
21.5 Inch
Specification documentmodel: VXT215AUOP-01C
Before using the Victronix-tech product, please carefully read

this specification sheet as a reference, it can help you easily
understand and use it!

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1 matters needing attention

1.1 Safety Rules

- ★ Please read the instruction manual before operation, follow the instructions in the manual, and pay attention to the warning signs.
 - ★ The DC power supply comes from an AC/DC adapter. Do not connect an AC/DC adapter that does not match the panel, only use the interface we recommend.
 - ★ Do not cover the AC/DC adapter with anything like a cloth or box, as it may cause a short circuit and result in a fire accident. Pay attention to using matching AC voltage and frequency, and the output of AC power must provide sufficient power for the panel. For safety reasons, do not touch the electrodes and grounding sockets. The polarized plug has two washers, one wider.
 - ★ The grounding socket has two gaskets and a grounding tip. The wide gasket or third pointed end is to ensure safety. When the provided socket does not meet the electrical output interface, please consult an engineer to replace it with an interface that meets this electrical characteristic.
 - ★ Ensure that the power cord and AC/DC adapter are not stepped on or plugged in, and are easily clamped by the socket.
 - ★ Do not let sunlight or other heat sources shine on the panel, as some heat sources such as radiation, microwave ovens, and other devices can generate heat.
 - ★ Do not place the panel under high temperature, high humidity, or strong electrical radiation
- Be careful of shrinkage when the temperature changes sharply
- ★ Before connecting input/output interfaces such as analog VGA, digital DVI, audio interface, etc., be sure to turn off the power of the panel and remove the AC power cord from the power port.
 - ★ When powered on, do not move or rotate the panel, and do not arbitrarily pull or tug on the connecting wires inside the machine, otherwise it may cause power or signal short circuits; Do not disassemble the machine at will to avoid damaging its components.
 - ★ Place the panel on a fixed bracket to ensure that the bracket can withstand the weight of the panel.
 - ★ Do not place heavy objects on the panel.
 - ★ Do not touch, push, or rub the LCD screen with any sharp or hard objects.
 - ★ When there is dust on the surface of the LCD screen, gently wipe it with a soft cotton cloth or some other soft object. Do not use acetone, toluene, alcohol or other cleaning agents, and do not use damp or chemical (such as gasoline) cloths.
 - ★ Wipe off water or liquid as soon as possible. Prolonged attachment of liquid to the surface of the screen can cause fading and deformation of the LCD screen.
 - ★ The material of the LCD panel can be recycled. When the panel is discarded, please place its various parts in a suitable recycling bin.
 - ★ After shutting down, the main power must be turned off
 - ★ Do not plug or unplug any live parts of the device (including external devices) while it is live
- If you want to use it in special occasions or harsh environments such as high temperature, high humidity, strong radiation, etc.,
- ★ please contact our technical personnel in a timely manner.
 - ★ When a malfunction occurs, immediately cut off the main power supply, unplug the power plug, stop using it, and contact the dealer or our after-sales personnel in a timely manner. Do not disassemble or repair it without authorization.

2 Introduction to Technical Parameters

2.1 Product Display:



2.2 Product Introduction and Features:

The VXT215AUOP-01C series all-in-one machine is an 21.5-inch color TFT LCD industrial all-in-one machine designed specifically for industrial applications. The high brightness of 250 lumens and exquisite and detailed graphics can make your HMI screen more realistic. It is equipped with high-performance capacitive or resistive touch screens, which are particularly suitable for industrial control, automation equipment, CNC machine tools, workstation management and other environments. In addition, ODM/OEM products can be customized according to different user needs, from configuration to structural appearance.

2.3 Product Parameters:

- ◆ 21.5-inch LED LCD screen with a resolution of up to 1920*1080
- ◆ luminance 250cd/m²
- ◆ Full view display
- ◆ Multi point projection capacitive touch screen
- ◆ Front panel integrated aluminum profile molding
- ◆ Support wall mounted installation

ITEMS	Unit	SPECIFICATIONS
Screen Diagonal	mm	21.5"
Product dimensions	mm	526(V)×318 (H)
Active Area	mm	477.6 (V) ×269.1 (H)
Pixels HxV		1920*1080
Pixels Arrangement		R.G.B Vertical Stripe
Display Mode		AHVA Mode,Normally
White Luminance(Center)	cd/m2	250 cd/m2(Typ)
Contrast Ratio		1000(Typ)
Optical Response Time	meec	22
Nominal Input Voltage VDD	Volt	5V(Typ)
Electrica Interface		Dual LVDS
Support Color		16.7M colors
Surface Treatment		Anti-Glare,3H
RoHS Compliance		RoHS Compliance
touch screen		Transmissive capacitive touch screen
surface color		black
Chassis material		aluminum profile with sheet metal
Operating temperature	°C	0- +60 °C
Storage temperature	°C	-20- +70 °C

3 LCD screen parameters and inspection standards

3.1 LCD screen parameters and inspection standards (for more detailed information, please refer to the original LCD screen specification sheet)

ITEMS	Unit	SPECIFICATIONS
Screen Diagonal	mm	21.5"
Active Area	mm	408.96 (H) × 230.04(V)
Pixels HxV		1920*1080
Pixels Arrangement		R.G.B Vertical Stripe
Display Mode		AHVA Mode,Normally
White Luminance(Center)	cd/m2	250 cd/m2(Typ)
Contrast Ratio		1000(Typ)
Optical Response Time	meec	22
Nominal Input Voltage VDD	Volt	5V(Typ)
Power Consumption(VDD line+LED line)	Watt	10.8W(Typ)
Electrica Interface		Dual LVDS
Support Color		16.7M colors
Surface Treatment		Anti-Glare,3H
RoHS Compliance		RoHS Compliance
Operating temperature	°C	0- +60 °C
Storage temperature	°C	-20- +70 °C

3.2 Scope:

3.21 The incoming inspection standards shall be applied to TFT-LCD Modules (hereinafter called “Modules”) that supplied by AUO Display Plus Corporation (hereinafter called “seller”).

