ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Measurement Computing PCI-DAC6702* at our website: *Click HERE*

PCI-DAC6702 and PCI-DAC6703

Specifications



Document Revision 1.4, February, 2010
© Copyright 2010, Measurement Computing Corporation

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	Enhanced R-2R
Resolution	16-bits, 1 in 65536
Number of channels	PCI-DAC6703: 16 voltage PCI-DAC6702: 8 voltage
DNL	*±1 LSB max*
Monotonicity	*16-bits, guaranteed after calibration*
Update rate, max	PCI-DAC6703: 1111 S/s per channel PCI-DAC6702: 1111 S/s per channel
Update modes	Software selectable per channel for update immediate (default), or update from NVRAM on command
Output short-circuit duration	*Indefinite @ 25 mA*
Power-on state	Independent, user-defined power-on states.

Table 2. Voltage output specifications

Range	±10.1 V
Output coupling	*DC*
Output impedance	0.1 Ω max.
Current drive	±10 mA max
Load capacitance	10,000 pF
Slew rate	0.5 V/µs typ.
Settling time (full scale step)	7.2 ms max to ±0.5 LSB
Noise	100 μV_{rms}, DC to 1 MHz BW
Offset temperature coefficient	*±5 µV/ºC*
Gain temperature coefficient	*±1 ppm/ºC*
Protection	Short circuit to ground
Data transfer	Programmed I/O

Table 3. Absolute accuracy components - all values are (±)

Range[1]	% of Reading	Offset	Temp Drift[2] (%/ºC)	Absolute Accuracy at FS
±10 V	0.0019	±710 µV	0.0001	±1 mV

Note 1: Temp drift applies only if the ambient temperature changes by more than ±10ºC since the last calibration.

Note 2: Each PCI-DAC670x board is tested at the factory to assure that the overall error does not exceed the values specified in Table 3.

Table 4. Relative accuracy

Range	Relative Accuracy
±10 V	±1.0 LSB, max

Relative accuracy is defined as the measured deviation from a straight line drawn between measured endpoints of the transfer function.

Analog output calibration

Table 5. Analog I/O calibration

Recommended warm-up time	15 minutes
Calibration	Auto-calibration, calibration factors for each range stored on board in non-volatile RAM.
Onboard calibration reference	*DC Level: 10.000 V± 1 mV. Actual measured values stored in EEPROM.*
	Tempco: 0.6 ppm/°C max
	Long-term stability: ±6 ppm/sqrt(1000 hrs)
Calibration interval	1 year

Digital input / output

Table 6. Digital I/O

Digital type	Discrete, 5 V/TTL compatible
Number of I/O	8
Configuration	8 bits, independently programmable for input or output. Position available for pull-up/pull-down resistor network (not populated).
Input high voltage	2.0 V min, 7.0 V absolute max
Input low voltage	0.8 V max, –0.5 V absolute min
Output high voltage (IOH = –32 mA)	3.80 V min, 4.20 V typ
Output low voltage (IOL = 32 mA)	0.55 V max, 0.22 V typ
Data transfer	Programmed I/O
Power-up / reset state	Input mode (high impedance)

Power consumption

Table 7. Power consumption specifications

+5 V	PCI-DAC6703: 1.1 A max PCI-DAC6702: 1.0 A max
+5 V available at I/O connector	0.75A max, protected with a resettable fuse

Environmental

Table 8. Environmental specifications

Operating temperature range	0 to 55 °C
Storage temperature range	-20 to 70 °C
Humidity	0 to 90% non-condensing

Mechanical

Table 9. Mechanical specifications

Card dimensions	PCI half card: 174.4 mm (L) x 106.9 mm (W) x18.4 mm (H)
Form factor	Universal PCI keying. Compatible with either 3.3 V or 5 V PCI signaling environments.

