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Model Name: KFE-DIS000074


17" OPEN FRAME MONITOR WITH ANTI-VANDALISM SAW (Surface Acoustic Waves) TOUCHSCREEN AND USB INTERFACE

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Revision History

REV.No.	DATE	DESCRIPTION	CHECKED	APPROVED	NOTE
1	17/11/2008		17/11/2008 Mr.Galeotti		

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Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any item does not accord with the table, please contact immediately your dealer.

 	On Screen Display (OSD) Keyboard 4Pcs of Adhesive Gaskets :
	<p>WARNING: the gasket included into the package has two different sides. The first side is hard surface and it will have to face the touchscreen.</p> <p>The second side is with adhesive (after you remove the paper) and it will have to be stuck on the front cover side (towards the customer's mechanical structure). In case the 2nd side face the touchscreen, it will stop the surface acoustic waves and the touchscreen won't work.</p>
	European power cable & VGA cable
	USB touchscreen controller
	USB data & power cable for touchscreen's controller
	17" Monitor TFT (front and rear view)

Drivers

Please contact your dealer to ask for the latest version.


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Safety Instructions

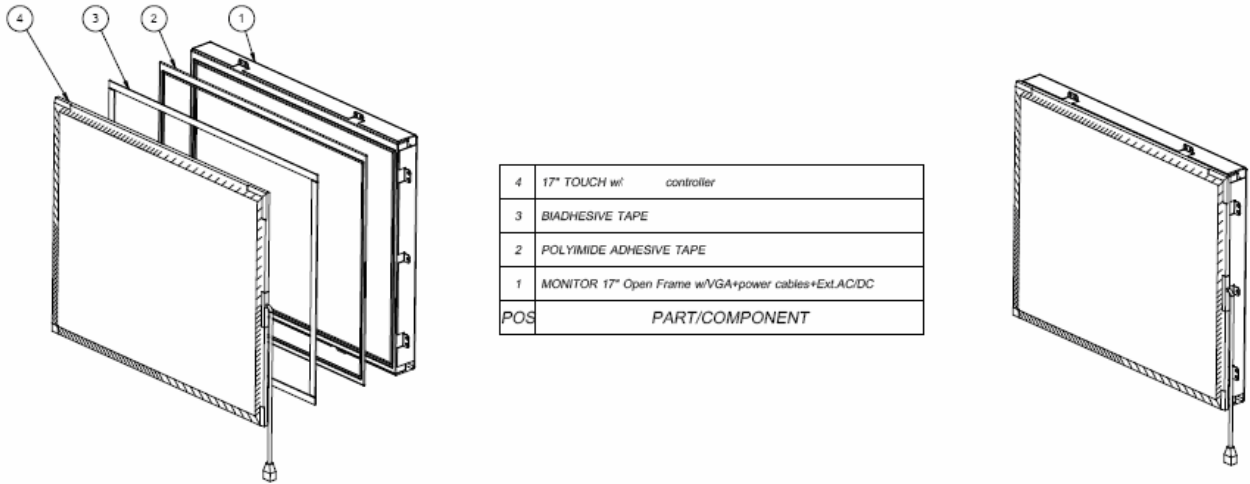
- a) Use the monitor after reading the manual carefully.
- b) Please grasp the plug to unplug the connector from the wall outlet. Don't pull the power cord to unplug it.
- c) Disconnect this equipment from AC outlet before cleaning.
- d) Keep 3 inch (76mm) away from the wall or other goods.
- e) Do not use liquid or spray detergents for cleaning.
- f) For pluggable equipment, the power outlet shall be installed near the equipment and shall be easily accessible.
- g) To prevent the risk of fire or shock hazards, do not expose this product to rain or moisture.
- h) Please do not open or disassemble the products as this may cause electric shock.
- i) Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
- j) Do not leave this equipment in an environment unconditioned where the storage temperature is under -20 C (-4° F) or above 55° C (131° F), it may damage the equipment.
- k) The openings on the enclosure are for air convection hence protects the equipment from overheating. DO NOT COVER THE OPENINGS.
- l) Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- m) Place the power cord such a way that people can not step on it. Do not place anything over the power cord. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
- n) All cautions and warnings on the equipment should be noted.
- o) If the equipment is not used for long time, disconnect it from the power source to avoid being damaged by over-voltage transient.
- p) As safety measure, this monitor is equipped with a three-wires ground style plug. If you can't insert the plug into the outlet, contact your electrician to replace your outlet. Don't defeat the safety purpose of the grounding-type plug.
- q) Never pour any liquid into ventilation openings. This could cause fire or electrical shock.
- r) Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
- s) If any of the following situations arises, get the equipment checked by service personnel:
 1. The power cord or plug is damaged.
 2. Liquid has penetrated into the equipment.
 3. The equipment has been exposed to moisture.
 4. The equipment does not work well, or you cannot get it to work according to the user's manual.
 5. The equipment has been dropped and damaged.
 6. The equipment has obvious signs of breakage.
 7. The equipment exhibits a distinct change in performance.

Warning

This product consists of devices that may contain mercury, which must be recycled or disposed of in accordance with local, state, or federal laws. (Within this system, the backlight lamps in the monitor display contain mercury)

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KFE-DIS Series exploded drawing



General information

This monitor is a high-performance intelligent multi-scanning colour monitor. It is made with 17" TFT LCD screen and MCU digital control without radiation and glare.


Specifications

Note: The monitor's specifications are affected by the TFT model which is installed inside the monitor. The TFT model is subject to change with regard to the availability of TFT models on the market. Please refer to the paragraph named "Disclaimer" on the page No.1 of this document.

