PenMount PM1500 PCI Controller Board Data Sheet

1.0 Product

PenMount 1500 control board is one of the cutting-edge innovations from PenMount. A collectively integrated feature with USB / RS232 interface supporting 15.0” to 18.5” projected capacitive touch screens; complemented by the superbly developed PenMount drivers which can be used directly in Windows 8.

PenMount 1500 Control Board uses Microcontroller, which is a capacitive sensing IC designed for AMT Projected Capacitive Input (PCI) touch panel and other projected capacitive touch panel. It is designed for PCI touch screen size up to 18.5”. PenMount 1500 Control Board has the programmable filter, gain amplifier; with the functions of single, dual touch; and the gestures of one and two fingers. There are six connectors on this board: three 40Pin ZIF connectors for PCI touch screen FPC cable, one USB connector for 4-pin USB cable (optional) , and one RS232 connector for 5-pin RS232 cable (optional).

2.0 Specifications

2.1 Controller part no : P2-04x1,P2-02x2

2.2 Supporting Projected Capacitive touch panel size:
Projected capacitive type, size is 15.0” to 18.5"

2.3 Interface: USB, RS-232
USB: Full-speed, 12Mbps
UART,RS-232 : 38400 baud rate / 8bit data / non parity / one stop bit / non-PnP

2.4 ADC resolution: 10bits

2.5 Max Touch Line : 46 Driving lines, 66 Sensing line

2.6 Sampling rate:>100sps

2.7 Operating Voltage: +5V DC

2.8 Power Consumption : Typical -- Working Mode : 61mA
Idle Mode : 47mA
Sleep Mode : 4.2mA

2.9 RS specification: IEC61000-4-3 Level 2 , Criteria A

2.10 CS specification: IEC61000-4-6 Level 2 , Criteria A

2.11 Operating temperature: -20°C ~ +70°C

2.12 Storage temperature: -40°C ~ +85°C

Note :
Power consumption and sample rate will vary according to different firmware versions.

