

# Q.brixx XL A141

Charge Amplifier Module for Piezoelectrical Sensors

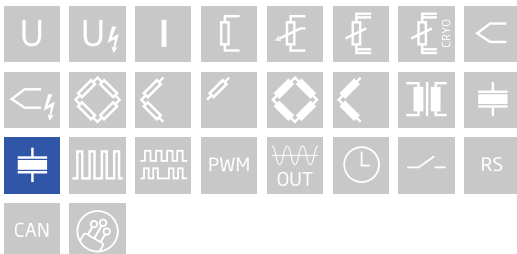
Q.brixx XL is a new addition to the Q.series product family - the ideal DAQ solution for on-the-go applications requiring higher performance in potentially harsh environments. Q.brixx XL DAQ systems consist of up to 16 measurement modules and an integrated, high-performance controller for communication, control, and data logging purposes, all within a robust aluminum housing capable of withstanding severe shock and vibration without sacrificing performance.

- High density and flexibility with 16 modules in one system in any constellation
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Connectable to Controller Q.station
- Power supply 10 ... 30 VDC

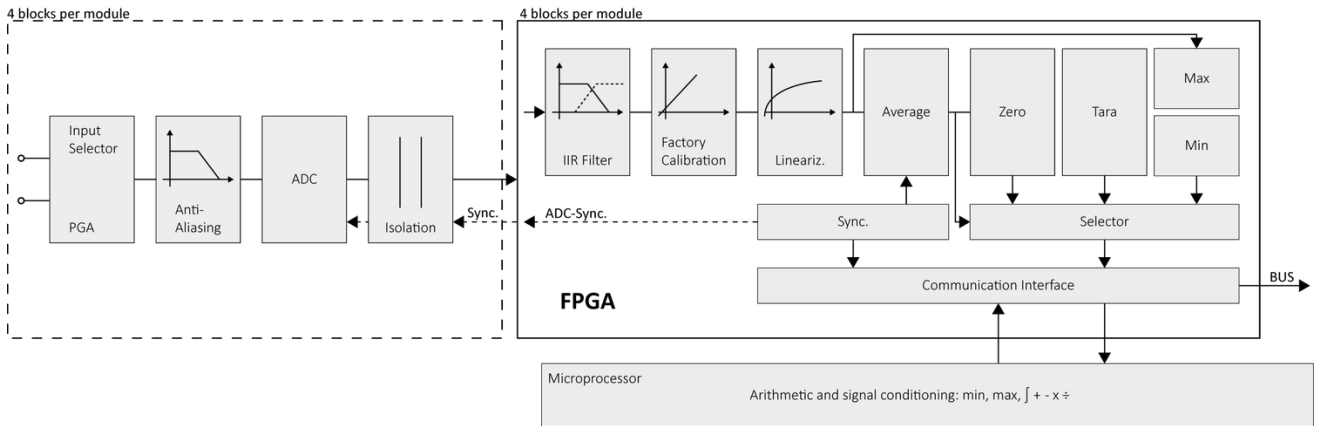


## Key Features

- Engineered with Kistler
- Galvanic isolation  
500 VDC channel to channel, channel to power supply, and channel to bus
- 4 channels charge amplifier  
For piezoelectric sensors  
Measuring ranges: 1000...1000000 pC
- Fast high accuracy digitalization  
24 bit ADC 100 kHz sample rate per channel
- Signal conditioning  
linearization, digital filter, average, scaling,  
min/max storage, arithmetic, alarm



### Block diagram



### Technical Data

#### Analog Inputs

Channels	4
Linearity error	0.01 % typical
Repeatability	0.003 % typical (within 24 h)
Isolation voltage	500 VDC channel to channel to power supply channel to bus

#### Measurement Mode Charge

Input range	1000 to 1000000 pC		
Error	< ± 1 % FSO		
Temperature coefficient	< 500 ppm / 10K		
Long term drift	< 20 µV / 24h	< 200 µV / 8000h	
Drift	0,5 pC <sub>pp</sub>		
Frequency range	0 to 20000 Hz		
Reset-Measure-jump	< ± 0.3 pC		
Min. sensor impedance	> 10 <sup>11</sup> Ω		
Overload	± 105 % FS		
Crosstalk between channels	< 0.5 pC		
Time constant	Range [pC]	long [s]	short [s]
	± 1000	> 10000	1.3
	± 10000	> 100000	1.3
	± 100000	> 100000	123
	± 1000000	> 100000	123

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## Analog/Digital-Conversion

Resolution	24-bit
Update rate	100 kHz
Modulation method	Sigma-Delta (group delay time 380 µs)
Anti-aliasing filter	20 / 2 kHz, 2nd order
Digital filters	Infinite impulse response (IIR), low-pass, high-pass, band-pass, band-stop, Butterworth or Bessel (2nd, 4th, 6th or 8th order), frequency range 0.1 Hz to 1 kHz in steps of 0.1 (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 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

## 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)	30x 145 x 135mm
Weight	approx. 500 g

## Ordering Information

Article number	526122
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