PenMount PM1302 PCI Controller Board Data Sheet

1.0 Product

PenMount 1302 control board is one of the cutting-edge innovations from PenMount. A collectively integrated feature with USB / RS232 / UART / I²C interface supporting 8” to 10.4” projected capacitive touch screens; complemented by the superbly developed PenMount drivers which can be used directly in Windows 8.

PenMount 1302 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 10.4”. PenMount 1302 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 five connectors on this board: two 40 Pins 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) , and one I²C connector for 7-pin I²C cable (optional).

2.0 Specifications

2.1 Controller part no : P2-04

2.2 Supporting Projected Capacitive touch panel size:
Projected capacitive type, size is 8” to 10.4"

2.3 Interface: USB, I²C, UART, RS-232
USB: Full-speed, 12Mbps
UART,RS-232 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 Line : 30 Driving lines, 23 Sensing line

2.6 Sampling rate:>100sps

2.7 Operating Voltage: +5V DC

2.8 Power Consumption : Typical -- Working Mode : 31.3mA
Idle Mode : 18.6mA
Sleep Mode : 5mA

2.9 RS specification: IEC61000-4-3 Level 3 , Criteria A (For 1.8mm Top glass)

2.10 CS specification: IEC61000-4-6 Level 3 , Criteria A (For 1.8mm Top glass)

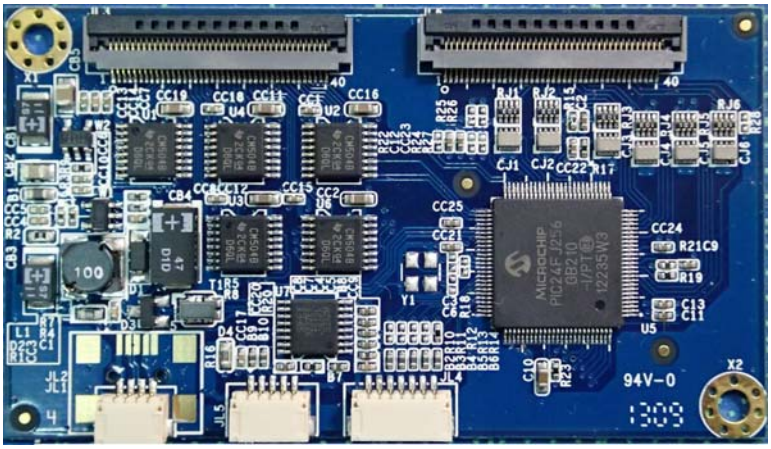
2.11 Operating temperature: -20°C ~ +70°C