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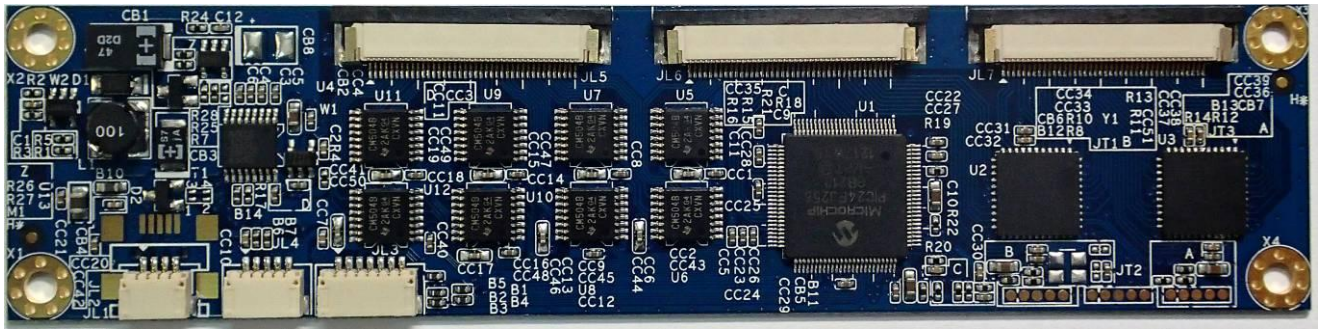
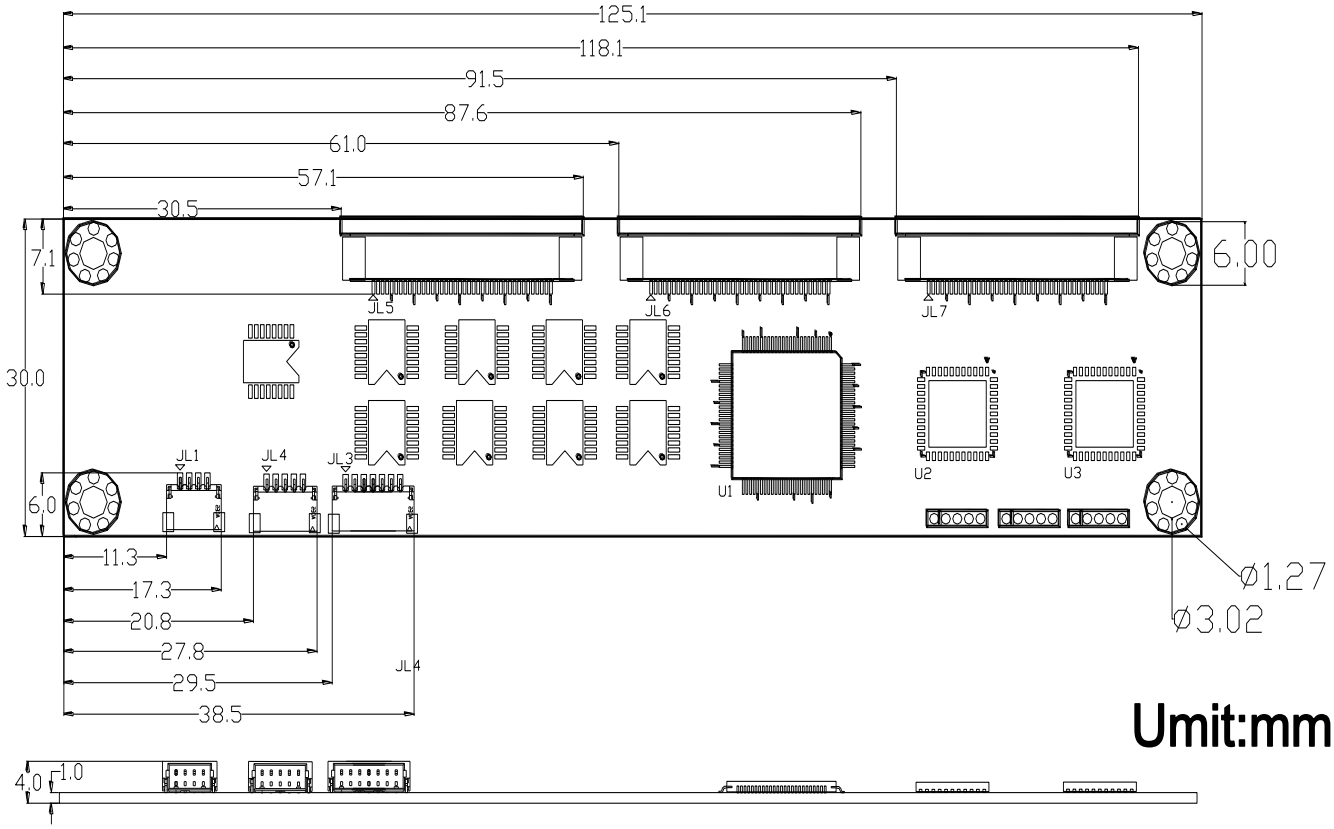
3.0 Mechanical Drawing

