

Q.brixx A103

Multi-Channel Module for Voltages

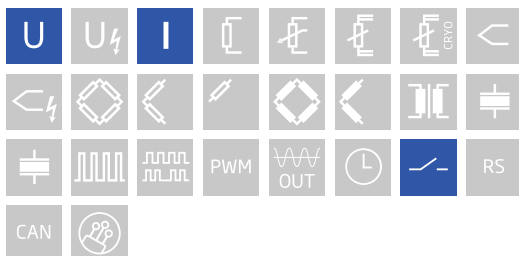
Q.brixx brings the performance and functionality of Q.bloxx into a scalable, portable, and rugged form factor. Q.brixx DAQ systems can consist of up to 16 measurement modules and an integrated, high-performance controller for communication, control, and data logging purposes. With a robust aluminum housing 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

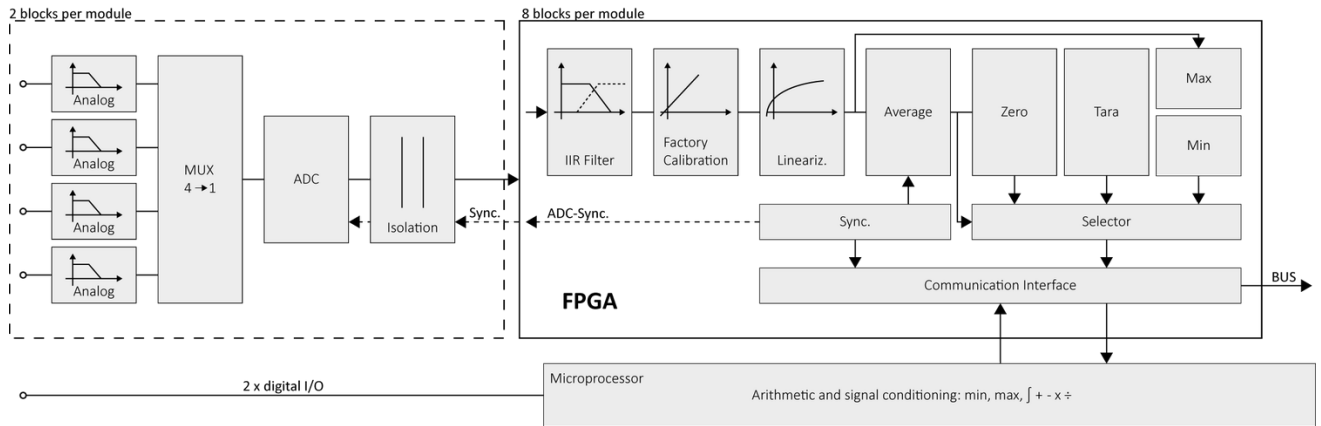


Key Features

- 8 galvanic isolated input channels
differential voltage, current via shunt connector Isolation voltage 100 VDC
- High accuracy digitalization
24 bit ADC, 100 Hz sample rate per channel
- 2 digital in and 2 outputs
input: state, tare, memory reset
output: state, alarm, threshold
- Signal conditioning
linearization, digital filter, average, scaling, min/max storage, arithmetic, alarm
- Galvanic isolation
channel to channel, isolation voltage 100VDC, power supply and interface, isolation voltage 500 VDC



Block diagram



Technical Data

Analog Input

Channels	8
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	500 VDC channels to power supply channel to bus ³
	100 VDC continuous, channel to channel

¹ according to EN 61326 2006: appendix B

² according to EN 61326 2006: appendix A

³ noise pulses up to 1000 VDC, continuous up to 250 VDC

Measurement Mode Voltage

Error	Range	max. Error	Resolution
	±10 V	±2 mV	40 μV
Input impedance	>1 MΩ		
Long-term drift	<50 μV / 24 h	<500 μV / 8000 h	
Temperature influence	Offset drift	Gain drift	
	<50 μV / 10 K	<0.025 % / 10 K	
Signal-to-noise ratio	>100 dB at 100 Hz	>120 dB at 1 Hz	
Overvoltage protection	± 200 V		

Measurement Mode Current (Only with Q.series Terminal SR [791989])

Input range	±25 mA
Margin of error	±22 µA
Resolution	400 nA
Long-term stability	500 nA / 24 hrs
Temperature drift	< 75 ppm / 10 K
Input impedance	100 Ω

Analog/Digital-Conversion

Resolution	24-bit
Update rate	100 Hz per channel
Modulation method	Sigma-Delta
Anti-aliasing filter	20 Hz, 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 Hz (adjustable via software)
Averaging	configurable or automatic according to the user-defined data rate

Digital In-/Outputs

Channels	4, 2 digital inputs and 2 digital outputs
Input	status, tare, reset
Input voltage / input current	max. 30 VDC / max. 0,5 mA
Lower / upper threshold	< 2.0 V (low) / > 10 V (high)
Output	status, alarm
Contact	open drain p-channel MOSFET
Load capacity	30 VDC / 100 mA (ohmic load)

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

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

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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

Mechanical information

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

Ordering Information

Article number	898239
Accessories	Terminal SR, article number 791989

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