



# TOP-TOUCH ELECTRONICS CO., LTD

## Sample Approval

Supplier Name: Top-Touch Electronics Co., Ltd

Supplier Address: Shenyue Industry Zone, Li quang Village, Guan lan Town, Bao'an District, Shenzhen, China

Part Number: TTW5121005--- (T5090FG)

Description: 5 Wires Resistive Type

Top-Touch Approve:

Engineering	Technology	QA	Sales	Approve	Remark

Customer Approve:

Engineering	QA	Project Management	Other

# 5 Wires Touch Panel Product Specification

Structure : PET----- Glare hard coating & Anti-Newton Ring  
Glass----- ITO glass1.8 mm  
Dot Pitch-----5.0mm×5.0mm  
Connector: FPC(5-Pin)

**General Specifications:**

Item	Specifications	Unit
Dimensional Outline	271.00±0.3(L) ×206.00±0.3(W)	mm
Viewing Area	253.00(L)×191.00 (W)	mm
Active Area	248.00(L) ×186.00(W)	mm

		<b>Touch Panel Specification</b>	<b>Issue No.</b>		
<b>SET</b>	<b>Index</b>		<b>Page</b>	<b>1</b>	
	1. Index	. . . . .	01		
	2. Apply To Specification	. . . . .	02		
	3. Dimension	. . . . .	03		
	4. Optical Performance	. . . . .	04		
	5. Electrical Performance	. . . . .	04		
	6. Trust Test	. . . . .	05	06	
	7. Appearance Inspection Standard	. . . . .	07		
	8. Packing & Others	. . . . .	08		
<b>AMEND NO</b>		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	<b>APPROVAL BY</b>	<b>CHECK BY</b>	<b>PREPARE BY</b>
<b>AMEND DATE</b>					
<b>PUBLISH DATE</b>					

	<b>Touch Panel Specification</b>	<b>Issue No.</b>			
<b>SET</b>	<b>Apply To Specification</b>	<b>Page</b>	<b>2</b>		
<p><b>1. Suitability</b>  This specification suit analog resistance touch panel.</p> <p><b>2. Apply To Specification</b></p> <p>2.1.Surface Hardness: 3H</p> <p>2.2. Optical Clarity: 80 %↑</p> <p>2.3 Operating Temperature: -10°C ~ 60°C</p> <p>2.4 Endurance Test strikes: Over 10 million</p> <p>2.5 Operating Voltage: DC5V</p> <p>2.6 Resistance: 30Ω ~ 300Ω</p> <p>2.7 Linearity: &lt; 5%</p> <p>2.8 Faceplate Surface : Anti-glare coating</p> <p>2.9 Operation Pressure: 15 ~ 70g</p> <p>2.10 Storage Temperature: -20°C ~ 70°C</p> <p>2.11 Message Noise: 5 m sec ~ 15 m sec</p> <p>2.12 Operating Current: 5mA ~ 25mA</p> <p>2.13 Isolation Resistance: 20MΩ↑ @DC25V</p> <p><b>3. Dimension Size</b>  Refer diagram I</p>					
AMEND NO		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	APPROVAL BY	CHECK BY	PREPARE BY
AMEND DATE					
PUBLISH DATE					



		<b>Touch Panel Specification</b>	<b>Issue No.</b>		
<b>SET</b>	<b>Optical &amp; Electrical</b>		<b>Page</b>	<b>4</b>	
<p><b>4. Optical Performance</b>            Light transparency should keep above 80%↑ under the visible wave when the wave length is 550nm.</p>					
<p><b>5. Electrical Performance</b></p> <p>5.1 Connector Resistance                30Ω &lt; X Axis &lt; 300Ω                30Ω &lt; Y Axis &lt; 300Ω</p> <p>5.2 Insulation Resistance                20MΩ↑ @ DC 25V</p> <p>5.3 Electrostatic Endurance                No abnormal appearance after 10kv, 100Ω, 250PF electrostatic used.</p> <p>5.4 Linearity                X Axis : 5% ↓                Y Axis : 5% ↓</p> <p>5.5 Operating Voltage                3V ~ 12V DC</p> <p>5.6 Operating Current                5mA ~ 25mA °</p>					
AMEND NO		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	APPROVAL BY	CHECK BY	PREPARE BY
AMEND DATE					
PUBLISH DATE					