3.1 Mechanical size



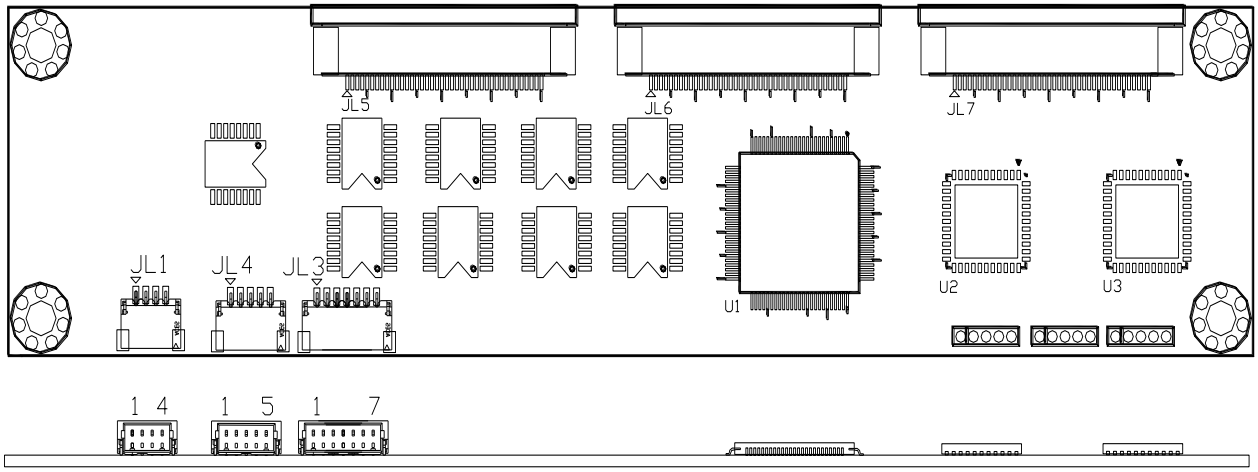


3.2 Touch line pin definition

JL5 40Pin ZIF , PH 0.5mm ; ACES 88707-4001				JL6 40Pin ZIF , PH 0.5mm ; ACES 88707-4001			
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	GND	21	Cap Drive X28	1	Cap Drive X8	21	Cap Sense Y9
2	Cap Drive X46	22	Cap Drive X27	2	Cap Drive X7	22	Cap Sense Y10
3	Cap Drive X45	23	Cap Drive X26	3	Cap Drive X6	23	Cap Sense Y11
4	N/A	24	Cap Drive X25	4	Cap Drive X5	24	Cap Sense Y12
5	Cap Drive X44	25	Cap Drive X24	5	Cap Drive X4	25	Cap Sense Y13
6	Cap Drive X43	26	Cap Drive X23	6	Cap Drive X3	26	Cap Sense Y14
7	Cap Drive X42	27	Cap Drive X22	7	Cap Drive X2	27	Cap Sense Y15
8	Cap Drive X41	28	Cap Drive X21	8	Cap Drive X1	28	Cap Sense Y16
9	Cap Drive X40	29	Cap Drive X20	9	GND	29	Cap Sense Y17
10	Cap Drive X39	30	Cap Drive X19	10	GND	30	Cap Sense Y18
11	Cap Drive X38	31	Cap Drive X18	11	GND	31	Cap Sense Y19
12	Cap Drive X37	32	Cap Drive X17	12	GND	32	Cap Sense Y20
13	Cap Drive X36	33	Cap Drive X16	13	Cap Sense Y1	33	Cap Sense Y21
14	Cap Drive X35	34	Cap Drive X15	14	Cap Sense Y2	34	Cap Sense Y22
15	Cap Drive X34	35	Cap Drive X14	15	Cap Sense Y3	35	Cap Sense Y23
16	Cap Drive X33	36	Cap Drive X13	16	Cap Sense Y4	36	Cap Sense Y24
17	Cap Drive X32	37	Cap Drive X12	17	Cap Sense Y5	37	Cap Sense Y25
18	Cap Drive X31	38	Cap Drive X11	18	Cap Sense Y6	38	Cap Sense Y26
19	Cap Drive X30	39	Cap Drive X10	19	Cap Sense Y7	39	Cap Sense Y27
20	Cap Drive X29	40	Cap Drive X9	20	Cap Sense Y8	40	Cap Sense Y28

JL7 40Pin ZIF , PH 0.5mm ; ACES 88707-4001							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Cap Sense Y29	11	Cap Sense Y39	21	Cap Sense Y49	31	Cap Sense Y59
2	Cap Sense Y30	12	Cap Sense Y40	22	Cap Sense Y50	32	Cap Sense Y60
3	Cap Sense Y31	13	Cap Sense Y41	23	Cap Sense Y51	33	Cap Sense Y61
4	Cap Sense Y32	14	Cap Sense Y42	24	Cap Sense Y52	34	Cap Sense Y62
5	Cap Sense Y33	15	Cap Sense Y43	25	Cap Sense Y53	35	Cap Sense Y63
6	Cap Sense Y34	16	Cap Sense Y44	26	Cap Sense Y54	36	Cap Sense Y64
7	Cap Sense Y35	17	Cap Sense Y45	27	Cap Sense Y55	37	Cap Sense Y65
8	Cap Sense Y36	18	Cap Sense Y46	28	Cap Sense Y56	38	Cap Sense Y66
9	Cap Sense Y37	19	Cap Sense Y47	29	Cap Sense Y57	39	GND
10	Cap Sense Y38	20	Cap Sense Y48	30	Cap Sense Y58	40	GND

