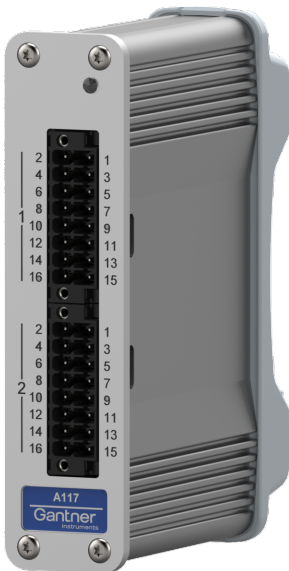


Q.bloxx A117

Universal Measurement Module

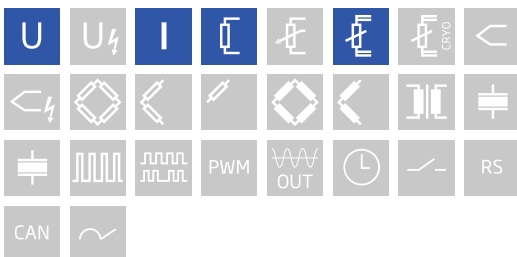
Q.bloxx is the ideal DAQ solution for widely distributed installations, electrical panels, and environmental enclosures. Q.bloxx measurement modules provide integrated signal conditioning and arithmetic functions, packaged in modular, DIN Rail mountable enclosures that easily snap together for quick system expansion. Flexibility in distribution allows for highly synchronized data that is less prone to noise due to shorter sensor cable runs to the actual point of measurement.

- RS 485 fieldbus interface up to 24 Mbps: LocalBus up to 115.2 kbps: Modbus-RTU, ASCII
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- Connectable to any Controller, e.g. Q.station, Q.gate or Q.pac
- Power supply 10 ... 30 VDC
- DIN rail mounting (EN60715)

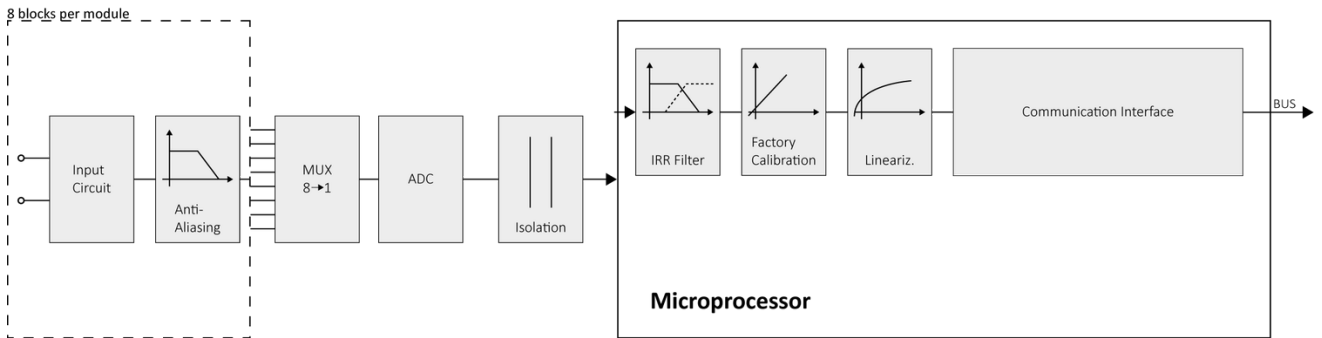


Key Features

- 8 Universal analog input channels
voltage, current, resistance, Pt100, Pt1000
- Analog Digital Conversion
24-bit ADC, 100Hz sample rate per channel
- Signal conditioning
linearization, filtering, average, scaling
- 2-Way galvanic isolation
Channel to supply to interface
- Electromagnetic compatibility (EMC)
according to IEC 61000-4 and EN 55011
- As I/O extension for Q.monixx and Q.station
Max. 230 kBaud on one UART

