SPECIFICATIONS

CIO-QUAD02
CIO-QUAD04

2 & 4 Channel Quadrature Encoder Inputs

MEASUREMENT COMPUTING™

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All specifications typical for 25°C unless specified.

Input Section

Receiver type	SN75ALS175 quad differential receiver
Configuration	Each channel consists of Phase A input, Phase B input and Index input; each input is switch & jumper-selectable as single-ended or differential.
Differential	Phase A, Phase B and Index (+) inputs at user connector routed to (+) inputs of differential receiver. Phase A, Phase B and Index (-) inputs at user connector routed to (-) inputs of differential receiver.
Single-ended	Phase A, Phase B and Index (+) inputs at user connector routed to (+) inputs of differential receiver. Phase A, Phase B and Index (-) inputs at user connector routed to ground. (-) inputs of differential receiver routed to +3V reference.
Number of channels	
CIO-QUAD02	2
CIO-QUAD04	4
Common mode input voltage range	±12V maximum
Differential input voltage range	±12V maximum
Input sensitivity	±200mV
Input hysteresis	50mV typical
Input impedance	12 kohm minimum
Propagation delay	27 ns maximum
Absolute maximum input voltage	
Differential	±25V maximum
Miscellaneous	Meets EIA RS422, 423, 485 and CCITT V.10, V.11, X.26, X.27. Designed for Multipoint busses on long lines in noisy environments

Counter Section

Counter type	LS7266R1 24-bit Dual-axis Quadrature Counter
Quadrature Mode	
Clock frequency	4.3 MHz maximum
Separation	57 ns minimum
Clock pulse width	115 ns minimum
Index pulse width	85 ns minimum
Count Mode	
Clock frequency	30 MHz max, (25 MHz max Mod-N mode)
Clock A - high pulse width	16 ns minimum
Clock A - low pulse width	16 ns minimum
Filter clock (FCK)	10 MHz
Digital filter rate	10 MHz, software-selectable divider (1 to 256 in single steps)
Crystal oscillator (FCK source)	
Frequency	10 MHz
Frequency accuracy	100 ppm

Interrupt Controller Section

Controller type	8259 Programmable Interrupt Controller
Configuration	Polled mode only
Interrupts	2, 3, 5, 7, 10, 11, 12, and 15
Interrupt enable	Programmable
Interrupt sources	All Carry/Borrow outputs from LS7266R1, all Index inputs

Power Consumption

(Not supplying power to external encoders)

+5V (Quad04)	458 mA typical, 679 mA maximum
+5V (Quad02)	330 mA typical, 501 mA maximum

(Typical supplying 1 Dynamics Research Incremental Optical Rotary Encoder part number M21AAFOBB2E-2500)

+5V (Quad04)	1058 mA typical, 1479 mA maximum
+5V (Quad02)	630 mA typical, 901 mA maximum

Environmental

Operating temperature range	0 to 70°C
Storage temerature range	-40 to 100°C
Humidity	0 to 95% non-condensing

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