### PFM-T096P

PCI-104 96-Channel DIO Module

XILINX XC3S200AN BGA 256 Chipset

5V/TTL Compatible

+5V through PCI-104 connector

PFM-T096P Manual 1<sup>st</sup> Ed March 5<sup>th</sup>, 2014

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## Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- Product CD
- PFM-T096P
- Cable x 1 (for function test only)

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	DIO Module		PFM-T096P
Appendi	x A Mating Connec	tor	

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PFM-T096P

# Chapter

## General Information

Chapter 1 General Information 1-1

#### 1.1 Introduction

AAEON Technology, a leading company in embedded boards manufacturing with a full range of PC/104 CPU Modules, launches a brand new DIO Module-PFM-T096P. Its compact size and rich functionality ensures the most cost effective and compatible module to coincide with your existing system planning devices.

The PFM-T096P features PCI-104 expansion interface. It supports Windows XP, Win 7 and Linux operating systems. Moreover, it supports 96-Channel Digital I/O (Bi-Directional) with software configurable input and output. The PFM-T096P is designed to enhance benefit for the Subcompact and peripheral boards.

#### 1.2 Features

- Support programmable input/output up to 96-bit I/O with 24ma driving capability
- ESD Protection circuit is built-in
- Less H/W Jump Setting/DIP SW to reduce malfunction, and most use S/W Define
- Rich flexibility in interrupt configuration
- Reserve the possibility to provide counter function
- Supports Window XP, Windows 7 and Linux
- PC/104 Interface

DIO Module		P F M - T 0 9 6 P
1.3 Specifi	ications	
•	Form Factor	PC/104 (90mm x 96mm)
•	Chipset	XILINX XC3S200AN BGA 256,
		SN74ALVC245
•	Expansion Slot	PCI-104
•	Power Requirement	+5V through PCI-104 connector
•	Operating Temperature	e 32°F∼ 140°F (0°C ∼ 60°C)
•	System Cooling	Fanless
•	I/O Connector	4 x 50-pin box header
•	Gross Weight	0.13 lb (0.06 Kg)
•	Net Weight	0.66 lb (0.3 Kg)
•	Certification	CE, FCC



# Quick Installation Guide

Chapter 2 Quick Installation Guide 2-1

#### 2.1 Safety Precautions



Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

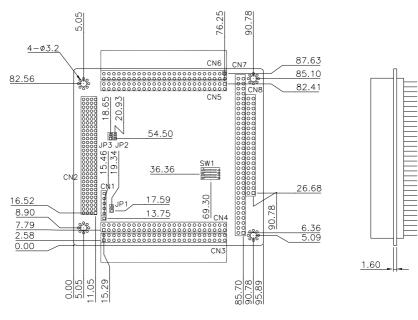
Caution!



Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

#### 2.2 Location and Mechanical Drawing of Connectors and Jumpers

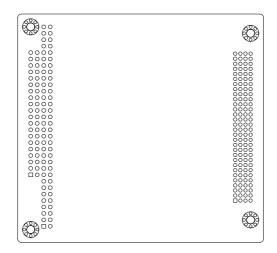
#### **Component Side**



**Component Side** 

**PFM-T096P** 

#### Solder Side



## Solder Side

#### 2.3 List of Jumpers

The board has a number of jumpers that allow you to configure your system to suit your application.

The table below shows the function of each of the board's jumpers:

Label	Function
JP1	Firmware Programming Selection
JP2	PCI Resource Selection-1
JP3	PCI Resource Selection-2
SW1	BoardID Selection

#### 2.4 List of Connectors

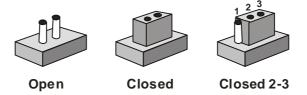
The board has a number of connectors that allow you to configure your system to suit your application. The table below shows the function of each board's connectors:

Label	Function
CN1	JTAG
CN2	PCI 104
CN3	DIO Port1
CN4	DIO Port2
CN5	DIO Port3
CN6	DIO Port4
	PC/104 (Optional, Bypass PC/104 signal for
CN7, CN8	customer's stack board request)

#### 2.5 Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip.

To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

#### 2.6 Firmware Programming Selection (JP1)

1 2 Enable	$ \begin{array}{c c} 1 & 2 \\ \hline \Box & \Box \\ \end{array} $ Disable (default)
JP1	Function
SHORT	Enable
OPEN	Disable(default)

