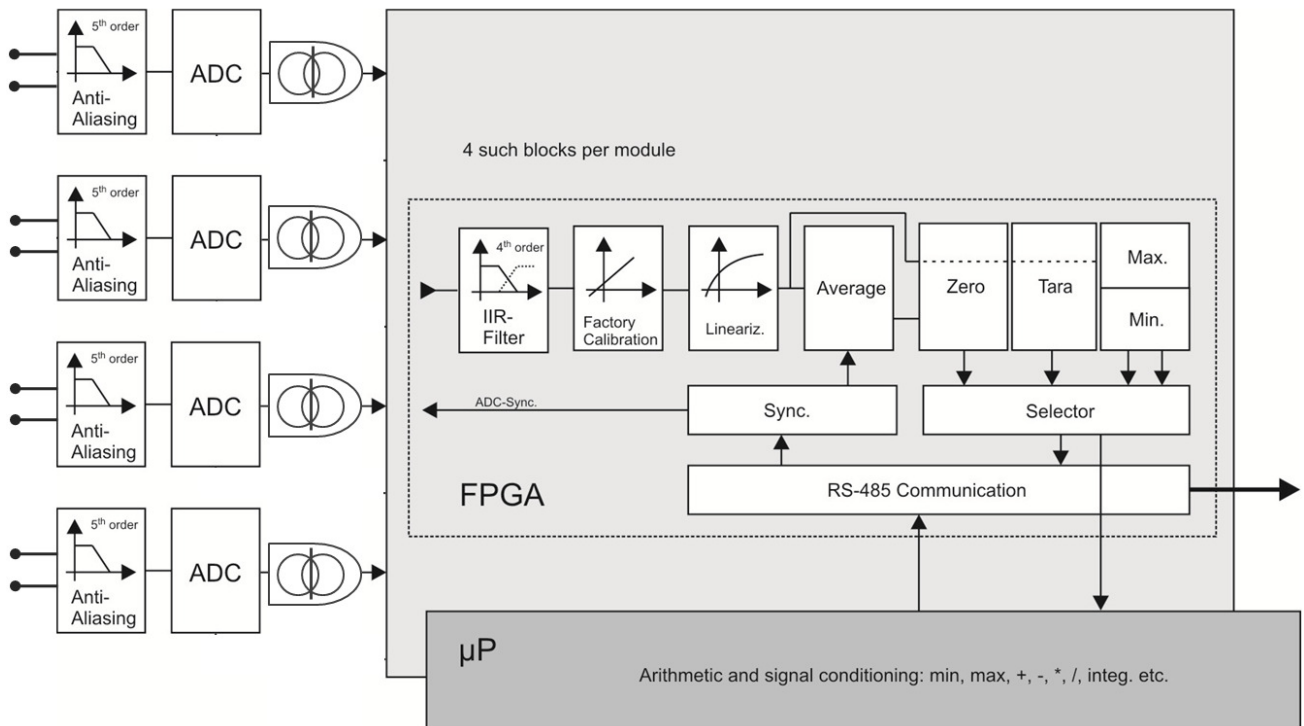




Q.bloxx A128

High Isolation Module for Dynamic High 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	1200 VDC permanent, channel to channel to power supply to interface ³	
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	<10 mV / 24 h; <100 mV / 8000 h	
Temperature influence	on zero	on sensitivity
	<50 mV / 10 K	<0.025 % / 10 K
Signal-noise-ratio	> 100 dB at 100 Hz	

¹ according EN 61326: 2006, appendix B

² according EN 61326: 2006, appendix A

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



Q.bloxx A128

High Isolation Module for Dynamic High Voltages

Analog/Digital-Conversion	
Resolution	24 bit
Sample rate	100 kHz each channel
Conversion method	Sigma-Delta (group delay time 380 µs)
Anti-aliasing filter	20 kHz, 3 rd order per channel
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 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
Communication Interface	
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
Mechanical	
Case	Aluminum and ABS
Dimensions (W x H x D)	(27 x 120 x 125) mm
Weight	approx. 200 g
Mounting	DIN EN-rail



Q.bloxx A128

High Isolation Module for Dynamic High Voltages



Warnings:

- Attention High voltage device, Danger for life and health in case of non-regular use.
- Only special and sufficient educated persons are permitted to handle this device only.
- All metal housing parts must be well and permanent connected to earth (PE).
- Only plugs and connectors with a sufficient protection against contact may be used. All parts must be approved and certificated up to 1200 VDC.
- During installation, the whole system must be without voltage and safely be disconnected from the mains.
- All relevant safety regulations have to be considered.

Base is the European Standard EN61010-1

The Q.bloxx EC module A123 can be used in the following categories:

1000 V CAT II

600 V CAT III

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
DB_Q.bloxx_A128_E_22.docx