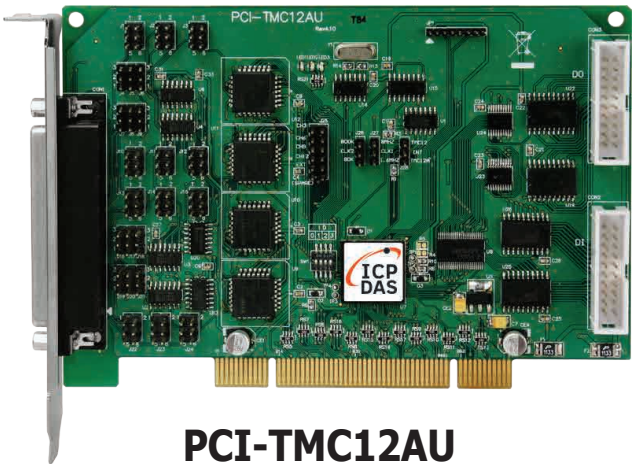


PCI-TMC12AU

Universal PCI, 12-ch Timer/Counter Board

Features

- Universal PCI (3.3 V/5 V) Interface
- 4 Onboard 8254 Timer/Counter Chips
- 12 Independent 16-bit Timers/Counters
- 12 External Clock Input Channels
- 12 Timer/Counter Output Channels
- 4 Interrupt Sources and More Flexible Interrupt Mechanism
- 2 Internal Clock Sources
- 16-bit Timer/Counter can be cascaded to create a 32/48-bit Timer/Counter
- 16-channel, 5 V/TTL Digital Input
- 16-channel, 5 V/TTL Digital Output
- Gate Input can be sourced from External or Previous Timer/Counter Output
- Supports Card ID (SMD Switch)
- Supports DO Status Readback
- Hardware Mechanism to generate two Starting Clocks

Introduction

The PCI-TMC12AU card is designed as a direct replacement for the PCI-TMC12A without requiring any modification to the software or the driver.

The PCI-TMC12AU Universal PCI cards support the 3.3 V/5 V PCI bus, and provide twelve 16-bit timers/counters (four 82C54 chips x 3 timers/counters), 16 TTL Digital Input channels and 16 TTL Digital Output channels. The two onboard clocks (8 M/1.6 M and 0.8 M/80 K) are jumper selectable and provide a high-resolution clock source for timers/counters. Counters/timers can be used for industrial and laboratory applications such as pulse/event/switch-toggle counting, frequency readings, elapsed time measurement, pulse-width measurement, PWM (pulse-width-modulated) output, and pulse (square wave) and rate generation, etc.

Software

Drivers

- ☑ 32/64-bit Windows 10/11
- ☑ Linux

Sample Programs

- ☑ DOS Lib and TC Demo
- ☑ VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Pin Assignments

Pin Assignment	Terminal No.		Pin Assignment
ECLK1	01		
COUT1	02	20	EXTG1
EXTG2	03	21	ECLK2
ECLK3	04	22	COUT2
COUT3	05	23	EXTG3
EXTG4	06	24	ECLK4
ECLK5	07	25	COUT4
COUT5	08	26	EXTG5
EXTG6	09	27	ECLK6
ECLK7	10	28	COUT6
COUT7	11	29	EXTG7
EXTG8	12	30	ECLK8
ECLK9	13	31	COUT8
COUT9	14	32	EXTG9
EXTG10	15	33	ECLK10
ECLK11	16	34	COUT10
COUT11	17	35	EXTG11
EXTG12	18	36	ECLK12
GND	19	37	COUT12

CON1

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

CON2

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

CON3

Hardware Specifications

Hardware	
Connector	Female DB37 x 1,20-pin box header x 2
Card ID	Yes (4-bit)
Digital Input	
Channels	16
Type	5 V/TTL
ON Voltage Level	2.0 V Min.
OFF Voltage Level	0.8 V Max.
Response Speed	1.0 MHz (Typical)
Trigger Mode	Static Update
Digital Output	
Channels	16
Type	5 V/TTL
Operation Mode	Static Update
Load Voltage	Logic 0: 0.4 V Max. , Logic 1: 2.4 V Min.
Load Current	Sink: 24 mA @ 0.8 V Source: 15 mA @ 2.0 V
Response Speed	1.0 MHz (Typical)
Timer/Counter/Frequency	
Channels	12
Type	5 V/TTL (82C54 compatible timer)
Resolution	16-bit
Input Frequency	10 MHz max.
Reference Clock	Internal: 8 MHz
PC Bus	
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Data Bus	16-bit
Power	
Consumption	500 mA @ +5 V
Mechanical	
Dimensions (mm)	105 x 150 x 22 (W x L x D)
Environment	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing

Note: Refer to the PCI-FC16U card for simple frequency measurement applications.