#### 2.7 PCI Resource Selection (JP2/3)

1 2 JP2 • • 1 2 JP3 • •	
JP2 JP3	Function
OPEN OPEN	PCI Resource 1(IRQA,CLK0)
OPEN SHORT	PCI Resource 2(IRQB,CLK1)
SHORT OPEN	PCI Resource 3(IRQC,CLK2)
SHORT SHORT	PCI Resource 4(IRQD,CLK3)

#### 2.8 Board ID Selection (SW1) for Multi-Board Indicate in Utility

4 3 2 1	
SW1	Function
All Off	BoardID 0(default)
Other	BoardID1~15

Chapter 2 Quick Installation Guide 2-7

2.9 JTAG (CN1)	for Firmware	Programming
----------------	--------------	-------------

	$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
Pin	Pin Name	Signal Type	Signal Level
1	+3.3V	PWR	
2	GND	GND	
3	ТСК	CLK	
4	TDO	OUT	+3.3V
5	TDI	IN	+3.3V
6	TMS	IN	

#### 2.10 DIO Port 1/2/3/4 Connector (CN3/4/5/6)

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	5 4 8	3 50
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	749

Pin	Pin Name	Signal Type	Signal Level
1	PnGrpC7	IN/OUT	+5V
2	EVENT	OUT	
3	PnGrpC6	IN/OUT	+5V
4	GND	GND	
5	PnGrpC5	IN/OUT	+5V
6	GND	GND	
7	PnGrpC4	IN/OUT	+5V
8	GND	GND	