**6. Environment Test**

**6.1 High Temperature Test**

After putting panels at 70°C for 240 hours, then leaving for 24 hours at room temperature.

A. Resistance between leads

$30\Omega < X \text{ Axis} < 300\Omega$

$30\Omega < Y \text{ Axis} < 300\Omega$

B. Linearity

X Axis :  $\pm 5\% \downarrow$

Y Axis :  $\pm 5\% \downarrow$

C. Insulation Resistance

$20M\Omega \uparrow @ DC25V$

**6.2 Low Temperature Test**

After putting panels at -20°C for 240 hours, then leaving for 24 hours at room temperature.

A. Resistance between leads

$30\Omega < X \text{ Axis} < 300\Omega$

$30\Omega < Y \text{ Axis} < 300\Omega$

B. Linearity

X Axis :  $\pm 5\% \downarrow$

Y Axis :  $\pm 5\% \downarrow$

C. Insulation Resistance

$20M\Omega \uparrow @ DC25V$

**6.3 Temperature and Humidity Test**

After putting panels at 40°C,90%RH for 240 hours, then leaving for 24 hours at room temperature.

A. Resistance between leads

$30\Omega < X \text{ Axis} < 300\Omega$

$30\Omega < Y \text{ Axis} < 300\Omega$

B. Linearity

X Axis :  $\pm 5\% \downarrow$

Y Axis :  $\pm 5\% \downarrow$

C. Insulation Resistance

$20M\Omega \uparrow @ DC25V$

<b>AMEND NO</b>		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	<b>APPROVAL BY</b>	<b>CHECK BY</b>	<b>PREPARE BY</b>
<b>AMEND DATE</b>					
<b>PUBLISH DATE</b>					

**6.4 Repetition of High and Low Temperature and Test**

After putting panels at the condition of -20°C for 30 minutes and then 70°C for 30 minutes and this process is repeated by 20 cycles , then leaving for 24 hours at room temperature.

**A. Resistance between leads**

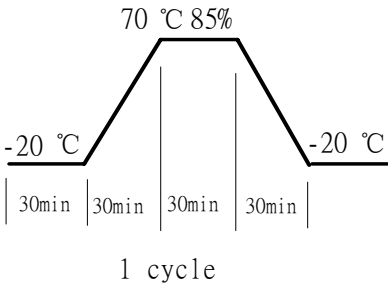
30Ω < X Axis < 300Ω  
 30Ω < Y Axis < 300Ω

**B. Linearity**

X Axis : ±5%↓  
 Y Axis : ±5%↓

**C. Insulation Resistance**

20MΩ↑ @ DC25V



**6.5 punching life**

After punching 10,000,000 times with the R8.0 silicon rubber Force : 60g , Speed : 5/sec

**A. Resistance between leads**

30Ω < X Axis < 300Ω  
 30Ω < Y Axis < 300Ω

**B. Linearity**

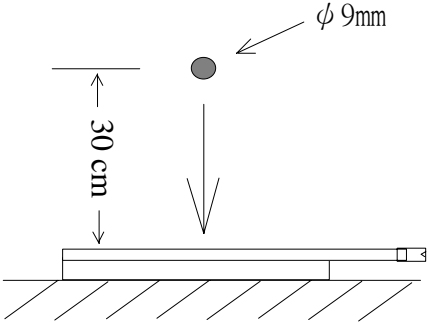
X Axis : ±5%↓  
 Y Axis : ±5%↓

**C. Insulation Resistance**

20MΩ↑ @ DC25V

**6.6 Impact Resistance**

No damage when φ9mm steel ball is dropped on the surface from 30cm height at 1 time.



