Specifications

PCI-QUAD04

MEASUREMENT COMPUTING™

Document Revision 2.2, June, 2006

Specifications

Typical for 25 °C unless otherwise specified.

Specifications in *italic text* are guaranteed by design.

Power consumption

Table 1. Power consumption specifications

Not supplying power to external encoders:	
+5 V	325 mA typical, 460 mA max.
Typical supplying 1 Dynamics Research Incremental Optical Rotary Encoder part number M21AAFOBB2E-2500:	
+5 V	1058 mA typical, 1479 mA max.

Input

Table 2. Input specifications

Receiver type	SN75ALS175 quad differential receiver
Configuration	Each channel consists of PhaseA input, PhaseB input and Index input; each input switch / jumper selectable as single-ended or differential
Differential	▪ PhaseA, PhaseB and Index (+) inputs at user connector routed to (+) inputs of differential receiver. ▪ PhaseA, PhaseB and Index (-) inputs at user connector routed to (-) inputs of differential receiver.
Single - ended	▪ PhaseA, PhaseB and Index (+) inputs at user connector routed to (+) inputs of differential receiver. ▪ PhaseA, PhaseB and Index (-) inputs at user connector routed to ground. (-) inputs of differential receiver routed to +3 V reference.
Number of channels	4
Common mode input voltage range	±12 V max.
Differential input voltage range	±12 V max.
Input sensitivity	±200 mV
Input hysteresis	50 mV typ.
Input impedance	12 kΩ min.
Propagation delay	27 ns max. (tpLH, tpHL)
Absolute maximum input voltage:	
Differential	±14 V max.
Miscellaneous	▪ Meets or exceeds ANSI EIA/TIA-422-B, EIA/TIA-423-B, RS-485. ▪ Meets ITU recommendations V.10, V.11, X.26, X.27. ▪ Designed for multipoint busses on long lines and in noisy environments.

Counter

Table 3. Counter specifications

Counter type	LS7266R1 24-bit Dual-axis Quadrature Counter
Quadrature mode:	
Clock frequency	1.2 MHz max.
Separation	100 ns min.
Clock pulse width	400 ns min.
Index pulse width	300ns min.
Count mode:	
Clock frequency	30 MHz max, (25 MHz max Mod-N mode)
Clock A - high pulse width	14 ns min.
Clock A - low pulse width	14 ns min.
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

Table 4. Interrupt controller specifications

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

Environmental

Table 5. Environmental specifications

Operating temperature range	0 to 70 °C
Storage temperature range	-40 to 100 °C
Humidity	0 to 90% non-condensing

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