

# CIO-DDA06/JR/16

## Specifications



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# 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 type	AD660BN
Resolution	16-bits
Number of channels	6 Max, 2 Installed
Voltage ranges	±5
Offset error	±7 mV max
Gain error	±5 LSB max
Differential nonlinearity	±1LSB max
Integral nonlinearity	±1LSB max
<i>Monotonicity</i>	<i>Guaranteed monotonic to 15 bits over temperature</i>
Gain drift	±15 ppm/°C max
Bipolar offset drift	±5 ppm/°C max
Unipolar offset drift	±3 ppm/°C max
Settling time (20 V step to .0008%)	13 µs max
Settling time (10 V step to .0008%)	6 µs typ
Current drive	±5 mA min
Output short-circuit current	25 mA typ
D/A pacing	Software paced
Data transfer	Programmed I/O
<i>Throughput</i>	<i>PC dependent</i>
Miscellaneous	<ul style="list-style-type: none"><li>▪ Double buffered output latches</li><li>▪ Update DACs individually or simultaneously (jumper selectable)</li><li>▪ Power up and reset, all DAC's cleared to 0 volts</li></ul>

## Digital input / output

Table 2. DIO specifications

Digital type	8255 emulation
Output	74S244
Input	74LS373
Number of channels	24 I/O
<i>Configuration</i>	<i>2 banks of 8, 2 banks of 4, programmable by bank as input or output</i>
Output high	2.4 volts min @ -15 mA
Output low	0.5 volts max @ 64 mA
Input high	2.0 volts min, 7 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 with 2 D/A channels installed

+5 V	725 mA typ, 870 mA max
+12 V	65 mA typ, 78 mA max
-12 V	56 mA typ, 67 mA max

Table 4. Power consumption specifications with 6 D/A channels installed

+5 V	725 mA typ, 870 mA max
+12 V	110 mA typ, 140 mA max
-12 V	105 mA typ, 135 mA max

## Environmental

Table 5. Environmental specifications

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

## 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 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		

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