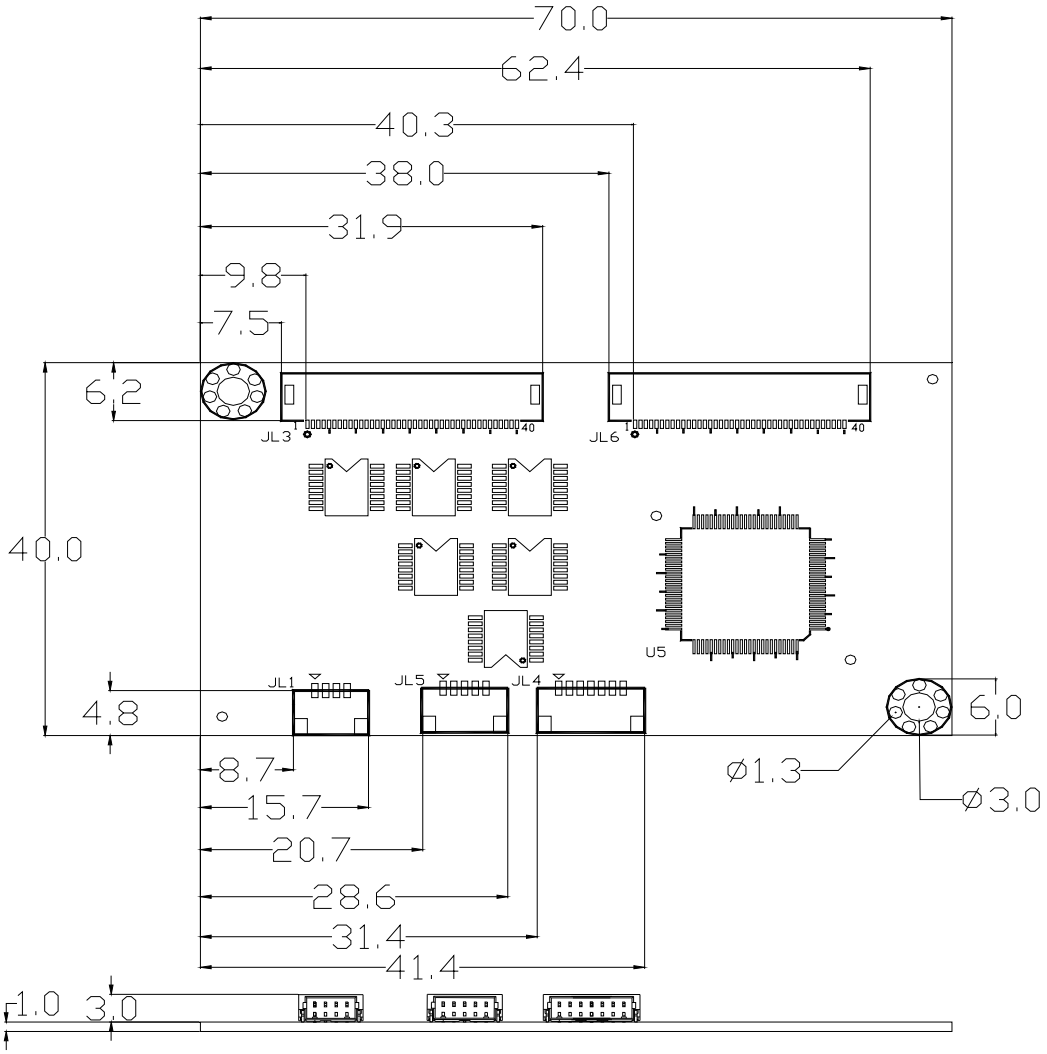
2.12 Storage temperature: -40°C ~ +85°C

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

3.0 Mechanical Drawing

3.1 Mechanical size





3.2 Touch line pin definition

JL3 40Pin ZIF , PH 0.5mm ; HRS FH52-40S-05SH							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	Ground	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	Ground	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

JL6 40Pin ZIF , PH 0.5mm ; HRS FH52-40S-05SH							
PIN	Description	PIN	Description	PIN	Description	PIN	Description
1	NC	11	NC	21	Cap Sense Y15	31	Cap Sense Y5
2	NC	12	Ground	22	Cap Sense Y14	32	Cap Sense Y4
3	NC	13	NC	23	Cap Sense Y13	33	Cap Sense Y3
4	NC	14	Cap Sense Y22	24	Cap Sense Y12	34	Cap Sense Y2
5	NC	15	Cap Sense Y21	25	Cap Sense Y11	35	Cap Sense Y1
6	NC	16	Cap Sense Y20	26	Cap Sense Y10	36	Cap Sense Y0
7	NC	17	Cap Sense Y19	27	Cap Sense Y9	37	NC
8	NC	18	Cap Sense Y18	28	Cap Sense Y8	38	Ground
9	NC	19	Cap Sense Y17	29	Cap Sense Y7	39	NC
10	NC	20	Cap Sense Y16	30	Cap Sense Y6	40	Ground

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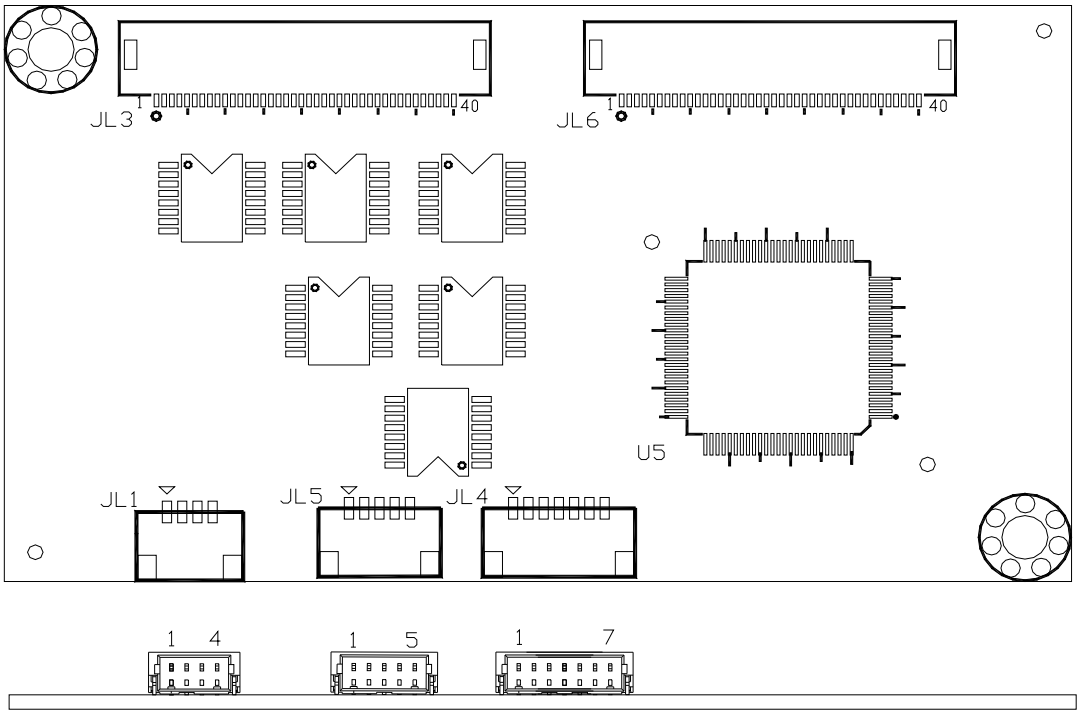
3.3 Interface pin definition



