CIO-DDA06

Specifications

Document Revision 6.1, February, 2010

Specifications

Typical for 25 °C unless otherwise specified.

Specifications in *italic* text are guaranteed by design.

Analog output

Table 1. Analog output specifications

D/A converter type	*AD7237*
Resolution	*12-bits*
Number of channels	*6*
Output ranges	Bipolar: ±10 V, ±5 V, ±2.5 V, ±1.67 V Unipolar: 0 to 10 V, 0 to 5 V, 0 to 2.5 V, 0 to 1.67 V Each channel is independently switch-selectable.
Offset error	Trimmable to zero
Gain error	Trimmable to zero
Differential nonlinearity	± ½LSB max
Integral nonlinearity	± ½LSB max
Monotonicity	*± ½LSB max*
D/A gain drift	±15 ppm/°C typical, ±30 ppm/°C max
D/A bipolar offset drift	±7 ppm/°C typical, ±15 ppm of FSR/°C max
D/A unipolar offset drift	±1 ppm/°C typical, ±3 ppm of FSR/°C max
D/A settling time (20 V step to ±0.01%)	5 µs typ, 10 µs max
Slew rate	5 V/µs
Current drive	±5 mA
Output short-circuit current	20 mA indefinite
Output coupling	DC
Output impedance	0.1 Ohms max
D/A pacing	Software paced
D/A trigger modes	Software
Data transfer	Programmed I/O
Throughput	System dependent
Miscellaneous	▪ Double buffered output latches ▪ Update DACs individually or simultaneously (jumper selectable by pairs) ▪ Power up and reset option, jumper selectable (revision 3 and up): With jumper set to "ZERO", all DAC's cleared to 0 volts, ±32 mV, DACs set to simultaneous update mode until first read. With jumper set to "STD", DAC output on power-up is undefined.

Digital input / output

Table 2. DIO specifications

Digital type	82C55
Number of channels	24 I/O
Configuration	*2 banks of 8, 2 banks of 4, programmable by bank as input or output*
Output high	3.0 volts min @ –2.5 mA
Output low	0.4 volts max @ 2.5 mA
Input high	2.0 volts min, 5.5 volts absolute max
Input low	0.8 volts max, –0.5 volts absolute min
Power-up / reset state	Input mode (high impedance)

Power consumption

Table 3. Power consumption specifications

+5 V	435 mA typical, 525 mA max
+12 V	50 mA typical, 80 mA max
–12 V	120 mA typical, 160 mA max

Table 4. Power consumption specifications with optional DC/DC converter installed

+5 V	935 mA typical / 1.025 A max
+12 V	N/A
–12 V	N/A

Environmental

Table 5. Environmental specifications

Operating temperature range	*0 to 50 °C*
Storage temperature range	*–20 to +70 °C*
Humidity	*0 to 90% non-condensing*

Main connector and pin out

Table 6. Connector specifications

Connector type	37-pin male "D" connector
Compatible cables	C37FF-x C37FFS-x DFCON-37 (D-connector, D-shell, and termination pins to construct your own cable)
Compatible accessory products with the C37FF-x cable or C37FFS-x cable	CIO-MINI37 CIO-TERMINAL SCB-37 SSR-RACK24, CIO-ERB24, SSR-RACK08, CIO-ERB08 ENC-MINI37

Table 7. Connector pin out

Pin	Signal Name	Pin	Signal Name
1	D/A OUT 5	20	LLGND
2	D/A OUT 4	21	LLGND
3	FIRSTPORTB Bit 7	22	FIRSTPORTC Bit 7
4	FIRSTPORTB Bit 6	23	FIRSTPORTC Bit 6
5	FIRSTPORTB Bit 5	24	FIRSTPORTC Bit 5
6	FIRSTPORTB Bit 4	25	FIRSTPORTC Bit 4
7	FIRSTPORTB Bit 3	26	FIRSTPORTC Bit 3
8	FIRSTPORTB Bit 2	27	FIRSTPORTC Bit 2
9	FIRSTPORTB Bit 1	28	FIRSTPORTC Bit 1
10	FIRSTPORTB Bit 0	29	FIRSTPORTC Bit 0
11	DGND	30	FIRSTPORTA Bit 7
12	D/A OUT 3	31	FIRSTPORTA Bit 6
13	LLGND	32	FIRSTPORTA Bit 5
14	D/A OUT 2	33	FIRSTPORTA Bit 4
15	LLGND	34	FIRSTPORTA Bit 3
16	D/A OUT 1	35	FIRSTPORTA Bit 2
17	LLGND	36	FIRSTPORTA Bit 1
18	D/A OUT 0	37	FIRSTPORTA Bit 0
19	LLGND		

Measurement Computing Corporation
10 Commerce Way
Suite 1008
Norton, Massachusetts 02766
(508) 946-5100
Fax: (508) 946-9500
E-mail: info@mccdaq.com
www.mccdaq.com