At present the TFT used into this monitor is the model **LM170E03-TLL1**. Here below the specs mentioned on the official documents of the TFT's manufacturer.

TFT's General Features :

Active screen size	17.0 inch (43.27cm) diagonal		
Outline Dimension	358.5(H) x 296.5(V) x 16.0(D)	mm(Typ.)	
Pixel Pitch	0.264 mm x 0.264 mm		
Pixel Format	1280 horiz. by 1024 vert. Pixels. RGB stripe arrangement		
Display Colors	16.7M colors		
Luminance, white	300 cd/m2(Typ. Center 1 point)		
Power Consumption	21.1 Watts(Typ.)		
Weight	1600g (Typ.)		
Display operating mode	Transmissive mode, normally white		
Surface treatments	Hard coating (3H), Anti-glare treatment of the front polarizer		

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Absolute Maximum Ratings :

Parameter	Symbol	Values		Units	Notes
		Min.	Max.		
Power Supply Input Voltage	VCC	- 0.3	+ 5.5	V dc	At 25°
Operating Temperature	TOP	0	+ 50	°C	1
Storage Temperature	TST	- 20	+ 60	°C	1
Operating Ambient Humidity	HOP	10	+ 90	%RH	1
Storage Humidity	HST	10	+ 90	%RH	1

Start up and Connections

Note: Before connecting the touch monitor and the PC, be sure they are turned off.

1. Connect one end of the power adapter to the monitor and the other end to the connector of the power cord.
2. Connect one end of the USB cable to the touchscreen controller and the other end to the computer;
3. Connect one end of the video cable to the rear side of computer and the other end to the LCD monitor.
4. The USB cable provides both data and power connection.
5. Press the power button on the OSD keyboard to turn on the monitor.
6. Install the drivers and then reboot the PC.
7. Before installing the monitor on your system, you shall stick the special gasket on front housing of LCD monitor. Please take a look the gasket before stick it on front housing. There is only one side with adhesive glue (side A), the other side without (side B). Remove all protection film on side A and stick it on the edge of LCD monitor front housing as following picture

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8. Stick 4 gaskets on 4 sides of front housing (left/right/up/down).
9. Side B : with special plastic material surface, it will face on touch screen surface after you put back front housing to LCD monitor. This special material is able to let the Surface Acoustic Wave pass through the gasket.
10. After stick 4 gasket on the front housing, put back the front housing on LCD monitor, screw back with LCD display. (The gasket will be in the correct position when put back the front housing to LCD monitor, the 3mm thickness will avoid dust get into touch screen)

WARNING:

Four adhesive gaskets are included into the standard package in order to put them on the customer's mechanical structure assuring a good IP level (International Protection level) and the best touchscreen reliability. They have two different sides. Please pay attention on that because only one side is adhesive and follow the instructions mentioned above.

In case the adhesive side faces the touchscreen, that will stop the surface acoustic waves and the touchscreen won't work properly.

PLEASE CONTACT YOUR DEALER IN CASE SOME SPARE PARTS ARE NEEDED.

OSD Keyboard Instructions

Power on/off switch


This is a slight touch digital control key. It is used to turn the monitor on or off.

Power LED indicator

When the monitor is working, the power LED is green or blue. If the monitor is in saving power mode, the power LED will be red and flashing. If you turn off the computer, the power led is off. When the LED is off, the monitor is off, but the power adapter is on. In order to security, you should turn off power adapter while you don't use the monitor.

Auto key

This key is used to complete auto-adjusting function.

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+/- Selection key

These two keys will move the cursor left and right to carry out the parameters adjustment.

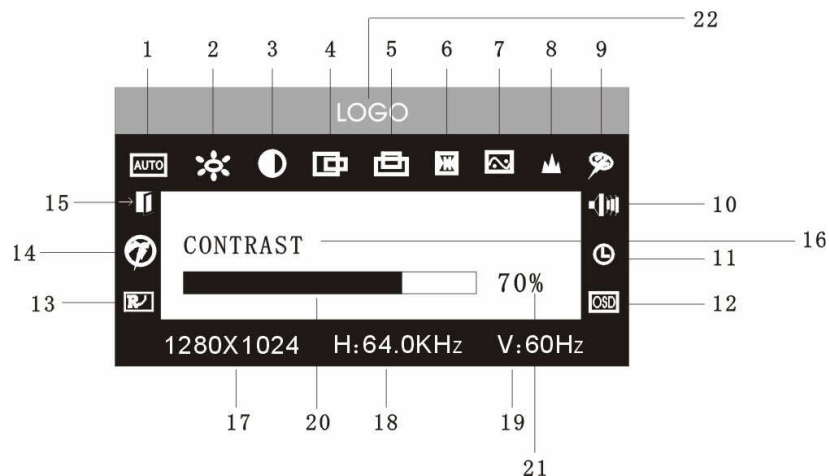
Confirmation key



















The confirmation key is used to show the menu and complete the confirmation function.

