

# Q.monixx A117

## Intelligent Data Logger

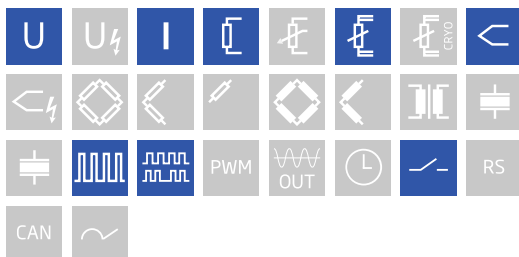
Q.monixx is a new addition to the Q.series product family - the ideal edge computing and data logging solution for reliable process control and asset monitoring. The standard I/O configuration for the Q.monixx includes up to 8 universal analog inputs, 8 digital inputs, 4 digital outputs, 2 relay outputs and 6+1 serial ports for communication. Also included are 4 (up to 6 depending on the configuration) data loggers for parallel data acquisition to either local storage or to a GI.cloud storage solution for easy accessibility, additional analytics, and detailed diagnostics.

- Serial Channels  
6+1 RS485, all galvanic isolated
- 4 configurable Data Logger  
each Logger with individual selectable logging rate 0,01 s (100 Hz) up to 24h
- Data Storage  
USB and SD-card
- Interfaces for data transmission  
Ethernet, USB, external modem
- Value recording  
average interval selectable from 0.01 s to 24 h
- Electromagnetic Compatibility  
according EN 61000-4 and EN 55011
- Power supply 10...30 VDC
- DIN rail mounting (EN60715)
- One UART Interface for connection of Q.bloxx I/O Modules



### Key Features

- 14 Digital I/Os  
8 digital inputs (2 kHz) for status, counter, frequency  
4 digital outputs (10 Hz) for status, 2 Relay
- Analog Digital Conversion  
rate 100/s each channel, resolution 24 bit
- 8 analog multipurpose inputs  
for voltage, current, resistance, Pt100, Pt1000



### Technical Data

#### Analog Inputs

Channels	8
Input signal	Voltage, resistance (2 / 4 wire), potentiometer, RTD
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 $\mu$ V / 10 K
temperature influence on span	< 0,02 %/ 10K (< 20 ppm / K)

#### Digital Inputs

Channels	8
input function	status, pulse counting, frequency measurement
Input voltage	< 30 VDC (TTL, HTL)
TTL logic voltage	< 0.8 VDC (Low) > 3 VDC (High)
HTL logic voltage	-3 to 5 VDC (Low) 11 to 30 VDC (High)
Input current	< 0,3 mA
Input frequency*	0 to 2kHz

#### Function Digital Inputs

Frequency measurement	
Method	Impulse counter Detection of rotational direction Additional input required
Frequency range	0.5 Hz to 1 kHz
Time base	1 s
Reference frequency	10 kHz
Accuracy	1 Hz
Resolution	250 $\mu$ s
Pulse counting	
Mode(s) of operation	64-Bit Forward and reverse counting (additional input for recognition of the direction) Quadrature counter with recognition of the direction
Counter frequency	2 kHz
Resolution	250 $\mu$ s
Reset	- Reset on Host - Reset on Variable - Reset on Pin

### Digital Outputs

Channels	4
Output type	open collector (open drain p-channel MOSFET) short circuit proof
Output function	Process or host controlled
Output voltage	< 30 VDC (+ 5 V TTL, push pull, PNP or HTL)
Output current	< 100 mA
response time	< 0,01 s

### Measurement Mode Voltage

Error	range	max. error
	±10 V	±2 mV
	±1 V	±200 µV
	±100 mV	±20 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	±5 µA
Long-term drift	< 0.5 µA / 24 h	< 5 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	± 0.1 Ω
Resistance	4 kΩ	± 1 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

### Relays

Channels	2
Relay type	TQ relay
Relay function	change over contact (open active, closed active)
Switching voltage	< 60 VDC
Switching current	< 1 A
Switching power	< 60 W

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### Serial Channels

Channels of RS485	1x Localbus (Data rate up to 230 kbps) for max. 4 Q.series I/O modules 6x Modbus-RTU, ASCII-Protocols, NMEA
galvanic isolation	500 VDC, all interfaces
Data rate RS485	115200 / 230400 bps
Format	Configurable (1E, 8N1)

### Ethernet

Data rate	100 Mbit/s
Protocol	TCP/IP, UDP, PPP, Modbus-TCP, ASCII
Connector	RJ45
Services and functions	Telnet, http/https, SMTP, NTPO, FTP (client and server), DNS

### RTC

Type	battery buffered crystal controlled real time clock RTC
Accuracy	25 ppm within the entire specified range
Synchronization	external synchronization possible, NTP

### Synchronisation

Synchronisation	only via NTP
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### USB interface

Only one USB port usable for one specific kind of usage because system cannot determine which port (left or right) is used. You can use one for storage and the other one for PCAN USB but not both for logging

### Power Supply

Input voltage	10 to 30 VDC
Power consumption	8 W with display, 5 W without display
Power consumption startup	25 W first 10 s
Buffer at power fail	buffer time 10 s (save closing of all file operations)

### 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

### Mechanical information

Material	Aluminum
Measurements (W x H x D)	210 x 125 x 60 mm
Weight	approx. 1200 g

### Ordering Information

Article number	504623
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