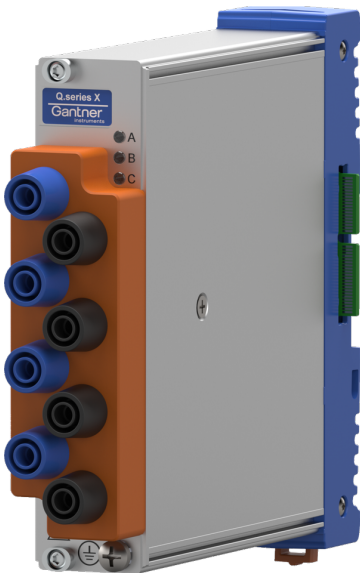


Q.bloxx XL A123 SEB

High Isolation Module for Voltages

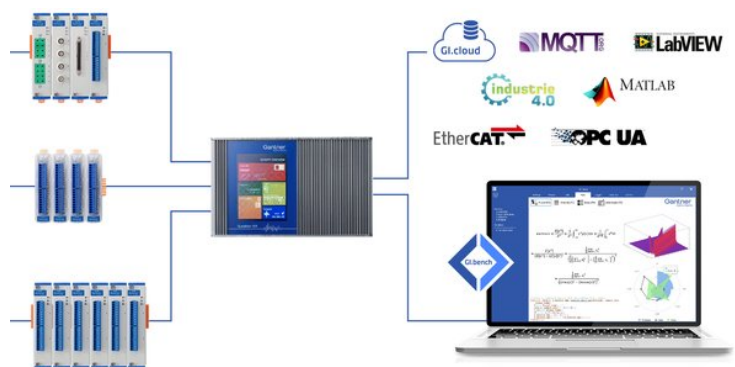
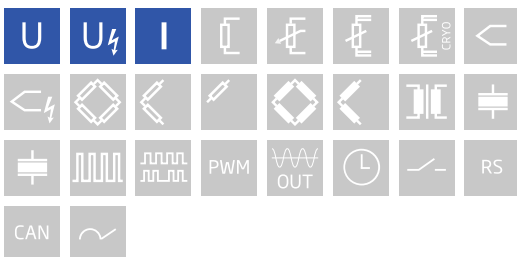
Q.bloxx XL is a new addition to the Q.series product family - the ideal DAQ solution for widely distributed installations that require higher performance and custom sensor terminations. Q.bloxx XL products are packaged in modular, DIN Rail mountable enclosures that easily snap together for system expansion. Flexibility in distribution allows for highly synchronized data that is less prone to noise due to shorter sensor cable runs to the subject.

- RS485 fieldbus interface up to 48 Mbps: LocalBus, up to 115.2 kbps: Modbus-RTU, ASCII
- Connectable to Controller Q.station X
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Power supply 10 ... 30 VDC
- DIN rail mounting (EN60715)



Key Features

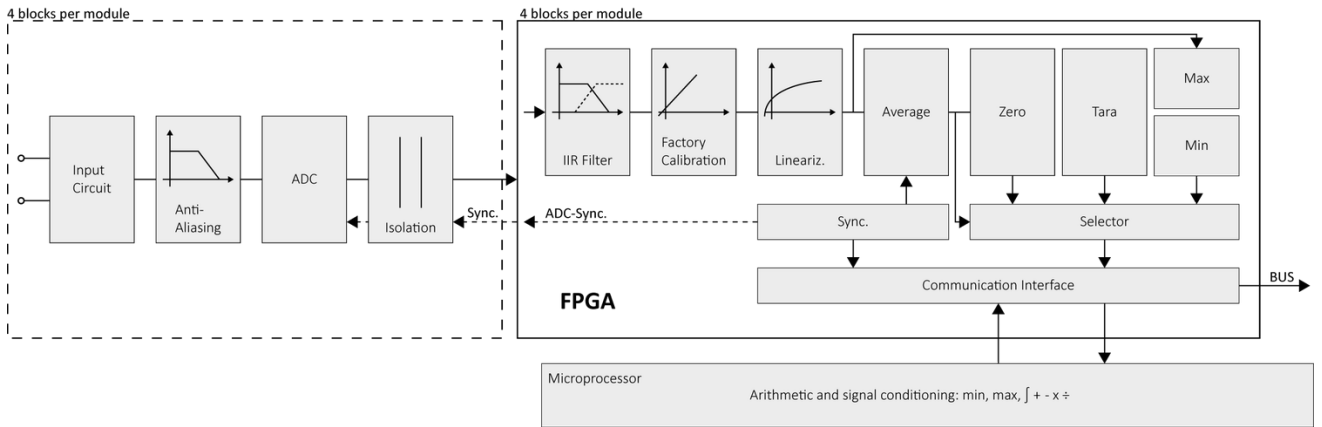
- 4 galvanically isolated input channels
Voltages at high potential, ranges 100 mV, 1 V, 10 V
- Signal conditioning
16 virtual channels, linearization, digital filter, average, scaling, min/max storage, RMS, arithmetic, alarm
- Fast high accuracy digitalization
24 bit ADC, 100 kHz sample rate per channel
- Galvanic isolation
channel to channel to power supply and to interface
- Categories
1000 V CAT II and 600 V CAT III



