ATouch Technologies Co., Ltd.

Specification of

5 Wire Analog Resistive

RS-232 Control Board

Model No. : 5WR232S

A. Application

This specification applies to the

RS-232 Control Board for 5 Wire Analog Resistive Touch Panel.
Model No. : 5WR232S

B. Environmental Conditions

1. **Operating Temperature Range**
   -10°C ~ 60°C

2. **Operating Temperature Humidity**
   5% to 95% RH (no dew falls)

3. **Storage Temperature Range**
   -25°C ~ 85°C

4. **Storage Temperature Humidity**
   5% to 95% RH (no dew falls)

5. **Shock and Vibration**

   Three axis sine wave, 50 Hz to 2kHz, 1G, 2 minutes / Octave with dwell on resonances.

6. **Flammability**

   The PCB substrate and all plastic components, such as headers and connectors are rated UL 94 V0.

C. Electrical Characteristics

1. **Power Requirement**
   +5V DC (±10%)

2. **Power Consumption**
   Operating : 80~90mA
   Non-operating : 120~130 mA
   Max. current : 140mA
   Min. current : 80mA

3. **Expend Power**
   124 mA

4. **Interface**
   Serial RS-232

5. **Baud Rate**
   9600

6. **Electrostatic Protection**
   Per EN 61000-4-2, 1995 : Meets Level 4
   (15 kV air / 8 kV contact discharges).

7. **Touch Resolution**
   4096 x 4096

8. **Conversion Time**
   Approximately 10 ms per coordinate set.

D. Mechanical Characteristics

1. **Dimensions**
   PCB board outside dimension : 55 (L) x 22.5 (W) x 11 (H) mm.
   Refer to Appendix A.

2. **Standard Cables, Connectors and Pin Definitions**
   ・ Standard external RS-232 cable connecting the controller with the computer serial port. Refer to Appendix B.

   ・Serial Connector : P2
      2.0 pitch 5 pin connector on board for connection with RS-232 port.
      Refer to Appendix A.

   ・Touchscreen Connector : P3
      1x5 male header with pins on 2.54mm centers for connection with the touch panel.
      Refer to Appendix A.

E. LED Diagnostic Characteristics

A green LED indicates controller status as follows:

Action and Condition	LED status	Function
The control board is connected with host, not touch panel yet.	Light continuously	The control board is in normal condition.
No touch	Snuff out	Untouched state
Touch	Light	Touched state

F. Software Driver

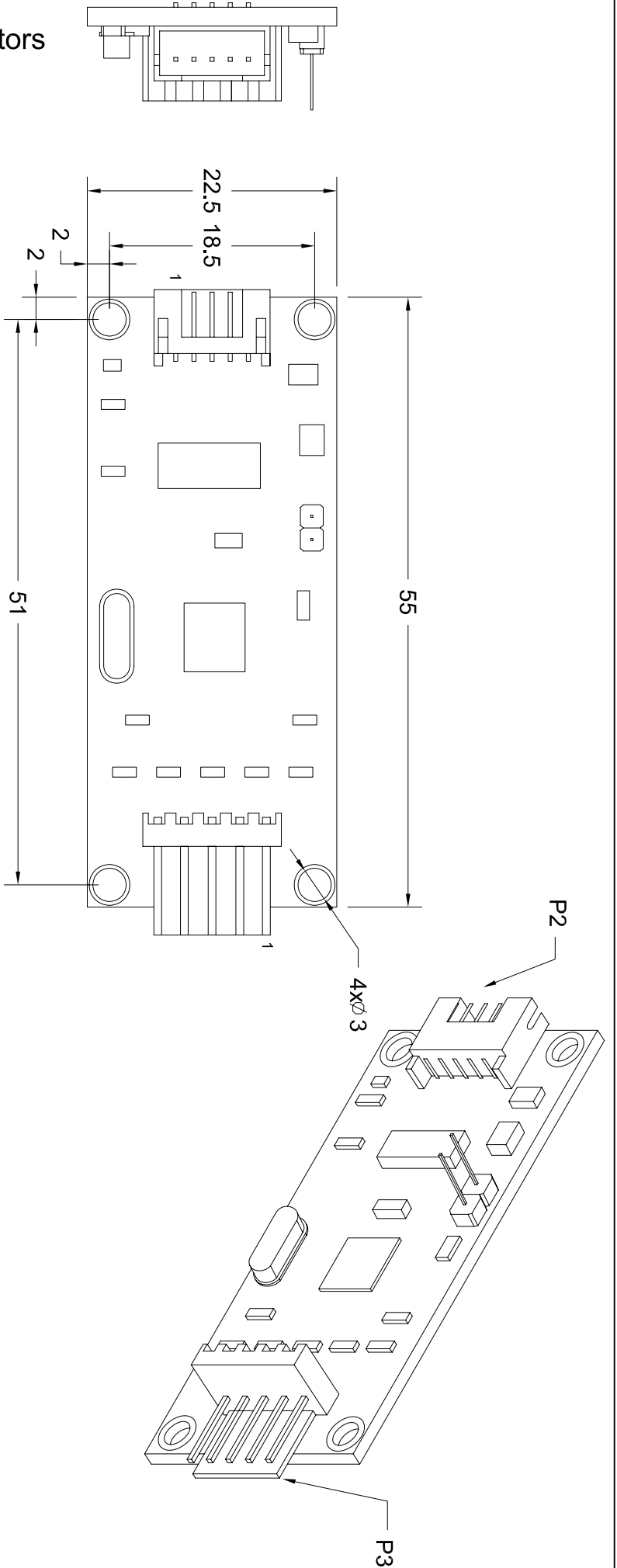Under Windows : Mouse emulation.

