PenMount® PenMount PM1710 PCI Controller Board Data Sheet

1.0 Product

The PenMount PM1710 control board is a high specification (Projected Capacitive Input, PCI) touch panel controller product introduced by PenMount. The PenMount PM1710 can be applied in the consumer, commercial and industrial fields.

The PenMount PM1710 provides two types of interfaces, USB and RS-232 and supports PCI touch panels sized from 15.6" to 24".   The PenMount PM1710 also supports a wide range of operating systems such as Windows and Linux.

The PenMount PM1710 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 four connectors on this board: 80Pin & 50 Pins ZIF connectors for PCI touch screen FPC cables, one USB connector for a 4-pin USB cable (optional), and one RS232 connector for a 5-pin RS232 cable (optional)

2.0 Specifications

2.1   Controller part no: PenMount P2-08 x 2pcs

2.2   Supported Projected Capacitive touch panel size: 15.6" to 24.0"

2.3   Interface: USB, RS-232

   USB: Full-speed, 12Mbps

   RS-232: 38400 baud rate / 8bit data / non parity / one stop bit / non-PnP

2.4   ADC resolution: 10bits

2.5   Max. Touch Lines support: 76 Driving lines (Tx) , 44 Sensing line (Rx).

2.6   Sampling rate: >160sps (Single touch)

2.7   Operating Voltage Vcc: +5V, ±5%

2.8   Power Consumption: Typical -- Working Mode: 60.7mA / 5V DC

   Idle Mode: 47.1mA / 5V DC

   Sleep Mode: 1.6mA / 5V DC

2.9   Operating temperature: -30°C ~ +70°C .

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

2.11   RS specification: IEC61000-4-3 Level 3 ,Criteria A (For 1.8mm Top Glass, Dual touch)

2.12   CS specification: IEC61000-4-6 Level 3 ,Criteria A (For 1.8mm Top Glass, Dual touch)