Q.bloxx XL A123 SEB

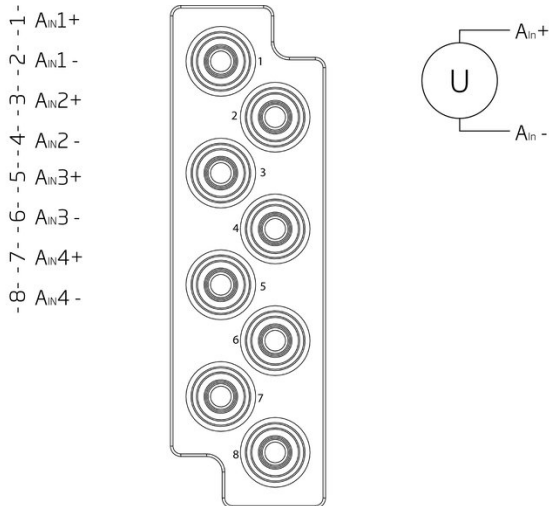
High Isolation Module for Voltages

Block diagram



Technical Data

Terminal assignment High Voltage Banana



Analog Inputs

| | |
|----------|---|
| Channels | 4 |
| Channels | 1200 VDC continuous, channel to channel to power supply channel to bus ¹ |

¹ High voltage lifetime (TDDB E Model): time to fail approx. 4 years at 1200 VDC and 60 °C

Measurement Mode Voltage

| | | | |
|------------------------------------|--------------------|------------------|----------------|
| Input-type | differential | | |
| Range | ±10 V | ±1 V | ±100 mV |
| max. Error | ±2 mV | ±200 µV | ±20 µV |
| Resolution | 1.2 µV | 120 nV | 12 nV |
| Input impedance | > 10 MΩ | | |
| Temperature influence offset drift | < 200 µV / 10 K | < 50 µV / 10 K | < 50 µV / 10 K |
| Temperature influence gain drift | < 0.01 % / 10 K | | |
| Signal-to-noise ratio | > 100 dB at 100 Hz | | |
| Long-term stability | < 50 µV / 24 h | < 10 µV / 24 h | |
| | < 200 µV / 8000 h | < 40 µV / 8000 h | |
| Overvoltage protection continuous | 100 VDC | | |
| Overvoltage protection max. 100 ms | 500 VDC | | |

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 |

Communication Interface Localbus

| | |
|---------------------|--|
| Protocols | proprietary LocalBus (115200 bps to 48 Mbps, latency <100 ns) ASCII (19200 bps to 115200 bps) Modbus RTU |
| 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 |

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 |
| Pollution degree | 1 |

Q.bloxx XL A123 SEB

High Isolation Module for Voltages

Remarks

Are subject to a warm-up period of at least 45 minutes

In a controlled electromagnetic environment¹

With configuration: Low-pass 10Hz²

Specifications subject to change without notice

¹ according to IEC 61326-1:2020

² unless otherwise stated

High Voltage Warnings



- Attention! High voltage device! - Danger to 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 safe and permanently connected to protected earth PE.
- Only contact protection plugs and cables may be used. All parts must be approved for voltages up to
- During installation, the whole system must be without voltage and safely be disconnected from the mains.
- All relevant safety regulations must be considered.
- Do not operate with damaged casing.
- Permitted measuring systems: DC voltage up to 1500 V, sinusoidal AC voltage (< 30 kHz) up to 1000 V.
- The measuring signal must be limited to a maximum transient overvoltage of 6 kV to earth.
- Base are the european standards EN61010-1:2020-03 and EN61010-2-030:2022-11

Mechanical Information

| | |
|--------------------------|-------------------|
| Material | Aluminium and ABS |
| Measurements (W x H x D) | 30 x 145 x 160mm |
| Weight | approx. 500 g |
| Protection class | IP20 |

Ordering Information

| | |
|----------------|--------|
| Article number | 508728 |
|----------------|--------|

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