

PENMOUNT PM1300A CONTROL BOARD DATASHEET

Version 1.3
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Revision history

Rev.	Date	By	Summary	Remark
1.0	2013/05/02	Ken Hsu	New release	
1.1	2013/06/11	Ken Hsu	Correct item 4.1 DRIVES Specification Description	
1.2	2013/06/20	Ken Hsu	Correct item 2.2 Supporting touch panel size	
1.3	2016/11/30	Ken Hsu	Delete item 5.3 Warranty Delete item 6.0 外觀檢驗規範 Delete item 7.0 包裝方式 Add item 2.5 Firmware resolution Add item 2.11 Relative humidity range Correct item 3.3 Interface pin definition Correct item 5.3 Noise protection	

1.0 Induction

The PenMount PM1300A control board is a high specification (Projected Capacitive Input, PCI) touch panel controller product introduced by PenMount. The PenMount PM1300A can be applied in the consumer, commercial and industrial fields.

The PenMount PM1300A provides four types of interfaces, USB and supports PCI touch panels sized from 8" to 10.4". The PenMount PM1300A also supports a wide range of operating systems such as Windows and Linux.

The PenMount PM1300A was developed based on Microchip microprocessors and is paired with PenMount's in-house hardware design and firmware algorithmic mechanism. It provides high performance computing and possesses excellent anti-noise capabilities.

There are three connectors on this board: two 40 pin ZIF connectors for PCI touch screen FPC cables, one USB connector for 4-pin USB cable (optional) ,

2.0 Specifications

2.1 Controller part number:

PenMount P2-04

2.2 Supporting projected capacitive touch panel size

Projected capacitive type, from 8" to 10.4

2.3 Interface: USB

USB,Full-speed, 12Mbps

2.4 ADC resolution

10bits

2.5 Firmware resolution

2048 x 2048 (Typical)

2.6 Max touch line

30Driving lines (Tx), 23 Sensing lines (Rx)

2.7 Sampling rate

One finger touch 100 sps(Typ.)

