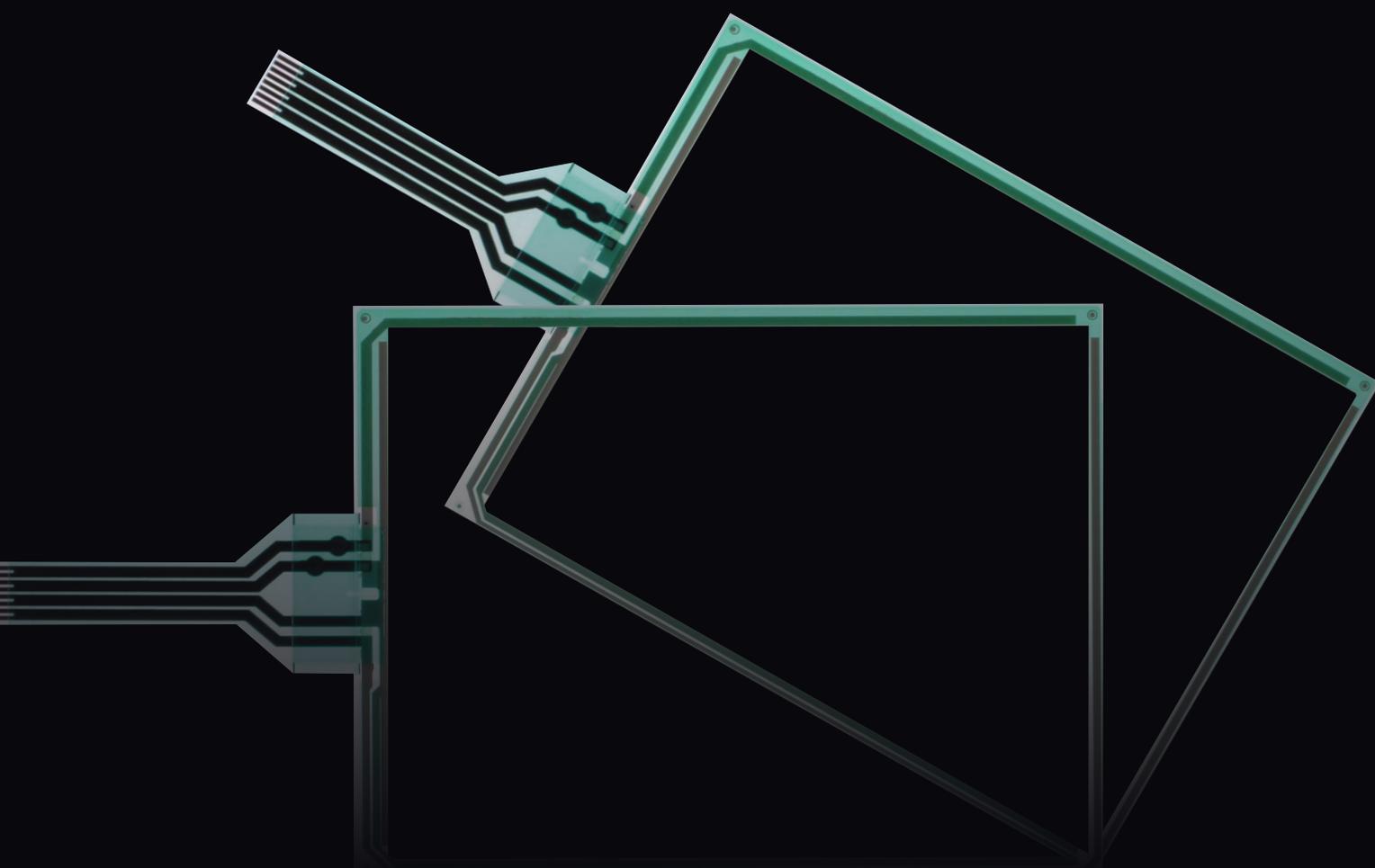


Going beyond the realm of switch technology:

