

Transduction

5-Wire Resistive Touch Screen

TR-TOUCH-20.1R

TR-TOUCH-20.1R Reliable Resistive 20.1" Touch Screen



Anti-Glare Resistive Touch Screen for Industrial 20.1" LCD Monitors and Computers

The TR-TOUCH-20.1R is a 5-wire anti-glare resistive touch screen that uses a display overlay composed of layers, each with a thin metallic conductive coating on the interior surface. Special separator dots are distributed evenly across the active area and separate the conductive interior layers. The pressure from using a finger or stylus pen produces internal electrical contact which supplies the touch controller with vertical and horizontal voltages for data input.

- Use in industrial, process control, medical, military and nuclear applications
- Superior accuracy, performance and durability
- Long life expectancy; > 30,000,000 touches
- Strong resistance to external static electricity and noise in poor conditions
- Clean original images by using films with excellent transmission
- Easy integration with the unique innovative design of a slim sensor border
- Can be gasket sealed for NEMA 4 environments

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Specification

Model

- TR-TOUCH-20.1R 20.1" Anti-Glare Resistive Touch Screen

Interface

- Serial (RS-232), USB

Structure

- ITO Film Type: Anti-Glare 3H (pencil hardness)
- ITO Film Thickness: 0.188mm (0.007") $\pm 10\%$
- ITO Glass Thickness: 2.9mm (0.071") $\pm 10\%$

Connector

- FFC (Flexible Flat Cable) tail
- 5-pin, Pitch: 2.54mm (0.10"), Length: 350mm (13.78")

Double-Sided Adhesive Tape

- Thickness: 80Fm

Sensor Size

- 20.1 inch
- Active Area: 408.0mm (H) x 306.0mm (V) (16.06" x 12.05")
- Overall Area: 432.0mm (H) x 331.5mm (V) (17.01" x 13.05")

Input Method

- Finger, gloved finger or stylus pen

Operating Force

- Pen: < 80g (0.18 lbs) (polyacetal)
- Finger: < 80g (0.18 lbs) (silicon rubber)

Surface Hardness

- Pencil hardness 3H or more

Glass

- Normal type ITO coating glass

Resistive TSP Controller

- Circuit Board Dimensions: 20mm x 75mm (0.79" x 2.95")
- Power Requirements: 5VDC max.100mA, typical 70mA, 50mV peak to peak max. ripple
- Interface: Serial (RS-232), USB
- Resolution: 2048 x 2048

- Report Rate: RS-232 - max. 160points/sec, USB - max. 250points/sec
- Response Time: max. 20ms
- Attached Cable: 6' shielded cable with USB-A connector for USB port
- Operating Temperature: -25 ~ 85°C (-13 ~ 185°F)
- Humidity: 95% @ 60°C (140°F)
- Regulatory Approvals: FCC-B, CE
- EMI: unaffected by environmental EMI

Writing Test

- 100,000 times with polyacetal stylus pen R0.8
- Force: 250gf
- Speed: 60mm/sec

Hitting Test

- 1,000,000 times with electric silicon rubber R0.8
- Force: 250gf
- Speed: 2 times/sec

Drop Test

- No breakage, 227g (0.50 lbs)/38Φ steel ball dropped on touch panel supported w/ display module from 80cm (31.5") height at 1 time

Light Transmittance

- More than 81% (550 wavelengths, according to JIS K 7361)

Haze

- Anti-Glare 7.0 $\pm 1.0\%$ (JIS K 7136)

Linearity

- "X" Axis: 1.5% or less
- "Y" Axis: 1.5% or less

Resistance Between Leads

- Direction "X" (Glass Side): 50~300Ω
- Direction "Y" (Glass Side): 50~300Ω

Operating Temperature

- -20 ~ 60°C (-4 ~ 140°F)
- Humidity: 20% ~ 90%, non-condensing

Storage Temperature

- -30 ~ 70°C (-22 ~ 158°F)
- Humidity: 20% ~ 90%, non-condensing

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Specification (Cont'd)

Resistance to Chemicals (Surface Hard Coating)

Property	Specification	Test Method
Acetone	Change in Ω /sq. < 3%	10 Min. 25°C (77°F)
Isopropyl	Change in Ω /sq. < 3%	10 Min. 25°C (77°F)
Toluene	Change in Ω /sq. < 3%	10 Min. 25°C (77°F)
Boiling Water	Change in Ω /sq. < 4%	10 Min.
Curling Test	< 20mm (0.79")	450mm x 450mm (17.72" x 17.72") 130°C (266°F) for 30 min. measured at corners
Humidity Resistance	Change in Ω /sq. \pm 8%	24 hours 60°C (140°F) 85%

Compatible with Windows NT/9x/ME/2000/XP/2003/
VISTA/7, DOS, QNX and LINUX