PenMount PM1711 PCI Controller Board Data Sheet

1.0 Product

The PenMount PM1711 control board is a high specification (Projected Capacitive Input, PCI) touch panel controller product introduced by PenMount. The PenMount PM1711 can be applied in the consumer, commercial and industrial fields.

The PenMount PM1711 provides three types of interfaces, USB、I²C、UART supports PCI touch panels sized from 15.6" to 24". The PenMount PM1711 also supports a wide range of operating systems such as Windows and Linux.

The PenMount PM1711 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 I²C/UART connector for a 7-pin I²C/UART cable (optional)

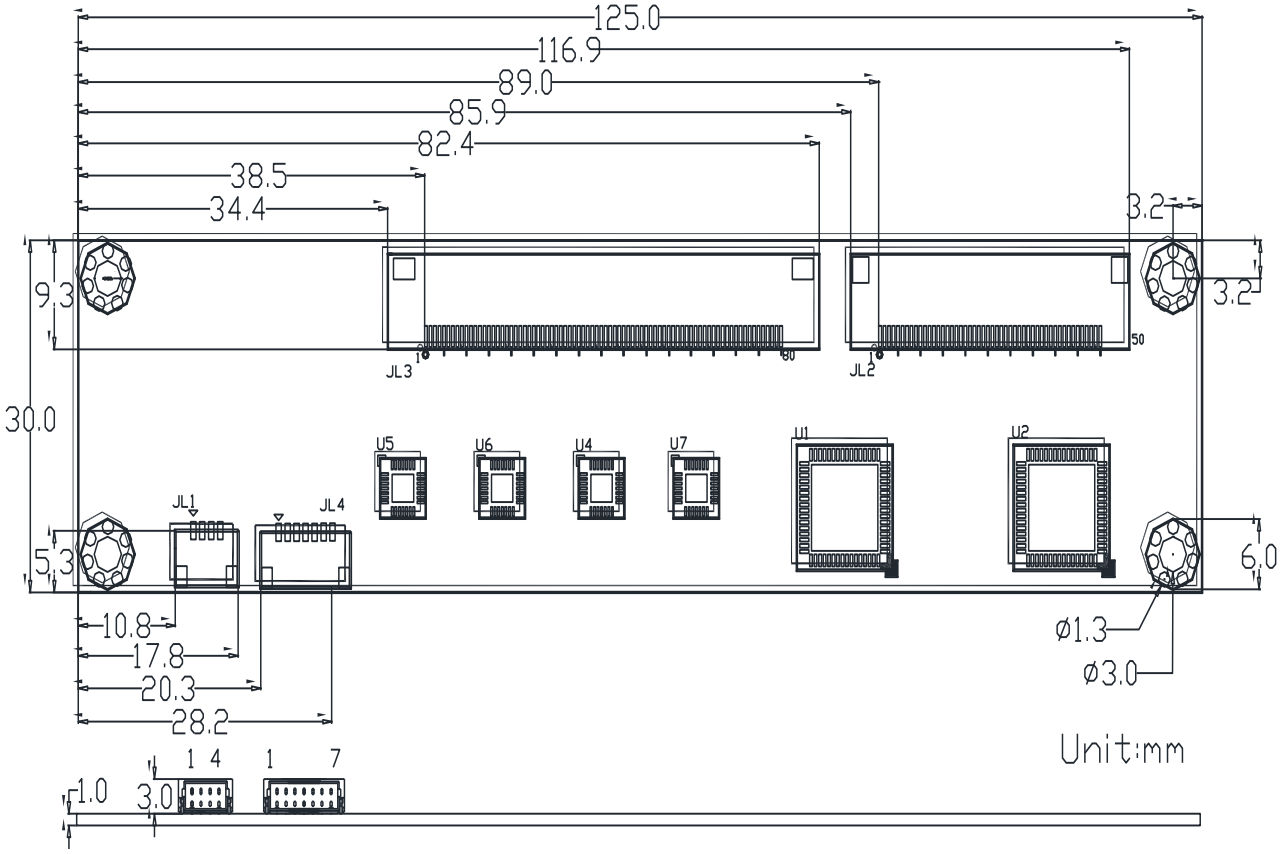
2.0 Specifications

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, UART, I²C
USB,Full-speed, 12Mbps
UART, Interface 38400 baud rate / 8bit data / non parity / one stop bit / non-PnP
I²C,Slave, support 400 kHz specifications
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)

