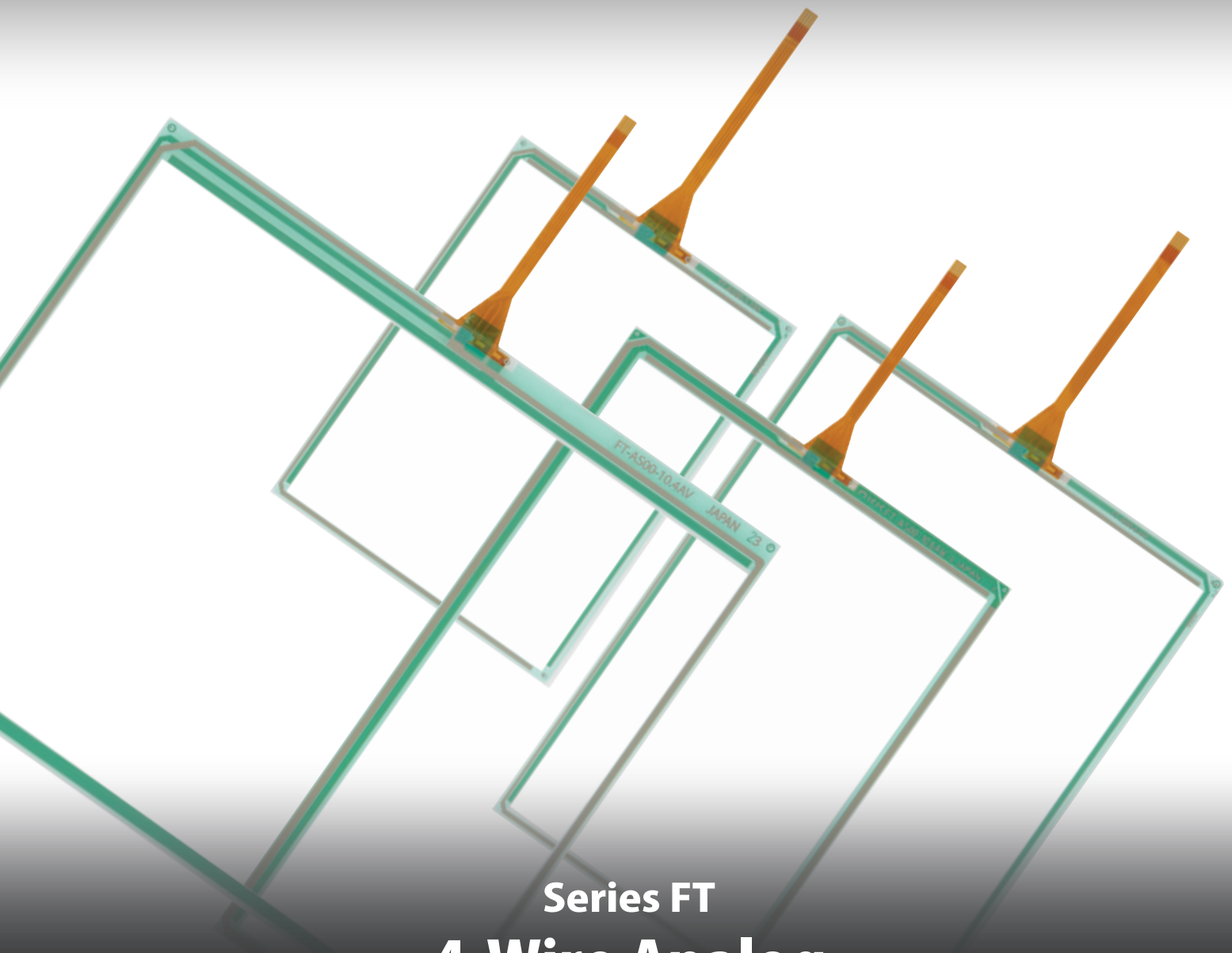


New Products

CONTACT No. 320

NIKK
SWITCHES
Innovation Driving Quality

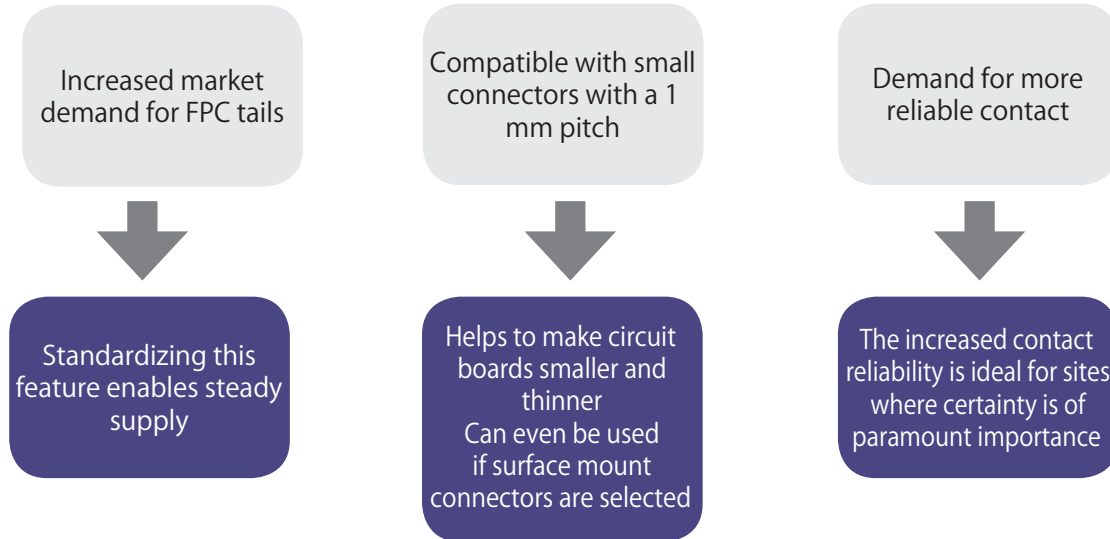
FPC Tail Enables More Reliable Contact



Series FT
**4-Wire Analog
Touch Screens**

NKK SWITCHES CO., LTD.

