




# SPECIFICATION FOR Monitor

MODULE No:	KD101WXFLD051-01-CTP-Monitor
CUSTOMER:	

STARTEK	INITIAL	DATE
PREPARED BY	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Distributed by:    <a href="http://www.texim-europe.com">www.texim-europe.com</a> </div>	
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CUSTOMER	INITIAL	DATE
APPROVED BY		

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常备库存 Stock For Sale	长期供货 Long Time supply	支持小量 NO MOQ	品种齐全 In Full Range	

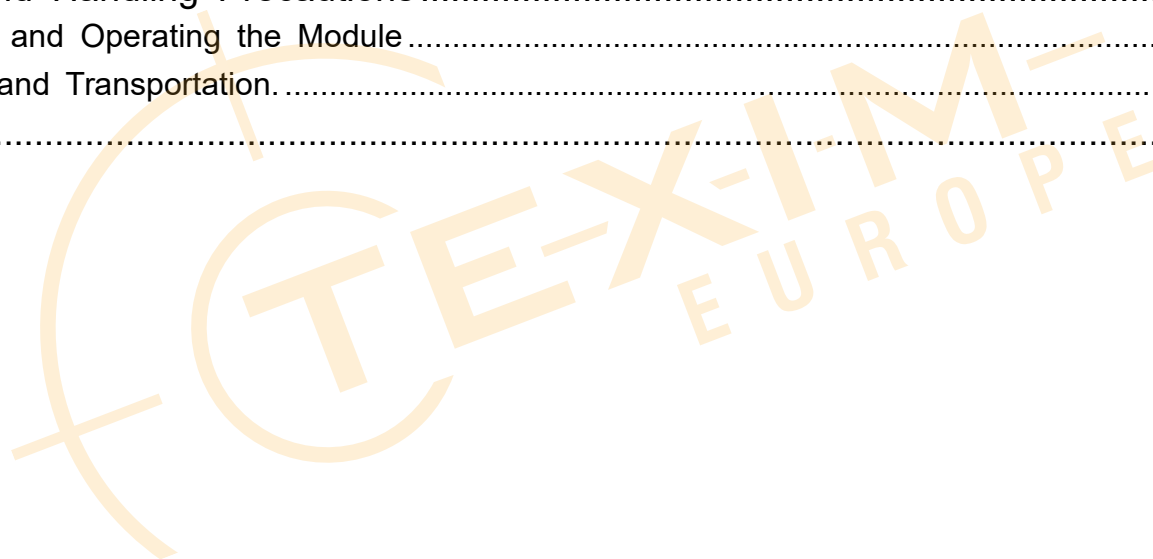
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### \* Description

This is a plug and play device, this is a color active matrix TFT (Thin Film Transistor) LCD (liquid crystal display) that uses amorphous silicon TFT as a switching device. This module is composed of a Transmissive type TFT-LCD Panel, capacitance touch panel, driver circuit, back-light unit, HDMI adapter board. The resolution of a 10.1" TFT-LCD contains 1280x800 pixels, and can display up to 16.7M colors.

### \* Operating Instructions

This product supports the following operating systems: Windows 7/8/10, Android, Linux, Raspberry Pi.

1. Connect the DC power.
2. Connect the HDMI cable to Windows 7/8/10 or Android or Linux or Raspberry Pi.
3. Connect the micro USB for touch panel, if this module supports it.

### \* Features

General Information Items	Specification	Unit	Note
	Main Panel		
Display area(AA)	217.96(H)*136.60(V) (10.1 inch)	mm	
Driver element	TFT active matrix	-	
Display colors	16.7M	colors	
Number of pixels	1280(RGB)*800	dots	
Pixel arrangement	RGB vertical stripe	-	
Pixel pitch	0.1692(H)*0.1692(V)	mm	
Viewing angle	ALL	o'clock	
Display mode	Normally Black	-	
Operating temperature	0~+40	°C	
Storage temperature	-20~+50	°C	