OSD menu description

The meaning of the menu:

1 auto adjustment	9 color adjustment	17 resolution
2 brightness	10 volume(optional)	18 H-frequency
3 contrast	11 OSD menu display time	19 V-frequency
4 H-position	12 OSD position / transparency adjustment	20 progressive bar of adjustment
5 V-position	13. recall	21 percentage of adjustment
6 clock	14 language	22. customer LOGO
7 phase	15 exit	
8 sharpness	16 selected function name	



	Display contents	Function
	AUTO ADJUSTMENT	Automatically adjust to obtain the best setting
	BRIGHTNESS	Adjust the brightness
	CONTRAST	Adjust the contrast
	H-POSITION	Move the screen toward left or right
	V-POSITION	Move the screen upward or downward
	CLOCK	Adjust the frequency of pixel
	PHASE	Adjust the phase of pixel clock
	SHARPNESS	Adjust the sharpness of the picture
	COLOR	Adjust the colors of the picture
9300	9300K color temperature	set 9300k color temperature
7800	7800K color temperature	set 7800k color temperature
6500	6500K color temperature	set 6500k color temperature
USER	USER mode	set USER mode
W-B	Auto color balance	Auto color balance
	VOLUME	Adjust the volume
	OSD DISPLAY TIME	Adjust the OSD display time
	OSD ADJUSTMENET	Adjust the parameter of OSD
	OSD H-Position	Move the menu toward left of right
	OSD V-Position	Move the menu upward or downward
	OSD Transparency	OSD Transparency Setting
	RECALL	Reset factory setting
	LANGUAGE	Language selection
	EXIT	Exit the menu

Auto adjustment :

When you choose this function, the monitor will come into the automatically adjustment mode.

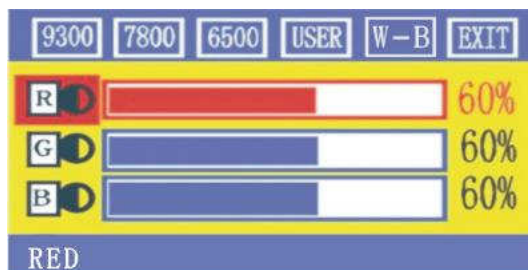
The figure here on the right will display on the screen. After a few seconds, the monitor will be in the best visual display mode.

AUTO ADJUSTMENT...

Color adjustment :

when the function is selected , the monitor will come into the sub-menu (as shown here to the right), there are five functions that can be selected:

- a,9300°K
- b,7800°K
- c,6500°K
- d, USER
- e, W-B.




Selecting USER, you will enter into the user selection mode and you can make adjustment to R/G/B contents to obtain your satisfaction colour.

Selecting W-B, it will enter into the colour balance mode ,and the monitor will automatically adjust the white-black colour reference voltage to obtain optimal colour balance.

R, G, B adjustment :


In "USER mode", the monitor will automatically enter into R/G/B the adjustment mode, push the " ← " key, the relative options will flash, then adjust it by "+/-" key. Then push " ← " again to exit.


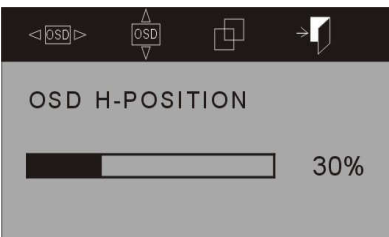
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Language:
 There are six languages to select.
 (As mentioned in the picture to the right)

ENG.: English
 FRE.: French
 DEU.: German
 ITA.: Italian
 ESP.: Spanish
 PYC.:Russian (TUR.:Turkish or POR.:Portuguese)

Position :
 When you select the item, you can adjust the H-position and V-position of OSD menu and transprence


Sharpness adjustment ():
 Adjust the sharpness of the picture on the screen.

Timing guide

NO.	Mode	Resolution	Ver.Frequency (Hz)	Hor.frequency (KHz)	Pixel clock (MHz)
1	VGA	640×480	60	31.5	25.175
2			72	37.9	31.5
3			75	37.5	31.5
4	SVGA	800×600	60	37.9	40
5			72	48.1	50
6			75	46.9	49.5
7	XGA	1024×768	60	48.4	65
8			70	56.5	75
9			75	60	78.75
10			75	67.5	108
11			60	60	108
12	SXGA	1280×1024	60	64.0	108
13			75	80.0	135