3.3 Interface pin definition

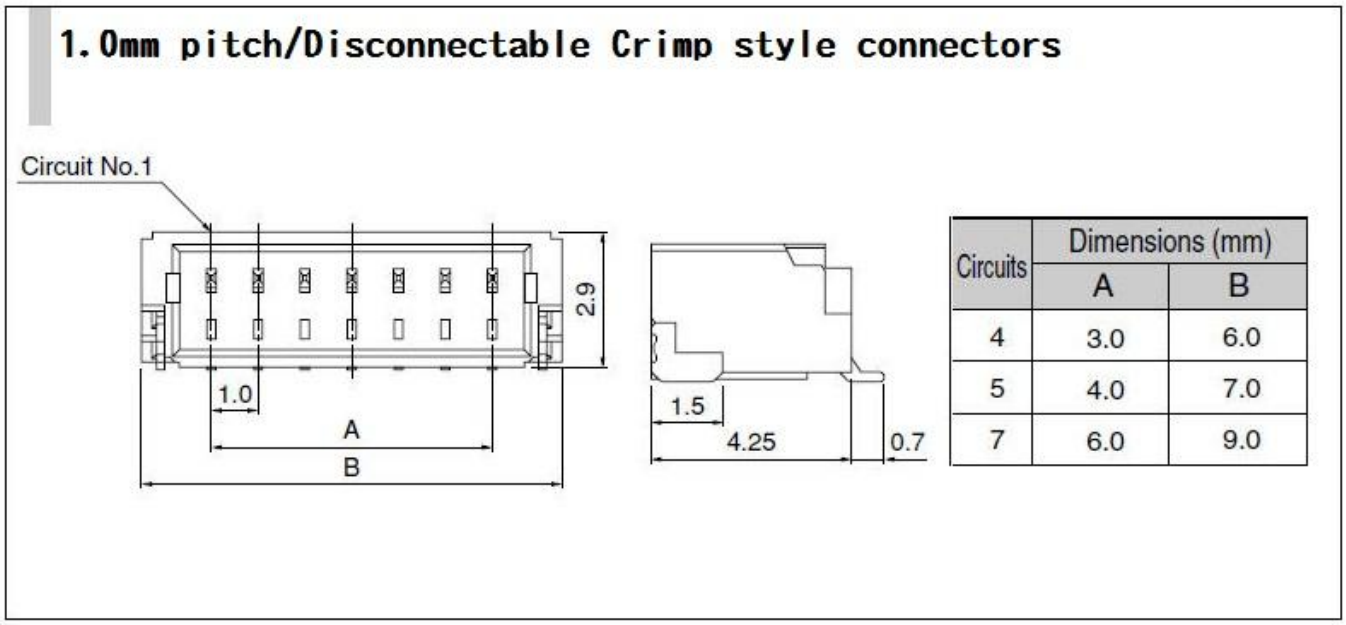


JL1 / 4PIN / USB	
PIN NO.	DESIGNATION
1	5VIN
2	D-
3	D+
4	Ground

JL4 / 5PIN / RS-232	
PIN NO.	DESIGNATION
1	5VIN
2	RXD
3	TXD
4	Ground
5	Ground

JL3 / 7PIN	
PIN NO.	DESIGNATION
1	5V IN
2	N/A
3	N/A
4	N/A
5	N/A
6	N/A
7	N/A

3.4 Connector specification



Circuits	Dimensions (mm)	
	A	B
4	3.0	6.0
5	4.0	7.0
7	6.0	9.0

4.0 Drivers, Utilities

4.1 Drivers:

For USB / RS-232

Windows 2000, XP, 2003: single touch, mouse driver.

Windows Vista: single touch, inbox driver.

Windows 7,8: dual touch, Inbox driver.

Linux: Ubuntu, Android, other Linux distributions under development.

4.2 Utility:

Firmware adjustment utility is ready for user to fine tune the touch panel sensitivity.

Note :

Drivers, Utilities : all the drivers are available in AMT and PenMount website. The PenMount utilities is also available, contact us

5.0 Others

5.1 ROHS compliance: This control board is met ROHS compliance

5.2 For EMC protection recommendations please refer to the AMT touch screen integration guides.

5.3 Warranty: one year