PFM-T096P

PCI-104 96-Channel DIO Module

XILINX XC3S200AN BGA 256 Chipset

5V/TTL Compatible

+5V through PCI-104 connector

PFM-T096P Manual 1st Ed March 5th, 2014

Copyright Notice

This document is copyrighted, 2014. All rights are reserved. The original manufacturer reserves the right to make improvements to the products described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission of the original manufacturer. Information provided in this manual is intended to be accurate and reliable. However, the original manufacturer assumes no responsibility for its use, or for any infringements upon the rights of third parties that may result from its use.

The material in this document is for product information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, AAEON assumes no liabilities resulting from errors or omissions in this document, or from the use of the information contained herein.

AAEON reserves the right to make changes in the product design without notice to its users.

Acknowledgments

All other products' name or trademarks are properties of their respective owners.

- CompactFlash™ is a trademark of the Compact Flash Association.
- Microsoft Windows[®] is a registered trademark of Microsoft Corp.
- ITE is a trademark of Integrated Technology Express, Inc.
- IBM, PC/AT, PS/2, and VGA are trademarks of International Business Machines Corporation.
- SoundBlaster is a trademark of Creative Labs, Inc.

All other product names or trademarks are properties of their respective owners.

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)

Contents

Chapter 1 General Information

1.1 Introduction	1-2
1.2 Features	1-2
1.3 Specifications	1-3

Chapter 2 Quick Installation Guide

2.1 Safety Precautions 2-2
2.2 Location and Mechanical Drawing of Connectors and
Jumpers2-3
2.3 List of Jumpers 2-5
2.4 List of Connectors 2-5
2.5 Setting Jumpers 2-6
2.6 Firmware Programming Selection (JP1) 2-7
2.7 PCI Resource Selection (JP2/3)2-7
2.8 Board ID Selection (SW1) for Multi-Board Indicate in
Utility
2.9 JTAG (CN1) for Firmware Programming2-8
2.10 DIO Port 1/2/3/4 Connector (CN3/4/5/6) 2-8

Chapter 3 Driver Installation

3.1 Supported Environment	3-2
3.2 For Windows 7	3-2
3.3 For Windows XP	3-7
3.4 Utilization of the Utility	3-14

	DIO Module		PFM-T096P
Appendi	x A Mating Connec	tor	

A.1 List of	Mating	Connectors	and Cables	A-2

Appendix B Support Matrix

Β.	1	List of	Support N	1atrix	B-2
----	---	---------	-----------	--------	-----

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.

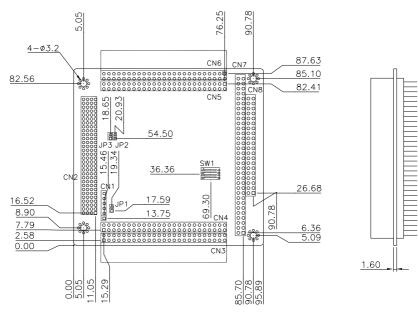
Caution!



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

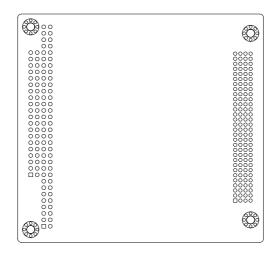
Component Side



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

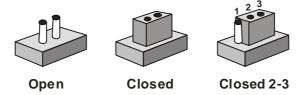
The board has a number of connectors that allow you to configure your system to suit your application. The table below shows the function of each board's connectors:

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		D 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	

Chapter 2 Quick Installation Guide 2-9

	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-	2006	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	č 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

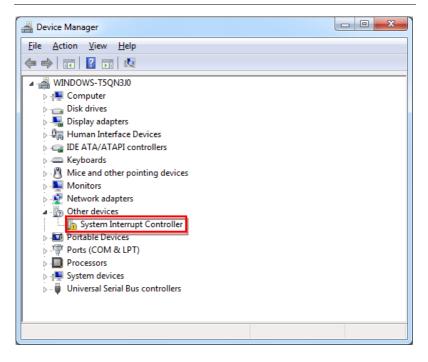
Before using PFM-T096P utility, you need to install driver first.

3.1 Supported Environment

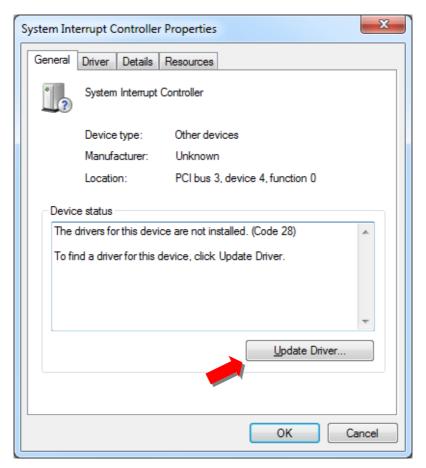
OS: Windows 7, Windows Embedded Standard 7, Windows XP, Windows

Embedded Standard 2009

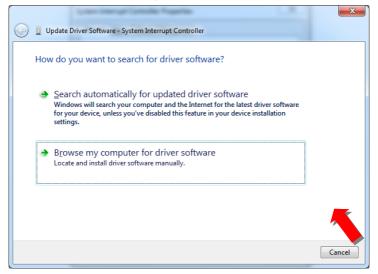
3.2 For Windows 7



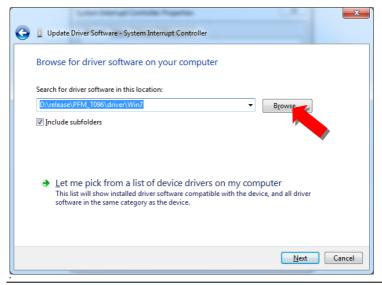
Step1: Click "Update Driver" as the following graphic shows.