2.8 Operating voltage

+5Vdc, ±5 %

2.9 Power consumption

Working Mode : 23.9mA @ 5Vdc, Idle Mode : 12mA @ 5Vdc, Sleep Mode : 3mA @ 5Vdc

2.10 Operating temperature

-20°C ~ +70°C

2.11 Storage temperature

-40°C ~ +85°C

2.12 Relative humidity range

95% RH at 60°C. RH Non-condensing

2.13 RS specification

IEC61000-4-3 Level 2 , Criteria A

2.14 CS specification

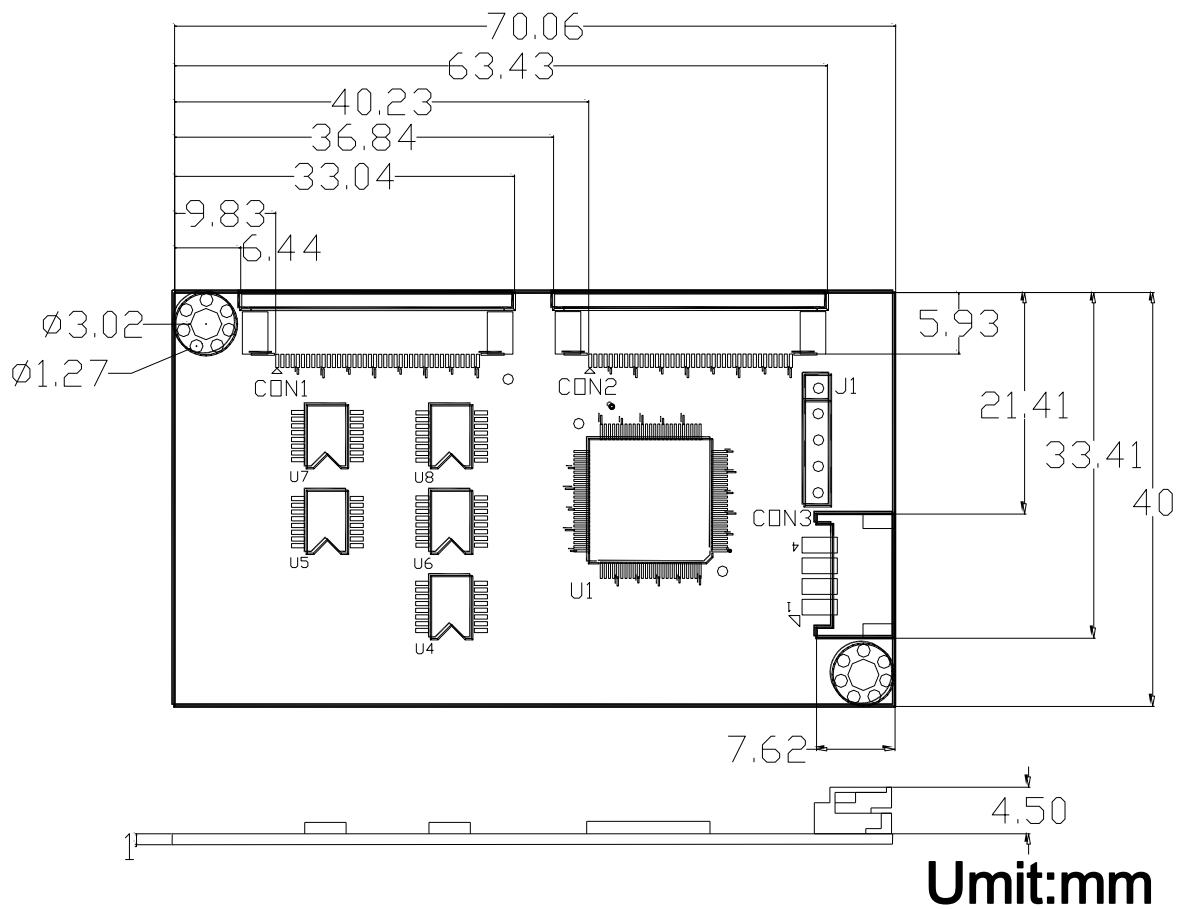
IEC61000-4-6 Level 2 , Criteria A

Note :

CS and RS performance, Power consumption and sample rate will vary according to different firmware versions.

3.0 Mechanical Drawing

3.1 Mechanical size



3.2 Touch line pin definition

CON1 40Pin ZIF , PH 0.5mm ; ACES 88707-4001							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Shield	11	Cap Drive X3	21	Cap Drive X13	31	Cap Drive X23
2	NC	12	Cap Drive X4	22	Cap Drive X14	32	Cap Drive X24
3	NC	13	Cap Drive X5	23	Cap Drive X15	33	Cap Drive X25
4	Ground	14	Cap Drive X6	24	Cap Drive X16	34	Cap Drive X26
5	NC	15	Cap Drive X7	25	Cap Drive X17	35	Cap Drive X27
6	Shield	16	Cap Drive X8	26	Cap Drive X18	36	Cap Drive X28
7	NC	17	Cap Drive X9	27	Cap Drive X19	37	Cap Drive X29
8	Cap Drive X0	18	Cap Drive X10	28	Cap Drive X20	38	NC
9	Cap Drive X1	19	Cap Drive X11	29	Cap Drive X21	39	NC
10	Cap Drive X2	20	Cap Drive X12	30	Cap Drive X22	40	Ground

CON2 40Pin ZIF , PH 0.5mm ; ACES 88707-4001							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	NC	11	NC	21	Cap Sense Y7	31	Cap Sense Y17
2	NC	12	Ground	22	Cap Sense Y8	32	Cap Sense Y18
3	NC	13	NC	23	Cap Sense Y9	33	Cap Sense Y19
4	NC	14	Cap Sense Y0	24	Cap Sense Y10	34	Cap Sense Y20
5	NC	15	Cap Sense Y1	25	Cap Sense Y11	35	Cap Sense Y21
6	NC	16	Cap Sense Y2	26	Cap Sense Y12	36	Cap Sense Y22
7	NC	17	Cap Sense Y3	27	Cap Sense Y13	37	NC
8	NC	18	Cap Sense Y4	28	Cap Sense Y14	38	Ground
9	NC	19	Cap Sense Y5	29	Cap Sense Y15	39	NC
10	NC	20	Cap Sense Y6	30	Cap Sense Y16	40	Ground

3.3 Interface pin definition

PM1300A includes USB communication interfaces, intends to maximize application flexibility and reliability, and minimizes cost through elimination of external components.

