Specifications

USB-PDISO8/40

MEASUREMENT COMPUTING™

Document Revision 1.2, July, 2006

Specifications

Typical for 25 °C unless otherwise specified.

Specifications in *italic text* are guaranteed by design.

Relay specifications

Table 1. Relay Output specifications

Number	8
Contact configuration	8 FORM C (SPDT) NO, NC and Common available at connector .
Contact rating	*6 amperes (A) @ 240 volts AC (VAC) or 28 volts DC (VDC) resistive (see connector rating below)*
Contact resistance	100 milliohms (mΩ) max
Operate time	*10 milliseconds (ms) max*
Release time	*10 milliseconds max*
Vibration	*10 to 55 hertz (Hz) (Dual amplitude 1.5 millimeters (mm))*
Shock	*10 G (11 ms)*
Dielectric isolation	*500 V (1 minute)*
Life expectancy	*10 million mechanical operations, min*
Power on RESET state	Not energized. NC in contact to Common.

Isolated inputs

Table 2. Isolated input specifications

Number	8		
Isolation	*500 volts (V)*		
Resistance	1.6k ohms (Ω) min.		
Voltage range	DC	Input high:	+5.0 VDC min or –5.0 VDC min
		Input low:	+1.5 VDC max. or –1.5 VDC max.
		Input range:	30 VDC max
	AC (with filter)	Input high:	6.0 Vrms min (50-1000 Hz)
		Input low:	1.5 Vrms max (50-1000 Hz)
Response	w/o filter	20 µs	
	w/ filter	5 ms	
Filters	Time constant	5 ms (200 Hz)	
	Filter control	Software programmable at each input.	
	Power-up /reset	Filters off	

Power

Table 3. Power specifications

Parameter	Conditions	Specification
USB +5 V input voltage range.		4.75 V min. to 5.25 V max.
USB +5 V supply current	All modes of operation	10 mA max
External power input		9 V nominal
External power supply (required)	MCC p/n CB-PWR-9	9 V ±10% @ 1 A
Voltage supervisor limits - PWR LED	6.5 V > Vext or Vext > 12.5 V (Note 1)	PWR LED = Off (power fault)
	6.5 V ≤ Vext < 12.5 V	PWR LED = On
External power consumption	All relays on, 100 mA downstream hub power	820 mA typ, 900 mA max
	All relays off, 0 A downstream hub power	200 mA typ, 230 mA max

Note 1: The USB-PDISO8/40 monitors the external +9 V power supply voltage with a voltage supervisory circuit. If this power supply exceeds its specified limit, the **PWR** LED will turn off, indicating a power fault condition.

External power output

Table 4. External power output specifications

Parameter	Conditions	Specification
External power output - current range	Note 2	4.0 A max.
External power output	Voltage drop between power input and daisy chain power output	0.5 V max
Compatible cable(s) for daisy chain	C-MAPWR-x	x = 2 ,3 or 6 feet

Note 2: The daisy chain power output allows multiple USB Series products with a USB hub output port to be powered from a single external power source in a daisy chain fashion. The voltage drop between the module power supply input and the daisy chain output is 0.5 V max. Users must plan for this drop to assure the last module in the chain will receive at least 6.5 VDC

USB specifications

Table 5. USB specifications

USB "B" connector	Input
USB device type	USB 2.0 (full-speed)
Device compatibility	USB 1.1, USB 2.0
USB "A" connector	Downstream hub output port
USB hub type	Supports USB 2.0 high-speed, full-speed and low-speed operating points
	Self-powered, 100 mA max downstream VBUS capability
Compatible products	MCC USB Series products with a USB hub output port
USB cable type (upstream and downstream)	*A-B cable, UL type AWM 2527 or equivalent. (min 24 AWG VBUS/GND, min 28 AWG D+/D-)*
USB cable length	3 meters max.

Mechanical

Table 6. Mechanical specifications

Card dimensions	304.3 mm (L) x 121.9 mm (W) x 17.8 mm (H)
	12.0" (L) x 4.8" (W) x 0.7" (H)
Enclosure dimensions	342.9 mm (L) x 125.7 mm (W) x 58.9 mm (H)
	13.5" (L) x 4.95" (W) x 2.32" (H)

Environmental

Table 7. Environmental specifications

Operating temperature range	0 to 70 °C
Storage temperature range	-40 to 85 °C
Humidity	0 to 95% non-condensing

Main connector and pinout

Table 8. Main connector specifications

Connector	P14: 40-pin header
Compatible cables	C40FF-x: 40-conductor ribbon cable, female both ends, x = length in feet.
	C40-37F-x: 40-pin IDC to 37-pin female D connector, x = length in feet.
Compatible accessory products (using the C40FF-x cable)	CIO-MINI40
Compatible accessory products (using the C40-37F-x cable)	CIO-MINI37 SCB-37
Max current	1 A

P14

Pin	Signal Name	Pin	Signal Name
1	Input 7 terminal A	2	Input 7 terminal B
3	Input 6 terminal A	4	Input 6 terminal B
5	Input 5 terminal A	6	Input 5 terminal B
7	Input 4 terminal A	8	Input 4 terminal B
9	Input 3 terminal A	10	Input 3 terminal B
11	Input 2 terminal A	12	Input 2 terminal B
13	Input 1 terminal A	14	Input 1 terminal B
15	Input 0 terminal A	16	Input 0 terminal B
17	Relay 7 Common contact	18	Relay 7 Normally Open contact
19	Relay 6 Common contact	20	Relay 6 Normally Open contact
21	Relay 5 Common contact	22	Relay 5 Normally Open contact
23	Relay 4 Normally Closed contact	24	Relay 4 Common contact
25	Relay 4 Normally Open contact	26	Relay 3 Normally Closed contact
27	Relay 3 Common contact	28	Relay 3 Normally Open contact
29	Relay 2 Normally Closed contact	30	Relay 2 Common contact
31	Relay 2 Normally Open contact	32	Relay 1 Normally Closed contact
33	Relay 1 Common contact	34	Relay 1 Normally Open contact
35	Relay 0 Normally Closed contact	36	Relay 0 Common contact
37	Relay 0 Normally Open contact	38	Relay 7 Normally Closed contact
39	Relay 5 Normally Closed contact	40	Relay 6 Normally Closed contact

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