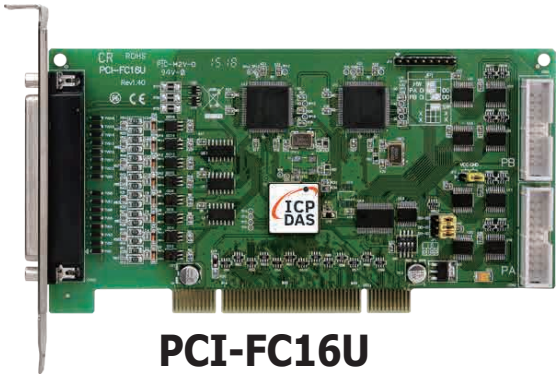


PCI-FC16U

Universal PCI, 16-ch Counter/Frequency Input Board with 32-ch DIO

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.

The cards support various OS versions, such as DOS, Windows. DLL and Active X control together with various language sample program based on Turbo C++, Borland c++, Microsoft C++, Visual C++, Borland Delphi, Borland C++ Builder, Visual Basic, C#.NET, Visual Basic.NET and LabVIEW are provided in order to help users to quickly and easily develop their own applications.

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		

CON3

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	11	12	PB 11
PB 12	13	14	PB 13
PB 14	15	16	PB 15
GND	17	18	GND
+5 V	19	20	+12 V

CON1

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	10	12	PA 11
PA 12	12	14	PA 13
PA 14	14	16	PA 15
GND	16	18	GND
+5 V	18	20	+12 V

CON2

Features

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

Software

Drivers

- ☑ 32/64-bit Windows 10/11

Sample Programs

- ☑ VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Hardware Specifications

Hardware	
Connector	Female DB37 x 1 , 20-pin box header x 2
Card ID	Yes (4-bit)
Digital Input	
Channels	32 (Bi-Direction)
Type	5 V/TTL
ON Voltage Level	2.0 V Min.
OFF Voltage Level	0.8 V Max.
Response Speed	1.0 MHz (Typical)
Pull-high/Pull-low Resistors	Yes
Trigger Mode	Static Update
Digital Output	
Channels	32 (Bi-Direction)
Type	5 V/TTL
Operation Mode	Static Update
Load Current	Sink: 2.4 mA @ 0.8 V Source: 0.8 mA @ 2.0 V
Response Speed	1.0 MHz (Typical)
DO Readback	Yes
Counter/Frequency/Encoder Input	
Channels	16
Type	Isolated Input
Counter Mode	Yes (Up Counter)
Frequency Mode	Yes
Max. Counter/ Frequency	1 Hz ~ (typically) 250 kHz (both counter mode and frequency mode) where 250 kHz is calculated as followings: Supposed that duty cycle = 50%, refer to Minimum Pulse Duration of High Level, we have pulse period = 2 µs x 2 = 4 µs, which is 250 kHz as a max. Refer to Min. Pulse Duration of High Level, Max. Frequency is highly affected by duty cycle.
Frequency Accuracy	± 0.4 %
Isolated, Input Level	Logic 1: +4.5 V_{DC} ~ +30 V_{DC} Logic 0: +1 V_{DC} Max.
Low Pass Filter	1 ~ 32767 µs
Power	
Consumption	700 mA @ +5 V
Environment	
Operating Temperature	0 ~ +60°C
Humidity	5 ~ 85% RH, Non-condensing

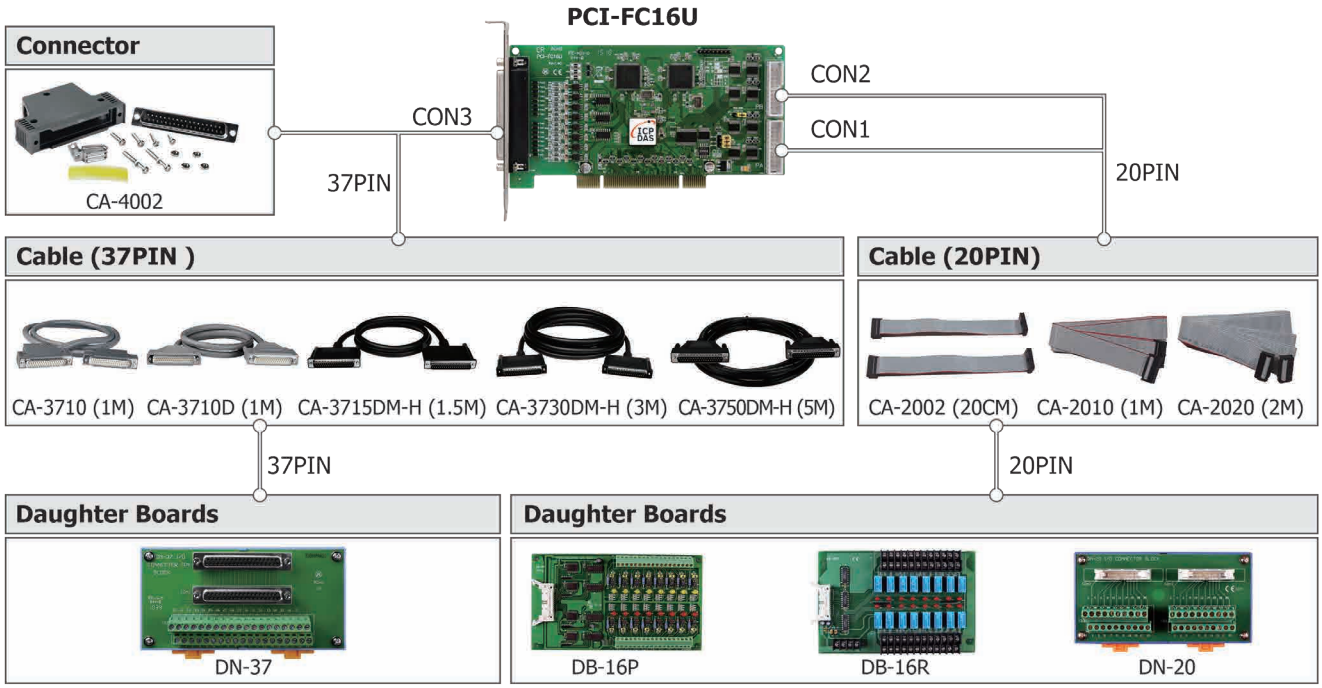
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Ordering Information

PCI-FC16U CR	Universal PCI, 16-ch Counter/Frequency Input Board with 32-ch DIO (RoHS) Includes one CA-4002 D-Sub connector

Accessories

CA-2002 CR	20-pin 平接頭線 , 20 cm x 2 (RoHS)
CA-2010 CR	20-pin 扁平接頭 , 1 公尺 (RoHS)
CA-2020 CR	20-pin 平接頭 , 2 M (RoHS)
CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180° (RoHS)
CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180° (RoHS)
CA-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180° (RoHS)
DN-37 CR	37-pin I/O 接線端子板 (可 DIN 導軌安裝) (RoHS)
DN-20 CR	20-pin I/O 接線端子板 (可 DIN 導軌安裝) (RoHS)
DB-16P CR	Isolated Digital Input Daughter Board (RoHS)
DB-16R CR	Relay Output Daughter Board (RoHS)



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