

User Manual

19" LCD Open Frame 5-Wire Resistive Touch Monitor 1900T-5W-3C00-U



1. Technical Specification

1.1 Product Description

1900T-5W-3C00-U is 19" LCD Open frame 5-wire resistive touch monitor, with USB touch system interface, integrates with 3 mm thickness of 5-wire resistive clear touchscreen glass and USB controller.

1.2 Touch Monitor Technical Specification

Model No.	1900T-5W-3C00-U: 19" LCD Open frame 5-wire Resistive USB Touch Monitor	
Structure	Metal-cased open frame, plus 19" 5-wire Resistive touchscreen and USB controller	
Active area	(Length) 373.1 mm (14.69") × (Height) 306 mm (12.05")	
Touch Monitor Dimensions	Length: 422 mm (16.6") include 5-wire resistive touchscreen panel Height: 372 mm (14.65") include mounting rack Depth: 64 mm (2.5") include mounted 5-wire resistive touchscreen	
Suggested Resolution	1280×1024	
LCD Panel	0.27mm pixel pitch Pixel RGB vertical stripe	
Brightness	With clear touchscreen panel	240cd/m ²
	With Anti-glare touchscreen panel	218cd/m ²
LCD Display color	16.2Million	
LCD Maximum Viewing	Horizontal(left/right)	80°/80°



Angle	Vertical(up/down)	80°/80°
LCD Contrast Ratio	450:1	
LCD Input Signal	Video Sync. RGB Analog (0.7 Vp-p, 75 ohms) Composite sync, H/V Separate (TTL) Sync-On-Green, fh: 30 – 82 kHz, fv: 50 – 75 Hz	
Video Signal Input Connector	VGA 15-pin D-Sub; DVI input (Option)	
Frequency (H/V)	30~81KHz / 50~76Hz	
Power	Input (line) voltage: 100-240 VAC (auto switch), 50-60 Hz	
	Power consumption: 42 Watts	
Operation Conditions	Temperature	32° F (0° C) ~104° F (40°C)
	Humidity	10%~90% (non condensation)
Storage Conditions	Operating RH:	-4°F (-20°C) ~ 140°F (60°C)
	Storage RH:	10%~90% (non condensation)
Mount Interface	1)VESA 75mm 2)Mount bracket: horizontal or Vertical	
OSD Control	Buttons	AUTO,+,POWER,-,MENU
	Function	Brightness, Contrast Ratio, Auto-adjust, Phase, Clock, H/V Location, Languages, Function, Reset
Deviation of Touch Error	Less than 3.5 mm	
Touchscreen Resolution	4096 X 4096	
Touch point Density	100,000 touchpoints/in ² (15,500 touchpoints/cm ²)	
Touch Activation Force	20-120 grams	
Surface Hardness	Moths 3	
Life Time	More than 35 million touches in one location without failure	
Touch Response Time	Less than 5 ms	
Touchscreen MTBF	Over 50,000 hours	
Dust-Proof and Water-Proof	Meet NEMA 4 and 12, and IP 65 standards	
Chemical Resistance of Touchscreen	Acetone, Methylene chloride, Methyl ethyl ketone, Isopropyl, alcohol, Hexane, Turpentine, Mineral spirits, Unleaded Gasoline, Diesel Fuel, Motor Oil, Transmission Fluid, Antifreeze	
Touch Monitor Weight	Net 5.5 Kgs (12 lbs);	
	Gross 10 Kgs (22lbs)	
Regular Warranty	1 year for LCD; 3 years for 5-wire resistive touchscreen and controller	

1.3 LCD Technical Specifications

Model No.	NT-268 LCD Open frame monitor RoHS
Structure	Metal-cased open frame, plus 17.1" 5-wire Resistive touchscreen and USB controller
LCD Panel Size	17"
Display area	(H) 337.8 mm (13.3") × (V) 269.7 mm (10.62")
Suggested Resolution	1280×1024
Panel	0.27mm pixel pitch

	Pixel RGB vertical stripe Glass surface Anti-glare	
Brightness	250cd/m ²	
Display color	16.2 million	
Maximum Viewing Angle	Horizontal(left/right)	80°/80°
	Vertical(up/down)	80°/80°
Contrast Ratio	450:1	
Response Time	16ms	
Input Signal	Video Sync. RGB Analog (0.7 Vp-p, 75 ohms) Composite sync, H/V Separate (TTL) Sync-On-Green, fh: 30 – 82 kHz, fv: 50 – 75 Hz	
Video Signal Input Connector	VGA 15-pin D-Sub; DVI input (Option)	
Frequency (H/V)	30~81KHz / 50~76Hz	
Operation Conditions	Temperature	32° F (0° C) ~ 104° F (40°C)
	Humidity	10%~90% (non condensation)
Storage Conditions	Operating RH:	-4°F (-20°C) ~ 140°F (60°C)
	Storage RH:	10%~90% (non condensation)
OSD Control	Buttons	AUTO,+,POWER,-,MENU
	Function	Brightness, Contrast Ratio, Auto-adjust, Phase, Clock, H/V Location, Languages, Function, Reset

Note:

This LCD panel is made in China. We can provide sample model of LCD for a batch of Touch Monitor shipment PO; we may use different LCD panel to make touch monitor with same LCD technical specification for different period PO because of LCD panel is changing frequently in the LCD industry.