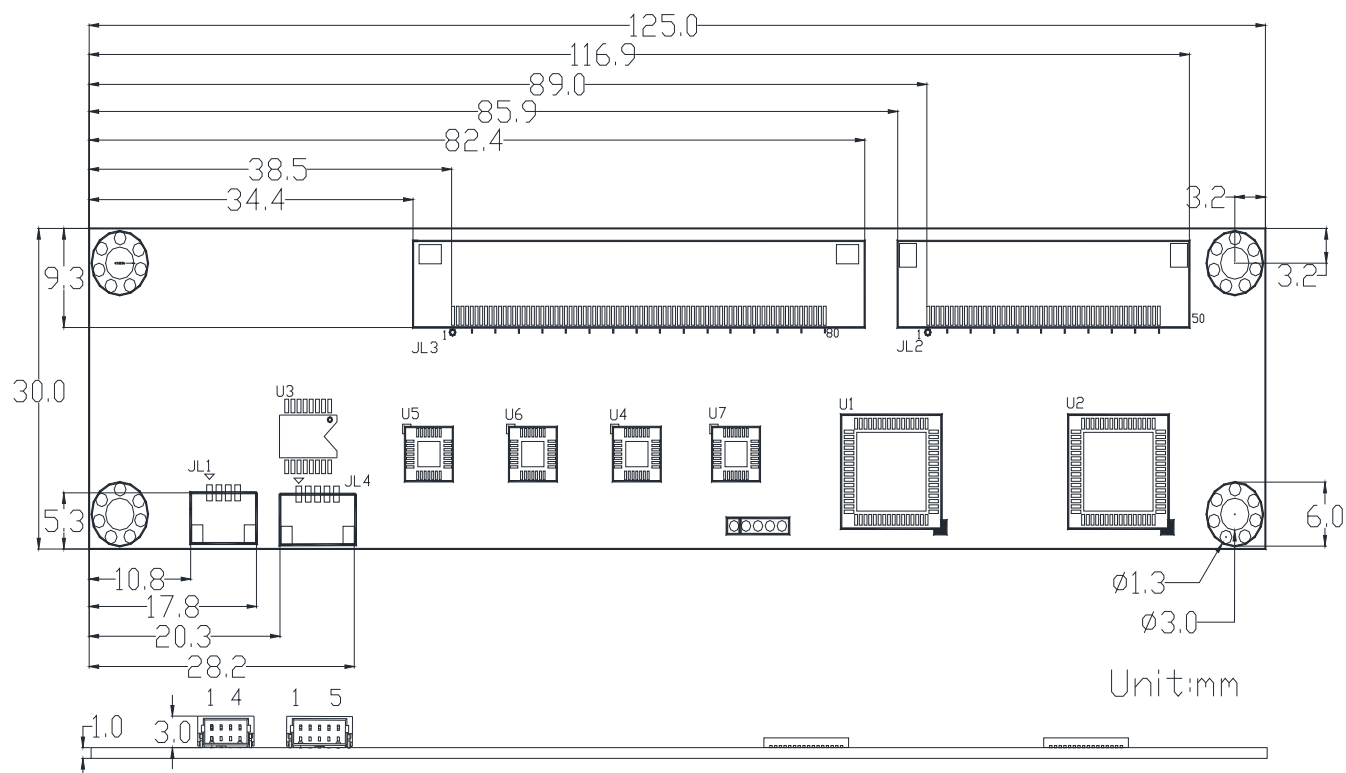2.13   MTBF: 30℃ -- 4456288 Hours

   40℃ -- 3260175 Hours

\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

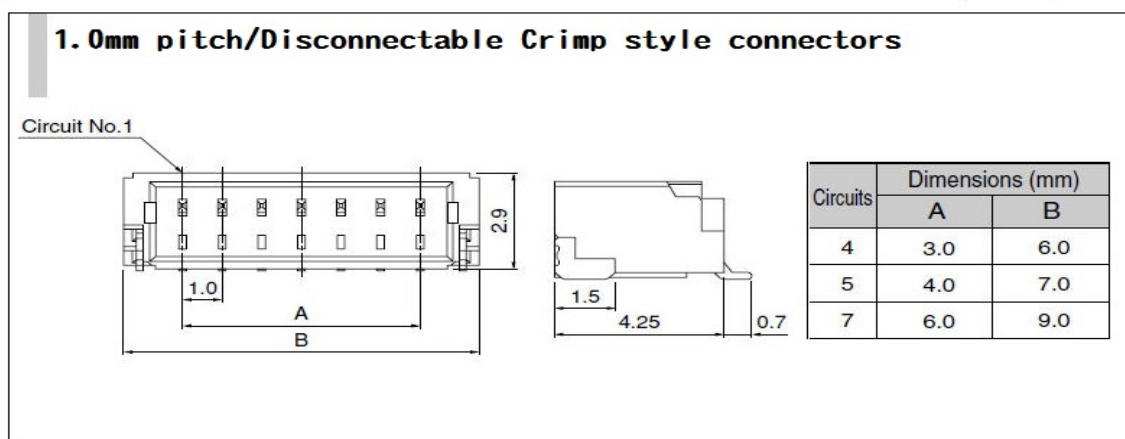**PenMount PM1710 PCI Controller Board Data Sheet**

3.2 Touch line pin definition

JL3 80Pin ZIF , PH 0.5mm ; HRS FH28H-80S-0.5SH

PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	GND	21	Cap Drive X18	41	Cap Drive X38	61	Cap Drive X58
2	GND	22	Cap Drive X19	42	Cap Drive X39	62	Cap Drive X59
3	Cap Drive X0	23	Cap Drive X20	43	Cap Drive X40	63	Cap Drive X60
4	Cap Drive X1	24	Cap Drive X21	44	Cap Drive X41	64	Cap Drive X61
5	Cap Drive X2	25	Cap Drive X22	45	Cap Drive X42	65	Cap Drive X62
6	Cap Drive X3	26	Cap Drive X23	46	Cap Drive X43	66	Cap Drive X63
7	Cap Drive X4	27	Cap Drive X24	47	Cap Drive X44	67	Cap Drive X64
8	Cap Drive X5	28	Cap Drive X25	48	Cap Drive X45	68	Cap Drive X65
9	Cap Drive X6	29	Cap Drive X26	49	Cap Drive X46	69	Cap Drive X66
10	Cap Drive X7	30	Cap Drive X27	50	Cap Drive X47	70	Cap Drive X67
11	Cap Drive X8	31	Cap Drive X28	51	Cap Drive X48	71	Cap Drive X68
12	Cap Drive X9	32	Cap Drive X29	52	Cap Drive X49	72	Cap Drive X69
13	Cap Drive X10	33	Cap Drive X30	53	Cap Drive X50	73	Cap Drive X70
14	Cap Drive X11	34	Cap Drive X31	54	Cap Drive X51	74	Cap Drive X71
15	Cap Drive X12	35	Cap Drive X32	55	Cap Drive X52	75	Cap Drive X72
16	Cap Drive X13	36	Cap Drive X33	56	Cap Drive X53	76	Cap Drive X73
17	Cap Drive X14	37	Cap Drive X34	57	Cap Drive X54	77	Cap Drive X74
18	Cap Drive X15	38	Cap Drive X35	58	Cap Drive X55	78	Cap Drive X75
19	Cap Drive X16	39	Cap Drive X36	59	Cap Drive X56	79	NC
20	Cap Drive X17	40	Cap Drive X37	60	Cap Drive X57	80	GND