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

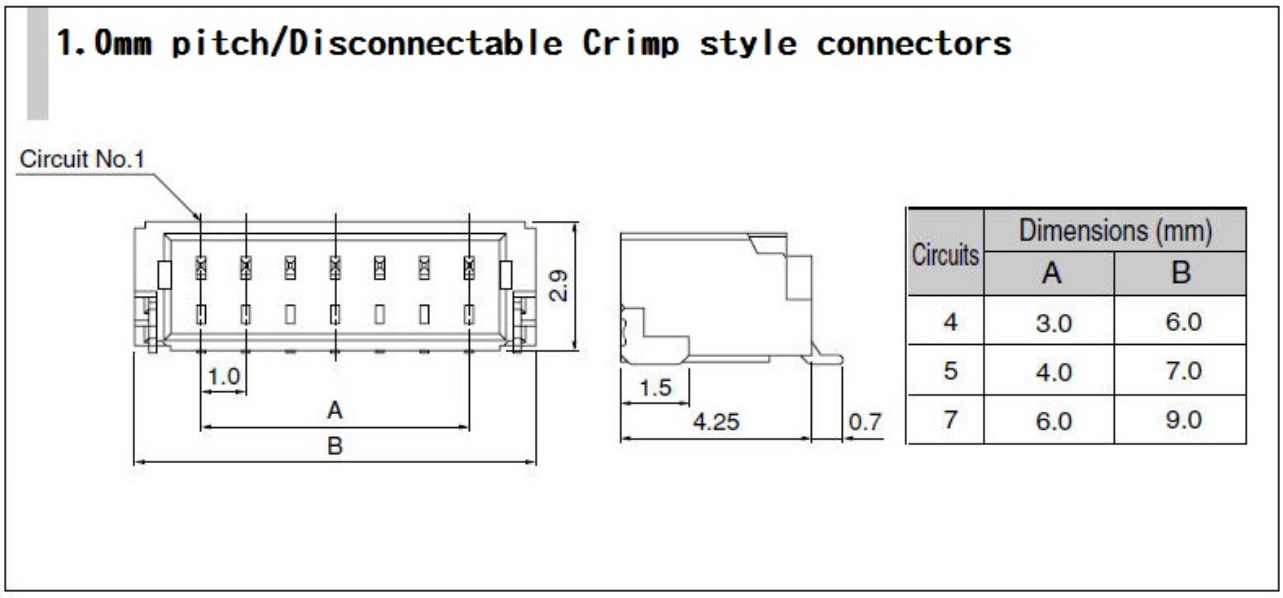
JL5 / 5PIN / RS-232	
PIN NO.	DESIGNATION
1	5VIN
2	RXD
3	TXD
4	Ground
5	Ground

JL4 / 7PIN / UART/ I²C	
PIN NO.	DESIGNATION
1	5VIN
2	Ground
3	SCL,RXD
4	SDA,TXD
5	NC
6	NC
7	INTHM

Note :

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

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 I²C:

Windows CE : Provide binary driver for freescale iMX platform. Other platform by request.

Linux / Android : Provide source code for integration.

For USB / RS-232 / UART

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.

Remark: Specification is subject to change without notice