



PCI-FC16U

Universal PCI, 16-channel Counter/Frequency Board with 32 Programmable Digital I/O Channels



Features

- Universal PCI (3.3 V/5 V) Interface
- 32 Programmable Digital I/O Channels
- 16-channel Up Counter or Frequency Measurement (Pulse Width = 2 μs Min.)
- Supports Card ID (SMD Switch)
- Digital Filter: 1 to 32767 (μs)
- Pull-high and Pull-low Resistors for DI Channels

Introduction

The PCI-FC16U is a 32-bit hardware-type high-speed Counter/Frequency board that supports both the 3.3 V and the 5 V Universal PCI bus. The card provides 16 channels that can be individually configured for either frequency measurement or up-counter applications, and can support high-frequency signals up to 250 kHz. The PCI-FC16U board also includes 32 programmable Digital I/O channels.

The PCI-FC16U board includes an onboard Card ID switch that enables the board to be easily recognized via software if two or more boards are installed in the same computer. The pull-high/pull-low resistors allow the DI status to be predefined as either high or low instead of remaining floating if the DI channels are disconnected or interrupted.

Software

Drivers

- 32/64-bit Windows XP/2003/2008/7/8/10
- Linux

Sample Programs

- VB/VC/Delphi/BCB/VB.NET/C#.NET/VC.NET/MATLAB Demo

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment
C0+	01	20 C0-
C1+	02	21 C1-
C2+	03	22 C2-
C3+	04	23 C3-
C4+	05	24 C4-
C5+	06	25 C5-
C6+	07	26 C6-
C7+	08	27 C7-
N.C.	09	28 N.C.
C8+	10	29 C8-
C9+	11	30 C9-
C10+	12	31 C10-
C11+	13	32 C11-
C12+	14	33 C12-
C13+	15	34 C13-
C14+	16	35 C14-
C15+	17	36 C15-
N.C.	18	37 N.C.
N.C.	19	

Pin Assignment	Terminal No.	Pin Assignment
PB 0	01	02 PB 1
PB 2	03	04 PB 3
PB 4	05	06 PB 5
PB 6	07	08 PB 7
PB 8	09	10 PB 9
PB 10	10	12 PB 11
PB 12	12	14 PB 13
PB 14	14	16 PB 15
GND	16	18 GND
+5 V	18	20 +12 V

Pin Assignment	Terminal No.	Pin Assignment
PA 0	01	02 PA 1
PA 2	03	04 PA 3
PA 4	05	06 PA 5
PA 6	07	08 PA 7
PA 8	09	10 PA 9
PA 10	11	12 PA 11
PA 12	13	14 PA 13
PA 14	15	16 PA 15
GND	17	18 GND
+5 V	19	20 +12 V

Hardware Specifications

Counter/Frequency		
Counter/Frequency	16-channel Up Counter 16-channel Frequency	
Resolution	32-bit	
Digital Noise Filter	1 ~ 32767 μs	
Min. Pulse Width	2 μs (250 kHz Max.)	
Isolated Input Level	ON Voltage	+4.5 ~ +30 VDC
	OFF Voltage	+1 VDC Max.
Isolation Voltage	+2500 Vdc	
ESD Protection	2 kV (Contact for each Channel)	
Programmable DIO		
Channels	32	
Digital I/O		
Input Voltage	Logic 0	0.8 V (Max.)
	Logic 1	2.0 V (Min.)
Output Voltage	Logic 0	0.4 V (Max.)
	Logic 1	2.4 V (Min.)
Output Capability	Sink	2.4 mA @ 0.8 V
	Source	0.8 mA @ 2.0 V
General		
Bus Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Card ID	Yes (4-bit)	
Connectors	Female DB37 x 1, 20-pin Box Header x 2	
Power Consumption	700 mA @ +5 V	
Operating Temperature	0°C to +60°C	
Humidity	5 to 85% RH, Non-condensing	

Accessories

	CA-2010	20-pin Flat Cable, 1 m
	CA-4002	37-pin Male D-sub Connector with Plastic Cover
	CA-3710DM	DB-37 Male-Male Cable, 1 m, 180° (RoHS)
	DN-20	DIN-Rail Mountable 20-pin D-sub Connector Board
	DN-37	DIN-Rail Mountable 37-pin D-sub Connector Board

Ordering Information

PCI-FC16U CR	Universal PCI, 16-channel Counter/Frequency Board with 32 Programmable DI/O Channels (RoHS). Includes one CA-4002 D-sub Connector.
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