CON3 / 4PIN						
PIN NO.	USB	Description	Min	Typ	Max	Unit
1	VCC	Positive power supply		5		V
2	D-	D- pin of internal USB transceiver		3.3		V
3	D+	D+ pin of internal USB transceiver		3.3		V
4	GND	Ground		0		V

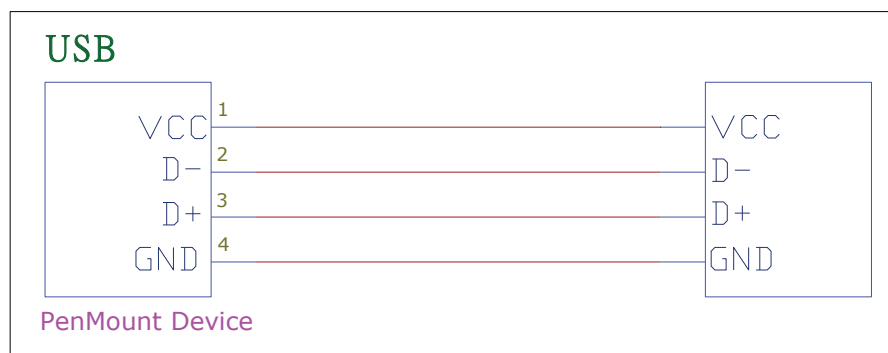
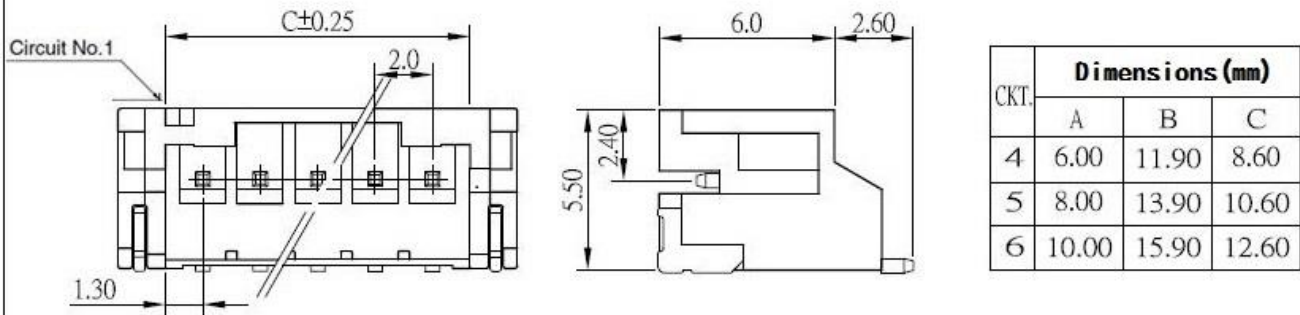


Figure1 USB interface

3.4 Connector specifications

2.00 pitch/Disconnectable Crimp style connectors



4.0 Drivers and utilities

4.1 Drivers

For USB

- Windows 2000, XP, 2003: single touch, mouse driver.
- Windows Vista: single touch, inbox driver.
- Windows 7,8,10: five touch, Inbox driver.
- Linux: Ubuntu, Android, other versions of Linux support, please refer PenMount website

4.2 Utilities

Firmware adjustment utility allows user to fine tune the touch panel sensitivity.

Note:

All drivers and utilities are available on PenMount websites. Please contact us for further information.

5.0 Others

5.1 ROHS compliance

This control board is ROHS compliant

5.2 EMC protection recommendations

Please refer to PCI touch screen integration guides.

5.3 Noise protection

To achieve good noise interference protection capabilities, PenMount requires paired interface cables possess comprehensive EMI shielding.

The cable should have a woven or spirally copper shield with 360 ° shield coverage

The shield must be terminated to the receptacle and be connected to ground plane carefully.

Below is an example for 4-pin USB cable diagram. For other implementation, please follow the same design rules.