3.22 Specifications contains
Electrical inspection specification
Appearance specification

3.3 Incoming inspection:

The buyer shall inspect the Modules within the inspection period (ninety calendar days starting from the date of delivery.) The results of the inspection (acceptance or rejection) shall be recorded in writing and a copy will be promptly sent to the seller. The buyer may, under reasonable commercial rejection procedures, reject an entire lot in the delivery involved. Within the inspection period, if the Modules in the lot show a number of unacceptable defects in accordance with this Incoming Inspection Standards, the buyer must notify the seller in writing of any such rejection promptly, within three business days during the inspection period.

If the buyer fails to notify the seller within the inspection period, the buyer’s right to reject the Modules shall be lapsed and the Modules shall be deemed accepted by the buyer.

If any questions arise in regards to the judgement, the outcome shall be decided upon the consultation between both parties. The buyer shall sign the IIS back to the seller once the buyer verifies the model completely and moves to the mass production stage. The seller has the right to follow internal specifications or ES (engineering sample) performances if the buyer fails to sign back to the seller.

3.4 Inspection sampling method:

Unless otherwise agree in writing, the method of incoming inspection shall be based on ANSI/ASQL Z1.4-2003.

3.41 Lot size: Quantity per shipment lot per model.

3.42 Sampling type: Normal inspection, single sampling.

Sampling level: Level II.

3.43 Acceptable quality level (AQL):

Major defect: AQL=1.0%.

Minor defect: AQL=2.5%.

3.5 Inspection instruments:

3.51 Pattern generator: LD-2000 or equivalent model.

3.52 Video board: ADP video board or equivalent. The output of the signal should comply with the specification provided by ADP.

3.53 Luminance colorimeter: Topcon BM-7 or equivalent model

3.6 Inspection environment conditions:

3.61 Room temperature : 20 ~ 25 C. Humidity: 65±5% RH.

3.62 White luminance set as 400cd/m² when operating inspection for G215HAN series..

3.63 Illumination: Fluorescent light (day-Light Type) display surface illumination to be 300 ~ 700 Lux. (standard 500Lux.)

3.64 To be a distance about 35 ± 5 cm in front of LCD unit and view angle should be $\pm 10^\circ$.

3.65 Take off the protector of polarizer while judging the display area

3.66 If there is any question while judging, check the panel again while operating

3.7 Classification of defects:

Defects are classified as major defects and minor defects according to the degree of defectiveness defined herein.

Major defects:

A major defect is a defect that is likely to result in failure, or to reduce materially the usability of the product for its intended purpose.

Minor defects:

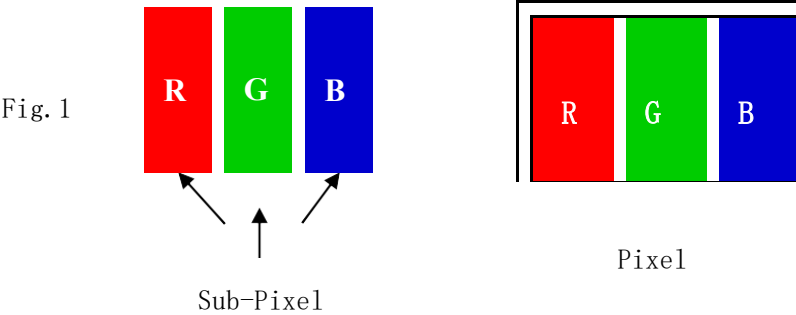
A minor defect is either a defect that is not likely to reduce materially the usability of the product for its intended purpose, or a departure from an intended purpose with little bearing on the effective use or operation of the product.

3.8 Electrical inspection specification:

No.	Inspection Item		Max. acceptable number / Distance	Unit	Note
1	Bright dots	1 dot	2	dot	1, 2, 6
2		2 Adjacent dots	0	pair	4, 5, 6
3		3 Adjacent dots	0	pair	4, 5, 6
4		Over 3 Adjacent dots	0	pair	4, 5, 6
5		Distance between bright dots	≥ 15	mm	3
6		Total (1+2+3+4)	2	dot	
7	Dark dots	1 dot	10	dot	1, 6
8		2 Adjacent dots	2	pair	4, 5, 6
9		3 Adjacent dots	1	pair	4, 5, 6
10		Over 3 Adjacent dots	1	pair	4, 5, 6
11		Distance between dark dots	≥ 15	mm	3
12		Total (7+8+9+10)	10	dot	
13	Bright dot and Dark dot	2 Adjacent dots	1	pair	4, 5, 6
14		Distance between dots	≥ 15	mm	3
15	Total amount of Dot Defects (1~13)		10	dot	
16	Line defect		Not allowed	-	

17	Mura	Use 5% ND filter or judged by equivalent limit sample For the model brightness ≥ 1000 nits :use 1% ND filter or judged by limit sample		6, 7, 8

Note 1) Definition of pixel and sub-pixel: refer to figure 1.



