

Q.raxx EC slimline A105 -16

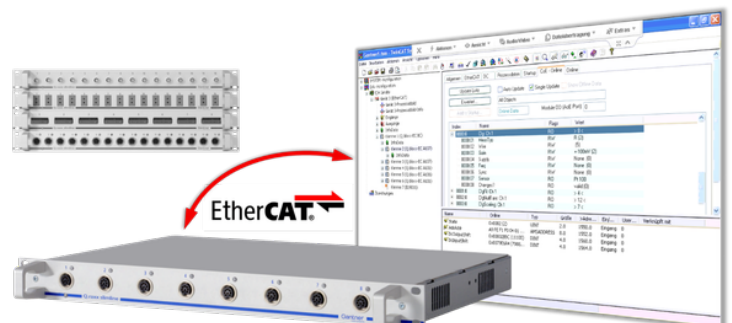
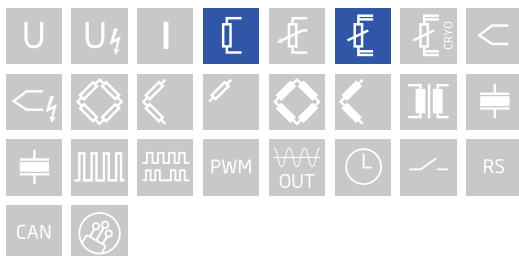
Measurement Module for Temperature (RTD) and Resistance

Q.raxx EC slimline is Q.series' highest density 19" 1U rackmount EtherCAT DAQ system - the ideal solution for boom box installations or applications that require maximum channel density and custom sensor terminations. The Q.raxx EC slimline utilizes an integrated EtherCAT bus coupler for communication and is capable of sampling up to 100 kHz with short cycle times and low jitter for accurate synchronization. In addition to available variations, the Q.raxx EC slimline is fully customizable to your specific measurement needs.

- FTP Server and FTP Client functionality configurable function
- Optional fieldbus interface EtherCAT, EtherCAT according specification ETG, 254 read and 254 write variable with 10 kHz
- Ethernet interface for configuration and data output FTP, TCP/IP, UDP
- High data rate over Ethernet, 16 real variables with 10 kHz (block transfer), 64 real variables with 300 Hz (online)
- Data buffer memory dyn. 16 MByte (RAM), stat. 128 MByte (flash) data buffer at block transfer of measurements
- PAC functionality

Key Features

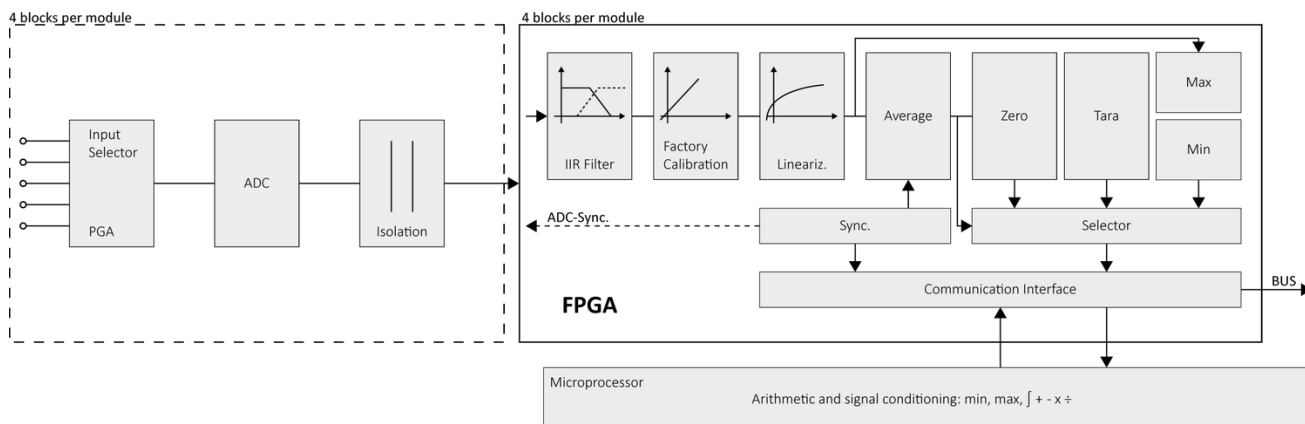
- 16 input channels
Pt100 or resistance in 2-, 3- or 4- wire technique
- High-precision temperature measurement
max. measurement error 0.05°C, temperature drift 0.02 / 10K (for Pt100)
- High-accuracy digitization
24-bit ADC, 10 Hz sample rate per channel
- Signal conditioning
linearization, filtering, average, scaling, min/max, RMS, arithmetic, alarm
- 3-Way galvanic isolation
500 VDC channel to channel, channel to power supply, and channel to bus



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Block diagram



Technical Data

Analog Inputs Slimline

Channels	16
Accuracy	0.01 % typical
	0.025 % in controlled environment ¹
	0.05 % in industrial area ²
Linearity error	0.01 % typical full-scale
Repeatability	0.003 % typical (within 24 hrs)
Isolation voltage	500 VDC channel to channel to power supply channel to bus ³

¹ according to EN 61326 2006: appendix B

² according to EN 61326 2006: appendix A

³ noise pulses up to 1000 VDC, continuous up to 250 VDC

Pt100 Measurement

Sensor excitation	1 mA pulsed (500 µA effective)	
Input impedance	470 MΩ	
Input range	-200°C to +350°C	-200°C to +850°C
Margin of error	0.05°C	0.08°C
Resolution	0.0001°C	0.0001°C
Temperature drift	0.02°C / 10 K	0.04°C / 10 K
Long-term stability	<0.02°C / 24 h <0.05°C / 8000 h	<0.02°C / 24 h <0.1°C / 8000 h

Pt1000 Measurement

Sensor excitation	100 µA pulsed (50 µA effective)	
Input impedance	470 MΩ	
Input range	-200°C to +850°C	
Margin of error	0.1°C	
Resolution	0.0005°C	
Long-term stability	<0.05°C / 24 hrs	<0.4°C / 8000 hrs
Temperature drift	0.1°C / 10 K	

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Resistance Measurement (400 Ω)

Sensor excitation	1 mA pulsed (500 μ A effective)	
Input impedance	470 M Ω	
Range	0 Ω to 400 Ω	
Margin of error	0.015 Ω	
Resolution	0.0002 Ω	
Long-term stability	<10 m Ω / 24 hrs	<20 m Ω / 8000 hrs
Temperature drift	0.01 Ω / 10 K	

Resistance Measurement (4000 Ω)

Sensor excitation	100 μ A pulsed (50 μ A effective)	
Input impedance	470 M Ω	
Range	0 Ω to 4000 Ω	
Margin of error	0.4 Ω	
Resolution	0.002 Ω	
Long-term stability	<100 m Ω / 24 hrs	<1500 m Ω / 8000 hrs
Temperature drift	0.01 Ω / 10 K	

Analog to Digital Conversion

Resolution	24-bit
Update rate	10 kHz per channel, reduced by averaging to 10 Hz
Modulation method	sigma-delta
Anti-aliasing filter	500 Hz, 3rd order
Digital filters	Infinite impulse response (IIR), low-pass, 1st order, frequency range 0.1 Hz, 0.2 Hz, 0.5 Hz, 1 Hz, 2 Hz, 5 Hz, 10 Hz (adjustable via software)
Averaging	configurable or automatic according to the user-defined data rate

Input Power

Input voltage	10 to 30 VDC, overvoltage and overcurrent protection
Power consumption	approx. 2.5 W
Input voltage influence	<0.001 % / V

Environmental Specifications

Electromagnetic compatibility (EMC)	according to IEC 61000-4 and EN 55011
Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +85°C
Relative humidity	5 - 95 % at 50°C (non-condensing)

Remarks

Validity of all listed specifications are subject to a warm-up period of at least 45 minutes

Specifications subject to change without notice

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Mechanical information

Type	19" Standard, 1 Unit
Measurements (W x H x D)	444 x 44 x 260 mm
Weight	approx. 2000 g

Ordering Information

Article number	462929
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