

杭州凡诺电子有限公司  
**FANNAL ELECTRONICS CO., LTD**

**Specifications for Touch Panel**

Model NO: FN116A001-V1.0

Revision: V1.0

Approved For Specifications Only

Approved For Specifications And Sample

FANNAL			CUSTOMER
PREPARED	CHECKED	APPROVED	APPROVED

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# 1. Record of Revision

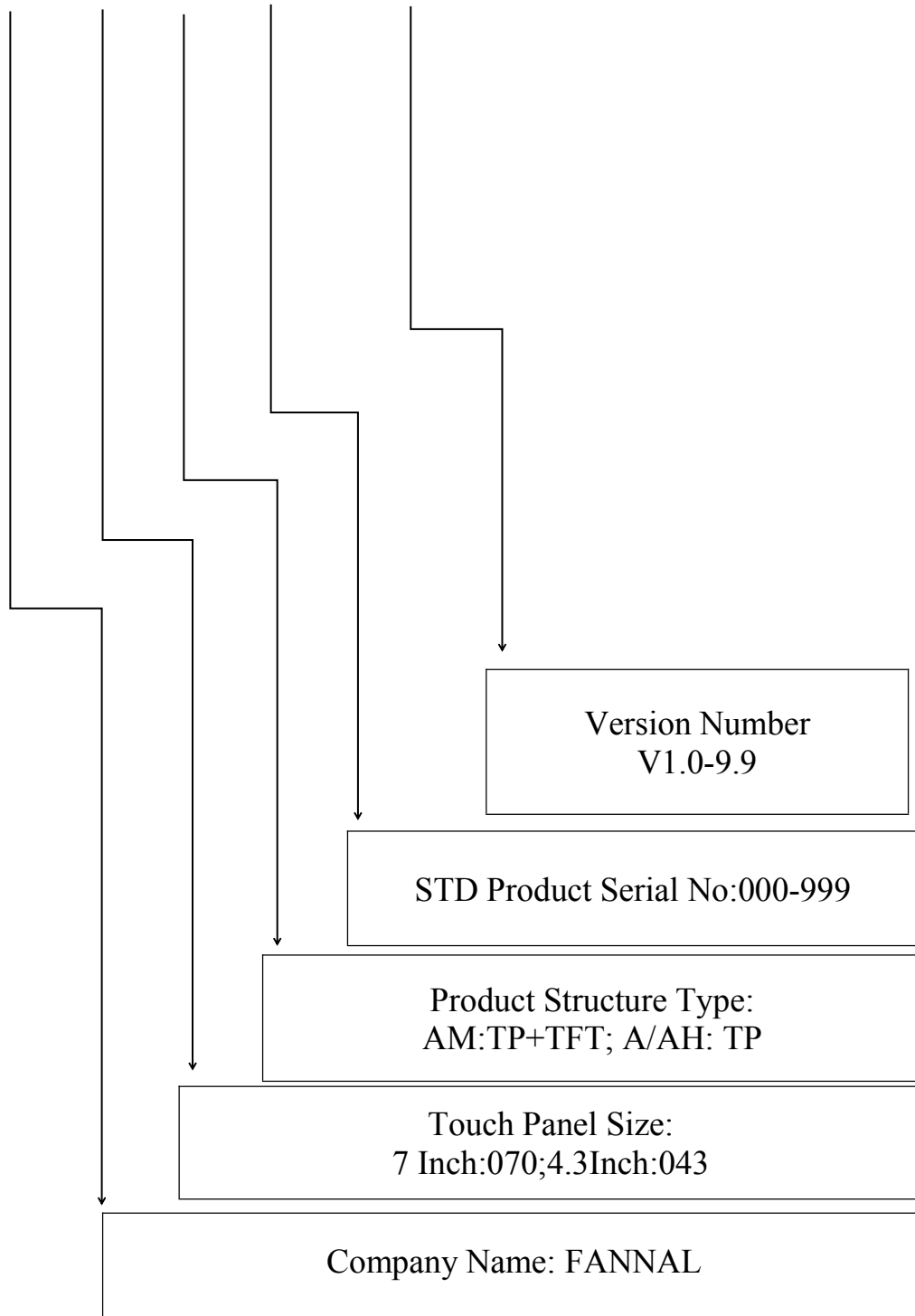
NO.	Content	Page	Date
1	Preliminary Specification was first issued	2	2017/8/18

## 2. Table of Content

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### 3. Module Numbering System

**FN 116 A 001 - V1.0**



## 4. Application

This improved projected capacitive touch panel module is applied to industrial applications which required touch input.