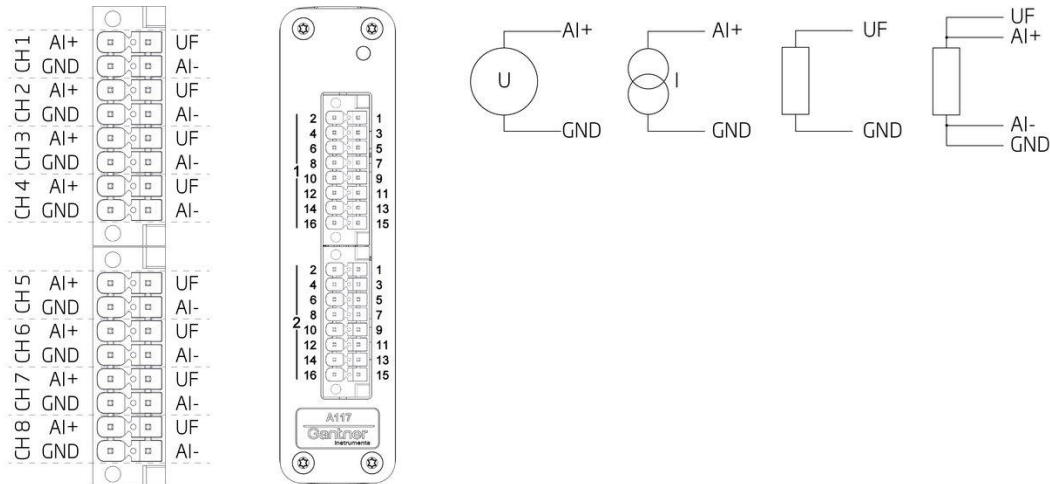


Block diagram



Technical Data

Terminal Assignment



Analog Inputs

Channels	8
Input signal	Voltage, resistance (2 / 4 wire), RTD, current
Input kind	single ended
ADC resolution	24 bit sigma delta
Update rate	0,01 s to 24 h
Linearity deviation	< 0,01 % full scale
temperature influence Offset drift	< 1 μ V / 10 K
temperature influence on span	< 0,02 % / 10K (< 20 ppm / K)
Isolation voltage	500 VDC channel to power supply channel to bus ¹
input connectors	PHOENIX CONTACT: DMC 1,5/ 8-G1F-3,5-LR P20THR - 1787072

¹noise pulses up to 1000 VDC, continuous up to 250 VDC

Measurement Mode Voltage

Error	range	max. error
	±10 V	±2 mV
	±1 V	±200 µV
	±100 mV	±100 µV
Input impedance	> 10 MΩ	
Long-term drift at input range ± 1 V	< 20 µV / 24 h	< 200 µV / 8000 h
Temperature influence at input range ± 1 V	Offset drift	Gain drift
	< 50 µV / 10 K	< 0.01 % / 10 K

Measurement Mode Current

Error	Range	max. Error
Internal shunt resistor 50 Ω	0 - 25 mA	±10 µA
Long-term drift	< 1 µA / 24 h	< 10 µA / 8000 h
Temperature influence	Offset drift	Gain drift
	< 1 µA / 10 K	< 0.025 % / 10 K

Measurement Mode Resistance / RTD

Error	Range	Max error
Resistance	400 Ω	± 0.12 Ω
Resistance	4 kΩ	± 1.2 Ω
Pt100	- 200 up to + 850 °C	± 0.25 °C
Pt1000	- 200 up to + 850 °C	± 1 °C
Long-term stability (range 400 Ω)	< 10 mΩ / 24 h	< 100 mΩ / 8000 h
Temperature drift (range 400 Ω)	< 10 mΩ / 10 K Offset drift	< 0.03 % Gain drift

Analog to Digital Conversion

Resolution	24-bit
Update rate	100 Hz (4 Channels), 50 Hz (8 Channels)
Modulation method	Sigma-Delta
Digital filters	Low-pass 1st order
Averaging	configurable

Communication Interface

Protocols	proprietary Localbus (19200 bps to 230 kbps)
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.. 1 W
Input voltage influence	< 0.001 %/V

Q.bloxx A117

Universal Measurement Module

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

Warm-up time	are subject to a warm-up period of at least 45 minutes
	Specifications subject to change without notice

Mechanical information

Material	Aluminum and ABS
Measurements (W x H x D)	27 x 120 x 105 mm
Weight	approx. 200 g

Ordering Information

Article number	663124
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