Note 2) Bright dot and Small bright dot judgment criteria:

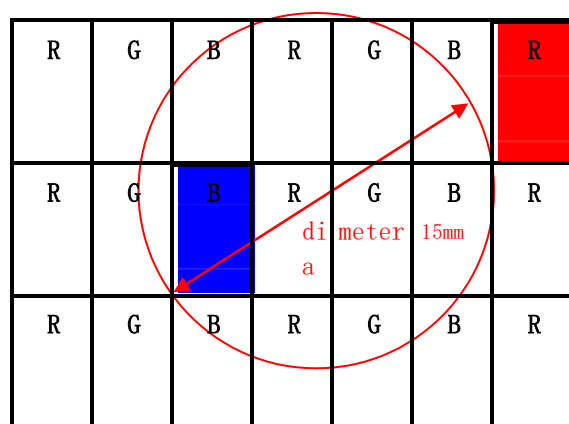
Judgment Criteria		Bright Dot Defect area	
		> 1/2 sub-pixel	$\leq 1/2$ sub-pixel
ND filter or 10%	Visible	Bright Dot	Small Bright Dot
	Invisible	Small Bright Dot	Small Bright Dot

The drawing of 1/2 area sub-pixel definition: The 1/2 area sub-pixel can be defined as below one or more of specific shapes (Fig.2). The amount of small bright dots should be less or equal to 10.



Note 3) Definition of the distance between 2 dot defects:

Fig.
5



Criterion :

Only 1 defect dot can appear in a circle with a diameter of 15mm.



Defect D

Note 4) Adjacent-dot defect should be observed under the same display pattern in any one of

Adjacent-dot defect : refer to Figure 4, dot 1,2,...,8 around A are all A's adjacent dots
Black/Green/Blue/Red pattern.



Fig. 4

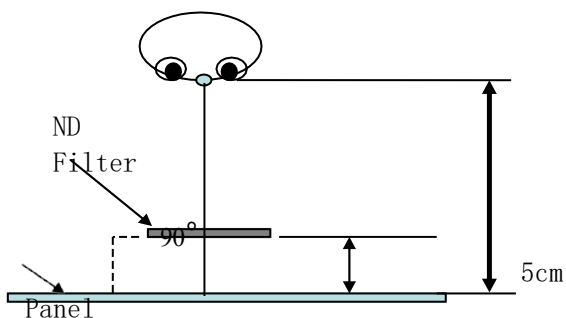
Note 5) In three (or more) adjacent dot defect, for any 3rd dot that adjacent to 2 continuous defective dots (can be of any combination of bright dots and dark dots), the 3rd dot, no matter how large it may be, should be viewed as a dot.

Note 6) Inspection pattern: Standard inspection patterns of dot defect are listed below. ADP uses these patterns as standard criteria for judging dot defect. Please inform ADP if any other pattern is to be used to examine it.

Defect type	Inspecting Pattern
Mura/ display un-uniformity	L0/255、L92/255、L255/255
Bright Dot / Small Bright Dot	L0/255
Dark Dot	L255/255、Monotone Red、Green、Blue
BL particle/Scracth	L255/255
Polarizer particle/Scracth/Bubble	L0/255、L255/255

Note 7) Unless other specified written document or limit samples, Mura (display un-uniformity) should be inspected under the ND filter and be acceptable when it is invisible through ND filter.

ND filter use method: The inspection method of ND Filter – holding ND filter in front of the panel around 5 cm and examine the panel from 35±5 cm in the front view for 3 seconds. (Fig. 5)



Fig

Note 8) While operating over 50°C ambient temperature, there should be no function failure occur and Mura (display un-uniformity) should be invisible under 1% ND filter applied.

Note 9) Image Retention: 5 seconds test pattern and image retention must be disappeared in 5 seconds after pattern changed.

Scratches, dent, extraneous substances and Appearance inspection specification

Judge area	Judge item		Inspection specification		Judge criterion		
					Major	Minor	
Active area	Particles on the polarizer / Back light	Circular	Average diameter: D (mm)	Numbers		0	
			D≤0.2	Disregarded			
			0.20<D≤0.50	n≤5			
			0.50<D	n=0			
		Linear	Width: W (mm) Length: L (mm)	Numbers		0	
			「W≤0.07 and L≤ 2.0」 or 「W≤0.10 and L≤ 0.3」	Disregarded			
			0.07<W≤0.10 and 0.3<L≤2.0	n≤5			
			0.10<W or 2.0<L	n=0			
		Scratch/Dent on the polarizer	Circular	Average diameter: D (mm)	Numbers		0
				D≤0.15	Disregarded		
	0.15<D≤0.50			n≤4			
	0.50<D			n=0			
	Linear (With AG)		Width: W (mm) Length: L (mm)	Numbers		0	
			W≤0.05 and L≤ 2.0 0.05<W or 2.0<L	Disregarded n=0			
	Linear		Width: W (mm) Length: L (mm)	Numbers			
			「W≤0.01 and L≤ 10.0」 or 「W≤0.10 and L≤ 1.0」	Disregarded			
			0.01<W≤0.10 and 1.0<L≤10	n≤3			
			0.10<W or 10.0<L	n=0			
	Bubble on the polarizer		Circular	Average diameter: D (mm)	Numbers		0
				D≤0.50	n≤4		
				0.50<D	n=0		
	From Active area outside 0.3mm	The end of polarizer		The defect can't be seen ,from active area outside 0.3mm			0

Bezel	Gap between front and back bezel on all sides	$\leq 1.45\text{mm}$ (Note 13)		0
	Scratches, Wrap and Sunken	No harm, dangerous		0
	Assembly Fail	Not allowed	0	
Label (S/N, B/L, WEEK)	No label	Not allowed	0	
	Invert label		0	
	Content Error		0	
	Dirt	Word can be read. Barcode can be scanned.		0

	Not clear			0
	Word out of shape			0
	Broken			0
	Crease			0
	Label overlapping			0
	Position	Be attached on right position	0	
Screw	Not enough (Q'ty)	Not allowed	0	
	Loose	Not allowed	0	
Connector	Appearance	No broken, rising, deformation	0	

Note 10: Extraneous substances which can be wiped out, such as fingerprint and particles are not considered as a defect.