Industrial control, medical devices and automation industries (transportation, military, smart home, and others)

## 5. Feature

NO.	Item	Specifications
1	Type	Projected Capacitive
2	Input Mode	Finger
3	Connector	COF-FPC

## 6. General Specification

NO.	Item	Specifications	Unit
1	Touch Panel Size	11.6(Diagonal)	inch
2	Structure	G+G	
3	View Area	257.30(H)x145.20(V)	mm
4	Outline Dimension	287.8(H)x177.6(V)x1.85(D)	mm

## 7. Environmental Characteristic

NO.	Item	Specifications	
		Temperature	Humidity (Non-Condensing)
1	Operation	-20~70℃	45%-90%RH
2	Storage	-30~80℃	5%-95%RH

Note: Testing environment is under normal atmospheric pressure. When the ambient temperature is above 65℃, the humidity is allowed to be below 50%RH

## 8. Optical Characteristic

NO.	Item	Specifications
1	Transparency	87%±5%
2	Haze	>3%

## 9. IC Specification

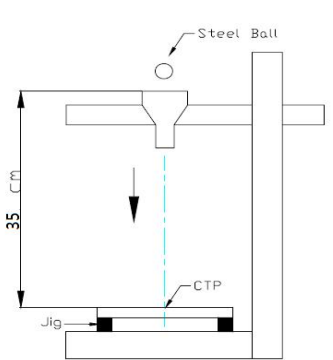
NO.	Item	Specifications
1	Driver IC	ILI2302M
2	Detect Points	10 touch
3	Interface	I <sup>2</sup> C or USB
4	Power Supply	3.3V or 5V

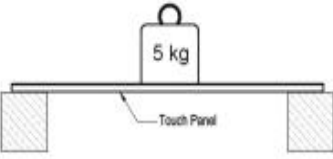
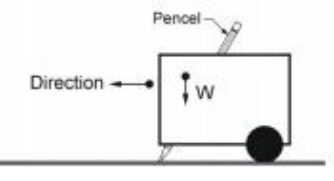
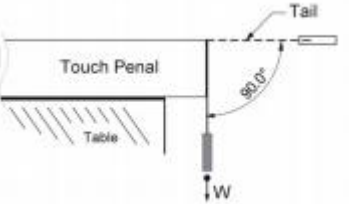
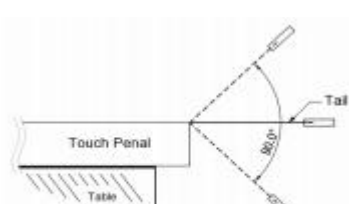
## 10. Pin Assignment

Pin No.	Symbol	I/O	Description
1	VCC(3.3V)	---	Power supply
2	SCL	I/O	I <sup>2</sup> C clock signal
3	SDA	I/O	I <sup>2</sup> C data signal
4	INT	O	Interrupt signal, active low, asserted to request Host start a new transaction
5	RST	I	External reset signal, active low
6	GND	---	System ground

Pin No.	Symbol	I/O	Description
1	GND	---	System ground
2	D+	I/O	Data +
3	D-	I/O	Data -
4	VDD(5V)	---	Power supply

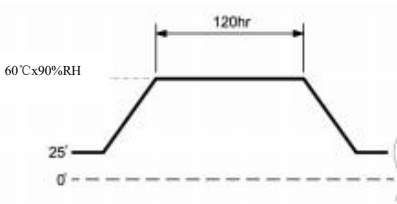
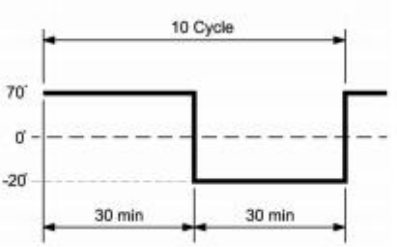
## 11. Mechanical Characteristic