Recommended mode: 1280×1024@60Hz

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Plug & Play

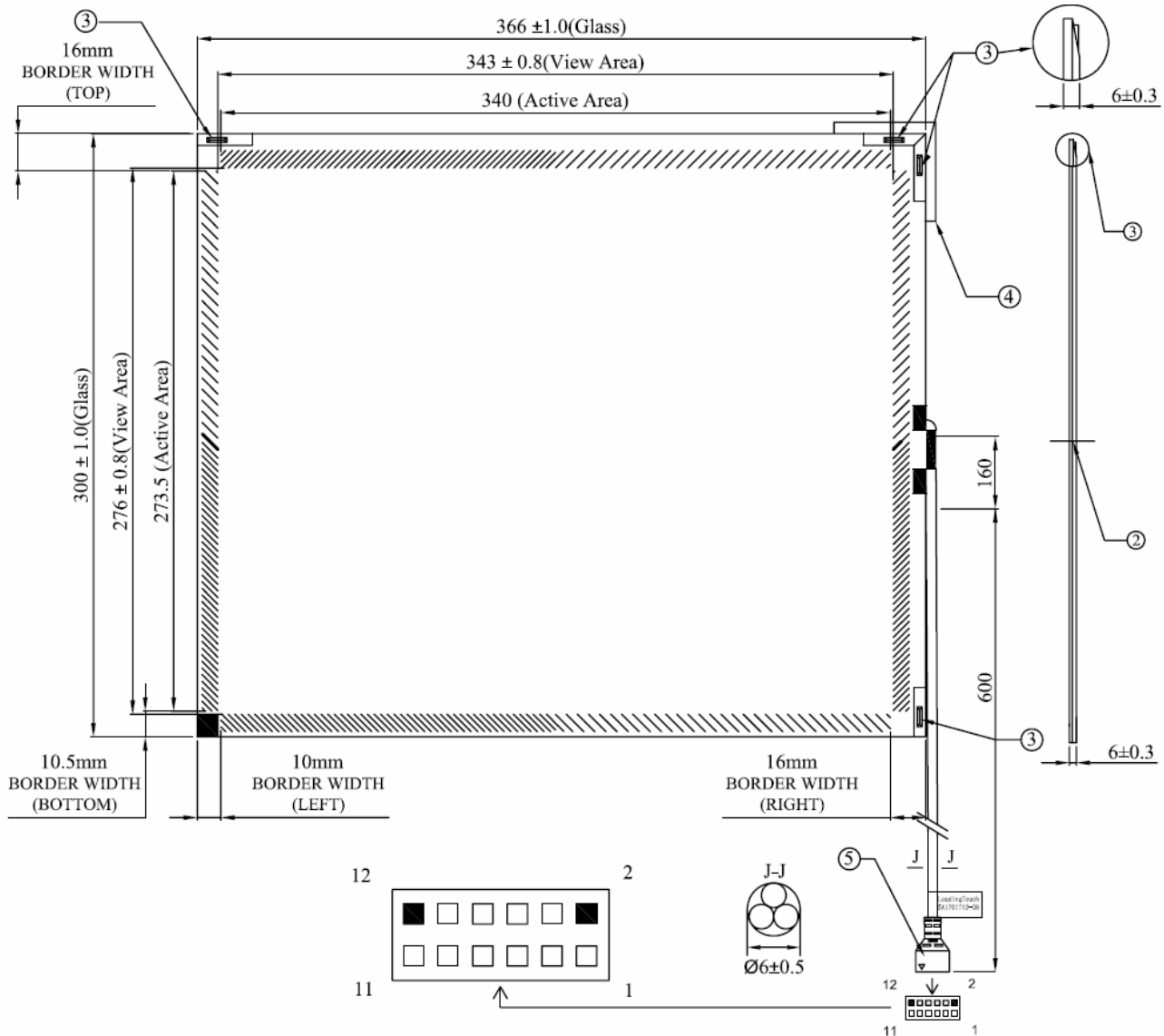
This monitor meets the standards of VESA DDC. When using video card with VESA DDC1/2B, it will auto-scan video frequency, output power, function and others data to windows when computer is turned on. It will go to proper connection mode and proper resolution frequency.

Power management

This monitor complies with EPA energy star requirement and meets VESA DPMS standards. The following is the description of the power indicator for the power saving mode

MODE	Power indicator	Power consumption
On	Green or blue	< 40W
Stand by / suspended	Red flashing	< 5W
Off	off	< 3W (include power adapter ' s consumption)


Touchscreen's Drawing



Anti-Vandalism SAW Touchscreen

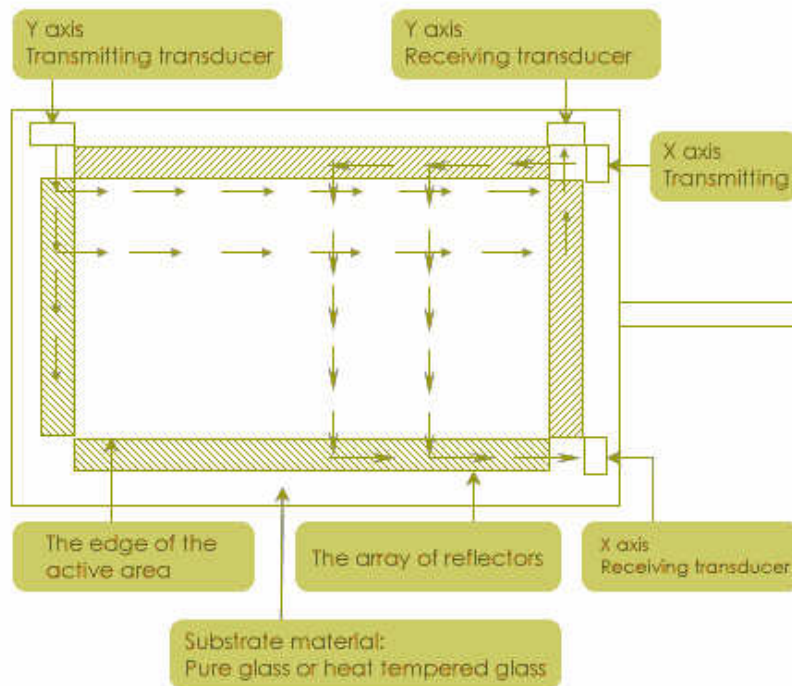
An Anti-Vandalism Tempered Glass (with 6mm of thickness) is used to make the touchscreen we install into the monitor.

This touchscreen meets UL 60950 steel ball drop test to lower the height profile of the transducers. It is incomparable for clarity and reliability, mainly feature pure-glass for durable scratch-resistant surface, superior image clarity, resolution and light transmission. In addition, they are sensitive and fast on response, accurate touch position performance.