9         PnGrpC3         IN/OUT         +5V           10         GND         GND         GND           11         PnGrpC2         IN/OUT         +5V           12         GND         GND         IN/OUT         +5V           12         GND         GND         IN/OUT         +5V           14         GND         GND         IN/OUT         +5V           16         GND         GND         IN/OUT         +5V           16         GND         GND         IN/OUT         +5V           18         GND         GND         IN/OUT         +5V           20         GND         GND         GND         22           QND         GND         GND         23         PnGrpB5         IN/OUT         +5V           22         GND         GND         GND         25         PnGrpB3         IN/OUT         +5V           26         GND         GND         27         PnGrpB2         IN/OUT         +5V           28         GND         GND         29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31         PnGrpB0         IN/OUT		DIO Module	PFM-	T 0 9 6 P
10         GND         GND           11         PnGrpC2         IN/OUT         +5V           12         GND         GND         IN/OUT         +5V           13         PnGrpC1         IN/OUT         +5V           14         GND         GND         IN/OUT         +5V           14         GND         GND         IN/OUT         +5V           16         GND         GND         IN/OUT         +5V           16         GND         GND         IN/OUT         +5V           18         GND         GND         IN/OUT         +5V           20         GND         GND         21         PnGrpB5         IN/OUT         +5V           22         GND         GND         22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V         26         GND         GND         27         PnGrpB3         IN/OUT         +5V           26         GND         GND         GND         29         PnGrpB1         IN/OUT         +5V           28         GND         GND         GND         31         PnGrpB0         IN/OUT         +5V		<b>D</b> 0 00		<u> </u>
11         PnGrpC2         IN/OUT         +5V           12         GND         GND         13         PnGrpC1         IN/OUT         +5V           13         PnGrpC1         IN/OUT         +5V         14         GND         GND           15         PnGrpC0         IN/OUT         +5V         16         GND         GND           17         PnGrpB7         IN/OUT         +5V         18         GND         GND           19         PnGrpB6         IN/OUT         +5V         20         GND         GND           21         PnGrpB5         IN/OUT         +5V         22         GND         GND           23         PnGrpB4         IN/OUT         +5V         24         GND         GND           25         PnGrpB3         IN/OUT         +5V         26         GND         GND           27         PnGrpB2         IN/OUT         +5V         28         GND         GND           29         PnGrpB1         IN/OUT         +5V         30         GND         GND           31         PnGrpB0         IN/OUT         +5V         50         50         50		-		+5V
12         GND         GND           13         PnGrpC1         IN/OUT         +5V           14         GND         GND         15           15         PnGrpC0         IN/OUT         +5V           16         GND         GND         17           17         PnGrpB7         IN/OUT         +5V           18         GND         GND         19           19         PnGrpB6         IN/OUT         +5V           20         GND         GND         21           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           26         GND         GND         27           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31           31         PnGrpB0         IN/OUT         +5V				
13         PnGrpC1         IN/OUT         +5V           14         GND         GND           15         PnGrpC0         IN/OUT         +5V           16         GND         GND           17         PnGrpB7         IN/OUT         +5V           18         GND         GND           19         PnGrpB6         IN/OUT         +5V           20         GND         GND           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         GND           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         GND           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         GND           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         GND           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         GND           31         PnGrpB0         IN/OUT         +5V	11	PnGrpC2	IN/OUT	+5V
14         GND         GND           15         PnGrpC0         IN/OUT         +5V           16         GND         GND           17         PnGrpB7         IN/OUT         +5V           18         GND         GND           19         PnGrpB6         IN/OUT         +5V           20         GND         GND           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           25         PnGrpB3         IN/OUT         +5V           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	12	GND	GND	
15         PnGrpC0         IN/OUT         +5V           16         GND         GND           17         PnGrpB7         IN/OUT         +5V           18         GND         GND           19         PnGrpB6         IN/OUT         +5V           20         GND         GND         20           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         23           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31         PnGrpB0	13	PnGrpC1	IN/OUT	+5V
16         GND         GND           17         PnGrpB7         IN/OUT         +5V           18         GND         GND           19         PnGrpB6         IN/OUT         +5V           20         GND         GND         20           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           26         GND         GND         27           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31         PnGrpB0	14	GND	GND	
17         PnGrpB7         IN/OUT         +5V           18         GND         GND           19         PnGrpB6         IN/OUT         +5V           20         GND         GND           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         27           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	15	PnGrpC0	IN/OUT	+5V
18         GND         GND           19         PnGrpB6         IN/OUT         +5V           20         GND         GND         20           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         24           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         27           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	16	GND	GND	
19         PnGrpB6         IN/OUT         +5V           20         GND         GND         GND           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           26         GND         GND         26           27         PnGrpB3         IN/OUT         +5V           26         GND         GND         27           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	17	PnGrpB7	IN/OUT	+5V
20         GND         GND           21         PnGrpB5         IN/OUT         +5V           22         GND         GND         23           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         24           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         27           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	18	GND	GND	
21         PnGrpB5         IN/OUT         +5V           22         GND         GND           23         PnGrpB4         IN/OUT         +5V           24         GND         GND           25         PnGrpB3         IN/OUT         +5V           26         GND         GND           27         PnGrpB2         IN/OUT         +5V           28         GND         GND           29         PnGrpB1         IN/OUT         +5V           30         GND         GND           31         PnGrpB0         IN/OUT         +5V	19	PnGrpB6	IN/OUT	+5V
22         GND         GND           23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         27           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	20	GND	GND	
23         PnGrpB4         IN/OUT         +5V           24         GND         GND         25           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         27           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         29           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	21	PnGrpB5	IN/OUT	+5V
24         GND         GND           25         PnGrpB3         IN/OUT         +5V           26         GND         GND         20           27         PnGrpB2         IN/OUT         +5V           28         GND         GND         20           29         PnGrpB1         IN/OUT         +5V           30         GND         GND         31	22	GND	GND	
25         PnGrpB3         IN/OUT         +5V           26         GND         GND           27         PnGrpB2         IN/OUT         +5V           28         GND         GND           29         PnGrpB1         IN/OUT         +5V           30         GND         GND           31         PnGrpB0         IN/OUT         +5V	23	PnGrpB4	IN/OUT	+5V
26         GND         GND           27         PnGrpB2         IN/OUT         +5V           28         GND         GND           29         PnGrpB1         IN/OUT         +5V           30         GND         GND           31         PnGrpB0         IN/OUT         +5V	24	GND	GND	
27         PnGrpB2         IN/OUT         +5V           28         GND         GND           29         PnGrpB1         IN/OUT         +5V           30         GND         GND           31         PnGrpB0         IN/OUT         +5V	25	PnGrpB3	IN/OUT	+5V
28         GND         GND           29         PnGrpB1         IN/OUT         +5V           30         GND         GND           31         PnGrpB0         IN/OUT         +5V	26	GND	GND	
29         PnGrpB1         IN/OUT         +5V           30         GND         GND           31         PnGrpB0         IN/OUT         +5V	27	PnGrpB2	IN/OUT	+5V
30         GND         GND           31         PnGrpB0         IN/OUT         +5V	28	GND	GND	
31 PnGrpB0 IN/OUT +5V	29	PnGrpB1	IN/OUT	+5V
·	30	GND	GND	
32 GND GND	31	PnGrpB0	IN/OUT	+5V
	32	GND	GND	