NO.	Item	Condition	Specifications
1	Operating Force	Finger $\leq$ 10g	Satisfy- 1.Optical Characteristics 2.Electrical Characteristics  Appearance- 1.Ignore test area 2.No mechanical damage
2	Impact	30.0 $\Phi$ DIA.Steel Ball/132g/Height=35cm/1 time, Impact at center area  	

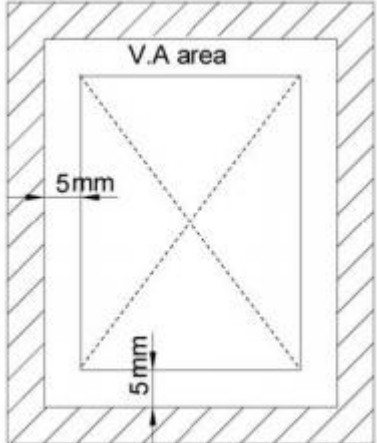
NO.	Item	Condition	Specifications
3	Static Load	5000g within 10cmΦ area for 30sec 	<p>Satisfy-</p> <ol style="list-style-type: none"> <li>1. Optical Characteristics</li> <li>2. Electrical Characteristics</li> </ol> <p>Appearance-</p> <ol style="list-style-type: none"> <li>1. Ignore test area</li> <li>2. No mechanical damage</li> </ol>
4	Hardness	6H pencil, pressure 500g/45° 	
5	Tail Peeling	500g/cm by vertical 90° for 30sec 	
6	Tail Bending	90° 10times left & right 	



## 12. Reliability Test

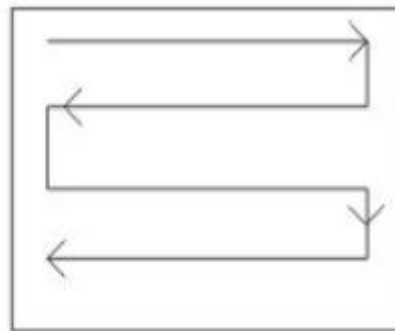
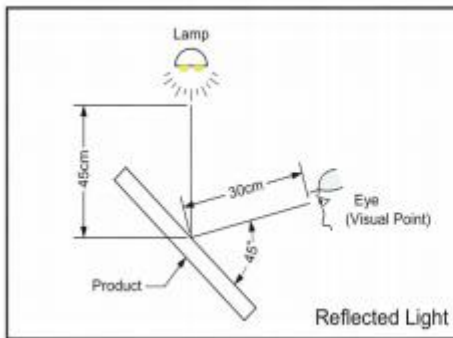
NO.	Item	Condition	Specifications
1	Constant Temperature/Humidity	<p>60°C X 90%RH, 120hrs and normalized for 24hrs</p> 	<p>Satisfy-</p> <p>1、Electrical Characteristics</p>
2	Heat Cycle	80°C/120hrs and normalized for 24hrs	
3	Cold Cycle	-30°C/120hrs and normalized for 24hrs	
4	Thermal Cycle	<p>-20°C~70°C [30min/cycle]*10cycles and normalized for 24hrs</p> 	

### 13. Function test

<p>Function Test</p>	<p>Test Method: Use <math>\Phi 8</math> copper stick to draw the square diagonal line.</p> <p>Test Area: 5mm inward view area.</p> <p>Disapproval Criteria: It is NG when we see the off-liner or jumping out spec shift.</p>	
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### 14. Appearance Inspection

The inspection is to be performed with 20W(800-1000 LUX)fluorescent lamp lighting from the back or side.The panel is to be placed 30cm away from eyes.(Figure 13-1)