Equipped with a highly reliable FPC tail as a standard feature
 The 1 mm pitch of the tail terminal is compatible
 even with surface mount connectors.



► Previous Applications

We can provide a wide range of custom-made products tailored to your size specifications in addition to our standard models. Please contact us to discuss your requirements further.

⊙ : Standard Size ○ : Custom Size

Type \ Size	3.5	5.7	6.2 Wide	6.5	7 Wide	8.4	8.5 Wide	10.4	10.5	10.6 Wide	12.1	12.1 Wide	14	15	15.6 Wide	17	17.1	18.1	19
Series FT, Digital	○	⊙	○	○	○	○	○	○	○		○		○	○		○	○	○	○
Series FT, 4-Wire Analog, Printed Tail	○	⊙	○	⊙	○	⊙	○	⊙	○	⊙	⊙	⊙	○	⊙	⊙	○	○	○	⊙
Series FT, 4-Wire Analog, FPC Tail	○	⊙	○	⊙	○	⊙	○	⊙	○	⊙	⊙	⊙	○	⊙	⊙	○	○	○	⊙
Series FT, 5-Wire Analog, Printed Tail								⊙			⊙			⊙					
Series FT, 8-Wire Analog, Printed Tail	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Series TP01, 4-Wire Analog, FPC Tail	○	○	○	○	○	○	○	⊙	○	⊙	⊙	⊙	○	⊙	⊙	○	○	○	⊙

*All 4-wire analog sizes are compatible with the 8-wire conversion tail (auto-calibration function is not supported)

► Custom Orders

We can customize products according to your specifications. Digital (matrix) and analog products are available and can be designed according to your requirements such as key numbers and external dimensions. We can also provide additional services such as attachment to LCDs or incorporation into peripheral devices. Contact NKK Switches for further information.

Compatibility for a wide range of requirements

- The size of resistive film products can be tailored according to your needs, even down to palm-sized products.
- Can be incorporated into peripheral devices or attached to LCDs.
- The material composition can be adjusted according to use, such as film + film.
- A wide range of films such as fingerprint-resistant and high transmittance films are also available.
- Input methods such as pen input or finger input can also be specified.

Standardizing the FPC Tail Enables More Reliable Contact

Developing Switch Technology with Touch Screens

Standard product (film + glass)

☞ Material Composition

As for material composition, we take the most widely used "film+ glass" as the standard product.

☞ Input Method

Data can be input using a finger or pen.

☞ Adoption of ANR Film

An ANR (Anti Newton-Ring) film has been adopted to reduce the occurrence of interference fringes.

☞ Anti-Glare Surface Treatment

By making anti-glare surface treatment toward the filmsurface, we made reflection of fluorescence soft.

☞ Compatible with a range of wide-screen sizes

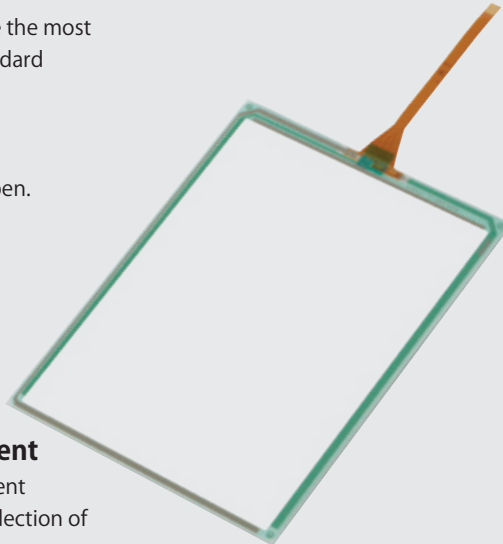
5.7, 6.5, 8.4, 10.4, 10.6 (Wide), 12.1, 12.1 (Wide), 15, 15.6 (Wide), 19

☞ Analog Touch Screen Controller Boards

Combining an analog touch screen with a controller board device driver on a computer enables you to perform the same operations as you would with a mouse simply by touching the touch screen screen.

☞ Adoption of Resistive Film Mode

The FT series are resistive film touch screens that take full advantage of transparent conductive thin film technology. Incorporating these films into a wide variety of display equipment such as LCD screens and plasma EL enables simple, interactive input operation even for people who do not have specialist technical or computer knowledge. Touch screens are currently used in a wide variety of applications. Resistive films represent a high degree of freedom for input methods (digital, analog), size, and design with for a relatively low cost.



☞ FPC tail adopted as a standard feature

The highly demanded FPC tail has been adopted as a standard feature. Reduction of the terminal from 8pin with a 1.25mm pitch to a slender 4pin with a 1mm pitch makes circuit boards smaller and thinner.

☞ Compatible with 1mm pitch connectors

Compatibility with 1mm pitch connectors enables use even when surface mount connectors are selected

☞ Increased contact reliability

Adoption of a gold plated FPC tail increases contact reliability.

☞ Adoption of polyimide

The tail is now constructed of polyimide instead of PET for increased strength (bending durability, etc.), and heat resistance.

☞ Narrow Frame Compatibility

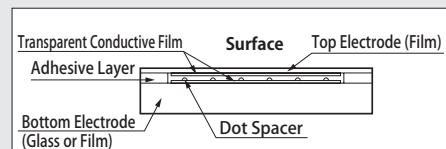
Our touch screens are now compatible with a wide range of narrow frame LCDs. (Narrow frame type)

☞ Adoption of Adhesives

The adoption of adhesives for attachment sections between the glass and film improve the environmental durability of our products.