Main connector and pin out

Table 10. Main connector specifications

Connector type	Shielded SCSI 100 D-Type
Compatible cables	C100HD50-x, unshielded ribbon cable. x = 3 or 6 feet
	C100MMS-x, shielded round cable. x = 1, 2, or 3 meters
Compatible accessory products (with C100HD50-x cable)	BNC-16SE BNC-16DI CIO-MINI50 CIO-TERM100 SCB-50
Compatible accessory products (with C100MMS-x cable)	SCB-100 BNC-16DI-FE

Table 11. PCI-DAC6703 pin out

Pin	Signal Name	Pin	Signal Name
1	AGND	51	AGND
2	VCH0	52	n/c
3	AGND0	53	AGND
4	VCH1	54	n/c
5	AGND1	55	AGND
6	VCH2	56	n/c
7	AGND2	57	AGND
8	VCH3	58	n/c
9	AGND3	59	AGND
10	VCH4	60	n/c
11	AGND4	61	AGND
12	VCH5	62	n/c
13	AGND5	63	AGND
14	VCH6	64	n/c
15	AGND6	65	AGND
16	VCH7	66	n/c
17	AGND7	67	AGND
18	AGND	68	AGND
19	VCH8	69	n/c
20	AGND8	70	AGND
21	VCH9	71	n/c
22	AGND9	72	AGND
23	VCH10	73	n/c
24	AGND10	74	AGND
25	VCH11	75	n/c
26	AGND11	76	AGND
27	VCH12	77	n/c
28	AGND12	78	AGND
29	VCH13	79	n/c
30	AGND13	80	AGND
31	VCH14	81	n/c
32	AGND14	82	AGND
33	VCH15	83	n/c
34	AGND15	84	AGND
35	n/c	85	DIO0
36	n/c	86	DIO1
37	n/c	87	DIO2
38	n/c	88	DIO3
39	PC 5V	89	DIO4
40	DIO0	90	DIO5
41	DIO1	91	DIO6
42	DIO2	92	DIO7
43	DIO3	93	n/c
44	n/c	94	n/c
45	DIO4	95	n/c
46	DIO5	96	GND
47	DIO6	97	n/c
48	DIO7	98	n/c
49	n/c	99	n/c
50	GND	100	GND

Note 3: DIO[7:0] signals are provided in two locations in order to provide flexibility for applications which use the C100HD50-x ribbon cable.

Table 12. PCI-DAC6702 pin out

Pin	Signal Name	Pin	Signal Name
1	AGND	51	AGND
2	VCH0	52	n/c
3	AGND0	53	AGND
4	VCH1	54	n/c
5	AGND1	55	AGND
6	VCH2	56	n/c
7	AGND2	57	AGND
8	VCH3	58	n/c
9	AGND3	59	AGND
10	VCH4	60	n/c
11	AGND4	61	AGND
12	VCH5	62	n/c
13	AGND5	63	AGND
14	VCH6	64	n/c
15	AGND6	65	AGND
16	VCH7	66	n/c
17	AGND7	67	AGND
18	AGND	68	AGND
19	n/c	69	n/c
20	AGND	70	AGND
21	n/c	71	n/c
22	AGND	72	AGND
23	n/c	73	n/c
24	AGND	74	AGND
25	n/c	75	n/c
26	AGND	76	AGND
27	n/c	77	n/c
28	AGND	78	AGND
29	n/c	79	n/c
30	AGND	80	AGND
31	n/c	81	n/c
32	AGND	82	AGND
33	n/c	83	n/c
34	AGND	84	AGND
35	n/c	85	DIO0
36	n/c	86	DIO1
37	n/c	87	DIO2
38	n/c	88	DIO3
39	PC 5V	89	DIO4
40	DIO0	90	DIO5
41	DIO1	91	DIO6
42	DIO2	92	DIO7
43	DIO3	93	n/c
44	n/c	94	n/c
45	DIO4	95	n/c
46	DIO5	96	GND
47	DIO6	97	n/c
48	DIO7	98	n/c
49	n/c	99	n/c
50	GND	100	GND

Note 4: DIO[7:0] signals are provided in two locations in order to provide flexibility for applications which use the C100HD50-x ribbon cable.

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

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP