Q.raxx XE D107

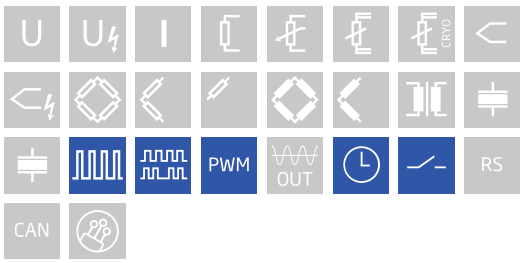
Digital Measurement Module

Q.raxx XE is an new addition to the Q.series product family - the ideal 19" rackmount EtherCAT DAQ solution for applications that require high channel density and custom sensor terminations. Q.raxx XE DAQ systems can consist of an integrated EtherCAT bus coupler for communication and 10 measurement modules capable of up to 100 kHz sampling per channel with short cycle times and low jitter for accurate synchronization

- According 19 "-standard IEC
- Electromagnetic Compatibility according to EN61000-4 and EN55011
- High density and flexibility with13 modules in one system in any constellation
- FoE (file access over EtherCAT, ETG.1000.5) and CoE (CAN over EtherCAT, ETG.50001.1)

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
  Isolation voltage 500 VDC



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Technical Data

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	

Function Digital Inputs

Status	
Response time	10 µs
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
Pulse counting	
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
PWM measurement (duty cycle)	
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
Time measurement	
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 Exitation

Channels	2
Voltage	5 VDC
Current	<150 mA

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Communication Interfae EtherCAT

Electrical standard	RS-485, 2-wire
Protocols	EtherCAT (LVDS)

Power Supply

Input voltage	10 to 30 VDC, overvoltage and overcurrent protection
Power consumption	approx. 2 W
Input voltage influence	<0.001 %/V

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	Validity of all listed specifications are subject to a warm-up period of at least 45 minutes
	Specifications subject to change without notice

Mechanical information

Material	Aluminum
Measurements (W x H x D)	30x 128 x 120mm
Weight	approx. 200 g

Ordering Information

Article number	533322

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