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**\* Module Features**

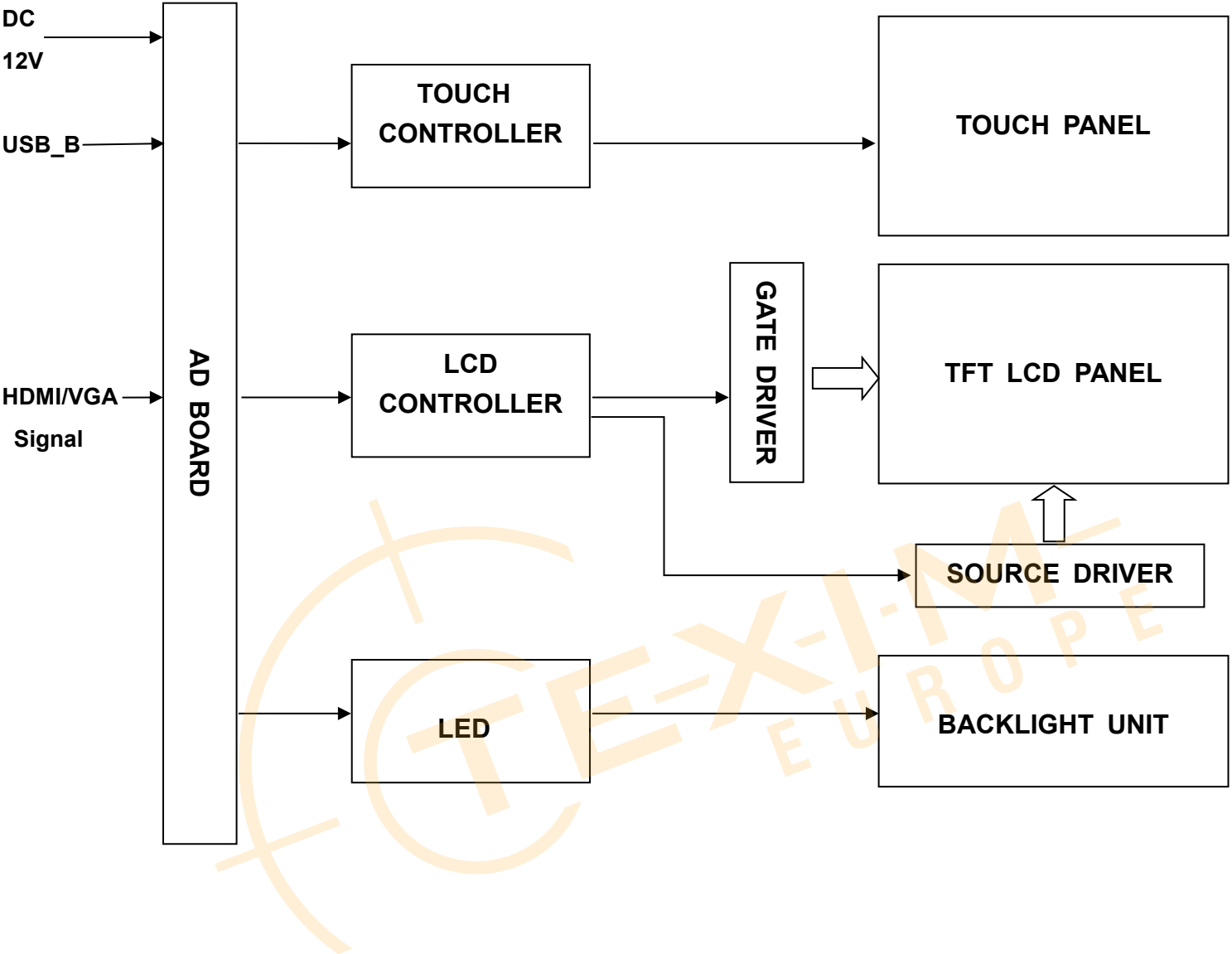
General Information Items	Specification	Unit	Note
Display Interface	HDMI/VGA	-	
Touch Interface	USB_B	-	
Touch Type	Capacitive touch panel	-	
Touch Mode	Multiple point	-	
Power supply	DC-12V	-	

**\* Mechanical Information**

Item		Min.	Typ.	Max.	Unit	Note
Module size	Horizontal(H)	-	255.26	-	mm	
	Vertical(V)	-	173.90	-	mm	
	Depth(D)	-	41.80	-	mm	
Weight		-	2013	--	g	

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1. Block Diagram



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### 3. Pin Assignment

#### 3.1 Power Input

DC12V Socket

NO.	SYMBOL	DISCRIPTION	I/O
1	DC_IN	Power supply (DC 12V).	P
2	GND	Ground	P
3	GND	Ground	P

#### 3.2 Touch Input

USB\_B

NO.	SYMBOL	DISCRIPTION	I/O
1	VBUS_5V	Supply voltage(5V).	P
2	USB_DN	USB- signal.	I/O
3	USB_DP	USB+ signal.	I/O
4	NC	No connection.	
5	GND	Ground.	P

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### 3.3 HDMI Input

The type of HDMI connector is a type A.