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	DIO Module	PFM-	T096P
33	PnGrpA7	IN/OUT	+5V
34	GND	GND	
35	PnGrpA6	IN/OUT	+5V
36	GND	GND	
37	PnGrpA5	IN/OUT	+5V
38	GND	GND	
39	PnGrpA4	IN/OUT	+5V
40	GND	GND	
41	PnGrpA3	IN/OUT	+5V
42	GND	GND	
43	PnGrpA2	IN/OUT	+5V
44	GND	GND	
45	PnGrpA1	IN/OUT	+5V
46	GND	GND	
47	PnGrpA0	IN/OUT	+5V
48	GND	GND	
49	+5V	PWR	
50	EXTTRG	IN	

#### **\*EVENT · EXTTRG** for Counter

%PnGrp(A/B/C)(0~7) : DIO Port (1/2/3/4) Group (A/B/C) bit(0/1/2/3/4/5/6/7)

#### **Below Table for China RoHS Requirements**

#### 产品中有毒有害物质或元素名称及含量 AAEON Main Board/ Daughter Board/ Backplane

有毒有害物质或元素									
部件名称	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚			
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)			
印刷电路板	×	0	0	0	0	0			
及其电子组件	~	0	0	0	0	U			
外部信号	×	0	0	0	0	0			
连接器及线材	~	0	0	0	0	0			
0:表示该有毒有					的含量均在	:			
SJ/T 11363-	<b>2006</b>	湘规定	的限量要	要求以下。					
X: 表示该有毒有					材料中的含	量超出			
SJ/T 11363-	2006 初	補规定	的限重罗	<del>č</del> 水。					
备注:此产品所标	示示之环	际保使用	期限,剩	系指在一般	设正常使用壮	犬况下。			

PFM-T096P



# Driver Installation

Chapter 3 Driver Installation 3 - 1

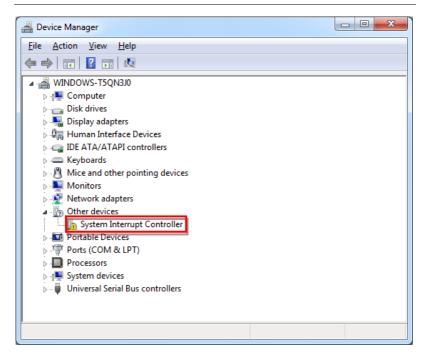
Before using PFM-T096P utility, you need to install driver first.

#### 3.1 Supported Environment

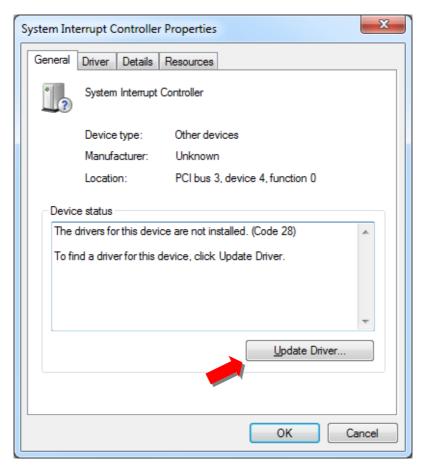
OS: Windows 7, Windows Embedded Standard 7, Windows XP, Windows

Embedded Standard 2009

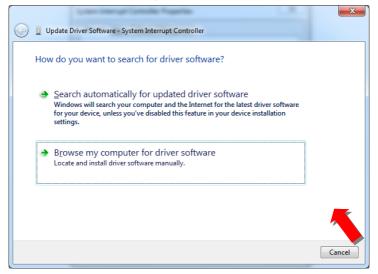
#### 3.2 For Windows 7



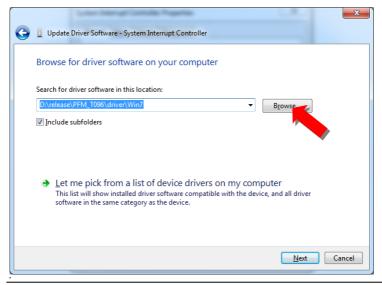
Step1: Click "Update Driver" as the following graphic shows.