JL2 50Pin ZIF , PH 0.5mm ; HRS FH28D-50S-0.5SH

PIN	Description	PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	GND	11	Cap Sense X35	21	Cap Sense X25	31	Cap Sense X15	41	Cap Sense X5
2	NC	12	Cap Sense X34	22	Cap Sense X24	32	Cap Sense X14	42	Cap Sense X4
3	Cap Sense X43	13	Cap Sense X33	23	Cap Sense X23	33	Cap Sense X13	43	Cap Sense X3
4	Cap Sense X42	14	Cap Sense X32	24	Cap Sense X22	34	Cap Sense X12	44	Cap Sense X2
5	Cap Sense X41	15	Cap Sense X31	25	Cap Sense X21	35	Cap Sense X11	45	Cap Sense X1
6	Cap Sense X40	16	Cap Sense X30	26	Cap Sense X20	36	Cap Sense X10	46	Cap Sense X0
7	Cap Sense X39	17	Cap Sense X29	27	Cap Sense X19	37	Cap Sense X9	47	NC
8	Cap Sense X38	18	Cap Sense X28	28	Cap Sense X18	38	Cap Sense X8	48	NC
9	Cap Sense X37	19	Cap Sense X27	29	Cap Sense X17	39	Cap Sense X7	49	NC
10	Cap Sense X36	20	Cap Sense X26	30	Cap Sense X16	40	Cap Sense X6	50	GND

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3.3 Interface pin definition
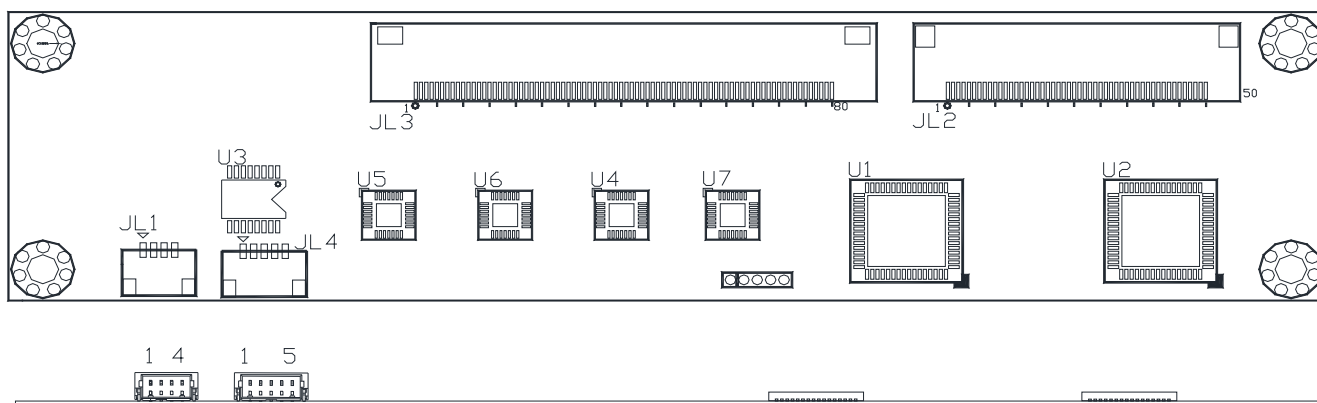
JL1 / 4PIN / USB	
PIN NO.	DESIGNATION
1	Vcc
2	D-
3	D+
4	Ground

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

3.4 Connector specifications

1.0mm pitch/Disconnectable Crimp style connectors

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

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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: 5 touches support, Inbox driver.

