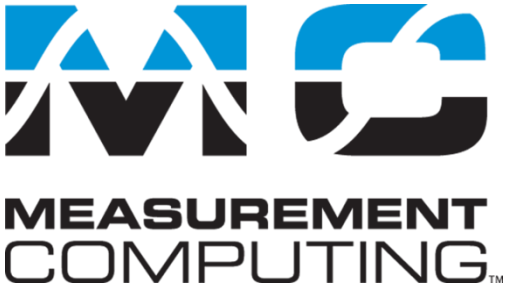
PCI-DDA08/16

Specifications



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Specifications

All specifications are subject to change without notice.
Typical for 25 °C unless otherwise specified.
Specifications in *italic text* are guaranteed by design.

Power consumption

Table 1. Power consumption specifications

+5 V operating	1.79 A

Analog output

Table 2. Analog output specifications

D/A converter type	MAX542A
Resolution	16 bits
Number of channels	8
Output ranges	±10 V, ±5 V, ±2.5 V, 0 – 10 V, 0 – 5 V, 0 - 2.5 V. Each channel independently programmable.
Data transfer	Programmed I/O
Absolute accuracy (calibrated)	±10 V range: ±1.18 mV maximum ±5 V, 0 to 10 V ranges: ±0.63 mV maximum ±2.5 V, 0 to 5 V ranges: ±0.37 mV maximum 0 to 2.5 V ranges: ±0.23 mV maximum
Offset error (calibrated)	±(1 LSB + 50 µV)
Gain error (calibrated)	±(1.5 LSBs + 50 µV)
Differential nonlinearity	±0.5 LSBs typical, ±1LSB maximum over temperature
Integral nonlinearity	±0.5 LSBs typical, ±1 LSBs maximum over temperature
Monotonicity	16 bits
D/A gain drift	±0.1 ppm/°C
D/A unipolar offset drift	±0.1 ppm/°C
D/A bipolar offset drift	±0.5 ppm/°C
Throughput	PC dependent, 200 kHz maximum
Settling time (20 V step to ±1.5 LSBs)	12 µs typical, 20 µs maximum
Slew rate	2.5 V/µs
Current drive	±5 mA
Output short-circuit duration	25 mA indefinite
Output coupling	DC
Output impedance	0.1 Ω maximum
Miscellaneous	▪ Double buffered output latches ▪ Update DACs individually or simultaneously (software selectable) ▪ Power up and reset, all DAC outputs pulled to 0 V (±3 mV maximum).

Digital input / output

Table 3. Digital I/O specifications

Digital type (main connector)	8255 mode 0 emulation
	Output: 74S244
	Input: 74LS373
Configuration	4 banks of 8, 4 banks of 4, programmable by bank as input or output
Number of channels	48 I/O
Output high	2.4 V minimum @ -15 mA
Output low	0.5 V maximum @ 64 mA
Input high	2.0 V minimum, 7 V absolute maximum
Input low	0.8 V maximum, -0.5 V absolute minimum
Power-up / reset state	Input mode (high impedance)

Environmental

Table 4. Environmental specifications

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

Main connector and pinout

Table 5. Board connectors, cables, accessory equipment

Connector type	100-pin, high density "D" connector
Compatible cable	C100HD50-x (x = 3 or 6 feet)
Compatible accessory products	SCB-50 CIO-TERM100 CIO-MINI50 (two required)

Table 6. I/O connector pinout

Pin	Signal Name	Pin	Signal Name
1	Vout 0	51	SECONDPORTA Bit 7
2	Analog Ground	52	SECONDPORTA Bit 6
3	Vout 1	53	SECONDPORTA Bit 5
4	Analog Ground	54	SECONDPORTA Bit 4
5	Vout 2	55	SECONDPORTA Bit 3
6	Analog Ground	56	SECONDPORTA Bit 2
7	Vout 3	57	SECONDPORTA Bit 1
8	Analog Ground	58	SECONDPORTA Bit 0
9	Vout 4	59	SECONDPORTB Bit 7
10	Analog Ground	60	SECONDPORTB Bit 6
11	Vout 5	61	SECONDPORTB Bit 5
12	Analog Ground	62	SECONDPORTB Bit 4
13	Vout 6	63	SECONDPORTB Bit 3
14	Analog Ground	64	SECONDPORTB Bit 2
15	Vout 7	65	SECONDPORTB Bit 1
16	Analog Ground	66	SECONDPORTB Bit 0
17	NC	67	SECONDPORTC Bit 7
18	NC	68	SECONDPORTC Bit 6
19	NC	69	SECONDPORTC Bit 5
20	NC	70	SECONDPORTC Bit 4
21	NC	71	SECONDPORTC Bit 3
22	NC	72	SECONDPORTC Bit 2
23	NC	73	SECONDPORTC Bit 1
24	NC	74	SECONDPORTC Bit 0
25	NC	75	FIRSTPORTA Bit 7
26	NC	76	FIRSTPORTA Bit 6
27	NC	77	FIRSTPORTA Bit 5
28	NC	78	FIRSTPORTA Bit 4
29	NC	79	FIRSTPORTA Bit 3
30	NC	80	FIRSTPORTA Bit 2
31	NC	81	FIRSTPORTA Bit 1
32	NC	82	FIRSTPORTA Bit 0
33	NC	83	FIRSTPORTB Bit 7
34	NC	84	FIRSTPORTB Bit 6
35	NC	85	FIRSTPORTB Bit 5
36	NC	86	FIRSTPORTB Bit 4
37	NC	87	FIRSTPORTB Bit 3
38	NC	88	FIRSTPORTB Bit 2
39	NC	89	FIRSTPORTB Bit 1
40	NC	90	FIRSTPORTB Bit 0
41	NC	91	FIRSTPORTC Bit 7
42	NC	92	FIRSTPORTC Bit 6
43	NC	93	FIRSTPORTC Bit 5
44	NC	94	FIRSTPORTC Bit 4
45	NC	95	FIRSTPORTC Bit 3
46	NC	96	FIRSTPORTC Bit 2
47	NC	97	FIRSTPORTC Bit 1
48	NC	98	FIRSTPORTC Bit 0
49	NC	99	+5V
50	Digital Ground	100	Digital Ground

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