Step 2: Choose "Browse my computer for driver software" and click it.

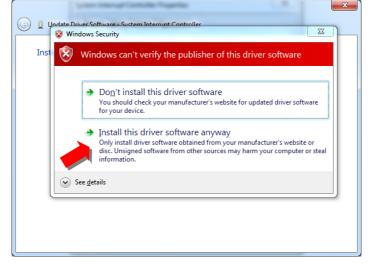


Step 3: Locate to Win7 driver folder.

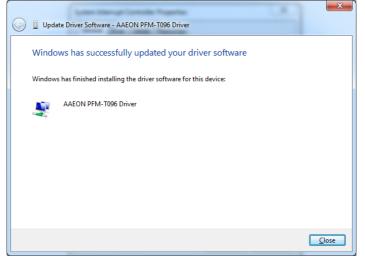


Chapter 3 Driver Installation 3 - 4

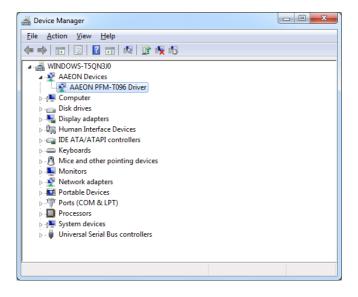
Step 4: Choose "Install this driver software anyway" and click it.



**Step 5:** The following dialog box pops up and the driver installation is finished.



Step 6: You will see the driver is properly installed.

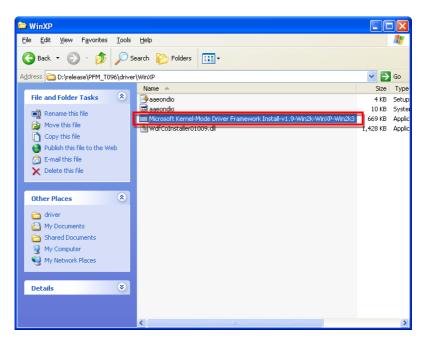


#### 3.3 For Windows XP:

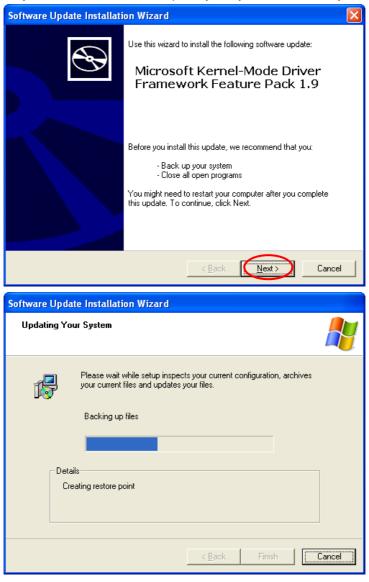
In Windows XP, you need to install Kernel-Mode Driver Framework first.

Step 1: Click Microsoft Kernel-Mode Driver Framework

Install-v1.9-Win2k-WinXP-Win2k3.exe.



#### Step 2: Click "Next" and it will update your system automatically.

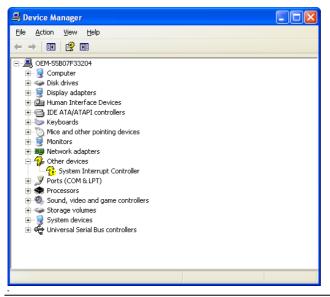


Chapter 3 Driver Installation 3 - 8

Step 3: Click "Finish" to complete the updating.



Step 4: After installing the KDF, please install PFM-T096P driver.



