



MULTI-INNO TECHNOLOGY CO., LTD.

[www.multi-inno.com](http://www.multi-inno.com)

## DRIVING BOARD SPECIFICATION

**Model: MI-TP-D45U**

4- / 5-wire Touch Panel Controller

This module is ROHS compliant

### For Customer's Acceptance:

Customer	
Approved by	
Comment	

The standard product specification may change without prior notice in order to improve performance or quality. Please contact Multi-Inno for updated specification and product status before design for the standard product or release of the order.

Revision

1.2

Engineering

Date

2019-03-14

Our Reference



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## ■ APPLICATION

This touch panel controller provides the optimistic performance of your analog resistive touch panels for 4 or 5 wire models. It communicates with PC system directly through USB connector.

You can see how superior the design is in sensitivity, accuracy and friendly operation.

## ■ DESCRIPTION

No.	Item	Description
1	Circuit Board Dimension	20mm x 70mm (0.79inches x 2.75inches) ---(4-wire)
2	Power Requirements	D.C. + 5V (100mA typical, 50mV peak to peak maximum ripple and noise)
3	Interface	USB; 1.1 full speed
4	Protocol	No parity, 8 data bits, 1 stop bit, 9600 baud (N, 8, 1, 9600)
5	Resolution	2048 x 2048 resolution
6	Report Rate	USB: Max. 200 points /sec
7	Response Time	Max. 20ms
8	Attached Cable	180cm shielded cable with USB-A connector
9	Regulatory Approval	FCC-B, CE, Unaffected by EMI from other nearby CRTs and other display devices CRTs
10	EMI	Unaffected by environmental EMI
11	Panel Resistance	4-wire resistive model 200~900 ohm 5-wire resistive model 50~200 ohm

## ■ OPERATION ENVIRONMENT

1. Temperature: -20°C to 70°C.
2. Humidity: 90%RH at 60°C.

## ■ STORAGE ENVIRONMENT

1. Temperature: -40°C to 80°C.
2. Humidity: 90%RH at 60°C.

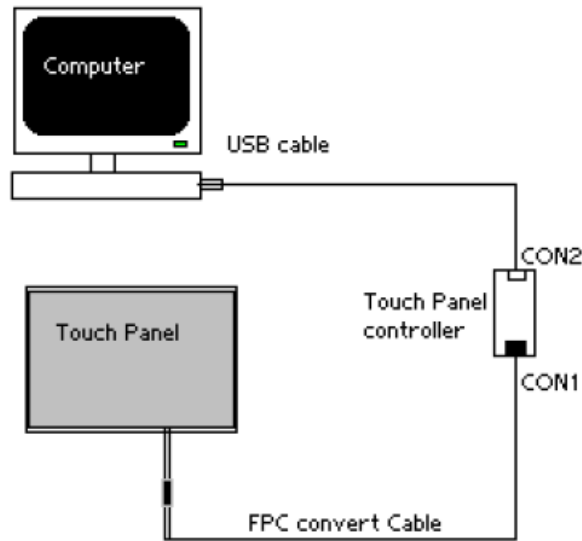
## ■ OPERATION POWER SUPPLY

(Ta=25°C)