## 15. Appearance Specification

NO.	Item	Specifications	PASS CRITERIA
1	线状不良 Linear Defects (刮伤/擦痕/线状/杂质) (Scratch/Scrub/Fiber)	$W \leq 0.08\text{mm}$	Ignore
		$0.08\text{mm} < W \leq 0.15\text{mm}, L \leq 5\text{mm}$	$N \leq 2, \text{Distance} \geq 30\text{mm}$
		$W > 0.15\text{mm}$	Not Allowed
2	点状不良 Dot Defects (气泡/杂质/白点/黑点/凹洞) (Bubble/Fiber/Particle/Spot/Dent)	$D \leq 0.20\text{mm}$	Ignore
		$0.20\text{mm} < D \leq 0.35\text{mm}$	$N \leq 3, \text{Distance} \geq 30\text{mm}$
		$D > 0.35\text{mm}$	Not Allowed
3	印刷不良 Printing Defects	针孔 Pine Hole $D \leq 0.30\text{mm}$	Ignore
		漏光 Light Leakage $\text{Peak to Peak} \leq 0.3\text{mm}$	Border Area Acceptable
		$\text{Peak to Peak} \leq 0.2\text{mm}$	Logo/icon Area Acceptable

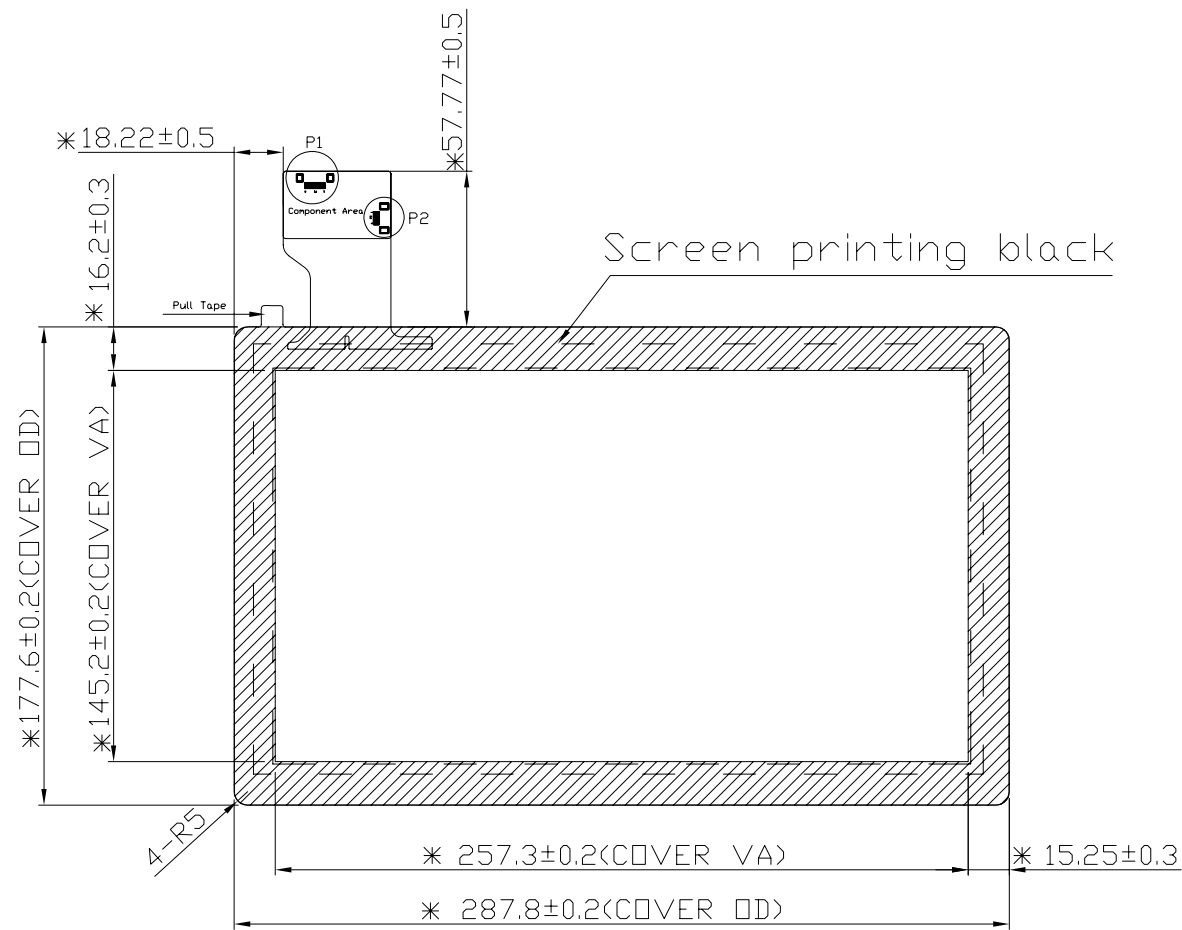
<Endorse>

1. All cosmetic defects are not accounted if found outside Active Area.  
(except for glass breakage, corner flaw, edge flaw, crack, etc. Please follow Appearance Inspection criteria upon inspection)
2. D=Diameter / W=Width / L=Length
3. Tail: Slight bend mark is allowed on the tail; crack or tear is not allowed.
4. Particle Spots: Flaws found coating if transparent, please follow Particle Spots specification.

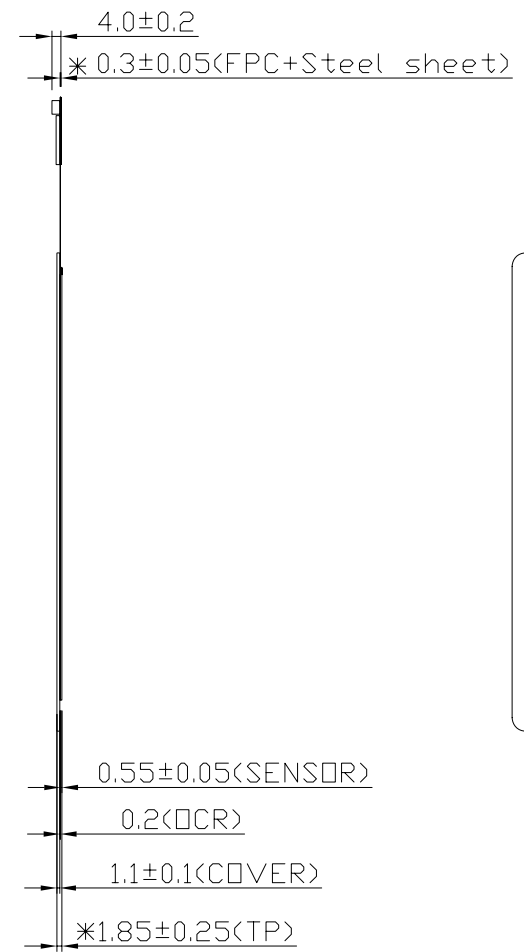
## 16. Mechanical Drawing

THE DRAWING ON THIS PRINT AND INFORMATION THEREWITH ARE PROPRIETARY TO FANNAL AND SHALL NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION OF FANNAL