#### Step 5: Click "Update Driver".

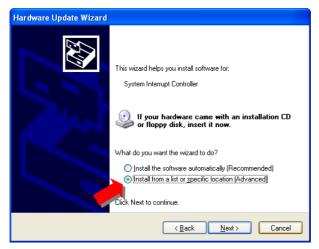
System Interrupt Controller Properties 🛛 🛛 🔀
General Driver Details Resources
System Interrupt Controller
Driver Provider: Unknown
Driver Date: Not available
Driver Version: Not available
Digital Signer: Not digitally signed
Driver Details To view details about the driver files.
Update Driver
<u>Boll Back Driver</u> <u>Boll Back Driver</u> <u>Back to the previously installed driver</u> .
Uninstall To uninstall the driver (Advanced).
OK Cancel

Step 6: Choose "Yes, this time only" and click "Next" to continue.



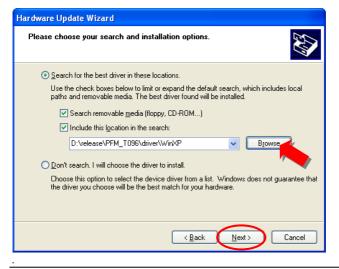
Chapter 3 Driver Installation 3 - 10

**Step 7:** Choose "Install from a list or specific location (Advanced)" and click "Next" to continue.



Step 8: Click "Browse" to locate to the Win XP driver folder. Then click

"Next".



Step 9: The driver installation starts.



Step 10: The following dialog box pops up and the driver installation is

finished. Click "Finish".



Chapter 3 Driver Installation 3 - 12

Step 11: You will see the driver is properly installed.

B Device Manager	
Eile <u>A</u> ction <u>V</u> iew <u>H</u> elp	
OEM-55807F33204     AAEON Devices     AAEON PFM-T096 Driver     Computer     Disk drives     Disk drives     Dislay adapters     Dislay adapters     Disk drives     Dislay adapters     Disk drives     Disk drives	

#### 3.4 Utilization of the Utility

#### **Utility Screenshot**

	ssoc. co.				Bus:3, I	Dev:5, f	=uc:0 (	Board_I	_ X D0) ▼		
Firmware Version: T09620130527V0.1											
Port1 Port2 Po	rt3 Port4	Co	unter								
Group A Interrupt Mode:	Input:	V A0	V A1	🗸 A2	🗸 🛛	✓ A4	🗸 A5	🔽 A6	🔽 A7		
0: Disable 🔹	Data:	/ A0	V A1	√ A2	V A3	√ A4	√ A5	√ A6	V A7		
	Interrupt Mode:	A0	A1	A2	A3	A4	A5	A6	A7		
Group B Interrupt Mode:	Input:	✓ B0	<b>V</b> B1	<b>▼</b> B2	<b>V</b> B3	🗸 B4	<b>V</b> B5	<b>V</b> B6	<b>▼</b> B7		
0: Disable 🔻	Data:	∕ B0	√ B1	√ B2	√ B3	√ B4	√ B5	√ B6	<b>⊘</b> B7		
	Interrupt Mode:	BO	B1	B2	B3	B4	B5	B6	B7		
Group C Interrupt Mode:	Input:	V C0	🗸 C1	🗸 C2	🗸 C3	V C4	🗸 C5	🔽 C6	V C7		
0: Disable 🔻	Data:	√ C0	√ C1	√ C2	√ C3	√ C4	√ C5	√ C6	<b>⊘</b> C7		
	Interrupt [ Mode:	_ C0	C1	<u>C2</u>	C3	C4	C5	C6	C7		

#### **Function Explanation**

an risus as an risus as Firmware Version: T09 2.	620130527			1. 4.		Dev:5, I Refresł	Fuc:0 (		D 0 ) -
Port1 Port2 Po	rt3 Port	4 Co	unter						
Group A Interrupt Mode:	Input:	🗸 A0	📝 A1	🗸 A2	🗸 🛛	🗸 🗸	🗸 A5	📝 A6	V A7
0: Disable 🔻	Data:	V A0	√ A1	√ A2	V A3	√ <b>A</b> 4	√ A5	V A6	V A7
Group A	Interrupt Mode:	A0	A1	A2	A3	A4	A5	A6	🗆 A7
Group B Interrupt Mode:	Input:	📝 B0	📝 B1	<b>V</b> B2	📝 B3	<b>V</b> B4	📝 B5	📝 B6	<b>₩</b> B7
0: Disable 🔹	Data:	√ B0	√ B1	√ B2	√ B3	√ B4	√ B5	√ B6	<b>⊘ B7</b>
Group B	Interrupt Mode:	B0	B1	B2	B3	B4	B5	B6	□ B7
Group C	Input:	🔽 C0	🔽 C1	V C2	🔽 C3	🔽 C4	V C5	🔽 C6	V C7
Interrupt Mode: 0: Disable 💌	Data:			√ C2	√ C3			√ C6	✓ C7
Group C	Interrupt Mode:	C0	C1	C2	C3	C4	C5	C6	C7