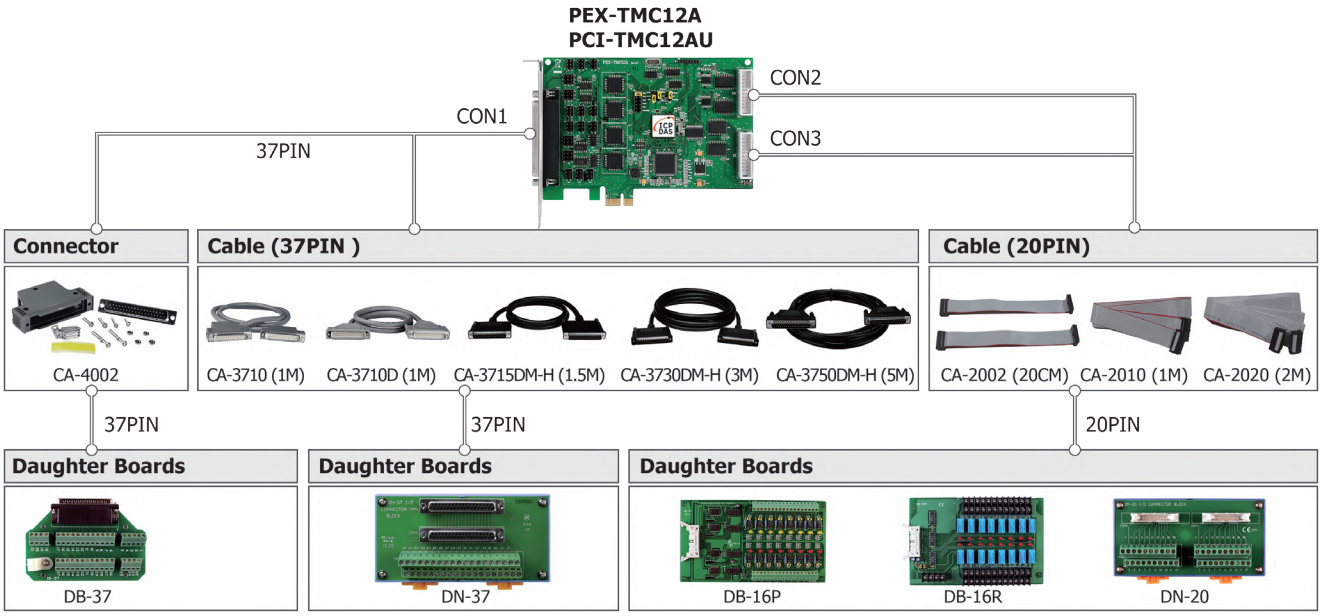
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Ordering Information

PCI-TMC12AU CR	Universal PCI, 12-ch Timer/Counter Board (RoHS) Includes one CA-4002 D-Sub connector

Accessories

CA-2002 CR	20-pin flat cable, 20 cm x 2 (RoHS)
CA-2010 CR	20-pin flat cable, 1 M (RoHS)
CA-2020 CR	20-pin flat cable, 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)
CA-3750DM-H CR	DB-37 Male-Male Cable, 5.0 M, 180° (RoHS)
DB-37 CR	Directly connect signal to D-sub 37-pin connector (RoHS)
DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)
DN-20 CR	Two 20-pin header DIN-rail terminal board (RoHS)
DN-20/N CR	DN-20 without DIN-Rail mount (RoHS)
DB-16P CR	Isolated Digital Input Daughter Board (RoHS)
DB-16R CR	Relay Output Daughter Board (RoHS)
ADP-20/PCI CR	20-pin extender (RoHS)



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