NO.	SYMBOL	DISCRIPTION	I/O
1	RX_D2+	HDMI Receiver channel 2 positive analog input.	I/O
2	GND	Ground.	P
3	RX_D2-	HDMI Receiver channel 2 negative analog input.	I/O
4	RX_D1+	HDMI Receiver channel 1 positive analog input.	I/O
5	GND	Ground.	P
6	RX_D1-	HDMI Receiver channel 1 negative analog input.	I/O
7	RX_D0+	HDMI Receiver channel 0 positive analog input.	I/O
8	GND	Ground.	P
9	RX_D0-	HDMI Receiver channel 0 negative analog input.	I/O
10	RX_CLK+	HDMI Receiver clock positive analog input.	I
11	GND	Ground.	P
12	RX_CLK-	HDMI Receiver clock negative analog input.	I
13	CEC/DET_HDMI	No connection.	--
14	NC	No connection.	--
15	HDMI_SCL	HDMI Receiver DDC data channel.	I
16	HDMI_SDA	HDMI Receiver DDC clock channel.	I/O
17	GND	Ground.	P
18	HDMI_5V	HDMI Supply voltage (5.0V).	P
19	HPD	HDMI Receiver hot plug detect output	O

## 4. LCD Optical Characteristics

### 4.1 Optical specification

Item		Symbol	Condition	Min.	Typ.	Max.	Unit.	Note
Contrast Ratio		CR	$\Theta=0$ Normal viewing angle	800	1000	--		(1)(2)
Response time	Rising	$T_R+T_F$		--	25	35	msec	(1)(3)
	Falling			--				
LCM Luminance		LV		--	700	--	cd/m2	
Color Gamut		S(%)		--	47.93	--	%	
Color Filter Chromaticity	White	$W_X$		-0.02	0.3130	+0.02		(1)(4) CF glass
		$W_Y$			0.3665			
	Red	$R_X$		-0.04	0.6053	+0.04		
		$R_Y$			0.3581			
	Green	$G_X$			0.3157			
		$G_Y$			0.5648			
	Blue	$B_X$			0.1518			
		$B_Y$			0.1581			
Viewing angle	Hor.	$\Theta_L$	CR>10	70	80	--	(1)(4)	
		$\Theta_R$		70	80	--		
	Ver.	$\Theta_U$		70	80	--		
		$\Theta_D$		70	80	--		
Option View Direction		ALL						

\*The data comes from the LCD specification.

### Measuring Condition

Measuring surrounding : dark room

Ambient temperature : 25±2°C

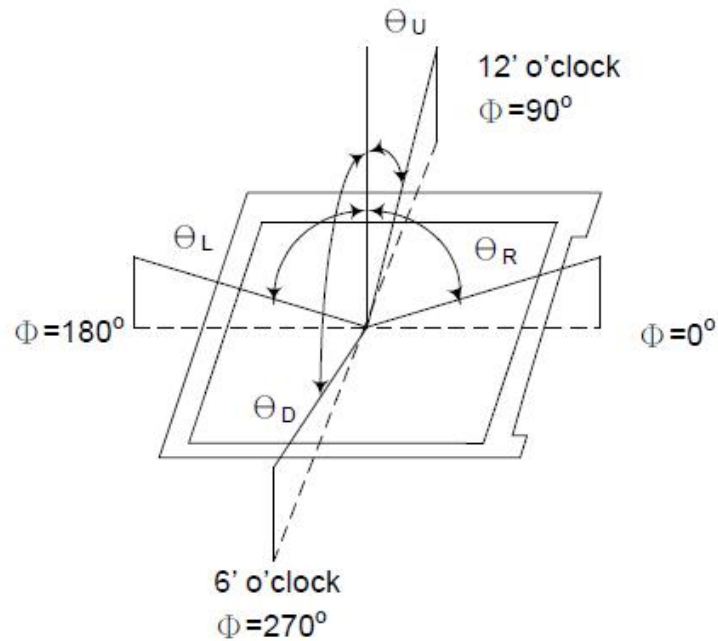
15min. warm-up time.

### Measuring Equipment

FPM520 of Westar Display technologies, INC., which utilized SR-3 for Chromaticity and BM-5A for other optical characteristics.