☞ Hard Coating

Our hard coating (hard resin coating) provides superb protection to the surface of the films against scratches and damage from fingers and pens.



► Applications

• OA Systems

Various OA devices for input systems, building management systems, business administration systems, schedule management systems

• FA Systems

Production process management systems, production system control, input systems for various manufacturing equipment, plant control systems

• Communication Systems

Reception guidance systems, restaurant automation systems, POS systems, traffic systems

• Bank Online Systems

ATM, cash dispensers, foreign exchange systems

• Educational Systems

Home use/school education systems, audiovisual education systems, information processing education systems

• Amusement Equipment

• Medical System

Medical chart management systems, medical data processing systems, physical treatment systems, bedside monitors

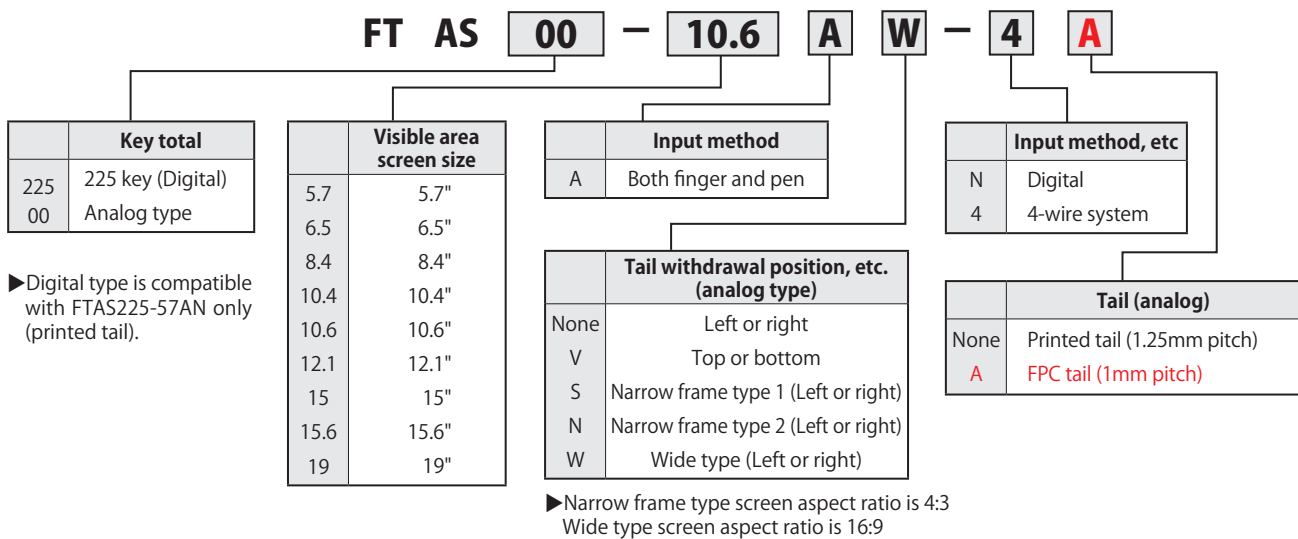
* Consult the NKK Switches sales department for further information on use with medical equipment.

► General Specifications

Series FT 4-Wire Analog Touch Screens		
Power level	1 mA 5 V DC (Resistive load)	
XYResistive Value	250~850 Ω (Wide type: 120~1,500 Ω)	
Linearity	±1.5% maximum	
Insulation Resistance	10 MΩ minimum @ 25V DC	
Expected Operating Life	Writing	50,000 maximum operations (approximately 30 mm movement with stylus)
	Tapping	1,000,000 operations minimums (using 60° silicone rubber)
Touch Activation Force	1.47 N maximum	
Chattering Time	10 milliseconds maximum	
Relative Humidity	+60°C (+140°F), 90% relative humidity, 240 hours (No condensation)	
Operating Temperature Range	-20°C ~ +70°C (-4°F ~ +158°F)	
Storage Temperature Range	-40°C ~ +80°C	
Light Transmission	80% (TYP.) (Touch screen section)	
Surface Hardness	2H or harder (JIS K5600) (Pencil hardness)	

⚠ Each rated value/performance value is obtained through independent testing. Therefore, the same results are not guaranteed under complex conditions. Please refer to General Specifications page in General Catalog "Switch Guide" on specific models, ratings and ordering instructions.

► Typical Ordering Example



► Sales Start Date

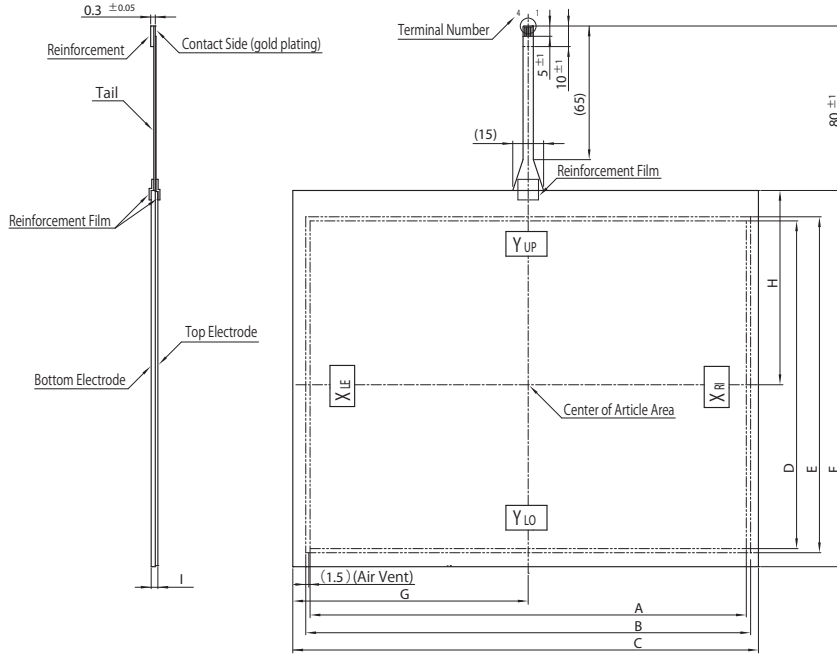
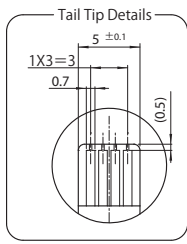
October 23, 2017