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

4.2 Utilities:

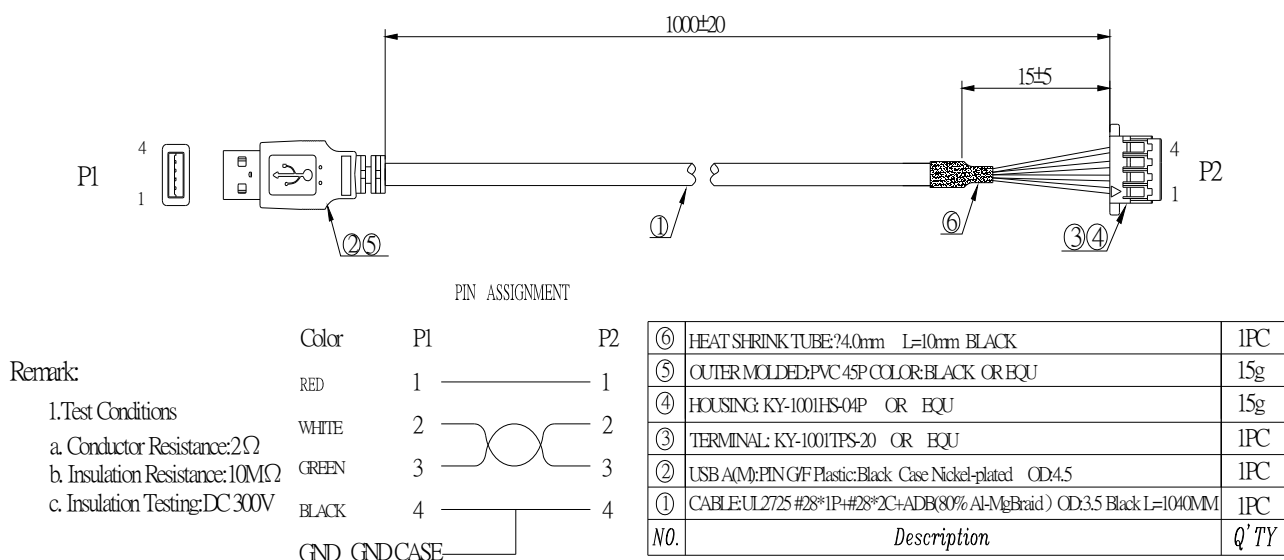Firmware adjustment utility allows user to fine tune the touch panel sensitivity.

Note:

Drivers, Utilities: all drivers are available on PenMount websites.   PenMount utilities are also available, please contact us.

5.0 Others

5.1 ROHS compliance: This control board is ROHS compliant

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

5.3 To achieve good noise interference protection capabilities, PenMount requires paired interface cables possess comprehensive EMI shielding. The following is an USB cable interface diagram as reference.

PIN ASSIGNMENT

Remark:

1.Test Conditions
a. Conductor Resistance:2Ω
b. Insulation Resistance:10MΩ
c. Insulation Testing:DC 300V

Color	P1	P2
RED	1 ——— 1	
WHITE	2	2
GREEN	3	3
BLACK	4 ——— 4	
GND	GND CASE	

⑥	HEAT SHRINK TUBE:?4.0mm L=10mm BLACK	1PC
⑤	OUTER MOLDED:PVC 45P COLOR:BLACK OR EQU	15g
④	HOUSING: KY-1001HS-04P OR EQU	15g
③	TERMINAL: KY-1001TPS-20 OR EQU	1PC
②	USB A(M):PIN G/F Plastic:Black Case Nickel-plated OD:4.5	1PC
①	CABLE:UL2725 #28*1P+#28*2C+ADB(80% Al-MgBraid) OD:3.5 Black L=1040MM	1PC
NO.	*Description*	*Q'TY*

Remark: Specifications are subject to change without notice