NKK's touch screens and membrane keypads



ON/OFF

NKK's Exceptional Standards as a Manufacturer of Industrial Switches

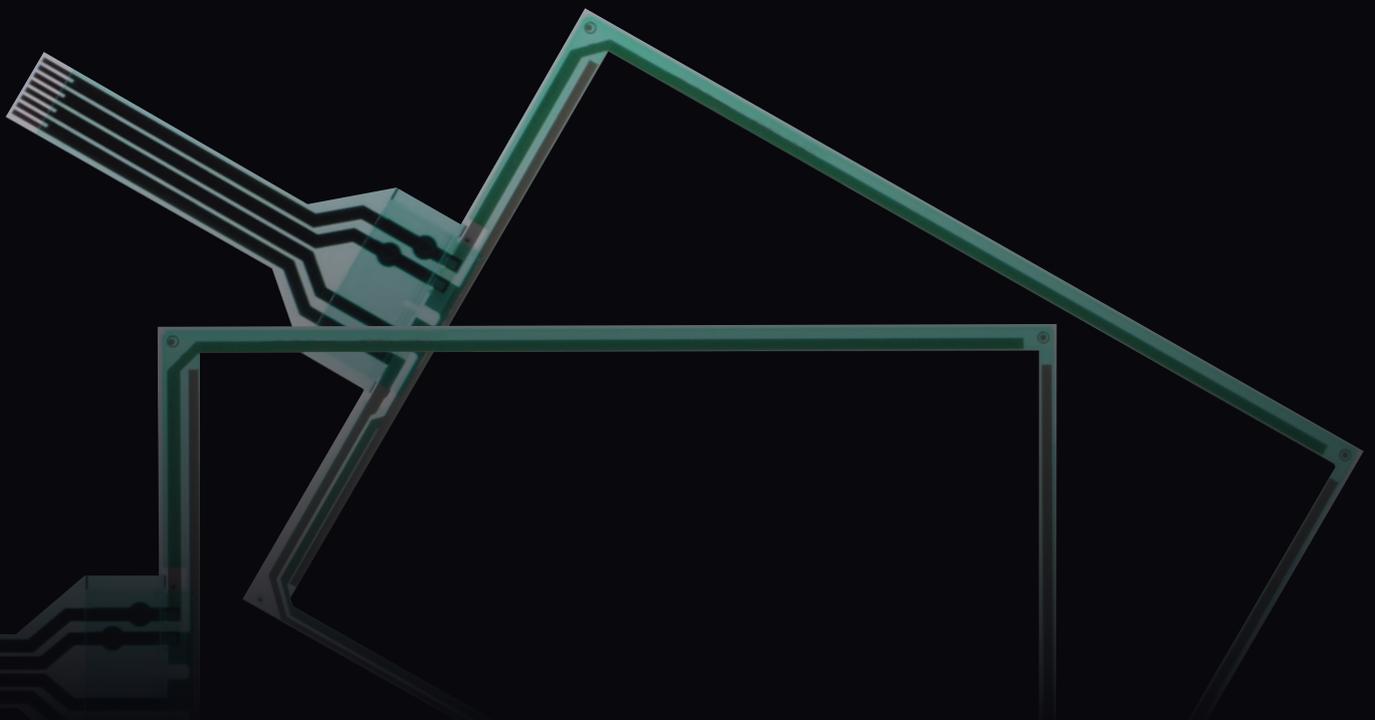
<NKK's touch screens and membrane keypads>

As we expanded our offering of touch screens and membrane keypads, a major question was how to unite our technology and experience with the latest electronic devices. The answer to this question is built into each of our products.

Our core values include global accessibility, reliability, innovation and speed.

With our unmatched levels of expertise and pride of craftsmanship, we pledge our dedication to users around the world that our products will deliver above their expectations. We are also constantly making strides in communication between people and machines with speed and efficiency.

In our role as a leading switch manufacturer of industrial devices, we have set and maintained lofty goals where our customers reap the advantages. Our reputation of world-renowned quality and dependability is one on which they can rely.



NKK Switches' touch screens and membrane keypads have three qualities that transcend expectancies.