► Part Numbers & Descriptions

■ 4-Wire Analog System

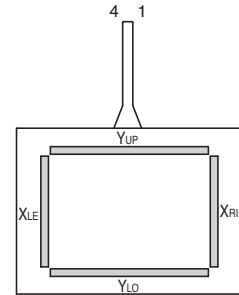
FTAS00-5.7AS-4A	FTAS00-6.5AS-4A	FTAS00-8.4AS-4A	FTAS00-10.4AS-4A
FTAS00-10.4AV-4A	FTAS00-10.6AW-4A	FTAS00-12.1AN-4A	FTAS00-12.1AW-4A
FTAS00-15AN-4A	FTAS00-15.6AW-4A	FTAS00-19AN-4A	

Part Number	Screen Size in Inches	Input Methods	Key Area Dimensions (mm)	Viewing Area Dimensions (mm)	External Dimensions (mm)	Screen Thickness (mm)	Terminal Detail
FTAS00-5.7AS-4A	5.7	Finger or pen	115.2×86.4	121×91.6	131×101	1.4	1 mm pitch 4 pin Length 80 mm
FTAS00-6.5AS-4A	6.5	Finger or pen	132×99	138×105	150×116	1.4	1 mm pitch 4 pin Length 80 mm
FTAS00-8.4AS-4A	8.4	Finger or pen	170.9×129.6	176.5×135.4	186.5×144.4	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-10.4AS-4A	10.4	Finger or pen	211.2×158.4	215×162.4	225.6×171.4	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-10.4AV-4A	10.4	Finger or pen	212.2×159.4	216.4×163.4	226.5×183	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-12.1AN-4A	12.1	Finger or pen	245.8×184.3	249.6×188.1	260×198	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-15AN-4A	15	Finger or pen	304.1×228.1	308.1×232.1	321.8×245.5	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-19AN-4A	19	Finger or pen	376.3×301	382×307.4	395.5×321	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-10.6AW-4A	10.6	Finger or pen	230.4×138.2	233.4×141.3	247.8×154.8	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-12.1AW-4A	12.1	Finger or pen	261.12×163.2	264.26×166.4	275×176	2.1	1 mm pitch 4 pin Length 80 mm
FTAS00-15.6AW-4A	15.6	Finger or pen	344.2×193.5	347.5×196.8	362.6×214.2	2.1	1 mm pitch 4 pin Length 80 mm



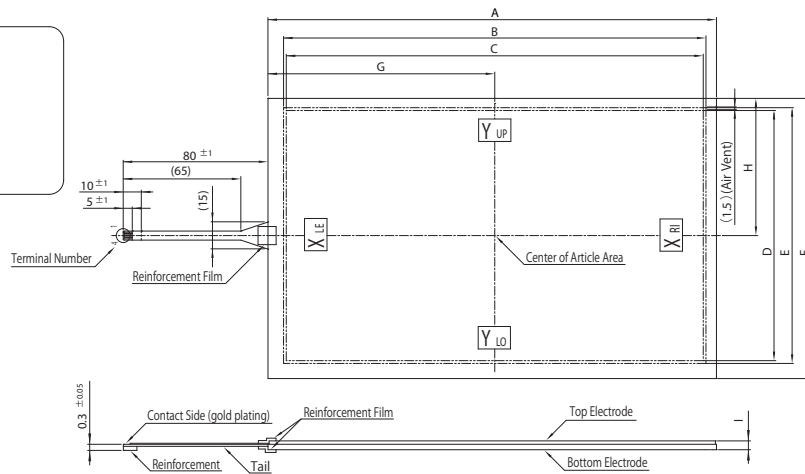
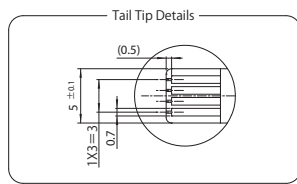
Specifying circuit

Pins	Signal
1	Y _{UP}
2	Y _{LO}
3	X _{RI}
4	X _{LE}



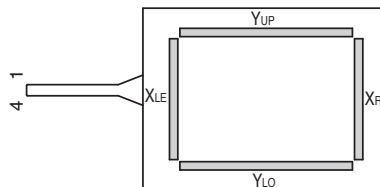
Y_{UP}, Y_{LO}: Bottom Electrode Contact
X_{LE}, X_{RI}: Top Electrode Contact

Part Number	Dimension A (mm)	Dimension B (mm)	Dimension C (mm)	Dimension D (mm)	Dimension E (mm)	Dimension F (mm)	Dimension G (mm)	Dimension H (mm)	Dimension I (mm)
FTAS00-10.4AV-4A	212.2	216.4	226.5±0.3	159.4	163.4	183±0.3	114.5	94.5	2.1±0.2