1.4 5-Wires Resistive Touchscreen Technical Specification

Technology	5- wire Resistive Touchscreen
Construction	Glass, uniform resistive coating, polyester coversheet, transparent insulating dots, conductive coating
Deviation of Error	Less than 3.5 mm
Resolution	4096 X 4096
Touch point Density	100,000 touchpoints/in ² (15,500 touchpoints/cm ²)
Touch Activation Force	20-120 grams
Surface Hardness	Moths 3
Life Time	More than 35 million touches in one location without failure
MTBF	Over 50,000 hours
Dust-Proof and Water-Proof	Meet NEMA 4 and 12, and IP 65 standards

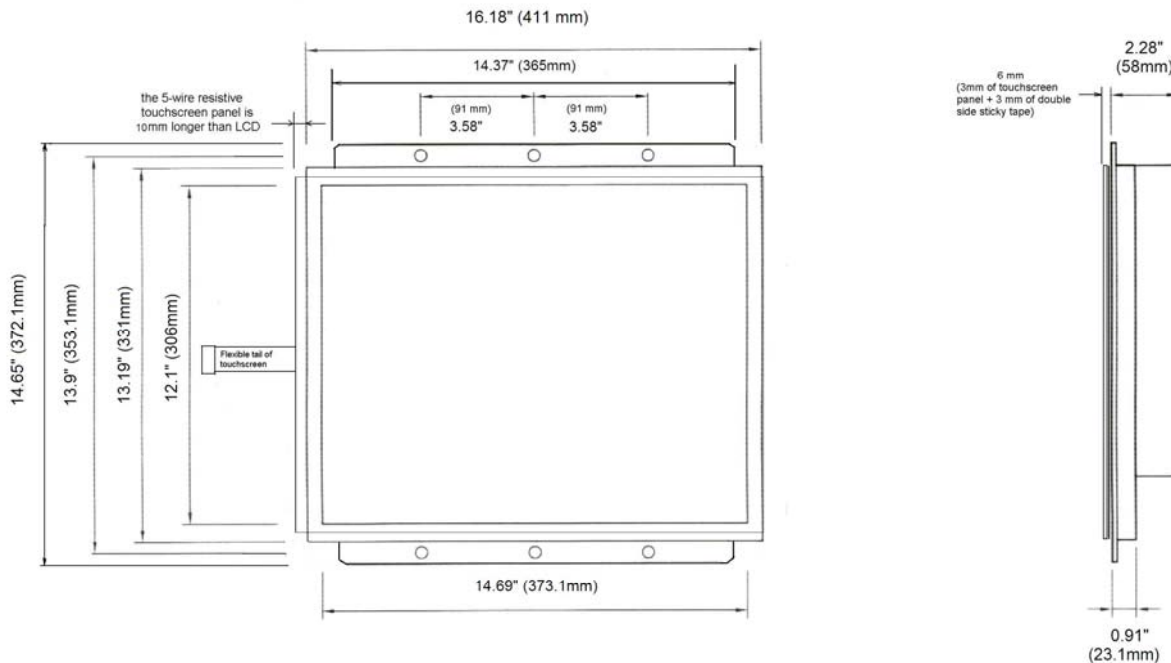
Light Transmission	Clear panel $\geq 96\%$; Anti-glare panel $\geq 87\%$
Operating Temperature	-20°C to 80°C
Storage Temperature	-40°C to 80°C
Operating Humidity	<95%
Storage Humidity	<95%
Operating Altitude	10,000 feet above sea level
Storage Altitude	50,000 feet above sea level
Chemical Resistance	Acetone, Methylene chloride, Methyl ethyl ketone, Isopropyl alcohol, Hexane, Turpentine, Mineral spirits, Unleaded Gasoline, Diesel Fuel, Motor Oil, Transmission Fluid, Antifreeze

1.5 Touchscreen Controller Technical Specification

Controller Interface	USB and RS232 interface
Power Requirements	+5VDC (max. 100mA, typical 70mA, 50mV peak to peak max ripple)
Operating Temperature	0 to 70 degrees Centigrade
Storage Temperature	-40 to 80 degrees Centigrade
Relative Humidity	95% at 60 degrees Centigrade
Protocol	RS232: 9600 bauds, None parity, 8 data bits, 1 stop bit USB: USB 1.1 Low speed
Resolution	4096 x 4096
Accuracy Tolerance	Max. +/- 0.5% tolerance
Response Time	Less than 5 ms
MTBF	more than 50,000 hours

2. Mechanical Drawing

**19" Touch Monitor
Open Frame LCD with
5-Wire Resistive Touchscreen**



3. Assembling Procedure

1. Connect VGA cable with computer system;
2. Connect the touch system to the computer system with either USB signal cable (USB interface touch monitor) or RS232 signal cable (RS232 interface touch monitor);
3. connect power;
4. Install the appropriate touch system driver in correspondence with operation system, (Windows XP, 2K, Linux etc.)

4. Touch System Driver Installation

4.1 Available Touch system Drivers that can be downloaded from website: <http://www.akgtech.com/english/software/softwarePro.html>

Windows 2000 (for both home version & professional version)
Windows XP (for both home version & professional version)
Windows Vista
Windows CE 5.0 & 6.0

Linux

4.2 Driver installation and Touch System calibration guide:

- Preparation: connecting 5-wire resistive touch screen, controller and application device or computer with correct cable on the integration procedure.
- Load the driver from our website or Driver CD in to application system;
- Find the instruction to complete the driver installation;
- Double click at the setup.exe file to start software driver installation. Then, the setup program will guide user to complete software installation.

5. How to Calibrate 5-Wires Resistive Touchscreen

Calibration, draw test tools and the linearity curve of the touch screen were listed shown as below for user to do touch screen calibration and touch position test.