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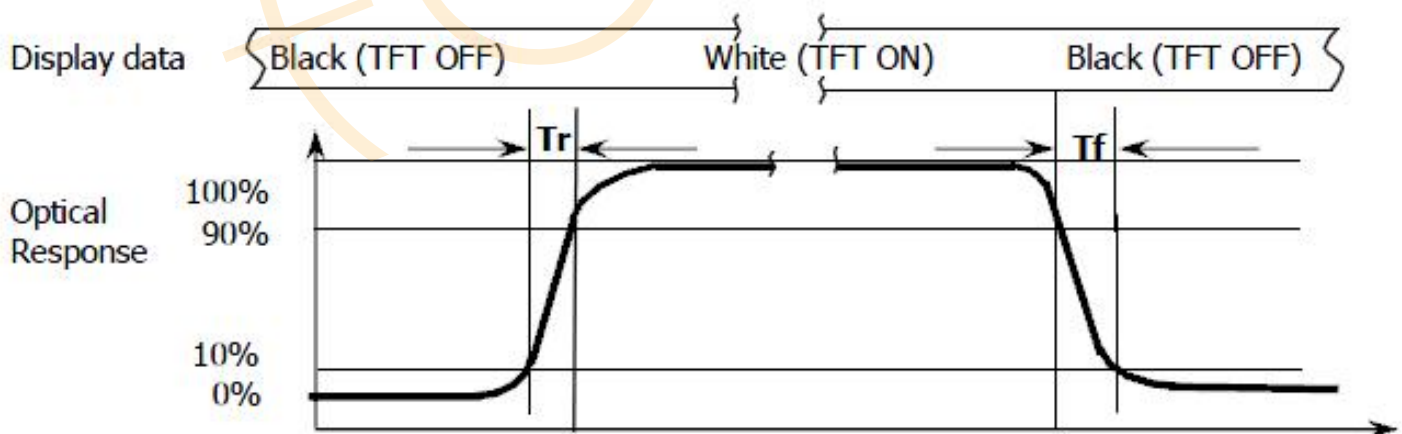
**Note (1):** Definition of Viewing Angle :



**Note (2):** Definition of Contrast Ratio(CR) :measured at the center point of panel

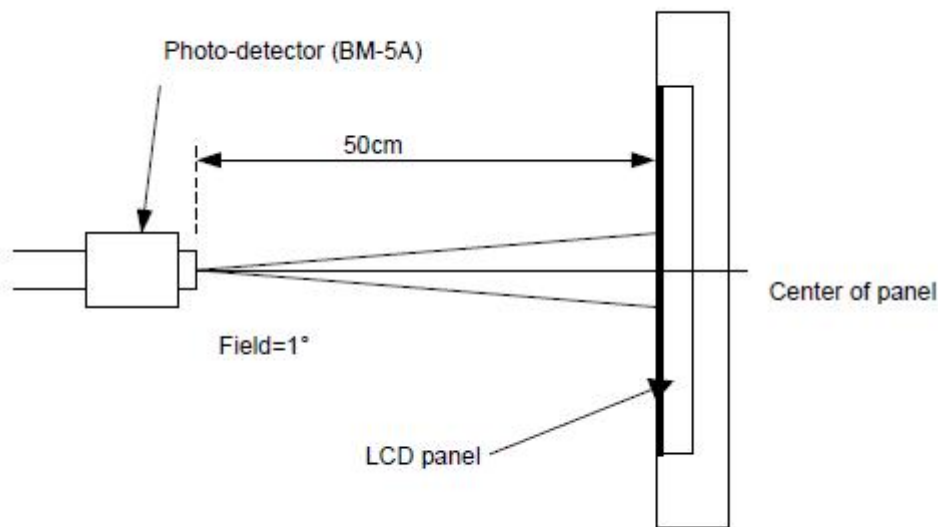
$$CR = \frac{\text{Luminance with all pixels white}}{\text{Luminance with all pixels black}}$$

**Note (3):** Response Time



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**Note (4):** Definition of optical measurement setup



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## 5. Electrical Characteristics

### 5.1 Absolute Maximum Rating

Characteristics	Symbol	Min.	Max.	Unit	Note
Digital Supply Voltage	DC_IN	-0.5	16.0	V	Note1
Operating temperature	T <sub>OP</sub>	0	+40	°C	
Storage temperature	T <sub>ST</sub>	-20	+50	°C	

NOTE1: If the absolute maximum rating of even is one of the above parameters is exceeded even momentarily, the quality of the product may be degraded. Absolute maximum ratings, therefore, specify the values exceeding which the product may be physically damaged. Be sure to use the product within the range of the absolute maximum ratings.

