

Q.brixx A123 BNC

High Isolation Module for Voltages

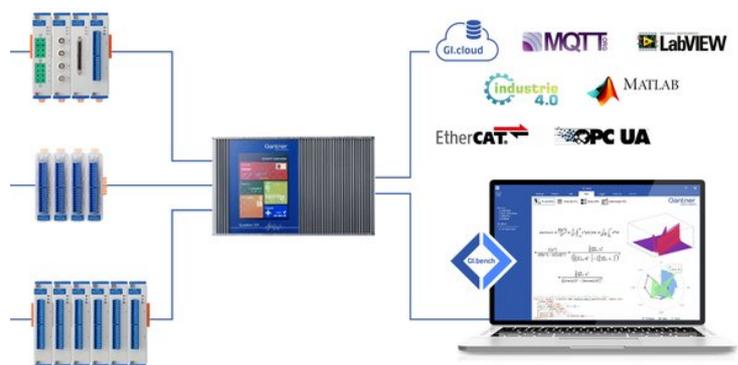
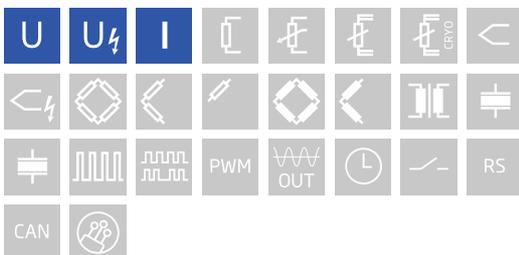
Q.brixx brings the performance and functionality of Q.bloxx into a scalable, portable, and rugged form factor. Q.brixx DAQ systems can consist of up to 16 measurement modules and an integrated, high-performance controller for communication, control, and data logging purposes. With a robust aluminum housing capable of withstanding severe shock and vibration, Q.brixx is ideal for on-the-go applications in potentially harsh environments.

- Electromagnetic compatibility according EN 61000-4 and EN 55011
- Robust and reliable stable and compact aluminum housing, easy to carry
- Power supply 10 ... 30 VDC
- Temperature range -20 up to +60°C
- High density and flexibility up to 16 modules in one system in any constellation



Key Features

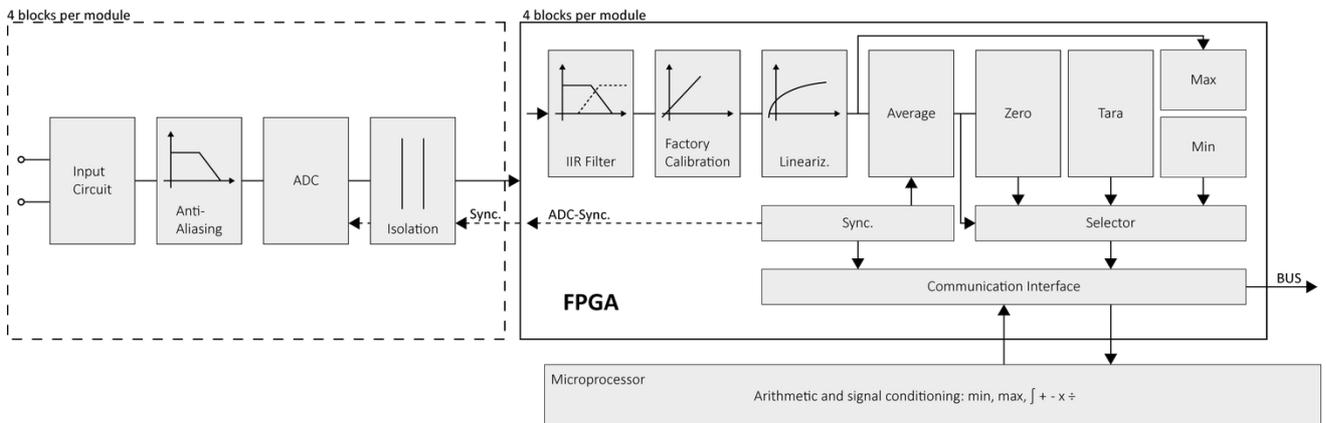
- 4 galvanically isolated input channels
Voltages at high potential, ranges 100 mV, 1 V, 10 V
- Signal conditioning
16 virtual channels, linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- Fast high accuracy digitalization
24 bit ADC, 100 kHz sample rate per channel
- 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



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Block diagram



Technical Data

Analog Inputs

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

¹ according to EN 61326 2006: appendix B

² according to EN 61326 2006: appendix A

³ High voltage lifetime (TDD B E Model): time to fail approx. 4 years at 1200 VDC and 60 °C

Measurement Mode Voltage

| | | | |
|------------------------|--------------------------------|---------------------------|------------|
| Input-type | differential | | |
| Error | range | max. error | resolution |
| | ±10 V | ±2 mV | 1.2 µV |
| | ±1 V | ±200 µV | 120 nV |
| | ±100 mV | ±20 µV | 12 nV |
| Input impedance | >10 MΩ | | |
| Temperature influence | Offset drift | Gain drift | |
| | < 200 µV / 10 K (range ±10 V) | < 0.01 % / 10 K | |
| | < 50 µV / 10 K (range ±1 V) | | |
| Long-term stability | < 50 µV / 10 K (range ±100 mV) | | |
| | at range ±10 V | at range ±1 V and ±100 mV | |
| | < 50 µV / 24 h | < 10 µV / 24 h | |
| | < 200 µV / 8000 h | < 40 µV / 8000 h | |
| Signal-to-noise ratio | >100 dB at 100 Hz | | |
| overvoltage protection | 100 VDC continuous | 500 VDC max. 100 ms | |

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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 | BE1 |
| 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 |

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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

Mechanical information

| | |
|--------------------------|-------------------|
| Material | Aluminum |
| Measurements (W x H x D) | 30 x 125 x 155 mm |
| Weight | approx. 200 g |

Ordering Information

| | |
|----------------|--------|
| Article number | 801526 |
|----------------|--------|

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