- 1. All PFM-T096P devices will list here
- 2. There are 4 ports in PFM-T096P (1~4)
- 3. Shows firmware version
- 4. Check this box will auto refresh DIO data and counter status
- 5. This box changed if there is an interrupt occurred

Group A Interrupt Mode:	Input:	🔽 A0	🔽 A1	🔽 A2	🔽 A3	🔽 A4	🔽 A5	🔽 A6	📝 A7	1
0: Disable   C: Disable	Data:	√ A0	√ A1	√ A2	√ A3	√ A4	√ A5	√ A6	V A7	2
1: Edge 2: Level 3: Change State 4: Pattern Match	Interrupt Mode:	_ A0	A1	A2	A3	A4	A5	A6	A7	3

- 1. Digital IO input settings (Checked means set in input mode)
- 2. Digital IO data status (Checked means **High**, otherwise **Low**)
- 3. There are five interrupt mode:
  - a. Disable: No interrupt
  - b. Edge: When encounter Falling or Rising edge, an interrupt occurs
  - c. Level: When encounter Low or High level, interrupt occurs repeatly
  - d. Change State: When DIO data status changed, an interrupt occurs
  - e. Pattern Match: When pattern matching, interrupt occurs.

According these mode, here will present different function:

Edge

0: Falling, 1: Rising

#### Level

0: Low, 1: High

Change State

0: Enable, 1: Disable

Pattern Match

EX: Set pin interrupt mode bit7~bit0 = 0b00111000. When getting

Chapter 3 Driver Installation 3 - 16

Data = 0b00111000, then interrupt occurs.

<ol> <li>Mode: Up count ▼</li> <li>Counter Value</li> </ol>	0	2. Read Counter 3. Set Counter	
4. Event Output Pulse(100ms)	10	Set Event Time	

Counter value is 0~65535. When overflowing, interrupt occurs.

- 1. There are two mode:
  - a. Up count: counter will increase
  - b. Down count: counter will decrease
- 2. Read current counter number
- 3. Set count value
- 4. When interrupt occurring, this value decides pulse interval.

Ex. 10 = 100ms x 10 = 1000ms = 1s

**PFM-T096P** 

# Appendix

# **Mating Connector**

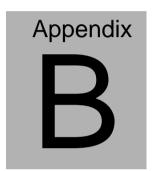
Appendix A Mating Connector A - 1

#### A.1 List of Mating Connectors and Cables

The table notes mating connectors and available cables.

Connector Label	Function	Mating Connector		Available Cable	Cable P/N
		Vendor	Model number		
CN3	Digital I/O	Molex	22-55-2501		
CN4				AAEON DIO	1701500401
CN5		MOIEX	22-33-2301	Extension Cable	1701300401
CN6					

**PFM-T096P** 



# **Support Matrix**

Appendix B Support Matrix B - 1

#### **B.1 List of Support Matrix**

For customer implement PFM-T096P with difference main board some time meet

resource issues.

Below support matrix for reference.

	M/B	XP Platform setting	Win 7 Platform setting	Remark:
1	PFM-CVS	INT_B/C/D PASS	INT_A/B/C/D PASS	PFM-CVSB R1.0 BIOS
	Rev.B			
2	EPIC-HD07	INT_A/B/C PASS	INT_A/B/C PASS	EPIC-HD07 R1.3 BIOS
3	EPIC-QM77	INT_A/C/D PASS	INT_A/B/C/D PASS	EPIC-QM77 R1.2 BIOS

Real situation depend on difference MB setting & add card to occupy the MB

resource. So above support matrix for reference only.

The jumper setting of INT for reference.

INT type	JP2	JP3	Remark:
INT_A	Open	Open	
INT_B	Open	Short	
INT_C	Short	Open	
INT_D	Short	short	