Support Operating System

- Microsoft Windows NT4.0/XP/2000/ME/98/95
- Linux : Red Hat 9.0, Mandrake 10.0, SuSE9.2, Fedora Core I &II & III, Yellow Dog 3. x
- MS-DOS

G. Reliability

The following characteristics are generated by evaluating test samples after 2 hours leaving in the room condition when each of the reliability tests finishes.

Test Item	Result	Remark
Storage Temperature-high	85°C for 240hours	At ambient humidity
Storage Temperature-low	-25°C for 240hours	
Thermal Shock	-10°C (1 hr.)~ 60°C (1 hr.) 10cycles	
High Temp./Humidity Test	60°C/95%RH : 240hours	

Appendix A Dimension Drawing and
Pin Definitions of Connectors
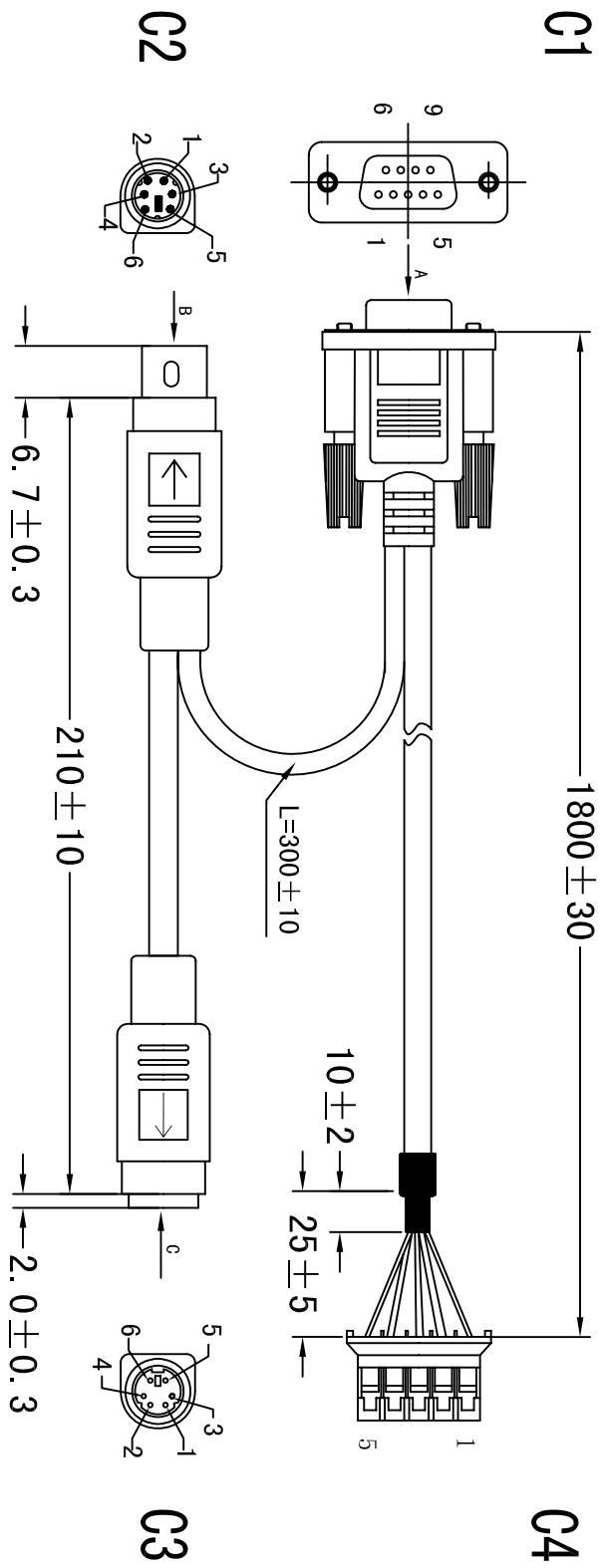
CONNECTOR P2

PIN #	SIGNAL NAME
1	CTS
2	TXD
3	RXD
4	GND
5	+5V

CONNECTOR P3

PIN #	SIGNAL NAME
1	H
2	X
3	S
4	Y
5	L

11.1

10.4

22.5 18.5

2

2

51

55

1.7

4x⌀3

P2

P3

Appendix B Standard External RS-232 Cable

C1

C2

PIN ASSEMBLY

C3

C4

6.7±0.3

210±10

L=300±10

1800±30

10±2

25±5

2.0±0.3

MATERIAL LIST:

CONNECTOR:
C1:DB9 FEMALE PVC MOLDED COLOR:BLACK.
C2:MINI DIN 6PIN MALE PVC MOLDED COLOR:BLACK.
C3:MINI DIN 6PIN FEMALE PVC MOLDED COLOR:BLACK.
C4:2.0PITCH 5PIN HOUSING COLOR:WHITE.
CABLE:
UL2464 #26*6C+AE OD:5.0mm COLOR:BLACK.
UL2464 #26*4C+AE OD:5.0mm COLOR:BLACK.
UL2462 #26*5C+AE OD:5.0mm COLOR:BLACK.
CORE:
12*5.6*20mm PVC MOLDED COLOR:BLACK

C3		C2		C1		C4	
1	WHITE	1					
2	BROWN	2					
3	BLACK	3					
4	RED	4	RED				
5	ORANGE	5					
6	GREEN	6					
SHELL	GND	SHELL	GND	SHELL			

C2		C1		C4	
1		2	YELLOW	2	TXD
2		3	ORANGE	3	RXD
3	BLACK	5	BLACK	4	GND
4	RED	1+6	RED	5	+5V
5		8	GREEN	1	CTS
6					
SHELL	GND	SHELL			

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DRAWN BY:HATTIE		REV:A
CHECKED BY:ANSON		UNIT:mm