PCI-M512EU

Universal PCI, 512 KB MRAM Board with Digital I/O

Features

- Support the +3.3/+5 V PCI bus
- 512 KB MRAM Onboard
  - Non-volatile Random-access Memory Technology
  - Retains Data when Power is Turned Off
  - Unlimited Write Endurance
- 16 channels Digital Input
- 16 channels Digital Output

Introduction

The PCI-M512EU is a 512 KB MRAM (Magnetoresistive Random Access Memory) board and supports both the 3.3 V and the 5 V Universal PCI bus. The PCI-M512EU provides 12 Digital Input channels and 16 Digital Output channels to connect various devices.

The MRAM is a non-volatile random-access memory technology that the fairly new type of memory. The main features of MRAM in include unlimited write endurance, read and write cycles with no delay and data retention even after power loss, so the data can be saved permanently. The PCI-M512EU is an ideal solution for improving system reliability when the power outage.

Pin Assignments

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	DO11
DO 12	12	14	DO 13
DO 14	14	16	DO 15
GND	16	18	GND
+5 V	18	20	+12 V

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Pin Assignment	Terminal No.		Pin Assignment
	01	02	
	03	04	
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

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Ordering Information

PCI-M512EU CR	Universal PCI, 512 KB MRAM Board with Digital I/O (RoHS)

Software

Drivers

- [x] 32/64-bit Windows 10/11
- [x] Linux

Sample Programs

- [x] DOS Lib and TC/BC/MSC Demo
- [x] VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Hardware Specifications

Memory	
Type	MRAM
Size	512 KB
Hardware	
Card ID	Yes (4-bit)
Connector	20-pin box header x 2
Digital Input	
Channels	12
Type	5 V/TTL
TTL Input, ON Voltage Level	2.0 V Min.
TTL Input, 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
Voltage	Logic 0: 0.4 V Max. Logic 1: 2.4 V Min.
Max. Load Current	Sink: 2.4 mA @ 0.8 V Source: 0.8 mA @ 2.0 V
Response Speed	1.0 MHz (Typical)
PC Bus	
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz
Data Bus	8-bit
Power	
Consumption	580 mA @ +5 V
Mechanical	
Dimensions (mm)	86 x 134 x 22 (W x L x D)
Environmental	
Operating Temperature	0 ~ +60°C
Storage Temperature	-20 ~ +70°C
Humidity	5 ~ 85% RH, Non-condensing