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

3.0 Mechanical Drawing

3.1 Mechanical size

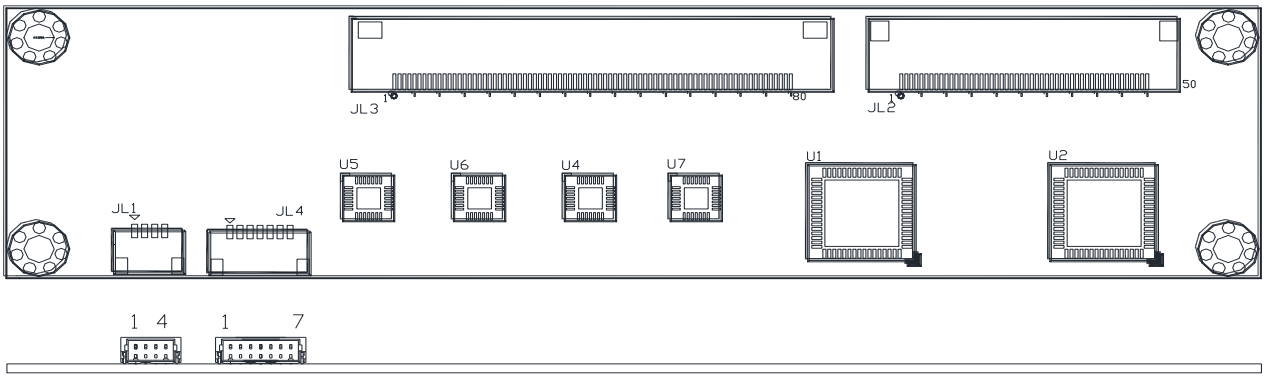


3.2 Touch line pin definition

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 Y35	21	Cap Sense Y25	31	Cap Sense Y15	41	Cap Sense Y5
2	NC	12	Cap Sense Y34	22	Cap Sense Y24	32	Cap Sense Y14	42	Cap Sense Y4
3	Cap Sense Y43	13	Cap Sense Y33	23	Cap Sense Y23	33	Cap Sense Y13	43	Cap Sense Y3
4	Cap Sense Y42	14	Cap Sense Y32	24	Cap Sense Y22	34	Cap Sense Y12	44	Cap Sense Y2
5	Cap Sense Y41	15	Cap Sense Y31	25	Cap Sense Y21	35	Cap Sense Y11	45	Cap Sense Y1
6	Cap Sense Y40	16	Cap Sense Y30	26	Cap Sense Y20	36	Cap Sense Y10	46	Cap Sense Y0
7	Cap Sense Y39	17	Cap Sense Y29	27	Cap Sense Y19	37	Cap Sense Y9	47	NC
8	Cap Sense Y38	18	Cap Sense Y28	28	Cap Sense Y18	38	Cap Sense Y8	48	NC
9	Cap Sense Y37	19	Cap Sense Y27	29	Cap Sense Y17	39	Cap Sense Y7	49	NC
10	Cap Sense Y36	20	Cap Sense Y26	30	Cap Sense Y16	40	Cap Sense Y6	50	GND

3.3 Interface pin definition



JL1 / 4PIN / USB ACES 50224-00401-001	
PIN NO.	DESIGNATION
1	Vcc (USB5V)
2	D-
3	D+
4	Ground

JL4 / 7PIN / I²C / UART ; ACES 50224-00701-001				
PIN NO.	DESIGNATION	I²C	UART	Remark
1	V_{cc} (5V)	v	v	
2	Ground	v	v	
3	SCL,RXD	v	v	
4	SDA,TXD	v	v	
5	Reset	Float	Float	Pull Low at least 2 μs to reset the P2-08 device
6	DETECT	N.C	Low	
7	INTHM	v	N.C	