Note 11 : Defects on the Black Matrix (outside Active Area 0.3mm) are not considered as a defect.

Note 12 : Defect size definition: (Unit:mm). When $L \geq 2W$, defect count as liner defect.

D: Average Diameter; L: Length W: Width

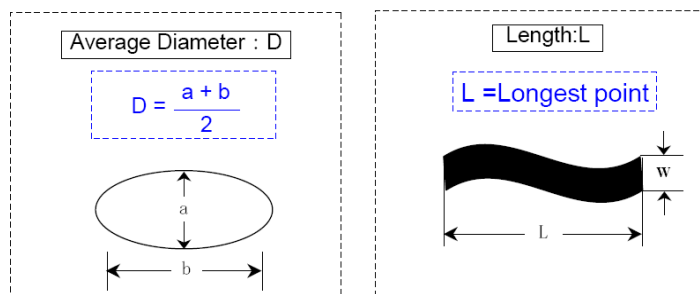


Fig.6

Note 13 : The gap between front bezel and Polarizer :

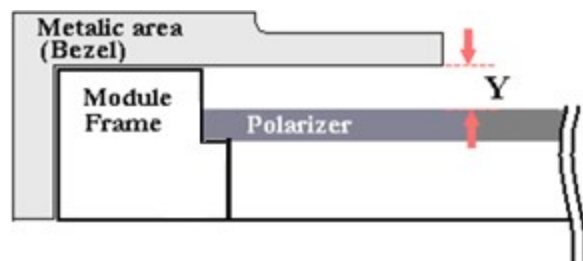


Fig.7

3.9 Inspection judgement:

3.91 The judgement of the shipped lot (acceptance or rejection) should follow the sampling plan of ANSI/ASQL Z1.4-2003, single sampling, normal inspection, level II.

3.92 If the number of defects is equal to or less than the applicable acceptance level, the lot shall be accepted.

3.93 If the number of defects is more than the applicable acceptance level, the lot shall be rejected and the buyer should inform the 3.93 seller of the result of incoming inspection in writing.

3.95 Precaution:

Please pay attention to the following items when you use the LCD Module with back-light unit.

3.951 Do not twist or bend the module and prevent the unsuitable external force for display module during assembly.

3.952 Adopt measures for good heat radiation. Be sure to use the module with in the specified temperature.

3.953 Avoid dust or oil mist during assembly.

3.954 Follow the correct power sequence while operating. Do not apply the invalid signal, otherwise, it will cause improper shut down and damage the module.

3.955 Less EMI: it will be more safety and less noise.

3.956 Please operate module in suitable temperature. The response time & brightness will drift by different temperature.

3.957 Avoid displaying a fixed pattern (exclude the white pattern) for a long period, which may lead to image sticking.

3.958 Be sure to turn off the power when connecting or disconnecting the circuit.

3.959 Polarizer scratches easily, please handle it carefully.

- 3.960 Display surface never likes dirt or stains.
- 3.961 A dewdrop may lead to destruction. Please wipe off any moisture before using module.
- 3.962 Sudden temperature changes cause condensation, and it will cause polarizer damaged.
- 3.963 High temperature and humidity may degrade performance. Please do not expose the module to the direct sunlight and so on.
- 3.964 Acetic acid or chlorine compounds are not friends with TFT display module.
- 3.965 Static electricity will damage the modules; please do not touch the module without any grounded device.
- 3.966 No parts of the panel should be dismantled without the presence of AU engineer or the product will not be warranted.
- 3.967 Be careful do not touch the rear side directly because of the backlight high voltage.
- 3.968 No strong vibration or shock. It will cause module broken.
- 3.969 Storage the modules in suitable environment with regular packing.
- 3.970 Be careful of injury from a broken display module. Please avoid the pressure adding to the surface (front or rear side) of modules, because it will cause the display non-uniformity or other function issue.
- 3.971 Please remove the POL protection carefully or the panel may be disassembled or damaged.

4 Touch screen parameters and inspection standards

4.1 Touch screen parameters and inspection standards

Note1: In order to make a touch panel operate normally, please make sure that the host device is grounded.

Note2: All environmental characteristics listed as above all should be less than 1 atmosphere.

Note3: The touch panel must be assembled with LCD panel by VHB or other materials, the control board also be fixed on LCM bezel or other mechanical parts of the system and then be grounded;

Note4: The touch panel may be damaged functionally or unstable if the panel does not be grounded through your system to earth.