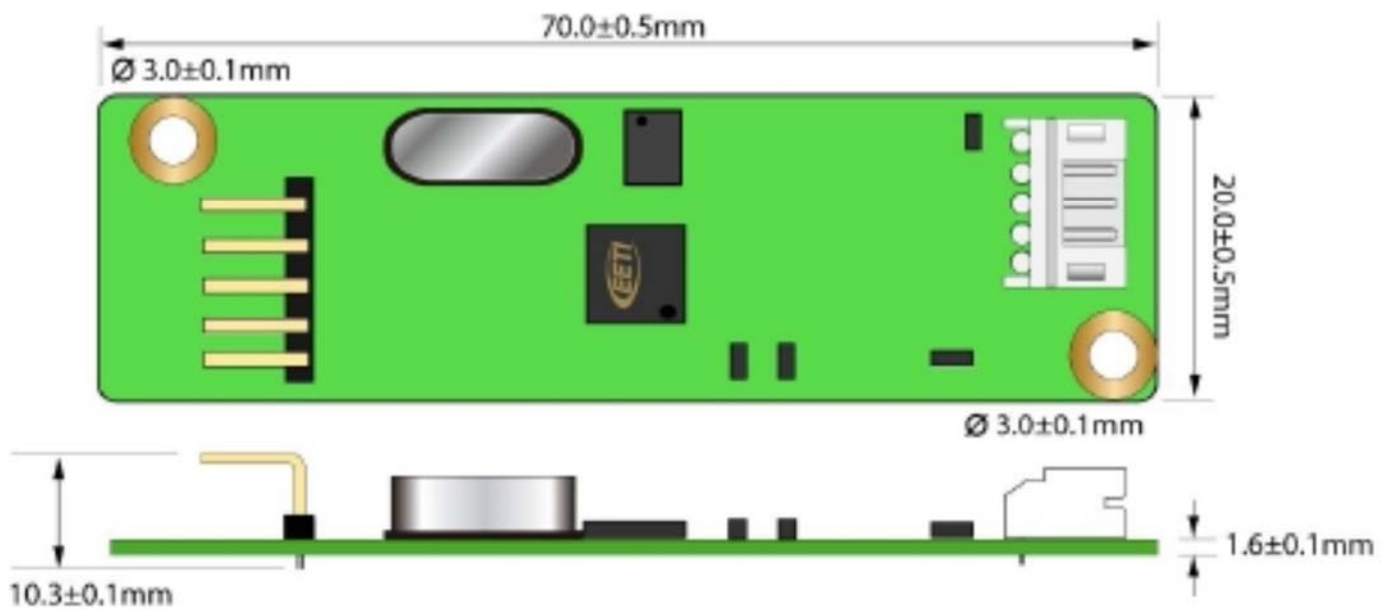
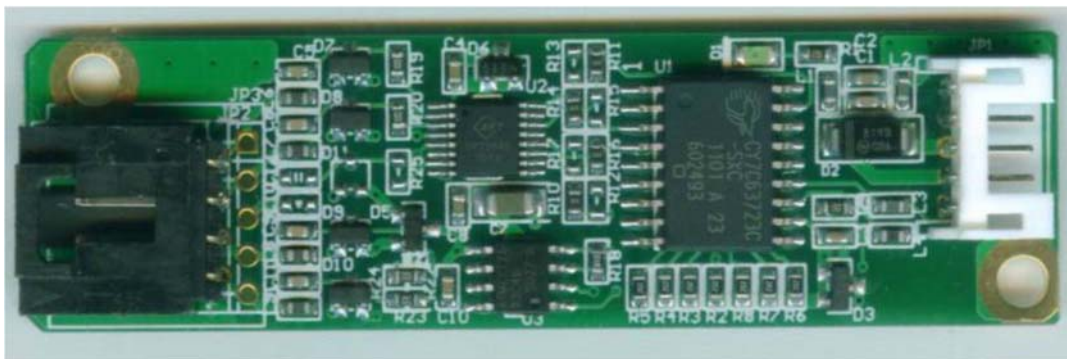
Parameter	Min.	Typ.	Max.	Unit
Operating Voltage	-	+5.0	-	V

## ■ PRODUCT SPECIFICATION

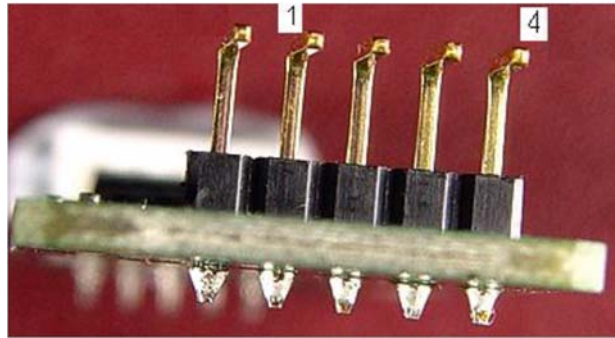
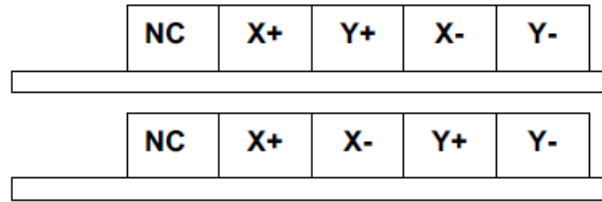
### 1. Block Diagram:



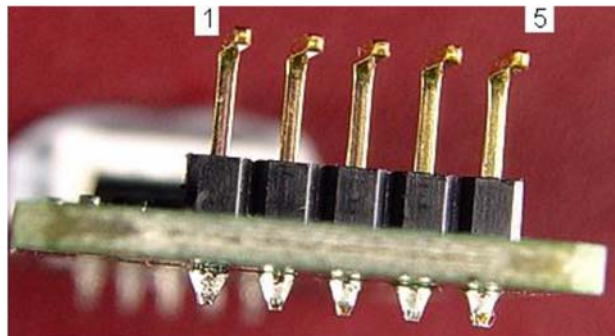
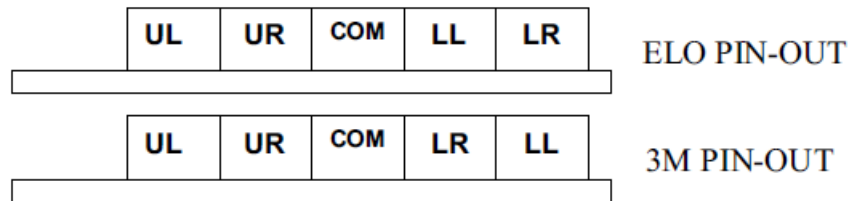
### 2. Touch Panel Controller:



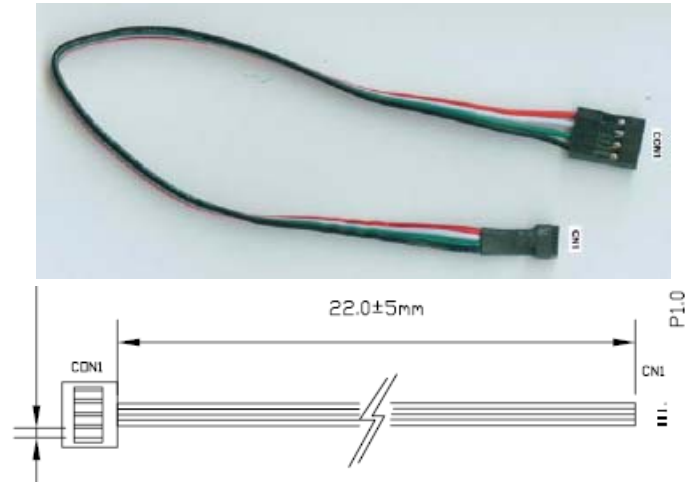
3. CON1 For 4-Wire Resistive Touch Panel:  
Pin-Out as below figure is automatically detected



4. CON1 for 5-wire Resistive Touch Panel:  
ELO or 3M type Pin-Out is automatically detected

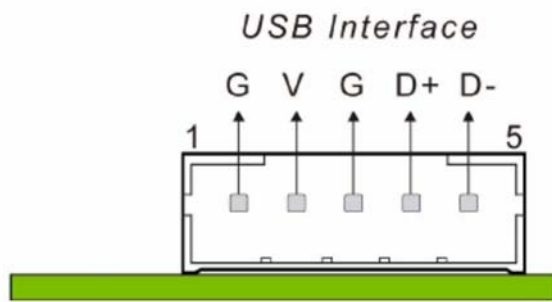


5. The 1.0mm pitch convert cable (optional)::



Note: This is an example photo, the real samples we deliver might have more or less differences on the wires.

6. CON2 Controller Wafer Pin Assignment:



CON2

Pin	Define	Description
1	G	Ground.
2	V	5V.
3	G	Ground.
4	D+	Data+.
5	D-	Data-.

7. USB Cable:



## ■ DRIVER SOFTWARE AND TOUCHKIT

The touch panel driver can emulate mouse left and right button function and supports operation systems as following.

OS	Version	Interface
Windows	Windows Vista, XP / 200, 9x / ME	USB
	Windows CE 2.12 / 3.0 /.net / 5.0 / 6.0	
	Windows Embedded	
	Windows XP Tablet PC edition	
	Windows Vista	
	Windows 7	
Windows	Windows NT4	Not support
Linux	Mandrake (Mandrake 9.1 / 9.2 /10, Mandriva 2005, Mandriva 2006), Red Hat (7.3 / 8.0 /9.0), Fedora (Core I / II / III / IV / V / VI), Yellow Dog (3.X), SuSE (9.2 / 9.3 / 10 / 10.1), Ubuntu (5.1 / 6.06), Debian (3.1, Kernel 2.4.x / 2.6.x)	USB
	Android 1.5-Google Moblin V2-Intel	
DOS	DOS	Not Support
Mac	Mac OS9, Mac OS X (IBM, Intel CPU)	USB
QNX	QNX RTOS v6.3	USB

The detail about the driver installation and the touchkit setting, please refer to the document “User Guide.chm”



**■ RELIABILITY TEST CONDITIONS**

Test Item		Test Condition	Quantity	Criteria
Storage Environment Test	High Temperature	+80°C / 96Hrs.	2	Operating ok at room temperature
	Low Temperature	-40°C / 96Hrs.	2	
Operating Environment Test	High Temperature	+70°C / 96Hrs.	2	
	Low Temperature	-20°C / 96Hrs.	2	
Turn on At Low Temperature		Storage at -20°C $\xrightarrow{40\text{min}}$ Turn on $\xrightarrow{2\text{Hour}}$ Turn on 4 times (1times/5min) $\xrightarrow{2\text{Hour}}$ Turn on 4 times (1times/5min) $\xrightarrow{4\text{Hour}}$ Turn on	2	
Thermal Shock Test		-20°C $\xrightarrow{30\text{min}}$ 25°C $\xrightarrow{30\text{min}}$ 60±2°C Operating 30 cycles	2	
Operate at High Temperature and Humidity		+60°C 90%RH operating 240 hours.	2	

Notes:

1. Test at the environment no dew.
2. After test, must storage least 24 hours in oven, at room temperature and humidity.

**■ DELIVERY INSPECTION CRITERION**

No	Item	Method	Sampling Criteria	Criteria
1	Electrical Characteristic	GB2828-2003	II	Serious Defects: CR=0
2	Dimension			Major Defects: AQL=0.65
3	Appearance / Package			Minor Defects: AQL=1.0