AMEND NO		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	APPROVAL BY	CHECK BY	PREPARE BY
AMEND DATE					
PUBLISH DATE					

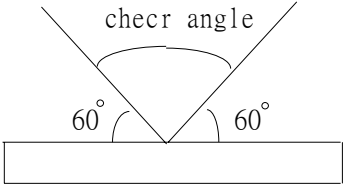


	<b>Touch Panel Specification</b>	<b>Issue No.</b>	
<b>SET</b>	<b>Appearance Inspection Standard</b>	<b>Page</b>	<b>7</b>

**7. Appearance**

7.1 Inspection condition

- (A).The lightness of place: 500 LUX
- (B)The distance of eyeshot:30 CM(The panel must be checked under the light transparency condition.)
- (C)The angle of eyeshot: >60°
- (D)The light source of place : natural sunlight.



7.2 Inspection Standard

Suitable in the visible area. Except dot space.

1. Spot, otherness	$\phi \cong 0.15\text{mm}$	Ignorance
	$0.15\text{mm} \cong \phi \cong 0.25\text{mm}$	$\cong 2$
	$\phi > 0.25\text{mm}$	NG
2. Scratch	$w \cong 0.05\text{mm}$ and $L \cong 2.0\text{mm}$	Ignorance
	$w \cong 0.05\text{mm}$ $2.0\text{mm} < L \cong 4.0\text{mm}$	2 or less & distance > 5mm
	$W > 0.05\text{mm}$ or $L > 4.0\text{mm}$	NG
3. Cicatrices (Line) L: Length W: Width	$W \cong 0.03\text{mm}$	Ignorance
	$L \cong 4\text{mm}$ & $0.03\text{mm} \cong W \cong 0.05\text{mm}$	$\cong 2$ 2 line distance $\cong 10\text{mm}$
	$W > 0.05\text{mm}$	NG
4. Edge warp	Edge warp $\cong 3\text{mm}$	allowable
	Edge warp $\cong 2\text{mm}$	allowable

7.3 Quality inspection standard:

- Adapt to AQL MIL-STD-105D
- Samples inspection QTY: according to AQL MIL-STD-105D( Charter I)
- Inspection Base: according to AQL MIL-STD-105D(Charter II)
- Broken seriously(otherness, scrape)0.01% --- Cr ( Critical Defect)
- Obvious(otherness, scrape)0.65% ----- Ma(Major Defect)
- Not obvious(otherness, scrape)2.5% ----- Mi( Minor Defect)

AMEND NO		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	APPROVAL BY	CHECK BY	PREPARE BY
AMEND DATE					
PUBLISH DATE					

	<b>Touch Panel Specification</b>		<b>Issue No.</b>		
<b>SET</b>	<b>Packing &amp; Others</b>		<b>Page</b>	<b>8</b>	
<p><b>8.Packing Detail</b></p> <p>8.1 Packing: Can't have otherness on panel. Pack with EPE material.</p> <p>8.2 Delivery: For Avoiding the badly affect to the product quality, shouldn't delivery in the situation of high humidity and unusually high or low temperature</p> <p><b>9.Others</b></p> <p>(1) If there is any question in specification , the decision depends on conferment between manufacturer and customer.</p> <p>(2) If there is any change in specification , can't actualize without document permit.</p> <p>(3) The specification content is different from the individual specification one, decision bases on the latter.</p>					
<b>AMEND NO</b>		<b>TOP-TOUCH ELECTRONICS CO., LTD</b>	<b>APPROVAL BY</b>	<b>CHECK BY</b>	<b>PREPARE BY</b>
<b>AMEND DATE</b>					
<b>PUBLISH DATE</b>					