### 5.2 DC Electrical Characteristics

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Note
Power Supply Voltage	DC_IN	9	12	16	V	
Normal mode Current consumption	I <sub>DC_IN</sub>	--	160	--	mA	DC_IN=12V

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## 6. Reliability Test Result

Item	Condition	Inspection after test
High Temperature Operating	40°C, 240H	Inspection after 2~4hours storage at room temperature, the sample shall be free from defects: 1.Air bubble in the LCD; 2.Non-display; 3.Missing segments/line; 4.Glass crack; 5.Current IDD is twice higher than initial value.
Low Temperature Operating	0°C, 240HR	
High Temperature Storage	50°C, 240HR	
Low Temperature Storage	-20°C, 240HR	
High Temperature & High Humidity Operating	+60°C, 80% RH ,240 hours.	
Thermal Shock (Non-operation)	-10°C,30 min ↔ +60°C,30 min, Change time:5min 20CYC.	
ESD test	C=150pF, R=330,5points/panel Air:±8KV, 5times; Contact:±6KV, 5 times; (Environment: 15°C~35°C, 30%~60%).	
Vibration (Non-operation)	Frequency range:10~55Hz, Stroke:1.5mm Sweep:10Hz~55Hz~10Hz 2 hours for each direction of X.Y.Z. (6 hours for total) (Package condition).	
Box Drop Test	1 Corner 3 Edges 6 faces,80cm(MEDIUM BOX)	

Remark:

- 1.The test samples should be applied to only one test item.
- 2.Sample size for each test item is 5~10pcs.
- 3.For Damp Proof Test, Pure water(Resistance > 10MΩ) should be used.
- 4.In case of malfunction defect caused by ESD damage, if it would be recovered to normal state after resetting, it would be judged as a good part.
- 5.Failure Judgment Criterion: Basic Specification, Electrical Characteristic, Mechanical Characteristic, Optical Characteristic.

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## 7. Cautions and Handling Precautions

### 7.1 Handling and Operating the Module

(1) When the module is assembled, it should be attached to the system firmly.

Do not warp or twist the module during assembly work.

(2) Protect the module from physical shock or any force. In addition to damage, this may cause improper operation or damage to the module and back-light unit.

(3) Note that polarizer is very fragile and could be easily damaged. Do not press or scratch the surface.

(4) Do not allow drops of water or chemicals to remain on the display surface.

If you have the droplets for a long time, staining and discoloration may occur.

(5) If the surface of the polarizer is dirty, clean it using some absorbent cotton or soft cloth.

(6) The desirable cleaners are water, IPA (Isopropyl Alcohol) or Hexane.

Do not use ketene type materials (ex. Acetone), Ethyl alcohol, Toluene, Ethyl acid or Methyl chloride. It might permanent damage to the polarizer due to chemical reaction.

(7) If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, legs, or clothes, it must be washed away thoroughly with soap.

(8) Protect the module from static; it may cause damage to the CMOS ICs.

(9) Use finger-stalls with soft gloves in order to keep display clean during the incoming inspection and assembly process.

(10) Do not disassemble the module.

(11) Protection film for polarizer on the module shall be slowly peeled off just before use so that the electrostatic charge can be minimized.

(12) Pins of I/F connector shall not be touched directly with bare hands.

(13) Do not connect, disconnect the module in the "Power ON" condition.

### 7.2 Storage and Transportation.

(1) Do not leave the panel in high temperature, and high humidity for a long time.

It is highly recommended to store the module with temperature from 0 to 35 °C and relative humidity of less than 70%

(2) Do not store the TFT-LCD module in direct sunlight.

(3) The module shall be stored in a dark place. When storing the modules for a long time, be sure to adopt effective measures for protecting the modules from strong ultraviolet radiation, sunlight, or fluorescent light.

(4) It is recommended that the modules should be stored under a condition where no condensation is allowed. Formation of dewdrops may cause an abnormal operation or a failure of the module.

In particular, the greatest possible care should be taken to prevent any module from being operated where condensation has occurred inside.

(5) This panel has its circuitry FPC on the bottom side and should be handled carefully in order not to be stressed.

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8. Packing

----TBD-----



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