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

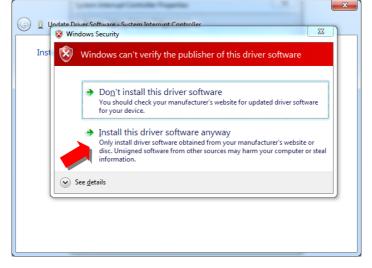


Step 3: Locate to Win7 driver folder.

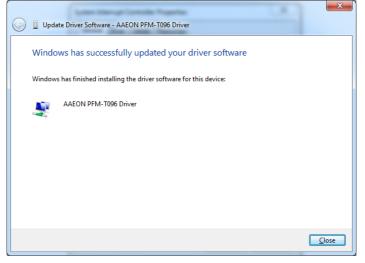


Chapter 3 Driver Installation 3 - 4

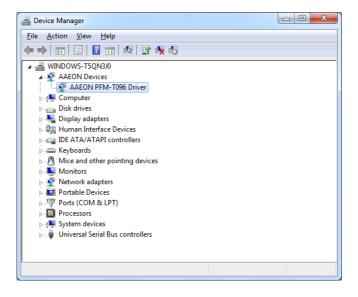
Step 4: Choose "Install this driver software anyway" and click it.



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



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

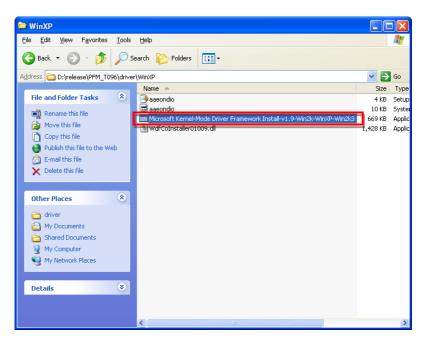


3.3 For Windows XP:

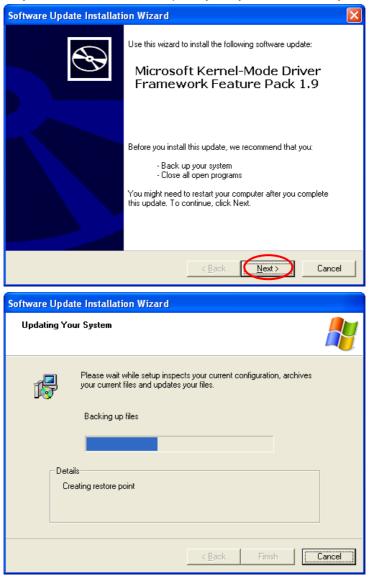
In Windows XP, you need to install Kernel-Mode Driver Framework first.

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.

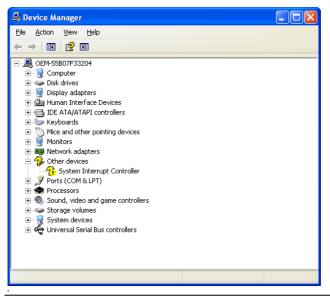


Chapter 3 Driver Installation 3 - 8

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



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



Step 5: Click "Update Driver".

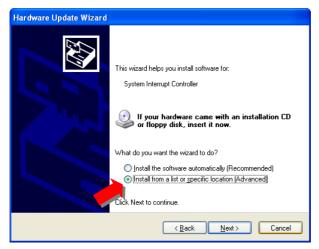
System Interrupt Controller Properties 🛛 🛛 🔀
General Driver Details Resources
System Interrupt Controller
Driver Provider: Unknown
Driver Date: Not available
Driver Version: Not available
Digital Signer: Not digitally signed
Driver Details To view details about the driver files.
Update Driver
<u>Boll 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.



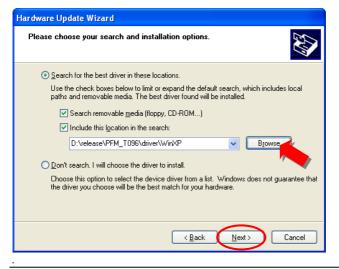
Chapter 3 Driver Installation 3 - 10

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	V B1	▼ B2	V B3	🗸 B4	V B5	V B6	▼ B7		
0: Disable 🔻	Data:	∕ B0	√ B1	√ B2	√ B3	√ B4	√ B5	√ B6	⊘ 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	⊘ 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	√ A 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	V B2	📝 B3	V B4	📝 B5	📝 B6	₩ B7
0: Disable 🔹	Data:	√ B0	√ B1	√ B2	√ B3	√ B4	√ B5	√ B6	⊘ B7
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.

 Mode: Up count ▼ Counter Value 	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	