

## General Specifications

### Electrical Capacity (Resistive Load)

**Power Level:** 1mA @ 5V DC

### Other Ratings

**Insulation Impedance:** 10MΩ minimum @ 25V DC

**Expected Operational Life:** Tapping: 1,000,000 operations minimum (using silicone rubber, hardness 60°)

**Touch Activation Force:** 1.47N maximum

**Chattering Time:** 10 milliseconds maximum

**Light Transmission:** 78% standard (Touch Panel portion)

**Surface Hardness:** 3H minimum (JIS K5400)

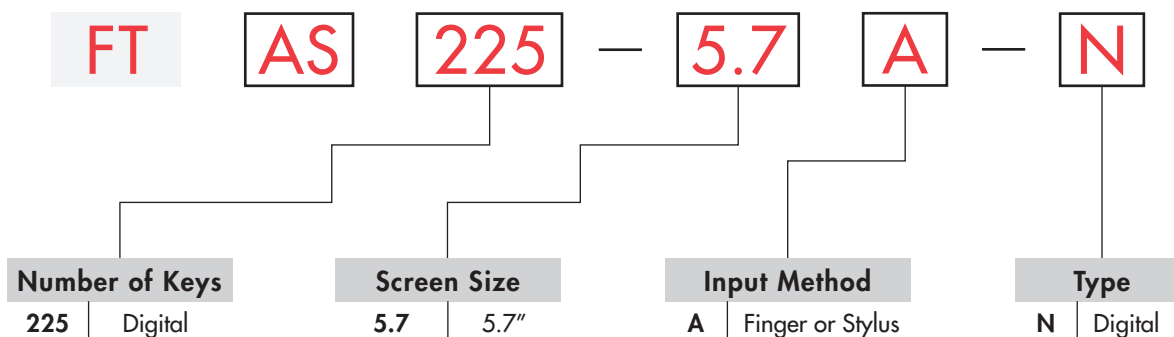
### Environmental Data

**Operating Temperature Range:** -20°C ~ +70°C (-4°F ~ +158°F)

**Storage Temperature Range:** -40°C ~ +80°C (-40°F ~ +176°F)

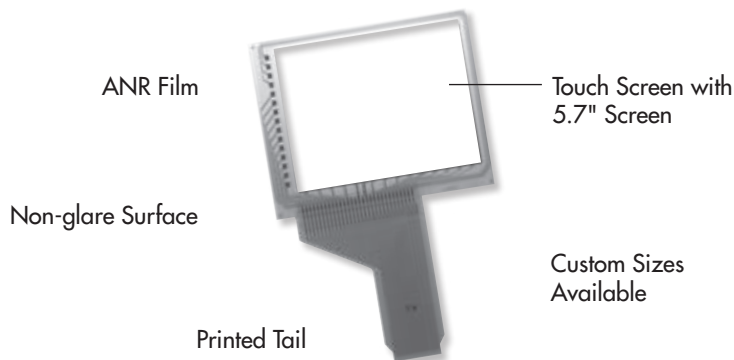
**Relative Humidity:** +60°C (+140°F), humidity 90%, 240 hours

### TYPICAL ORDERING EXAMPLE

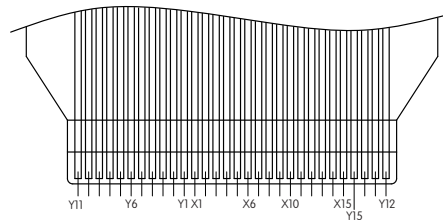
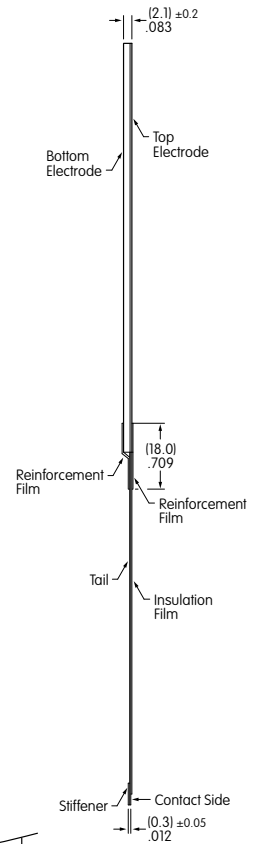
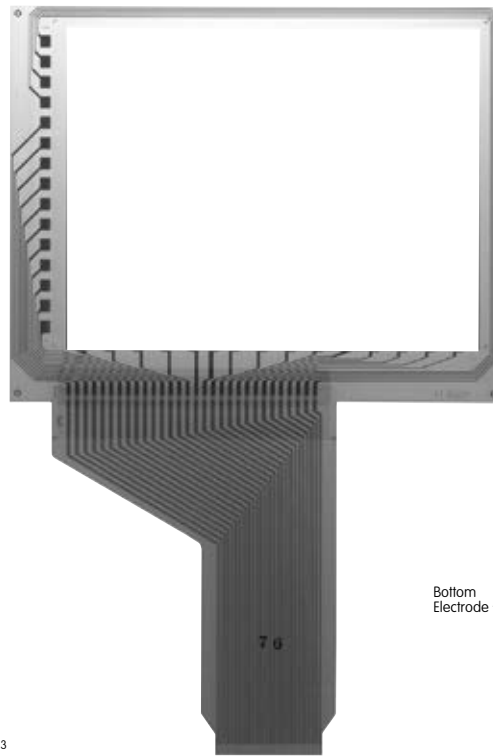
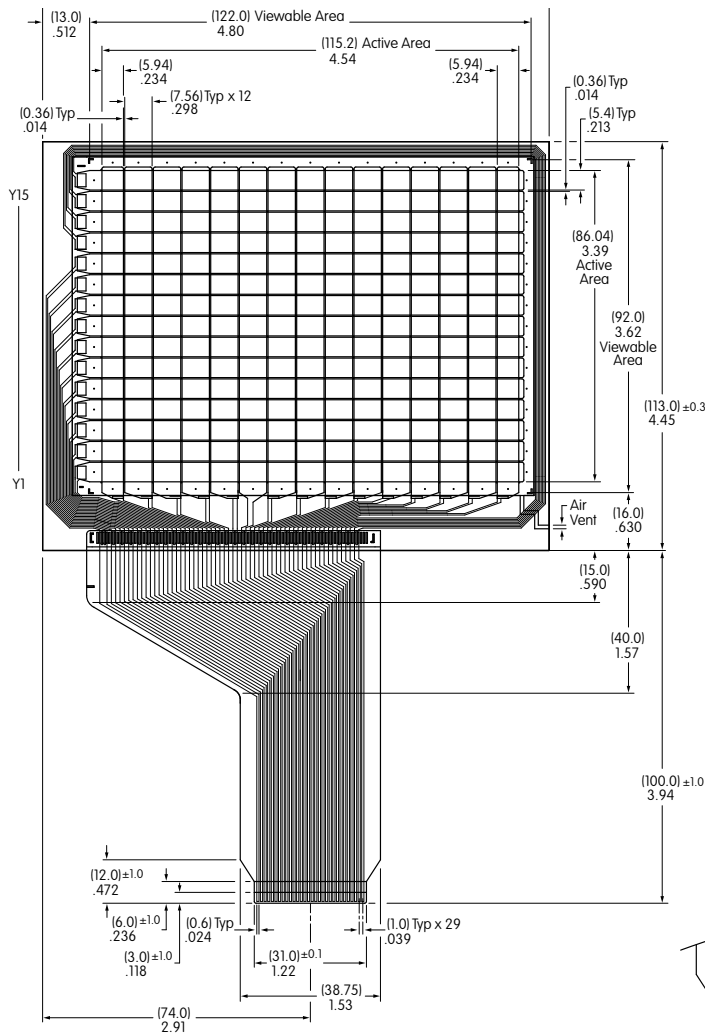


### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

**FTAS225-5.7A-N**



TYPICAL DIMENSIONS



Y11 - Y1, X1 - X15, Y15 - Y12  
Pin Assignment

PART NUMBER & DESCRIPTION

Digital Touch Screen Dimensions

Part Number	Screen Size in Inches	Key Area Dimensions	Viewing Area Dimensions	External Dimensions	Panel Thickness	Terminal Detail 30 Pin .039" (1.0mm) Pitch
<b>FTAS225-5.7AN</b>	5.7	4.54" x 3.39" (115.2mm x 86.04mm)	4.80" x 3.62" (122.0mm x 92.0mm)	5.51" x 4.45" (140.0mm x 113.0mm)	.083" (2.1mm)	Length 3.94" (100.0mm)

Note: Number of keys for Digital Touch Screen: 15 x 15.

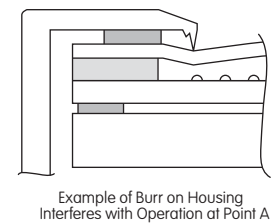
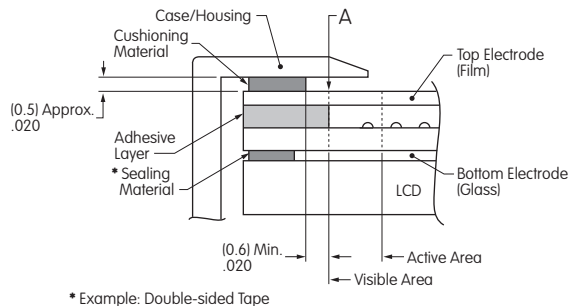
## STORAGE, HANDLING & INSTALLATION

### Handling of Controller Board

- Use arc prevention to protect device from static electricity.
- Power source should be activated after host and touch panel are connected.
- When inserting connector CN1 and touch panel tail, be sure the slider of connector CN1 is pulled. Do not pull more than 10 times.
- Do not alter the product.
- Do not use any commands other than the ones outlined in the specifications.
- Place the product away from noise source (such as inverter from LCD operation) since tail can be affected by noise.
- If device driver (USB) does not work after installation, reboot the host computer while connected to the controller board.
- This product does not support suspended mode (USB).
- Protocol of USB transmission is one frame per one transaction.
- Contact factory if not using the protocol above.
- Warranty for one year after delivery. NKK warranties the 4-wire touch panel when it is used with the NKK control board and driver. Do not use third party control boards. NKK is not responsible for results of using damaged equipment with the controller boards.
- NKK Switches cannot assume responsibility for damages caused by software side during use of the touch screens.
- The touch screen pressed position may shift depending on various factors such as age, improper tail insertion or extreme temperatures. In such cases, recalibration is necessary.

### Installation

- Products are ESD sensitive and ESD protection is required.
- Do not pull on the tail. Do not apply stress to the tail area.
- Avoid vibration or shock. Avoid any force or stress that may cause deformation to the product.
- The touch screen mounting should not be loose. This may cause an adverse effect on detecting performance during operation.
- Ensure there are no burrs around the edges of the case or housing that can cause false actuation. The edges of the case or housing should not enter the keying area.
- The case or housing and upper electrode should have a space of about 0.5mm to accommodate expansion or shrinkage due to temperature variances. If a shock barrier is used, do not press hard on the upper electrode area. Any shock barrier should be installed more than 0.6mm away from A.



- To secure the touch screen, secure the lower portion with a device such as the LCD display panel. Do not attach the upper electrode with double-sided tape or similar product to avoid stress that can damage the upper or lower electrode.
- In order to balance upper and lower pressure, an air vent may be installed. Ensure that no liquid or oil will enter into the device.
- Avoid air pressure applied to the touch screen as it may cause the top electrode to force air through the air vent, effecting electric endurance. If pressure inside of the touch panel is reduced through the air vent, it may cause interference fringes or may remain in ON status.
- Ensure that the glass is handled carefully to prevent breakage during installation.
- Moisture from condensation on tail connection or edges may result in migration, causing short circuit failure.
- Remove protective film from the touch screen after installation is completed.

## STORAGE, HANDLING &amp; INSTALLATION

**Handling Precautions**

- When opening product, take precaution with up/down and front/back directions. Glass edges are not chamfered, and corners or edges can be sharp. Wear gloves when handling the product.
- Do not pick up the product by the tail or pull the tail area.
- Use gloves or finger cots to prevent fingerprints on surface.
- When handling the product, hold it outside of the viewing area.
- Avoid stacking multiple products or placing other items on the product.
- When packing or storing, the glass should be positioned face up.

**Operating Precautions**

- Operate with fingers or a touch screen stylus only.
- Do not press hard with a pen or similar object between viewing area and key area.

**Design Precautions**

- With analog type, resistive value change (by aging or individual differences) can dislocate the input area. Input area can be calibrated with software.
- When installing on top of an LCD, noise from the display device can create misoperation. To avoid noise, implement grounding the display device frame.
- Do not create software for simultaneous touch points, as analog type will read the center point between two touch points.
- When used to draw a line, analog type will have a break at dot spacer. Compensate for this with software.
- Contact resistance may cause chatter depending on pressing condition. Software should detect signal after it stabilizes.

**Other Precautions**

- Clean with a soft cloth and ethanol. Do not use any cleaning agents other than ethanol.
- Store product in original package and store at the temperature and humidity range specified.
- Do not store in an environment with acids or other corrosive gases or where condensation may occur.
- Products are guaranteed based on evaluation of standards within the moisture tolerance and usage temperature range, but not guaranteed to operate perpetually at this temperature.
- Note that an incorrect type of connector may damage the print surface.
- Calibration data from one touch panel should not be applied to another panel; each should be calibrated individually.
- Recalibration is necessary if connector has been removed from the tail and reconnected.
- All specifications based on the tested touch screens only. Evaluate the products after installation with customer's equipment.
- NKK Switches reserves the right to make product improvement changes without notice.

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