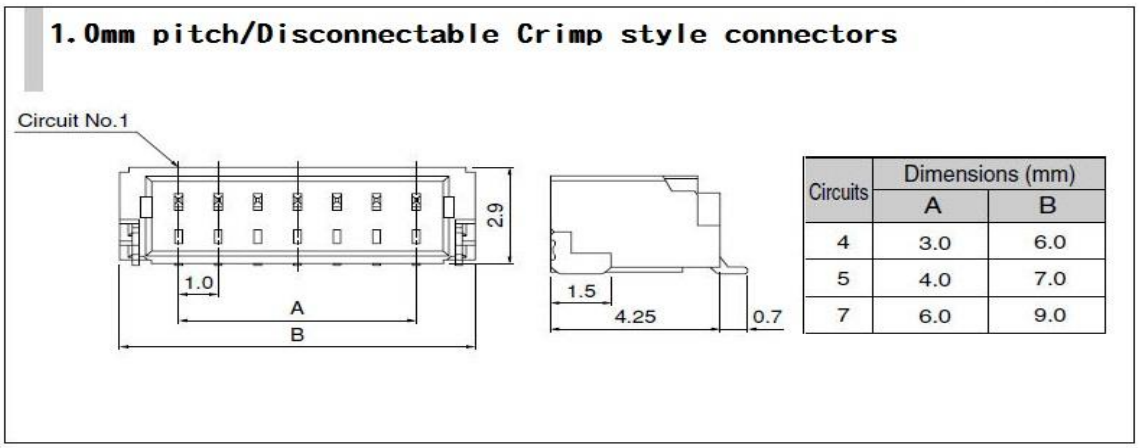
Note:

N.C: No Connection

PM1711 supports the single interface cable connection.

If you use I²C interface, please add pull-up resistor 2.2K at SCL / SDA / INTHM on Host side.

3.4 Connector specifications



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 I²C:

Windows CE : By request.

Linux / Android : Provide source code for integration.

For USB

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

Windows Vista: single touch, inbox driver.

Windows 7,8,10: 5 touches support, Inbox driver.

Linux: inbox driver after kernel 3.0, provide source code for kernel 2.6

For UART

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

Windows Vista: single touch, digitizer driver.

Windows 7,8,10: 5 touches support, digitizer driver.

Linux: inbox driver after kernel 3.2, provide source code for kernel 2.6

4.2 Utilities:

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

Note:

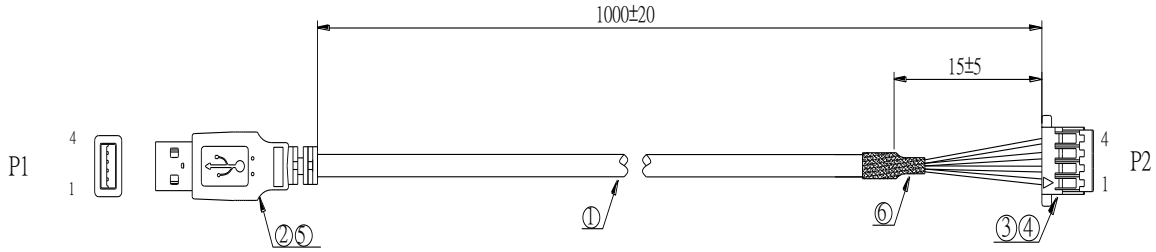
Drivers, Utilities: all drivers are available on PenMount websites. PenMount utilities are also available, please contact us.

5.0 Others

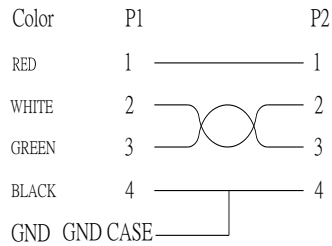
5.1 ROHS compliance: This control board is ROHS compliant

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

NO.	Description	Q'TY
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

Remark: Specifications are subject to change without notice