

# Q.bloxx XL boost A101

## High Speed Measurement Module

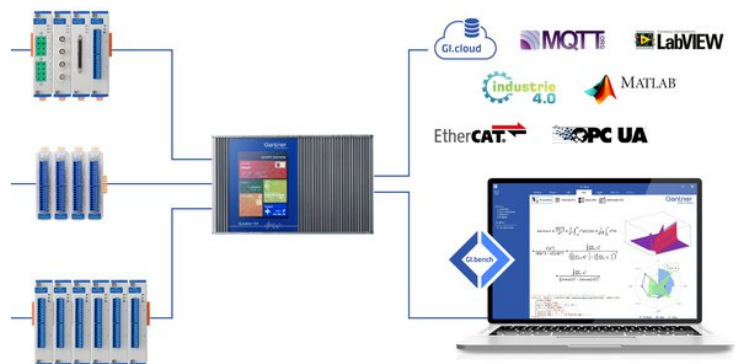
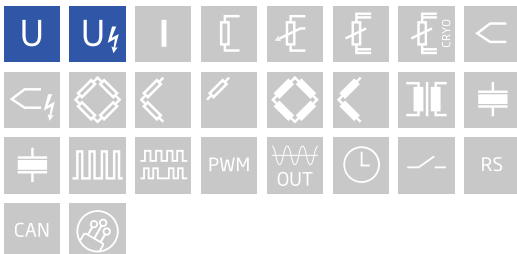
Q.bloxx XL is a new addition to the Q.series product family - the ideal DAQ solution for widely distributed installations that require higher performance and custom sensor terminations. Q.bloxx XL products are packaged in modular, DIN Rail mountable enclosures that easily snap together for system expansion. 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
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Connectable to Controller Q.station X
- Power supply 10 ... 30 VDC
- DIN rail mounting (EN60715)



### Key Features

- 4 MHz sample rate per channel with 1.7 MHz Bandwidth
- 2 channels with up to +/- 1000 VDC input range
- Extremely high precision:  $\pm (0.015\% \text{ Signal} + 0.015\% \text{ Range})$
- 2000 VDC continuous isolation voltage on input channel
- must be Supplement with Coupling Module Q.bloxx XL boost BC-S
- up to 16 channels on one Coupling Module
- Multiple Coupling Modules connectable to Q.core
- ICP/IEPE, charge input, quarter, half and full bridge, puls counting optional



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## Technical Data

### Analog Input

Q.boost A101	<p>2-Channel precision data acquisition system with 2 analog inputs:</p> <ul style="list-style-type: none"> <li>- 4 MHz // 24 Bit ADC per channel</li> <li>- <math>\pm 500</math> mV, <math>\pm 10</math> V AC/DC</li> <li>- <math>\pm 1000</math> V DC</li> <li>- ICP®/IEPE with 4 mA supply *</li> <li>- Charge input *</li> <li>- full-, quarter- and half-bridge *</li> <li>- Pulse/Pulse counting-inputs with 1.20 ns resolution *</li> <li>- Digital-I/O (LVCMOS/LVTTL 0 V to 3.3 V) *</li> <li>- 2.5 kV galvanic isolation</li> <li>- USB 3.0 Interface</li> <li>- Coupling Module necessary for Power Supply, USB3.0 data interface, LinkUp/LinkDown-Sync.-Interface</li> <li>- Sampling rate max. 2MHz per channel with 4 boost modules, max. 1 MHz per channel with 6 boost modules on one coupling module</li> </ul>
Modul Size	ca. 31 x 140 x 146 mm (W x H x D)

Technical specifications – Optional specifications marked with \*

### Input Characteristics

Quantization	24 bits			
max. sample rate	4 MSamples/s per channel			
max. Bandwidth	DC - 1.7 MHz			
Filter	Analog: 1.7 MHz low-pass filter Digital: a variety of selectable filters			
inter-Channel-Phase-Difference	< 1 ns			
galvanic isolation	$\pm 2500$ V			
input voltage Impedance	1 M $\Omega$ _50 pF, [10 M $\Omega$ _5 pF at $\pm 1000$ V]			
input voltage range	Channel 1 (Top) $\pm 500$ mV and $\pm 10$ V Channel 2 (Bot) $\pm 1000$ V			
input connectors	Channel 1 BNC and low voltage banana Channel 2 high voltage banana			
Dynamic range	Range	Bandwidth		
		5 kHz	50 kHz	1 MHz
	$\pm 1000$ V	110 dB	104 dB	94 dB
	$\pm 10$ V	115 dB	109 dB	98 dB
$\pm 500$ mV	102 dB	94 dB	82 dB	
ENOB (THD + noise) effective number of bits	Range	effective bits	dB @ 125 Hz sample rate	
	$\pm 1000$ V	typ 15.3 Bit	- 95 dB	
	$\pm 10$ V	typ 15.6 Bit	- 97 dB	
$\pm 500$ mV	typ 14.3 Bit	- 89 dB		
Crosstalk	< - 120 dB (DC - 200kHz)			
Input protection	$\pm 17.5$ V @ range $\pm 500$ mV, $\pm 10$ V $\pm 2000$ V @ range $\pm 1000$ V			

Technical specifications – Optional specifications marked with \*

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### Signal Conditioning

IEPE (ICP®) *	constant current supply 4 mA input coupling AC and DC
Charge *	1 mV/pC range $\pm 5$ nC (optional up to $\pm 500$ nC) High-pass 0.15 Hz auto charge clear; manual clear
Strain-Gage	Quarter (120 $\Omega$ , 350 $\Omega$ ) / Half / Full-bridge Selectable sensor supply 0 up to 10 V
pulse/counter Input *	Input signal TTL time resolution 1.20 ns (832 MHz)

### Operations Conditions

input voltage	12 to 16 VDC in standard temperature range 10 to 35 VDC in extended temperature range
	5 W typical per channel
Environmental temperature	Standard: +10 °C to 30 °C Extended: +10 to 45 °C (requires air inlet and outlet openings if mounted in a cabinet)

### Data Recording

RAM	64 MByte per channel 512 MByte RAM with 8 channels
interface to PC	USB 3.0, USB 2.0
recording media	Q.core or Computer hard disk

### Data Transfer Rates

Internal SSD	256 MByte/s *
PC with USB	170 MByte/s (USB 3.0) - 35 MByte/s (USB 2.0)

Technical specifications - Optional specifications marked with \*

### Number of Channels

max. number-of-devices	Up to 8 Q.boost one one Coupling Module Q.bloxx XL boost BC-S, multiple Coupling Modules on Q.core or Computer
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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 and ABS
Measurements (W x H x D)	30x 145 x 135mm
Weight	approx. 500 g

## Ordering Information

Article number	580728
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## Gantner Instruments

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