4.1.1 FEATURES

ITEMS	SPECIFICATIONS
Panel Size	21.5 inch
Structures	Glass/ITO Glass
Glass surface treatment	AR+AF
AR color	bluish violet
AF droplet angle	$\geq 110^\circ$
Total Thickness	3.95 ± 0.30 mm (Cover_3 mm & SCA_0.25 mm & Sensor_0.7 mm)
Operation Conditions	-20°C ~ +70°C at Min 45% to Max 85% RH
Storage Conditions	-30°C ~ +80°C at Min 45% to Max 85% RH

ITEMS	SPECIFICATIONS	NOTE
Input Method	finger input	or other good conductors
Touch Points	10 points touch/50 million times	ILITEK TOUCH IC
Accuracy	Within 2.5mm each target & 10% Jitter limit on moving	Based on WIN7/WIN8/Linux/Android definition ppi (Pixel per inch)
Resolution	-----	
Resolution	25ppi (Min.)	
Transparency	$\geq 85\%$	

Haze	3% (Maximum)	By BYK-Gardner at 550nm.
water-proof	Water spray	When the coverage has mist on it, touching function is available

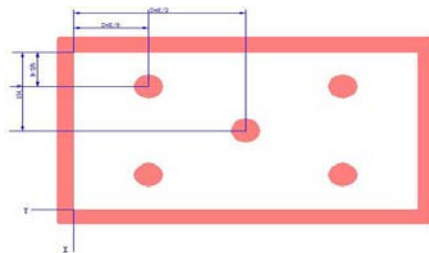
4.1.2 GENERAL SPECIFICATIONS

4.1.3 RELIABILITY TEST REPORT AND SPECIFICATIONS

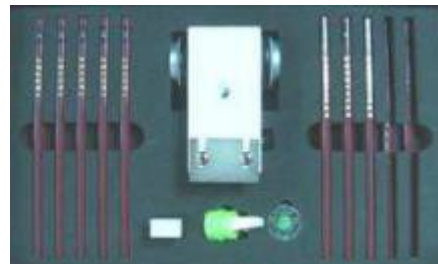
4.2 MECHANICAL CHARACTERISTICS

ITEMS		CONDITIONS	PASS CRITERIA
Panel	Ball Drop Test	227g±2g 40cm	No damage at each cycle drop 5points and each point drop 1 time only
	Hardness	Pencil: 6H Pressure: 1N/45°	Hardness≥6H
	Warpage	By Cage	Warpage≤Diagonal*0.3% Unit:mm
FPC/COF FPC/COF Reliability	Direction of peeling off	90°	Strength ≥ 500gf/cm
	Speed of Pulling out	50mm/min	

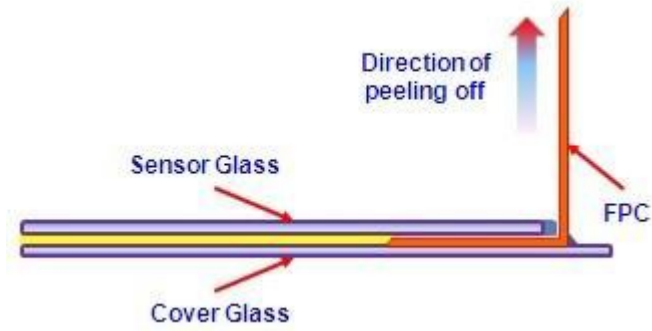
Note1:The ball drop test illustration is showed as follow.



Note2:The hardness test follows up the JIS K-5400 serials industry standard and the test illustration is showed as below.



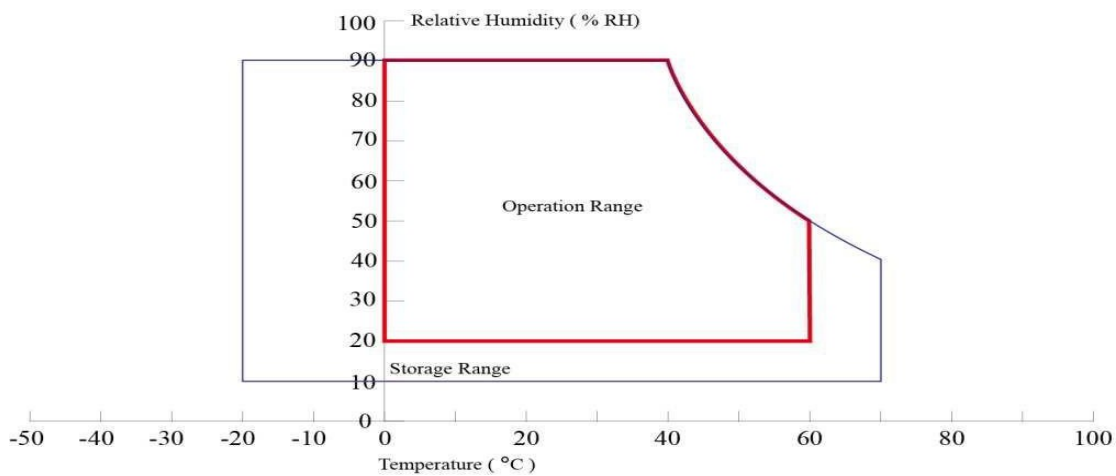
Note3: The FPC/COF peeling strength test illustration is showed as below, and the test method follows the standard Of ASMT D903/ASMT D3807.



4.3

Environment test conditions are listed as follows.

ITMES	SPECIFICATIONS
Temperature Cycling	The product should be allowed to stand at 0°C to +60°C with 90% RH for 240hrs un-load condition and allowed to be normalized for 4hrs.
Thermal Shock	The product should be allowed to stand at -40°C to +80°C for 30min/cycle with totally 50cycles and allowed to be normalized for 4hrs.
High Temp. Storage	The sample should be allowed to stand at +85°C for 240hrs un-load condition and allowed to be normalized for 4hrs.
High Temp. Storage	The sample should be allowed to stand at -40°C for 240hrs un-load condition and allowed to be normalized for 4hrs.



4.4 APPEARANCE AND COSMETIC INSPECTION

4.4.1 INSPECTION ENVIRONMENT CONDITIONS

The touch panel has to be inspected at a clean room of at least class 10,000.

