

Q.bloxx XL D107

Digital Measurement Module

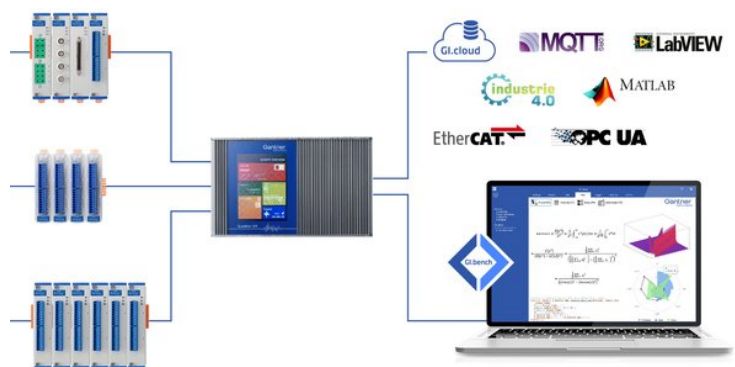
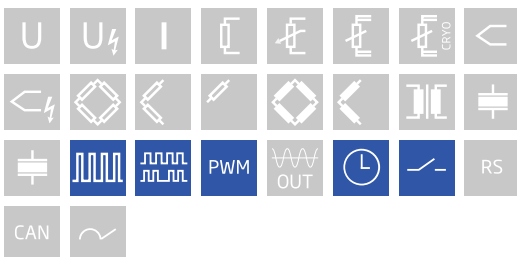
Q.bloxx XL is a new addition to the Q.series product family - the ideal DAQ solution for widely distributed installations that require higher performance and custom sensor terminations. Q.bloxx XL products are packaged in modular, DIN Rail mountable enclosures that easily snap together for system expansion.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



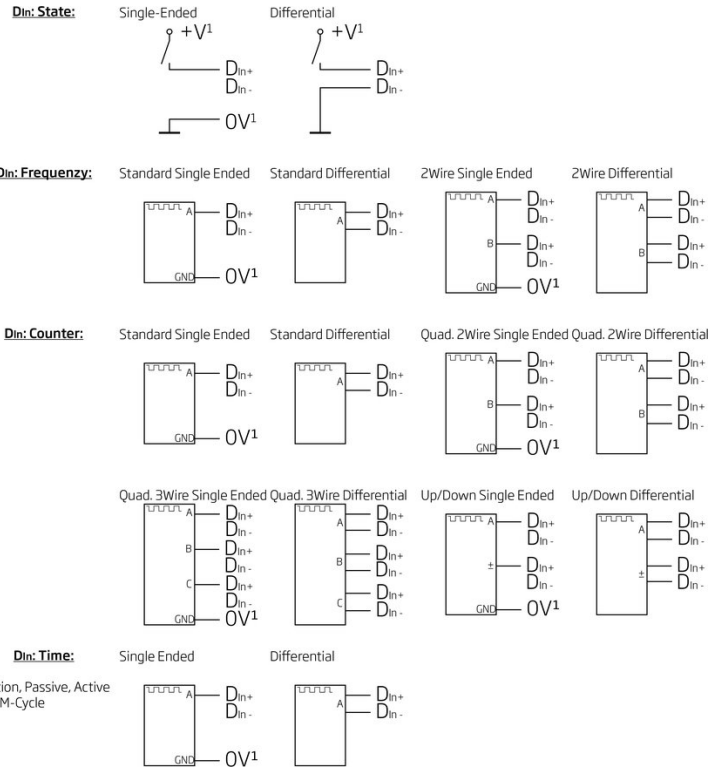
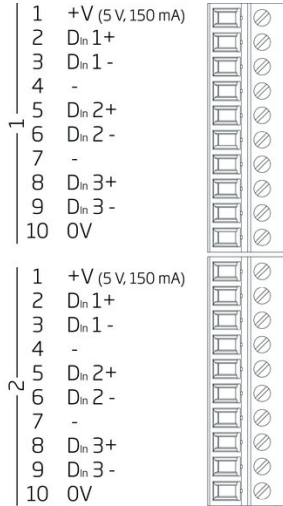
Key Features

- **2 to 6 configurable digital inputs**
number of channels depend on configuration, counter, frequency, PWM, differential or single ended
- **Adjustable thresholds in 256 steps**
Differential inputs: -20 V up to + 20 V
single-ended Inputs: 0 V up to +26 V
- **Frequency inputs**
frequency measurement up to 1 MHz (Chronos method), direction detection
- **State Inputs**
Adjustable Threshold Values
- **Counter**
for/backward counter, quadrature counter with reference zero recognition and missing teeth detection, up to 1 MHz
- **PWM inputs**
measurement of duty cycle and frequency, output with variable frequency and/or duty cycle
- **Galvanic isolation**
function group 1 to function group 2 to power supply and to interface



Technical Data

Terminal assignment 10pole screw



Digital Inputs

Channels	2 to 6 galvanic isolated inputs, Configurable as differential or single ended	
Input voltage	max. 30 VDC	
Input impedance	differential	single ended
	20 kΩ	10 kΩ
Threshold adjustable in 256 steps	-20 V to +20 V	0 V to +26 V
Threshold Accuracy	±1 %	
Isolation voltage	500 VDC input 1 to input 2 to input voltage and to interface	

State Inputs

Response time	10 μs
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Frequency measurement

Method	Chronos optimized by combination of the time measurement and pulse counting, recognition of direction of rotation (0 deg./90 deg.)
Frequency range	0.1 Hz to 1 MHz
Time base	0.001 s to 10 s
Reference frequency	288 MHz
Accuracy	0.01% at timebase > 1ms (-20 °C to +60 °C)
Frequency measurement with recognition of direction of rotation	specification like frequency measurement, for the recognition of the rotation direction the phasing of both inputs is being used

Counter

Counter depth	32-bit (±31-bit)
Counter frequency	max. 1 MHz
Up/down counter	with an additional input for the direction of counting
Quadrature counter	with an additional input for the direction recognition for phasing the inputs
Quadrature counter with zero reference and reset/enable	like quadrature counter but with two additional inputs for the 0-reference recognition and enabling the 0-reference recognition

Time measurement

Input frequency	0.1 Hz to 1 MHz
Accuracy	0.01% Freq < 2 kHz, 0.1 % 2 kHz to 20 kHz, 3 % > 20 kHz (-20 °C to +60 °C)
Resolution	3.5 ns
Function	Measuring of time between two edges, measuring of high time, low time and high/low relation
Time range	1 μs to 32 s
Resolution	3.5 ns

Sensor Excitation

Channels	2
Voltage	5 VDC
Current	< 150 mA

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

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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

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

Mechanical information

Material	Aluminium and ABS
Measurements (W x H x D)	30 x 145 x 135mm
Weight	approx. 500 g
Protection class	IP20



Ordering Information

Article number	496027
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