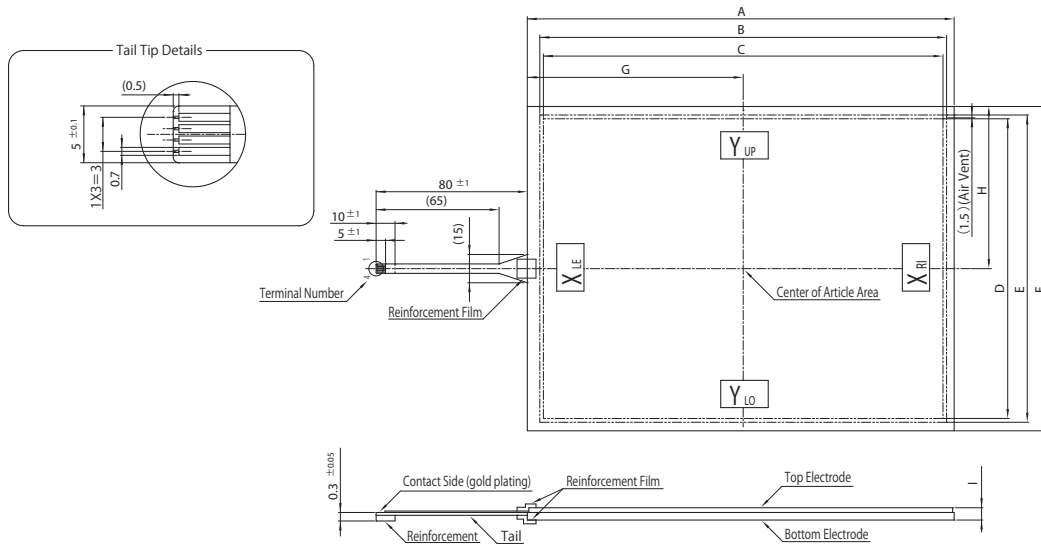
Specifying circuit

Pins	Signal
1	Y _{UP}
2	Y _{LO}
3	X _{LE}
4	X _{RI}



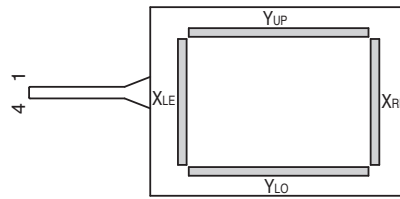
Y_{UP}, Y_{LO}: Bottom Electrode Contact
X_{LE}, X_{RI}: Top Electrode Contact

Part Number	Dimension A (mm)	Dimension B (mm)	Dimension C (mm)	Dimension D (mm)	Dimension E (mm)	Dimension F (mm)	Dimension G (mm)	Dimension H (mm)	Dimension I (mm)
FTAS00-10.6AW-4A	247.8±0.3	233.4	230.4	138.2	141.3	154.8±0.3	125.3	75.8	2.1±0.2
FTAS00-12.1AW-4A	275±0.3	264.26	261.12	163.2	166.4	176±0.3	138.89	—	2.1±0.2
FTAS00-15.6AW-4A	362.6±0.3	347.5	344.2	193.5	196.8	214.2±0.3	181.3	—	2.1±0.2



Specifying circuit

Pins	Signal
1	Y_{UP}
2	Y_{LO}
3	X_{LE}
4	X_{RI}

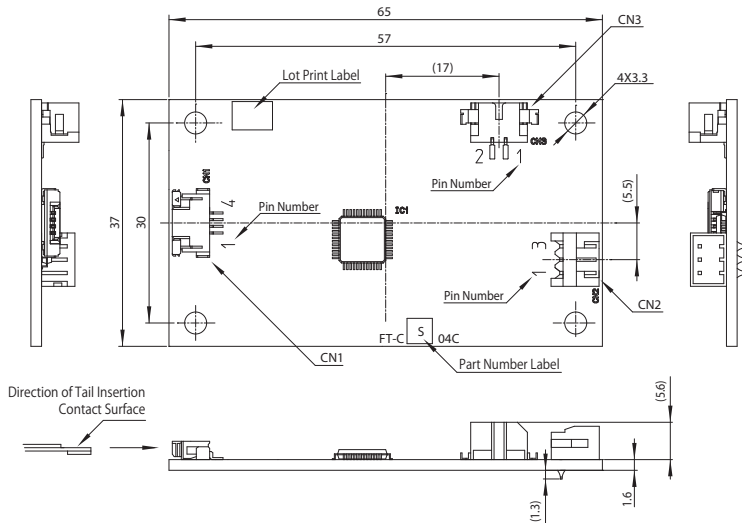


Y_{UP} , Y_{LO} : Bottom Electrode Contact
 X_{LE} , X_{RI} : Top Electrode Contact

Part Number	Dimension A (mm)	Dimension B (mm)	Dimension C (mm)	Dimension D (mm)	Dimension E (mm)	Dimension F (mm)	Dimension G (mm)	Dimension H (mm)	Dimension I (mm)
FTAS00-5.7AS-4A	131 ± 0.3	121	115.2	86.4	91.6	101 ± 0.3	67.25	—	1.4 ± 0.2
FTAS00-6.5AS-4A	150 ± 0.3	138	132	99	105	116 ± 0.3	77	—	1.4 ± 0.2
FTAS00-8.4AS-4A	186.5 ± 0.3	176.5	170.9	129.6	135.4	144.4 ± 0.3	94.85	—	2.1 ± 0.2
FTAS00-10.4AS-4A	225.6	215	211.2	158.4	162.4	171.4 ± 0.3	114.1	—	2.1 ± 0.2
FTAS00-12.1AN-4A	260 ± 0.3	249.6	245.8	184.3	188.1	198 ± 0.3	131.5	97.8	2.1 ± 0.2
FTAS00-15AN-4A	321.8 ± 0.3	308.1	304.1	228.1	232.1	245.5 ± 0.3	162.5	—	2.1 ± 0.2
FTAS00-19AN-4A	395.5 ± 0.3	382	376.3	301	307.4	321 ± 0.3	198.1	—	2.1 ± 0.2

► RS232C Compatible FPC tail controller board

FTCS04C (RS232C compatible)



CN1
For connecting to 4-wire system analog touch screen (4-pin)

Pins	Symbol	Terminals
1	Y0	For analog touch screen Y _{UP} or Y _{LO}
2	Y1	
3	X0	For analog touch screen X _{RI} or X _{LE}
4	X1	

CN2
Header connector for RS232C (3-pin)

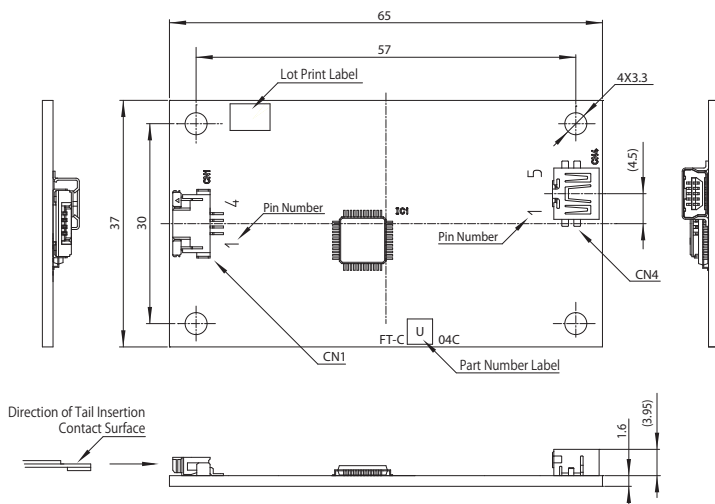
Controller Board Side			PC Side Connection
Pins	Symbol	Terminals	Terminals
1	RD	Received data (IN)	Sent data
2	SD	Sent data (OUT)	Received data
3	GND	GND	GND

CN3
Header connector for power supply (2-pin)

Pins	Symbol	Terminals
1	V _{CC}	Power supply voltage
2	GND	GND

► USB Compatible FPC tail controller board

FTCU04C (USB compatible)



CN1
For connecting to 4-wire system analog touch screen (4-pin)

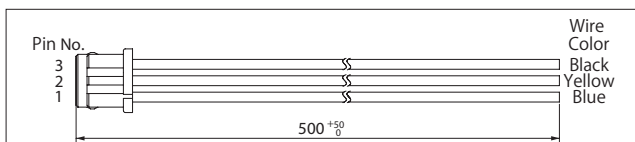
Pins	Symbol	Terminals
1	Y0	For analog touch screen Y _{UP} or Y _{LO}
2	Y1	
3	X0	For analog touch screen X _{RI} or X _{LE}
4	X1	

CN4
Header connector for USB (5-pin)

Pins	Symbol	Terminals
1	V _{CC}	USB V _{CC}
2	D ₋	USB D ₋
3	D ₊	USB D ₊
4	GND	USB GND
5	GND	Shield GND

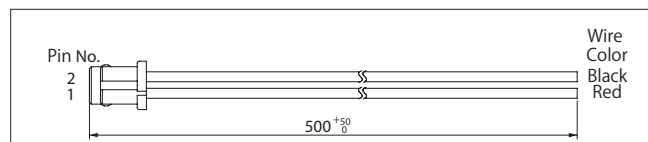
Receptacle connector with RS232C cord (AT713)

AT713 is a receptacle connector that is equipped with an RS232C communication connecting cord used for connecting to FTCS04C controller boards. Cord length can be freely adjusted. Computer connectors are not included.



Receptacle connector with power cord (AT714)

AT714 is a receptacle connector that is equipped with a cord for connecting to the power supply of the FTCS04C controller boards. The cord length can be freely adjusted and connected to the power supply.



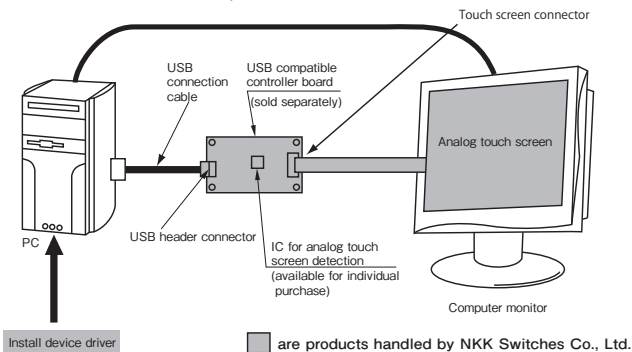
Unlimited Interfaces that Expand at A Touch

- Compatible with USB/RS232C interfaces
- Equipped with EPROM for saving setting data (FTCS04B/FTCU04B)
- Device drivers are Windows 7 and 8 compatible

Combining an analog touch screen with a controller board device driver on a computer enables you to perform the same operations as you would with a mouse simply by touching the touch screen.

Controller Boards		
Model	Interface	Type
FTCS04C	RS232C	4-wire system
FTCU04C	USB	4-wire system

System Configuration (for USB compatible system)



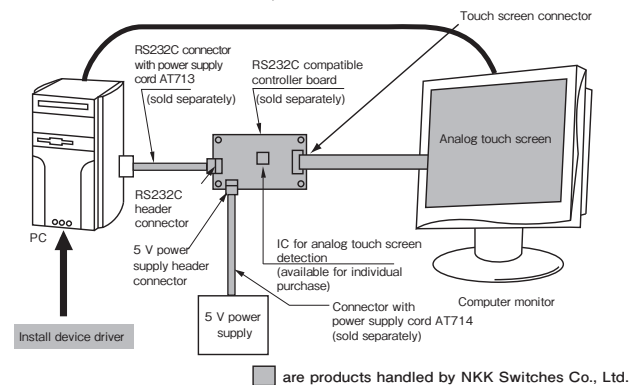
General Specifications		
Item	FTCS04C	FTCU04C
Interface	RS232C Standards	USB 2.0 Full Speed
Clock	16 MHz	16 MHz
Power supply	5.0V	5.0V (bus power supply)
Resolution	10-bit	10-bit
Power consumption	40 mA maximum	100 mA maximum
Baud rate	9600 bps	
Communication format	Data length: 8-bit Parity bit: None Stop bit: 1	

Maximum Rating					
Items	Symbols	Rated value		Unit	Notes
		Min	Max		
Supply voltage	V_{CC}	-0.3	+5.5	[V]	
Input voltage	V_{TP}	—	V_{CC}	[V]	Touch screen input
	* V_{RS}	-15	+15	[V]	RS232C
Operating temperature	T_{OPR}	-20	+70	[°C]	
Storage temperature	T_{STG}	-25	+85	[°C]	

* V_{RS} : Applicable to RS232C only

Recommended Operation Conditions						
Items	Symbols	Rated value			Unit	Notes
		Min	Typ	Max		
Supply voltage	V_{CC}	+4.75	+5	+5.25	[V]	
Operating temperature	T_{OPR}	-20	—	+70	[°C]	No condensation

System Configuration (for RS232C compatible system)



▶ Controller Boards & Drivers

- Device Driver function: Emulation software that enables operation of the touch screen same as a PC mouse
- Device Driver features two types of button modes; can be operated simultaneously with PS/2 mouse
- Device Driver Compatible with Windows 7, 8, XPe and CE Operating Systems
- RS232C Controller Board consists of connector for 4-wire analog touch screen, RS232C header connector, 5 V power supply header connector and helps simplify wiring RS232C receptacle connector with wire assembly (AT713) and 5 V power receptacle connector with wire assembly (AT714), are available as accessories

Controller Board	Operating System	Availability
FTCS04C FTCU04C	Windows 7 and 8 Windows XPe/CE	Download from NKK Switches Website

*This controller board is compatible with FPC tail devices only. Refer to the product specifications when using the controller board / IC. Contact the NKK Switches sales department for product specifications.

▶ IC for Analog Touch Screen Detection

- This IC performs high-speed, high accuracy coordinate conversion for the touch position of analog touch screens. The analog voltage detected from the touch screen is converted to A/D, and the coordinate value is output via serial data (start-stop synchronization) or USB.
- Supports multi-touch and allows gesture-based operations.
- Compatible OS: Windows 7/8/10

* Please review the product specifications before using IC. Please contact our sales department for product specifications.

Features

- High speed, high accuracy
- Built-in noise reduction function for input coordinate data (reduction of bounce, external device noise, etc.)
- Built-in calibration function

Specifications (Overview)	
	FTCSU548
Package	LFQFP 48 Pin
Interface	Serial (Start-Stop Synchronization) or USB (Full Speed 2.0)
Power Supply Voltage	3.3V/5.0V (TYP.) (USB is 5V only)
Rated Output Current*	① -170mA ② +170mA
Operating Frequency	16MHz
A/D Converter Resolution	10bit
Operating Temperature Range	-20~+85°C
Storage Temperature	-40~+125°C

* Total IO port output current at (1) high and (2) low levels

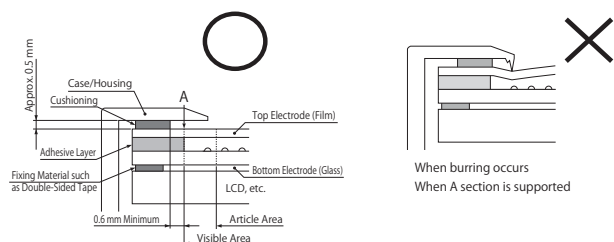
▶ Instructions

Controller Board Handling Precautions

- This product is not guaranteed to operate when combined with a touch screen manufactured by any company other than NKK Switches.
- Be careful of static electricity when handling this product, and ensure workers and working areas where this product is handled are earthed.
- Do not turn on the power supply to this product until it is connected to both the host and touch screen. Turn on the power supply to this product before starting the host.
- When connecting or disconnecting the CN1 connector of this product and touch screen tail section, be sure that the CN1 connector slider is pulled back, and refrain from connecting or disconnecting more than 10 times.
- Never attempt to modify this product.
- The content of this product may be changed at the manufacturer's discretion without prior notification for improvement purposes.
- Do not use commands other than those prescribed in the specifications with this product.
- NKK Switches cannot accept any responsibility whatsoever for any damages that occur through the use of this product.
- The tail used to connect the touch screen unit and controller board is susceptible to noise, and should therefore be installed as far away as possible from noise sources (LCD drive inverter, etc.).
- This product is covered under warranty for 1 year from the date of purchase.
- The touch screen position sensitivity may become misaligned due to changes in environment (such as aging, temperature change, insertion/removal of tail connectors, etc.). In these cases, re-calibrate the device.

Precautions for installation

- Make sure that the case or housing do not place unnecessary stress on the product causing it to distort.
- The tail section is the weakest part of the product and may disconnect easily. Therefore, do not pull on or place stress on the tail section.
- Do not place excessive stress (sufficient to leave a bend line) on the tail section. Doing so may cause disconnection or increased resistance value.
- When installing glass products in particular, be sure to consider vibration and impact during installation.
- Install the touch screen securely so there is no looseness. Looseness may cause detection to become unstable. In particular, looseness has an adverse effect on detection performance of analog types during operation.
- Make sure there is no burring, etc. at the edges of the case and housing. Burring may cause misoperation. Furthermore, ensure that the edges of the case and housing do not enter the key area. Doing so may cause misoperation due to the edges of the case or housing.
- Leave a space (approx. 0.5 mm) between the case or housing and top electrode to ensure there is no differential shrinkage in the case, housing or top electrode, and no effects from distortion or deformation. When installing buffer material in the space, make sure that the top electrode is not forcibly pushed. Forcibly pushing the top electrode or fixing with double-sided tape, etc., may cause the top electrode to distort or flex, which has an adverse effect on the external appearance and functionality of the product. Install buffer material more than 0.6 mm to the inside of the A section.