NKK Technology

The Unique Technology of a Specialist Switch Manufacturer

NKK Switches holds over 1,200 registered industrial property rights and has over 600 pending. This is a clear indicator of NKK Switches' creativity and technical know-how.

NKK Quality

Unique Quality Developed through a Period of Over 60 Years

With precise processing technology honed over a period of over 60 years, we bring you the highest level of quality, flexibility in the performance and functions of each product, and control performance that remains at its original level for a long time.

NKK Performance

Satisfaction that Exceeds Expectations

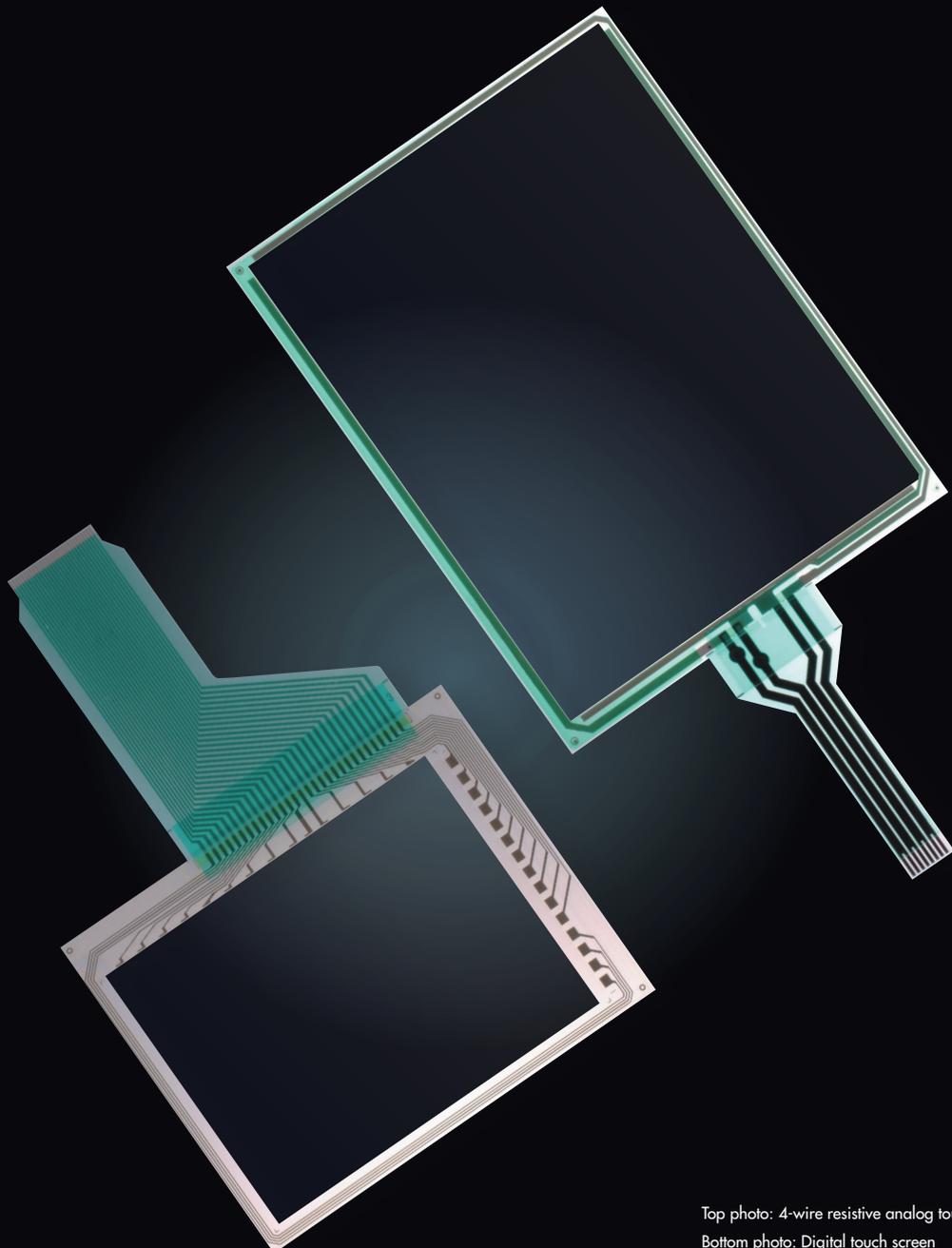
Whether you have a custom order, small lot sizes, a wide variety of products, a tight deadline or need various forms of support, NKK will exceed your expectations by meeting your every need and providing high quality that you can be satisfied with. NKK will exceed expectations by meeting your needs and providing unparalleled levels of service and support.