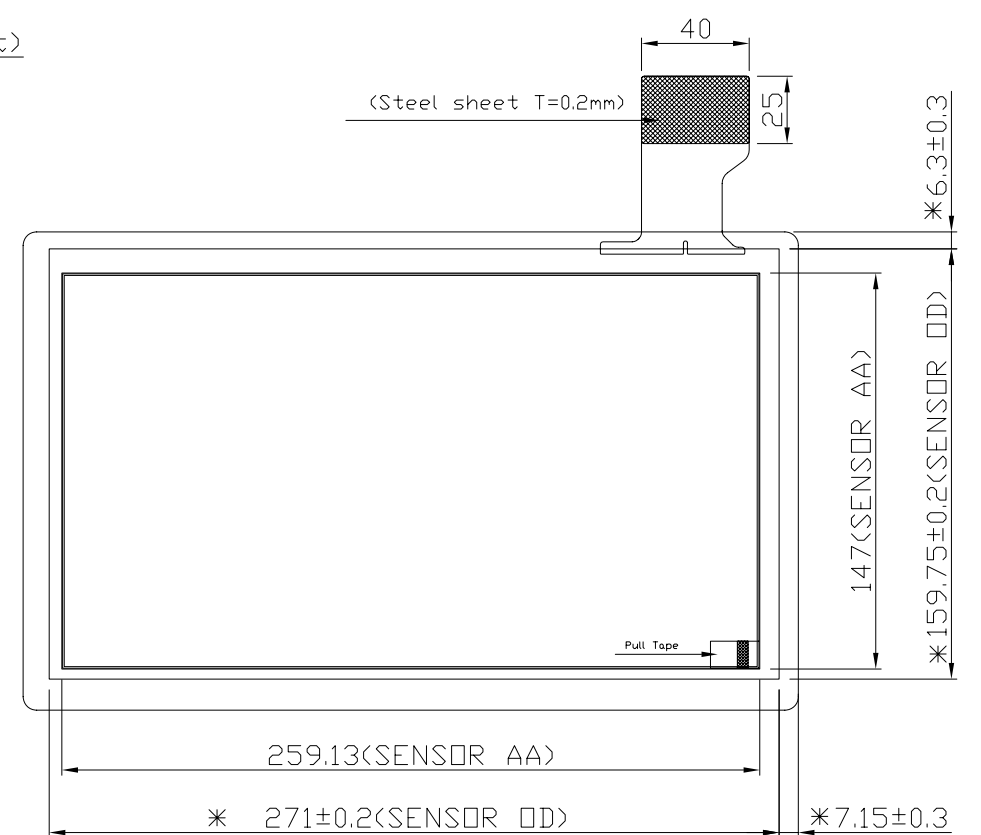
Rev	Revision note	Date
V1.0	First Release	2017-6-7



Front view



Side view



Back view

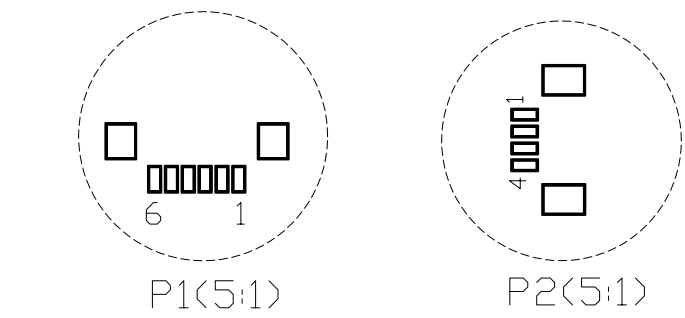
TECHNOLOGY CHARACTERISTICS CTP	
PROPERTY	Requirement
IC Controller	ILI2302M
NO OF TOUCH	10
COVER GLASS Thickness	1.10mm
ITO GLASS Thickness	0.7mm
Surface Hardness	≥6H
Light Transmittance	87%±5%
Operating Temperature	-20~70°C
Storage Temperature	-30~80°C
Operating Humidity	45~90%RH
Storage Humidity	5~95%RH

IIC PIN (P1)	
Pin No.	Definition
1	VCC(3.3V)
2	SCL(3.3V)
3	SDA(3.3V)
4	INT(3.3V)
5	RST(3.3V)
6	GND

TP USB-PIN (P2) :			
1	2	3	4
GND	D+	D-	VDD

NOTES:  
 \* Important dimensions  
 TOLERANCE UNLESS: x.xx ±0.5  
 OTHERWISE SPECIFIED: x.xx ±0.3  
 DIMENSIONS IN MM; ANGULAR: ±1°

**RoHS**



**FANNAL ELECTRONICS CO., LTD**

<b>MODEL NO: FN116A001-V1.0</b>			
THIRD ANGLE PROJECTION			
	NAME	SIGN	DATE
DRAWN:	Hong		2017-6-7
CHECKED:			
APPROVED:			
PROJECT NO:			
CUSTOMER NO:			
FILE NO:			
SHEET	1	OF	1

## 17. Packaging

TBD