(Continued on next page)

- In cases where external pressure may be placed on the periphery during operation such as the case or housing section being held by hand, make sure that the touch screen is not input due to distortion of the edges of the case or housing.
- When fixing the touch screen in place, fix it using the bottom section such as by fixing it to the LCD display.
Fixing the top electrode to the case or housing with double-sided tape, etc. causes stress to be placed on the connection between the top and bottom electrodes, which may cause damage or distortion to the film or malfunctions.
- Some products have an air vent installed to ensure that the inner and outer pressure of the touch screen are the same. Make sure that this is not blocked when installing. Furthermore, ensure that liquids such as water and oil do not enter the product through the air vent or product exterior (connection section between the top and bottom electrodes).
- Avoid any situations where air pressure from a device attached to the touch screen could pass through the air vent and cause the top electrode to swell. Doing so may have a bad effect on the product such as reducing the lifespan of the product. Furthermore, reducing the pressure in the touch screen through the air vent may cause interference fringe or constant input to occur.
- Be careful not to damage the glass when attaching the touch screen.
- Please note that moisture from condensation, etc. on the tail connection section or edges may result in migration, causing short circuit failure to occur.

Handling precautions

- When unpacking the product, make sure the product is facing in the correct vertical/horizontal orientation. Furthermore, glass edges have not been chamfered and may be sharp. Be sure to wear gloves when handling the products to avoid cuts.
- Do not use a clamp to lift or pull the tail section. Doing so may result in damage to the tail connection section.
- Wear gloves or fingerstalls to prevent the fingerprints or dirt from getting onto the product.
- When holding the product, hold it outside of the range of the visible area.
- To remove dirt from the surface of the product, wipe gently with a soft cloth soaked in ethanol. Do not use anything other than ethanol.
- When storing the product, wrap it in the same packaging as when it was purchased and within the temperature and humidity conditions prescribed in the specifications.
- Do not store the product in an acidic environment or near other corrosive gases.
- Do not store the product in locations where condensation may occur.
- Do not stack products or place other items on the products, as doing so places excess load on the products, which may result in deformation or bending of the products or scratches to the edges of the products.
- The product has a protective film attached. Do not remove this film until immediately before use to prevent the product from becoming scratched, etc. However, storing the product with the protective film attached for prolonged periods may result in the adhesive from the protective film becoming attached to the product.
- Place the product into the NKK Switches packaging with the glass surface facing up.

Precautions for Operation

- Do not operate the product with anything other than your finger or a specialized input pen (commercially available polyacetal pen). In particular, do not use sharp objects such as a ballpoint pen or mechanical pencil. Doing so may cause scratches to the surface, malfunctions and cracked glass.
- The area between the visible area and key area is structurally weak. Do not rub harshly with a pen, etc.

Design Precautions

- The input position of analog type products may become misaligned due to resistance value differences between individual products, or changes to the resistance value due to age deterioration. Be sure to enable calibration using both hardware and software to calibrate the input position.
- When installed onto a display device such as an LCD, noise generated by the display device may cause malfunction. Implement noise countermeasures such as connecting the frame of the display device to ground.
- The contact resistance of the product changes when pressed by a finger or pen. Ensure that data is read when the contact resistance is stable, such as by ignoring data read when the contact resistance is unstable.
- Data becomes broken on the dot spacer of analog type products when used for drawing lines, etc., and must be corrected using software.
- Be sure to evaluate sufficiently when using double-sided tape or adhesive to attach the top electrode to the surface sheet. Distortion, etc. of the top electrode or surface sheet may have an adverse effect on functionality.

Precautions for Use

- Products are guaranteed based on the evaluation of product standards within the moisture tolerance and usage temperature range, but are not guaranteed to operate perpetually at this temperature.
- Touch screens have individual differences. Therefore, calibration data from one touch screen should not be applied to other touch screens, and calibration should be implemented for each touch screen.
- If the connector is removed and reconnected from the tail after calibration, perform calibration again.
- The prescribed specifications are a guarantee of product quality on a single touch screen. When using the product, be sure to confirm and evaluate performance when attached to your own products.

Broadening the World of Touch Screens with Precisely Designed Resistive Film from a Specialist in Industrial Switches

For operation that feels light to the touch
Series TP01 4-Wire Analog

4:3

10.4" 12.1" 15" 19"

Wide

10.6" 12.1" 15.6"

For motion-sensitive operation
Series TP01 4-Wire Analog

4:3

10.4" 12.1" 15" 19"

Wide

10.6" 12.1" 15.6"

Control Board **IC**

※Control boards and ICs can only be purchased in a set with a touch screen.

If dedicated IC is not required
Series FT Digital

5.7"

NKK Supplies a Wide Range of Touch Screens to Meet the Needs of All Different Customers

For high durability
Series FT 5-Wire/8-Wire Analog

4:3

10.4" 12.1" 15"

Control Board **IC**

※ The 8-wire analog type is custommade. All sizes of the 4-wire type support an 8-wire conversion tail.

For a wide range of sizes and excellent cost performance
Series FT, 4-Wire Analog, Printed Tail

4:3

5.7" 6.5" 8.4" 10.4" 12.1"

15" 19"

Wide

10.6" 12.1" 15.6"

Control Board **IC**

For high contact reliability
Series FT, 4-Wire Analog, FPC Tail

4:3

5.7" 6.5" 8.4" 10.4" 12.1"

15" 19"

Wide

10.6" 12.1" 15.6"

Control Board **IC**

* Specifications presented here are subject to change without notice. Check with our staff for the latest specifications.