Touch Screens

FT Series

Resistive film expands choices
for the specialized industrial switches manufacturer.



Top photo: 4-wire resistive analog touch screen
Bottom photo: Digital touch screen

Numerous Advantages in Using Resistive Film

Touch screens come in various styles. Resistive touch screens have a particularly high degree of freedom with design factors such as input method and size and have a comparatively low price, making them the most successful style in the industry. Touch operations can be performed by gloved finger.

Analog and Digital Input

Choose between an analog or digital (matrix) touch screen.

Touch Panel plus LCD

Our touch screens can be installed on peripheral devices or attached to LCDs. This work is done in a clean room in our Japanese factory.

Anti-glare Surface

The surface of the film is treated to remove glare, reducing reflection of light such as fluorescent lighting.

ANR Film

ANR (anti-Newton ring) film is used to prevent interference fringe, improving the visibility of the content on the screen.

Material Compositions

Our standard product has the popular film + glass composition. A film + film composition is also available.

Tail

Our standard print tail is an 8-pin tail with a 1.25mm pitch.

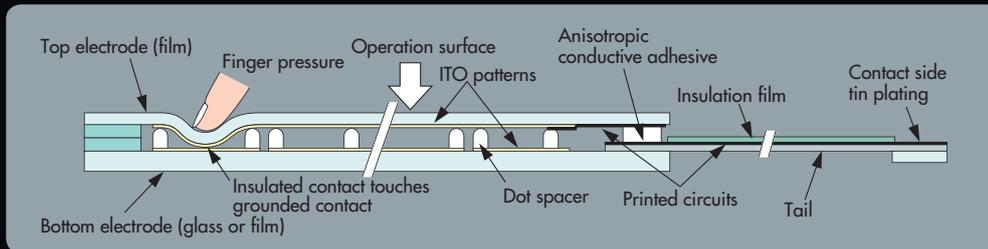
Various Custom Options

Film: Features such as fingerprint-proofing, high-transmissivity and overlay film are available.

Tail: Gold plated or tin plated. The dimensions can be customized.

Contact our sales department for additional customized features and details.

Structural Drawing



Product Range

◎ : Standard product ○ : Can be custom made

Type \ Size	3.5	5.7	6.2 Wide	6.5	7 Wide	8.4	8.5 Wide	10.4	10.5	12.1	14	15	17	17.1 18.1	19
Digital	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○
Analog 4-wire type	○	◎	○	◎	○	◎	○	◎	○	◎	○	◎	○	○	○
Analog 5-wire type								◎		◎		◎			
Analog 8-wire type	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

* All sizes of the 4-wire analog type can be customized with an 8-wire conversion tail. (Please note that the auto calibration function is not supported.)

Accessories

USB-compatible for easy connection. Supported by various OS. Control Boards & Device Drivers

- USB interface (RS – 232C supported)
- EEPROM installed for saving data such as settings

Device drivers can be downloaded from our homepage. Use control boards and device drivers together on a computer to perform the same operations as when using a mouse, simply by touching the touch screen.