The visual inspection environment should be set at 15 to 25 degree C and 25% to 75% humidity.

The illumination of the appearance inspection should be 800~1000Lux with fluorescent reflection light source.

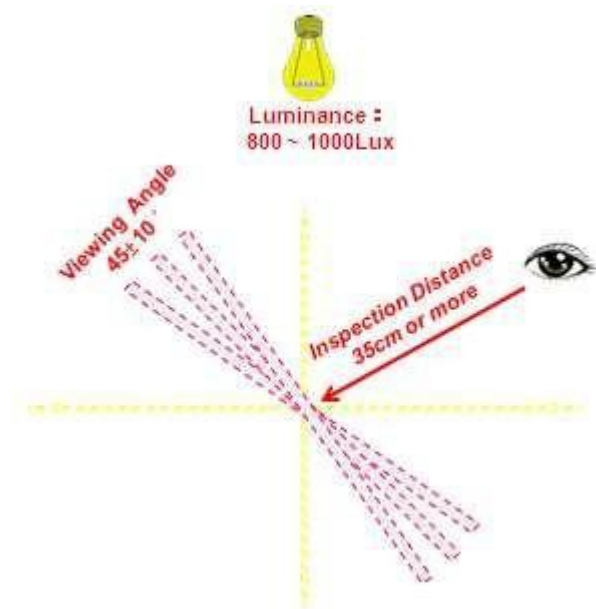
The visual inspection should be kept the distance 35cm or more between the touch panel and the raw eyes of inspectors.

The viewing angle should be 45 ± 10 degree with an inspector's raw eyes when visual inspection.

Visual inspection time is 25 ± 5 second per one's that we are recommended.

The visual inspection illustration is showed as below.

4.4.2 COSMETIC SPECIFICATIONS



Defects are classified two types, one is major and the other is minor according to the defect specification, and they were definition as follows.

Test method: According to ANSI/ASQC C1.4-2003. General Inspection Level II take a single time.

I. Major defect

Any defect may result in functional fail or reduce the usability such as electrical failure, deformation etc.

II. Minor defect

It doesn't reduce the usability such as line defect, dot defect etc.

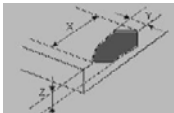
The defects classify of AQL as following:

Major defect: AQL=0.65. Minor defect: AQL=2.5. Total defects: AQL=2.5.

※COSMETIC DEFECT DEFENITION AND SPECIFICTIONS ※

COSMETIC DEFECT DEFENITION		SPECIFICA TIONS	PASS CRIRERA
Linear Defects (Scratch/Scrub / Fiber)	Scratch/Scrub	$W \leq 0.1\text{mm}$	Ignore
		$0.1\text{mm} < W \leq 0.3\text{mm}$ 、 $L \leq 10\text{mm}$	$N \leq 5$ 、Distance $\geq 10\text{mm}$
		$0.1\text{mm} < W \leq 0.3\text{mm}$ 、 $L \leq 10\text{mm}$	$N \leq 5$ 、Distance $\geq 10\text{mm}$
		$W > 0.3\text{mm}$	Not Allowed
	Fiber	$W \leq 0.15\text{mm}$	Ignore
		$0.15\text{mm} < W \leq 0.3\text{mm}$ 、 $L \leq 10\text{mm}$	$N \leq 4$ 、Distance $\geq 10\text{mm}$
		$W > 0.3\text{mm}$	Not Allowed

COSMETIC DEFECT DEFENITION		SPECIFICA TIONS	PASS CRIRERA
Dot Defects (Bubble/Fiber/Parti)	Active Area	$D \leq 0.3\text{mm}$	Ignore、Pitch $\geq 10\text{mm}$
		$0.3\text{mm} < D \leq 0.4\text{mm}$	$N \leq 5$ 、Pitch $\geq 10\text{mm}$
		$0.4\text{mm} < D \leq 0.5\text{mm}$	$N \leq 5$ 、Pitch $\geq 10\text{mm}$

cle /Spot/Dent/Nick)		D>0. 5mm	Not Allowed
	Printing Area	D≤0. 35mm	Ignore
		0. 35mm<D≤0. 4mm	N≤4、Pitch≥10mm
		0. 4mm<D≤0. 5mm	N≤4、Pitch≥10mm
		D>0. 5mm	Not Allowed
Printing Defects	Pine Hole	D≤0. 35mm	Ignore
	Light Leakage	Peak to Peak≤0. 3mm	Border Area Acceptable
		Peak to Peak≤0. 2mm	Logo/icon Area Acceptable
Breakage Defects	Corner Defect 	X≤3. 0mm &Y≤3. 0mm IFZ≤T/2mm	Be Allowed on Cover Glass
		X≤3. 0mm &Y≤3. 0mm IFZ≤T/2mm	Be Allowed on Cover Glass
	Edge Defect 	X≤3. 0mm &Y≤3. 0mm IFZ≤T/2mm	N≤3/Edges、Distance≥20mm Be Allowed on Cover Glass
		X≤3. 0mm &Y≤3. 0mm IFZ≤T/2mm	N≤3/Edges、Distance≥20mm Be Allowed on Cover Glass
ID Appearance		All dimensions by procedures via mechanical must be followed by customer's drawing definition	All dimensions and tolerances must be followed by customer's drawing definition.
Color Shift		Be followed by customer's AI drawing and "PANTONE" no. definition all of the marks	Be followed by "PANTONE" no. or checked by golden sample if have argued.
IR Hole Printing			Be followed by customer spec or checked by golden sample

Note1: "L" means Length, "W" for Width, "N" for Quantity and "Pitch" for the distance between both defects.

Note2: $D = (X+Y)/2$, and dot sharp diagram showed as below.

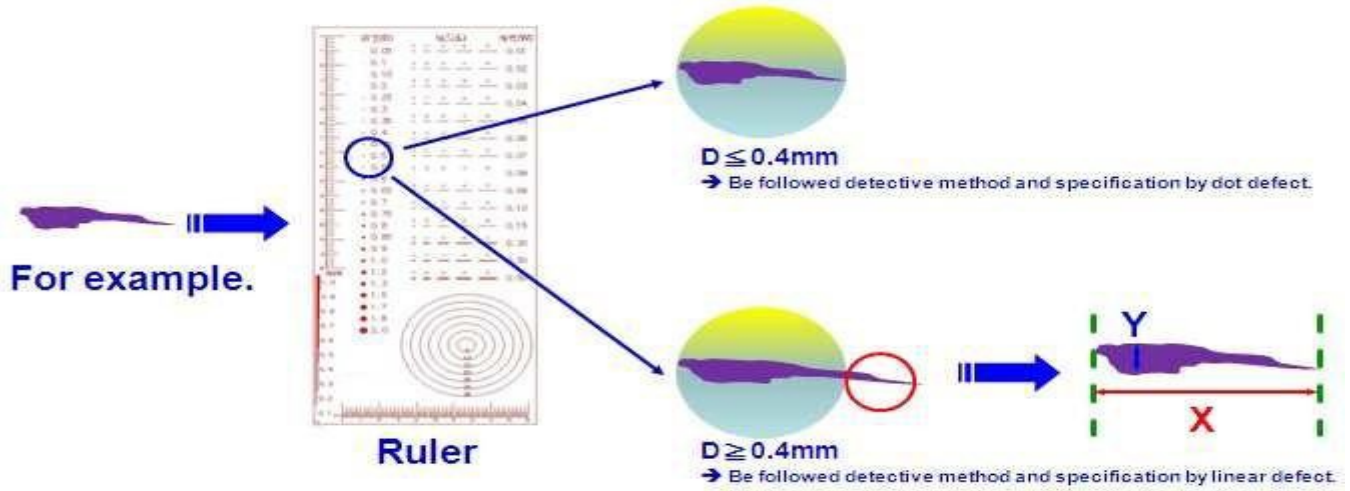
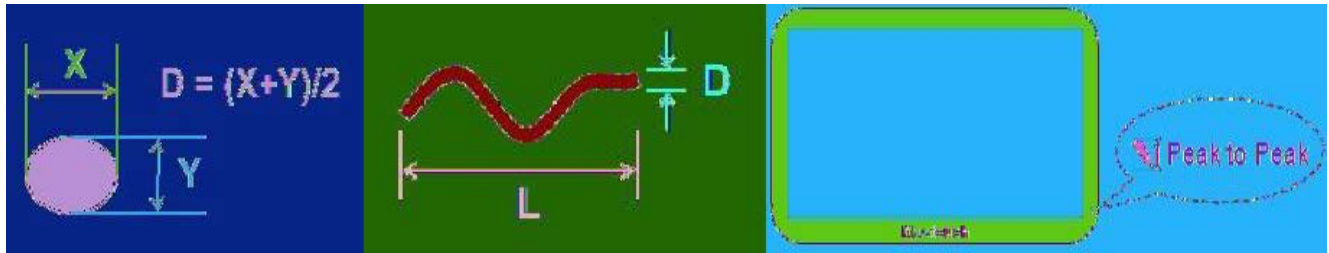
Note3: "L" means Length, "D" for Width, and linear sharp illustration is showed as below.

Note4: If the shape of particles is not dot or line,

<A> Put Ruler on the particle and inspect it by the inspection method of the particle.

 Use the inspection method of the linear particle to inspect the particle, if the size of the particle exceeds the range of the dot particle.

Note5: The size of the defects should be measured by Ruler.



4.5 PRECAUTIONS

ITEMS	EXPLANATION
Storage	1. A touch panel should be stored under the environment temperature and humidity controlled as suggested. 2. Do not store a touch panel in direct sunlight.
Handling	1. Unpack the carton with the printed red arrow pointing up. 2. Hold a touch panel body instead of the FPC/COF all the time. 3. Avoid that the surface of the sensor glass is polluted after removing the protect film when assembly.
Cleaning	1. Prevent using any kind of the chemical solvent, acidic or alkali solution when cleaning. 2. Neutral detergent or isopropyl alcohol was suggested if the panel is cleaned.

Assembly	1. Do not apply rough force such as bending or twisting to the touch panel during assembly. 2. Excessive force or strain to the panel or FPC/COF is prohibited. 3. Past VHB tape or sponge with adhesive on the gap between a touch panel and a LCD module to segregate water and dust contamination.
Operation	1. The panel must be operated in a steady environment, the abrupt change of the environment conditions may cause the malfunction of the panel.

ITMES	EXPLANATION
Operation	1. In order to guarantee all functions of a touch panel stable, please make sure that system is grounded or a power adapter is connected correctly to ground loop (Connection to earth ground is suggested). 2. Do not pull the interface connector in or out while the touch panel is operating. 3. Any sharp edged or hard objects are interdiction to hitting when touch panel operation.
Others	1. The product meets the specification requirement of the ROHS standard criteria. 2. We will provide 12 months product guarantee under normal operation Conditions. 3. If the panel will be used in extreme conditions such as high temperature, high humidity, high altitude or long operation time etc., It is strongly recommended to contact us for field application engineer's advice. Otherwise, Itsreliability and function may not be guaranteed. 4. Avoid high voltage and/or static charge being applied to touch module. 5. Keep the panel surface clean. Prevent any kind of adhesive applied on the surface. 6. To avoid the metal or any kind of the electric conduction materials on the touch screen when you are handling. 7. Any kind of the nonelectric conductor may cause the malfunction when that applied due to touchscreen is sensing by human body. 8. Please finish installation within 30 days after receive the products. Otherwise, Due to the storage environment and too long time stay, the surface of the product will be misty. The customer should be liable for such damages.

5 Constant current plate parameters and precaution

5.1 General description This product is the LED driver, has the constant pressure constant flow multi groups outputs, is suitable in the LED lamp's application./

5.1.1 Features

High performance, low consumption

Opening protection function(each)

Short protection function(each)

Over current function

5.1.2 Application

This product for each kind of LED display unit design, applies each kind of LED demonstration!

5.1.3 Suitable load

LED backlight LCD panel.

5.1.4 Environmental condition

Operating temperature: 0°C -- 40°C

Storage temperature: -20°C -- 60°C

Operating humidity: 10% -- 80%RH

Storage humidity: 10% -- 93%RH

5.1.5 Abnormal operating testing

Damage to the inverter must not occur such as fire, high temperature, breakdown, and molten metal etc, in equipment.

5.2 Input electrical characteristics

Item	Symbol	Min	Type	Max	Unit
Input Voltage/	Vin	9	12	18	V
Input Current/	Iin	≤ 2			A

Input Power/	Pin	≤ 15	W
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5.3 Input connector pin assignments /JP1: 6P-2.0mm

Pin No.	Symbol	Description
1-2	VCC	DC Supply voltage
3	ENA	The backlight On/Off control
4	ADJ	Adjust Backlight Brightness
5-6	GND	Ground

5.4 The backlight On/Off control

Description	Min	Type	Max	Unit
On / 开机	3.3	---	5	V
Off / 关机	0	---	1	V

5.5 Adjust backlight brightness

Input signal	Min	Type	Max	Unit	Note
DC / 直流	0	— —	5	V	0V 最亮

5.6 Output electrical characteristics

Item	Symbol	Test Conditions	Min	Type	Max	Unit
Output Current 输出电流	I _{out}	ADJ=0V	265	280	295	mA
Output Voltage 输出电压	V _{out}	V _{in} =12V	18		40	<u>V</u>
Efficiency 效率	η	V _{in} = 12V		90		%

Note: This product is a boost topology, and the output voltage must be higher than 5V of input voltage to work normally.

5.7 Output connector pin assignments

Pin No.	CN2 PH2. 0mm-4P
1	LED +
2	LED +
3	LED -
4	LED -

Pin No.	CN3 PH2. 0mm-2P
1	LED +
2	LED -

5.8 Notice

A.Please in the crosspiece extension wiring with the high temperature contact, like this do not cause the board to be unable to use normally, also cannot join the wire, so will affect electric circuit's performance.

B.Based on the security problem, please when assembles this product, do guarantee that in this product and between the complete machine metallic material maintains at least the 4mm above distance, or the use enough insulation grade's insulation material carries on the isolation, avoids the static electricity creating the direct damage to the electric circuit chip.

C.Don't twist , deform , drop or knock the inverter during assembly.

E.This products are not intended for use in systems in which failures of product could result in personal injury.

F.Don't pull out and insert the connector when the power supply is ON

6 Inspection standard for integrated casing material

Whole machine inspection report inspection item

6.1 Appearance inspection: There should be no obvious damage or scratches on the surface, and the surface treatment should be uniform!

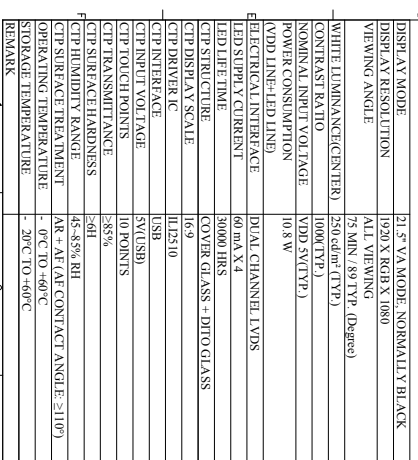
6.2 Touch screen function test: Clicking on the position can respond normally; Non broken jumper wire; The click position is accurate and there is no significant deviation

6.3 LCD screen display test: Basic color blocks display normally, characters display clearly without shadows, interlaced interference patterns have no interference, ripple images are clear, and there are no obvious abnormal phenomena such as flickering or ripples

6.4 Sheet metal shell size inspection: Control within the specified tolerance range.

Serial number	model	machine code	appearance inspection	sheet metal shell size inspection	touch screen function testing	LCD screen display testing
			PASS	PASS	PASS	PASS

7



USB Pin assignment:	
1.	USB -5V
2.	D-
3.	D+
4.	GND
Backlight Pin assignment - CN1:	
1.	VCC Supply voltage 5- 20V
2.	VCC Supply voltage 5- 20V
3.	ENA On/Off Voltage 2- 5V On/ 0- 1V Off
4.	PWM/ADJ Bright Voltage 0- 5V 0V Bright
5.	GND Ground 0V
6.	GND Ground 0V

Viconix Display Co., LTD						
PRODUCT SIZE:	21.5	DWN:	Pennie	DATE:	26.02.05	
FILE NO:	VXT15AUCP-01C	CHK:		DATE:		
CUSTOMER PART NO.	\	REV:	1	UNIT:	MM	
				ANGLE PROTECTION		