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Surface Acoustic Wave (SAW) Technology

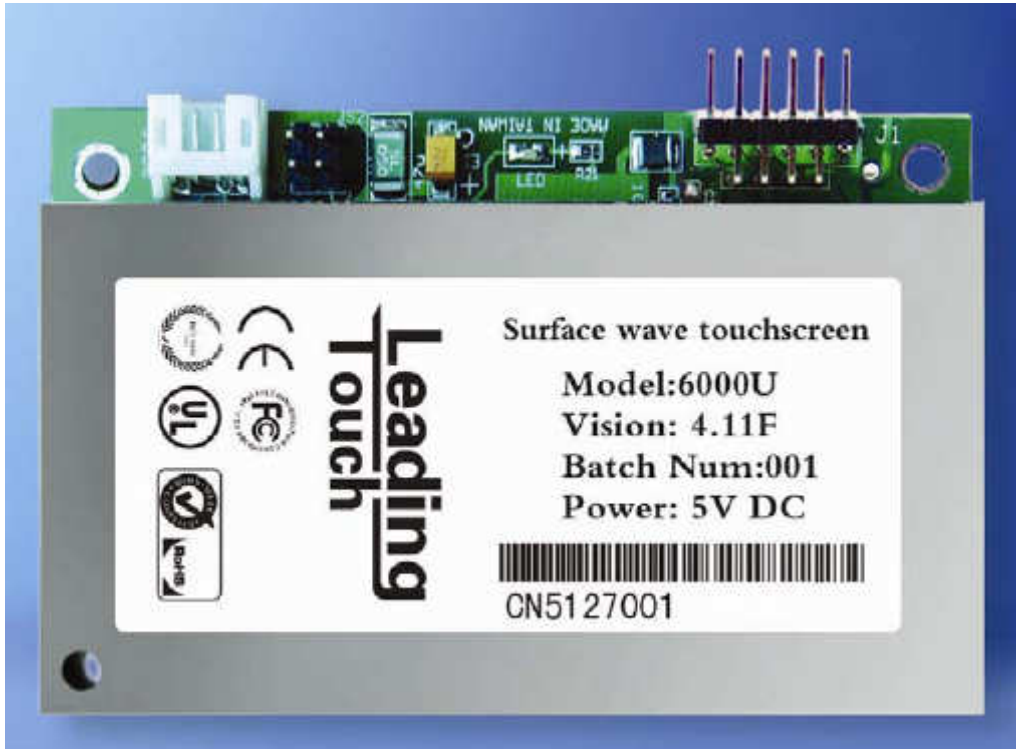
Surface Acoustic Wave TouchScreen has a glass overlay with transmitting and receiving piezoelectric transducers for both the X and Y axes. The touchscreen controller sends a five-megahertz electrical signal to the transmitting transducer, which converts the signal into ultrasonic waves within the glass. These waves are directed across the front surface of the touchscreen by an array of reflectors. Reflectors on the opposite side gather and direct the waves to the receiving transducer, which reconverts them into an electrical signal.



When you touch the screen, you absorb a portion of the wave travelling across it. The received signal is then compared to the stored digital map, the change recognized, and a coordinate calculated. This process happens independently for both the X and Y axes. By measuring the amount of the signal that is absorbed, a Z-axis is also determined. The digitized coordinate are transmitted to the computer for processing.


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Surface Acoustic Wave Touchscreen USB Control Board



Environmental Conditions

1.	Operating Temperature Range	0°C ~ 65°C
2.	Operating Humidity Range	10% ~ 90% RH (no dew falls)
3.	Storage Temperature Range	-25°C ~ 85°C
4.	Storage Humidity Range	10% ~ 90% RH (no dew falls)
5.	Operating Altitude	10,000 feet (3048m)
6.	Shock and Vibration	Three axis sine wave, 50 Hz to 2kHz, 1G, 2 minutes / Octave with dwell on resonances.
7.	Flammability	The PCB substrate and all plastic components, such as headers and connectors are rated UL 94 V0.

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Electrical Features


1.	Supply Voltage	+ 5VDC (+ 4.75V to + 5.25V)
2.	Supply Current	50 mA, typical at + 5V DC Max . current : 100 mA
3.	Electrostatic Protection	EN 61000-4-2, 1995 : Meets Level 4 (15 kV air / 8 kV contact discharges)
4.	Interface	USB 1.1 (Full Speed) Plug and play compatible
5.	Touchscreen resolution	4096 x 4096, size independent
6.	Conversion Time	Approximately 10 ms per coordinate set
7.	Reliability	MTBF greater than 300,000 hours

Mechanical Characteristics

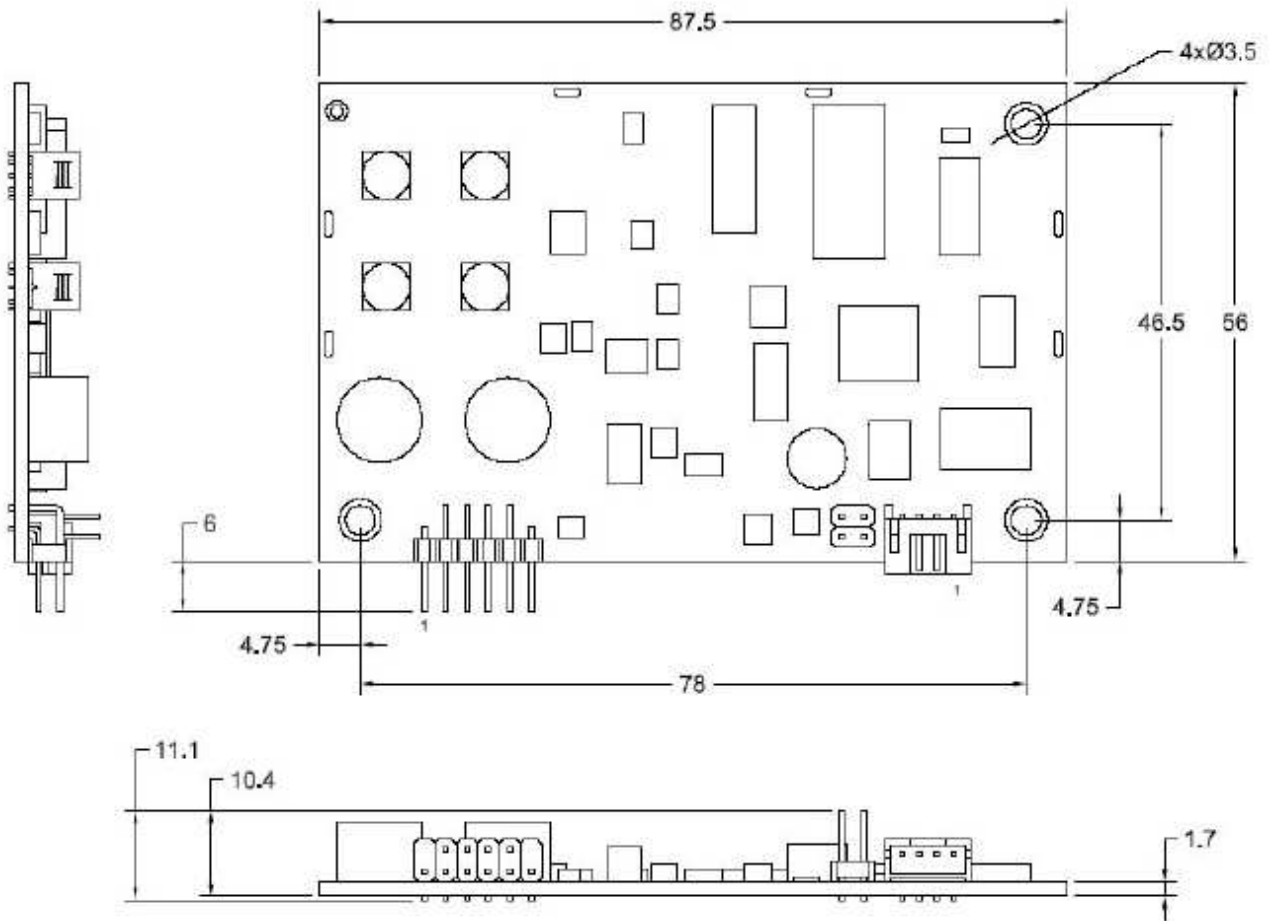
1.	Construction	Four-layer surface-mount design with internal ground plane for EMI suppression.
2.	Dimensions	PCB 87 x 56 x 12mm

Drivers :

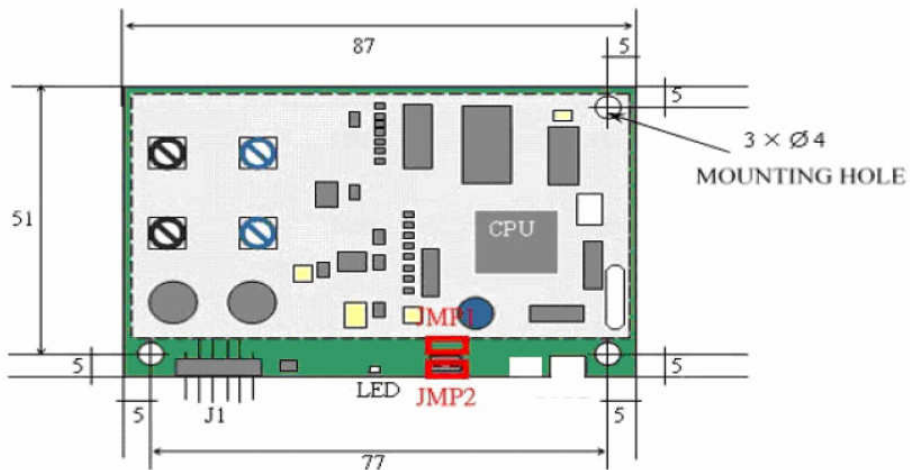
OS	Version
Windows	Microsoft Windows NT4.0/XP/2000/ 95/98/98SE/Me XP Embedded & WinCE (at your request)
Linux	Linux : Red Hat 9.0, Mandrake 9.1
DOS	DOS 6.0


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Layout :



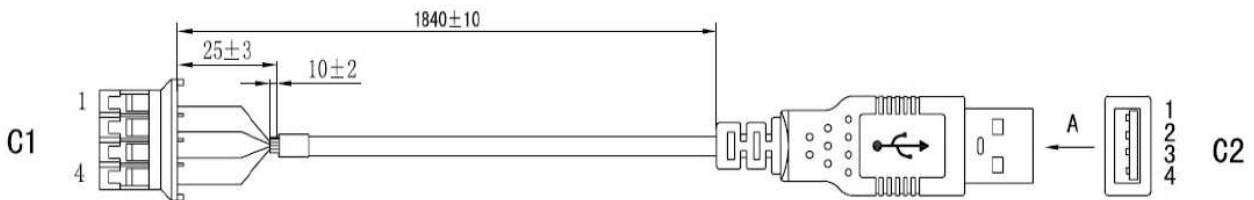
Jumpers set up :



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P/N LeadingTouch SAUSB-6000U Controller	JMP1:Control Drivers supports		JMP2:Control Touch Panel Size	
	Open	close	open	close
	leadingtouch 4.0	Elotouch SAW USB Driver	Support 15~21	Support the size under 12.1

Standard External USB cable



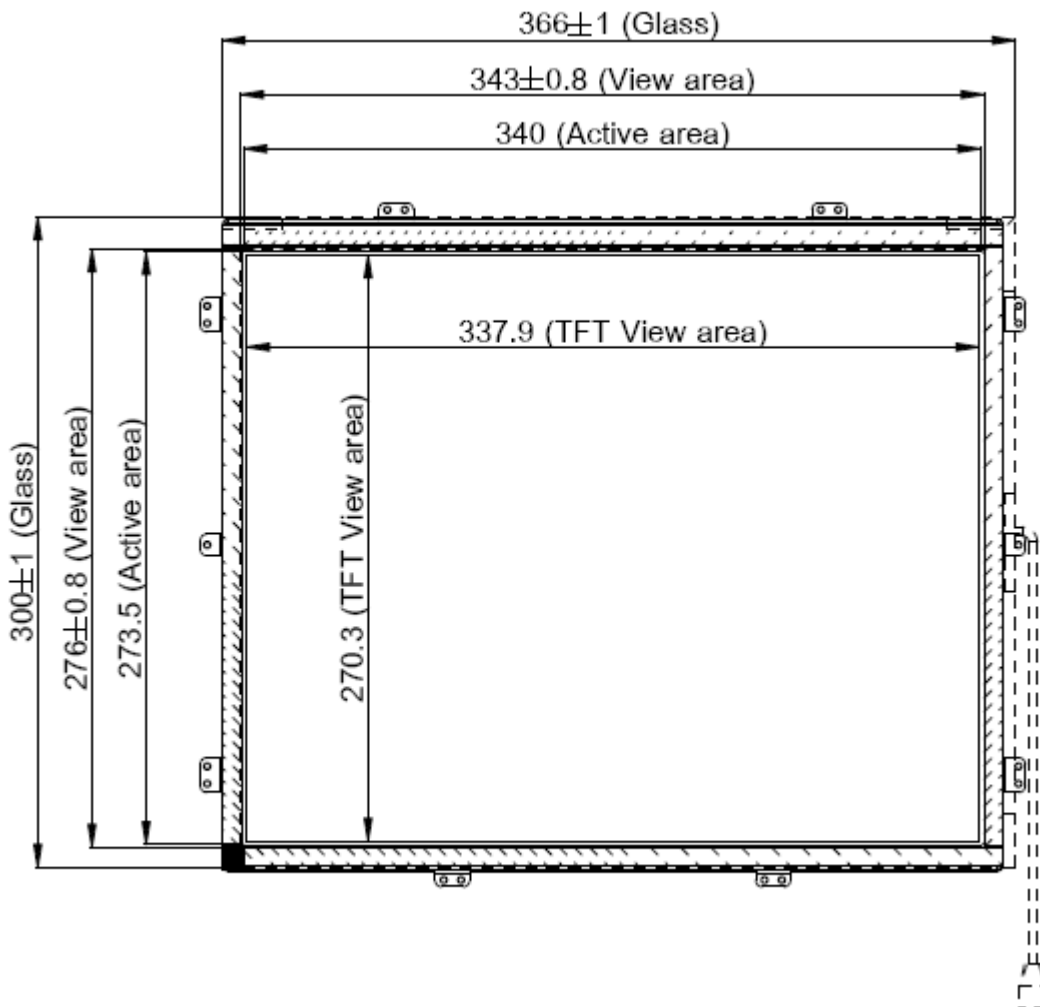
PIN ASSEMBLY

	C1		C2	
+5V	1	—————	1	RED
D-	2	—————	2	WHITE
D+	3	—————	3	GREEN
GND	4	—————	4	BLACK

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Drawing of KFE-DIS 00 00 74
 < KFE-DIS000074 (Drawing).pdf >

Front View





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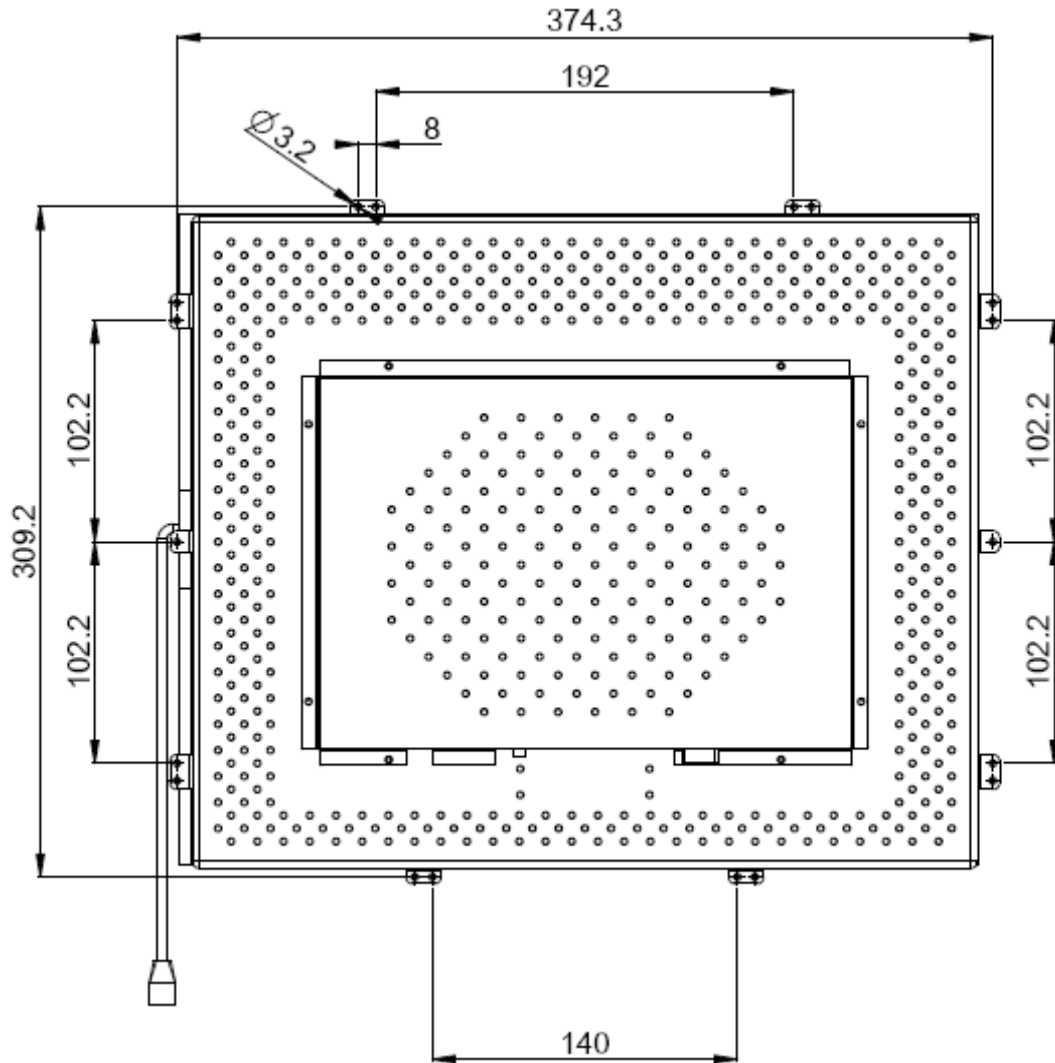
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Rear View





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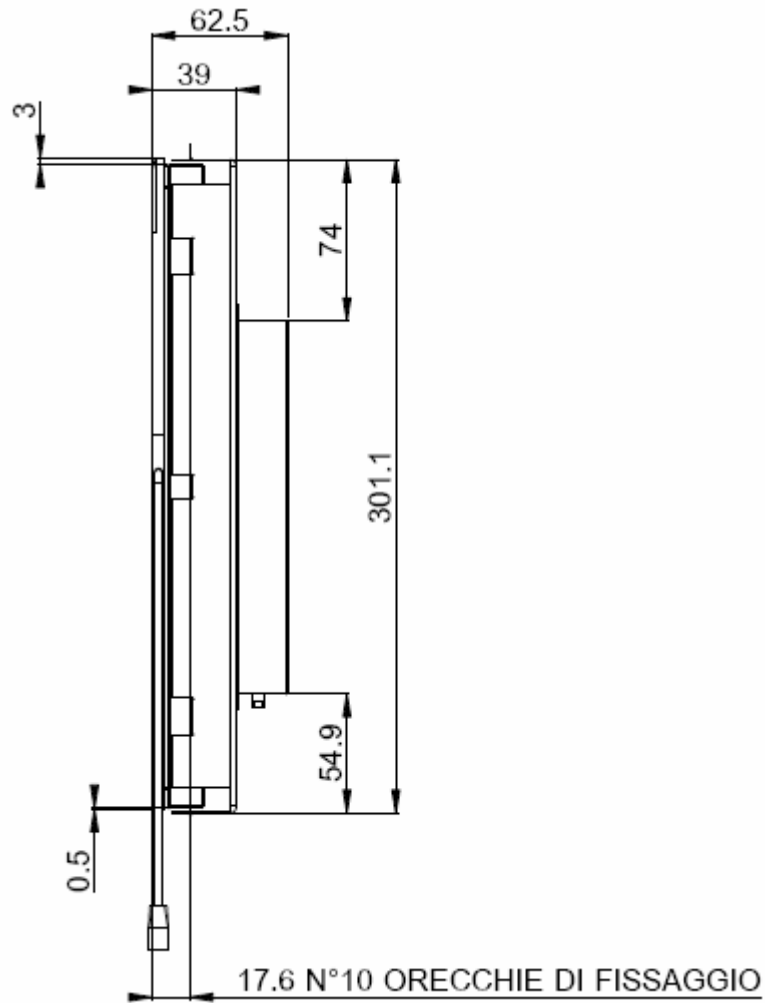
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Side View



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APPENDIX A

A.1 Introduction

If the monitor fails to operate correctly, please refer to the following instructions before calling the KF srl service department or your dealer.

A.2 No image appears on screen

1. Checking that all the I/O and power connectors are correctly installed and connected.
2. Make sure that none of the connectors are crooked, broken or loose.
3. Make sure that the OSD power on LED is turned on.
4. Make sure that the brightness is not set with the minimum value.
5. Make sure that the screen resolution is set to the correct setting for the type of LCD, and that the setting does not exceed the resolution specified for the particular model of LCD.

A.3 The image is incorrectly displayed, or the full screen image does not appear

Please make sure the screen resolution on the motherboard is correct.

A.4 The position of screen is not in the centre

Adjust the H-position and V-position or Perform "Auto-Adjustment."

A.5 No Signal

If the display is powered on but it can't receive the video signal from the computer, please check that all power switches, power cables and VGA signal cables are connected correctly on both sides.