High Speed & High Precision

Detection IC for Transparent Analog Touch Screens

- High speed and precision, with a function for removing noise from input coordinate data (chattering, apparatus noise, etc.)
- Contains calibration function



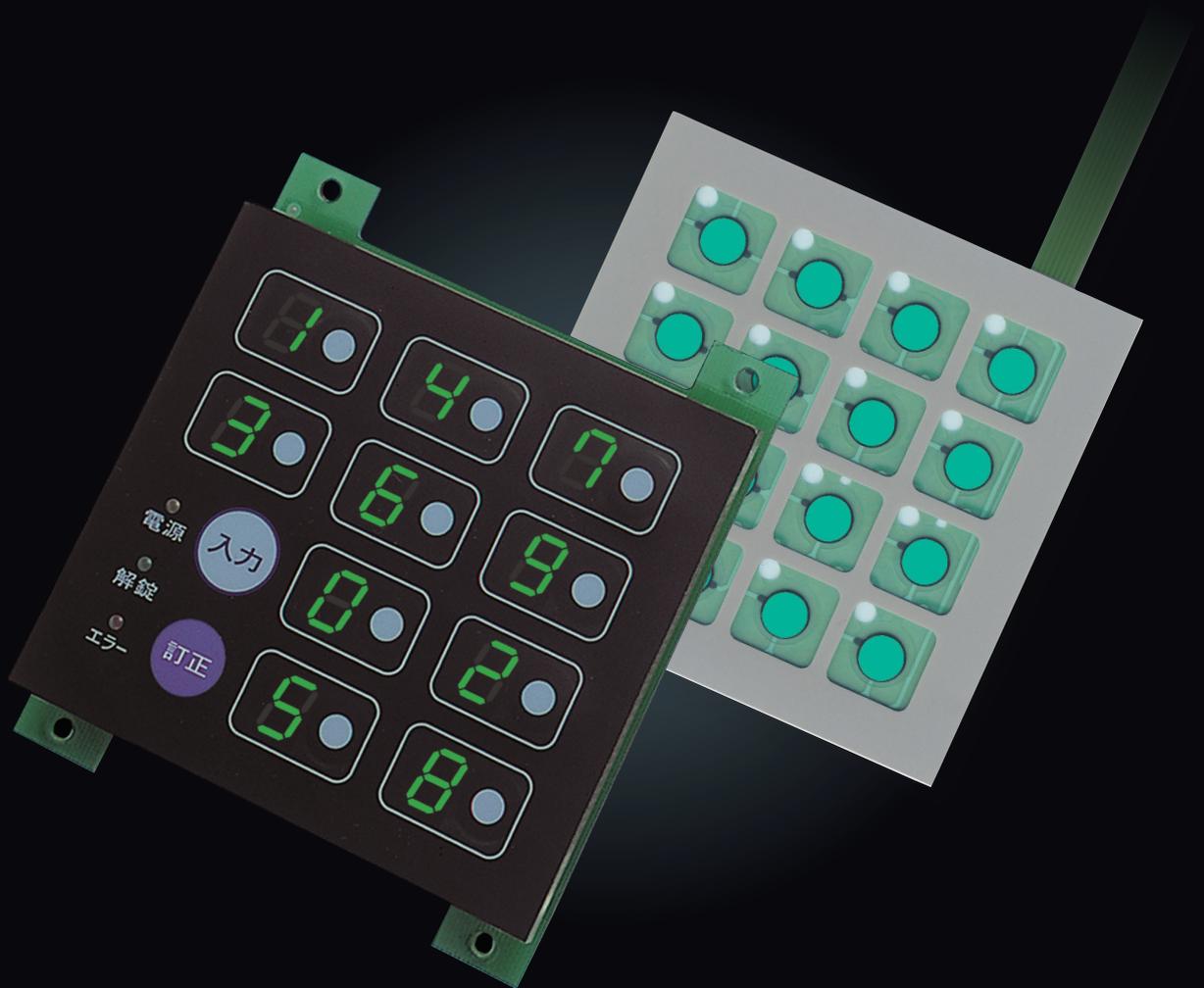
Supported OS: Windows Vista, XP, 2000, XPe, CE, 7, 8, 8.1
(Please contact our factory for more information on compatibility)

Membrane Keypads

FM & FK Series

Developed and produced in a company
that supplies over 3.5 million types of switches.

We will finely customize our products to meet your unique needs.



Left photo: Mechanical switches
Right photo: Printed contact

FM Series (Printed Contact)

Extra thin to suit a wide range of designs

- Select your desired design, size, number of keys, key layout and circuits.
- Select the tactility by choosing a metal disc or embossing.
- