

# Q.bloxx A128

High Isolation Module for Dynamic High Voltages

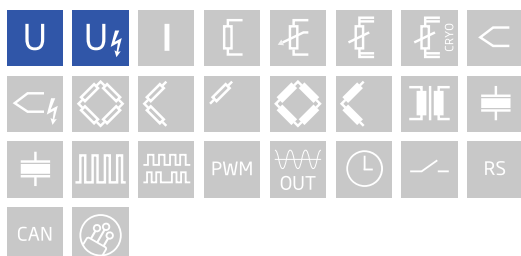
Q.bloxx is the ideal DAQ solution for widely distributed installations, electrical panels, and environmental enclosures. Q.bloxx measurement modules provide integrated signal conditioning and arithmetic functions, packaged in modular, DIN Rail mountable enclosures that easily snap together for quick system expansion. Flexibility in distribution allows for highly synchronized data that is less prone to noise due to shorter sensor cable runs to the actual point of measurement.

- RS 485 fieldbus interface up to 24 Mbps: LocalBus up to 115.2 kbps: Modbus-RTU, ASCII
- Connectable to any Controller, e.g. Q.station, Q.gate or Q.pac
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Power supply 10 ... 30 VDC
- DIN rail mounting (EN60715)

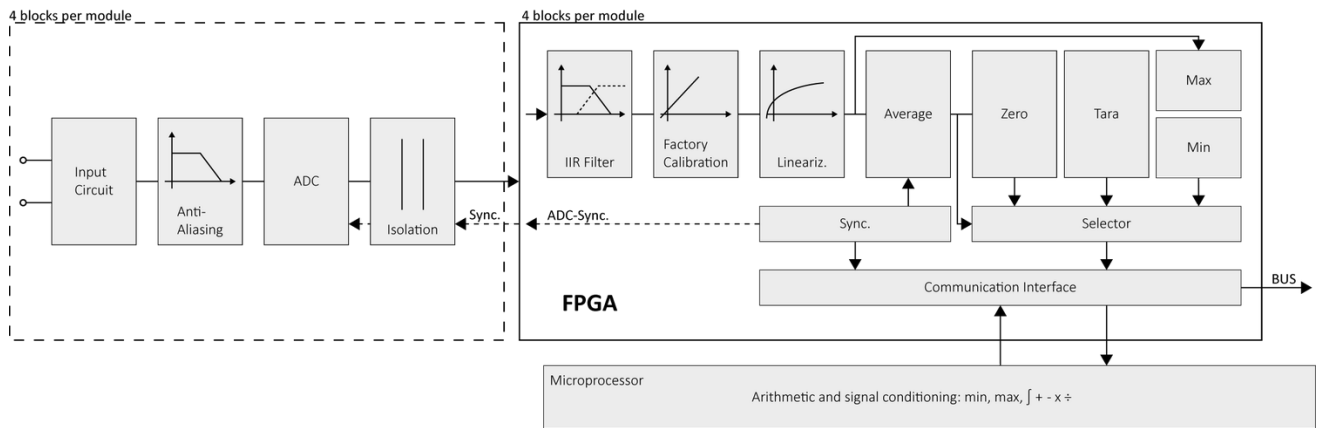


## Key Features

- 4 galvanically isolated input channels  
Voltages, ranges  $\pm 40$  V,  $\pm 120$  V,  $\pm 400$  V,  $\pm 1200$  V
- Signal conditioning  
16 virtual channels, linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- Fast high accuracy digitalization  
24 bit ADC, 100 kHz sample rate per channel
- Galvanic isolation  
channel to channel to power supply and to interface  
isolation voltage 1200 VDC / 848 VACrms  
test voltage 5 kVDC over 1 minute
- Categories  
1000 V CAT II and 600 V CAT III



### Block diagram



### Technical Data

#### Analog Inputs

Channels	4
Accuracy	0.01 % typical
	0.025 % in controlled environment <sup>1</sup>
	0.05 % in industrial area <sup>2</sup>
Linearity error	0.01 % typical full-scale
Repeatability	0.003 % typical (within 24 h)
Isolation voltage	1200 VDC continuous, channel to channel to power supply channel to bus <sup>3</sup>

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

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

<sup>3</sup> High voltage lifetime (TDD B Model). Time to fail approx.. 4 years at 1200 VDC and 60 °C continuous

#### Measurement Mode Voltage

Range	$\pm 1200$ V	$\pm 400$ V	$\pm 120$ V	$\pm 40$ V
Accuracy	$\pm 300$ mV	$\pm 100$ mV	$\pm 30$ mV	$\pm 10$ mV
Resolution	6 mV	2 mV	600 $\mu$ V	200 $\mu$ V
Long-term offset stability	30 mV / 24 h	10 mV / 24 h	3 mV / 24 h	1 mV / 24 h
	100 mV / 8000 h	30 mV / 8000 h	10 mV / 8000 h	3 mV / 8000 h
Offset temperature influence	100 mV / 10k	30 mV / 10 k	10 mV / 10 k	3 mV / 10
temperature influence	0.025 % / 10K			

#### Analog/Digital-Conversion

Resolution	24-bit
Update rate	100 kHz
Modulation method	Sigma-Delta
Anti-aliasing filter	20 kHz, 3rd order
Digital filters	Infinite impulse response (IIR), low-pass, high-pass, band-pass, Butterworth or Bessel (2nd, 4th, 6th or 8th order), frequency range 0.1 Hz to 10 kHz (adjustable via software)
Averaging	configurable or automatic according to the selected data rate

### Environmental

Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +85°C
Relative humidity	5 % to 95 % at 50°C, non-condensing

### Communication Interface

Protocols	proprietary Localbus (115200 bps to 24 Mbps, latency <100 ns) ASCII (19200 bps to 115200 bps) Modbus RTU Profibus-DP (19200 bps to 12 Mbps) (special Firmware required)
Data format	8E1
Electrical standard	ANSI/TIA/EIA-485-A, 2-wire

### Power Supply

Input voltage	10 to 30 VDC, overvoltage and overcurrent protection
Power consumption	approx.. 2 W
Input voltage influence	<0.001 %/V

### Remarks

Warm-up time	Validity of all listed specifications are subject to a warm-up period of at least 45 minutes
	Specifications subject to change without notice

### High Voltage 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 safely and continuous connected to protected earth (PE)
- Only contact protection plugs and cables may be used. All parts must be approved for voltages up to 1200 VDC.
- During installation, the whole system must be without voltage and safely be disconnected from the mains.
- All relevant safety regulations must be considered.

Base is the european standard EN61010-1

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## Mechanical information

Material	Aluminum and ABS
Measurements (W x H x D)	27 x 120 x 125 mm
Weight	approx. 250 g

## Ordering Information

Article number	103925
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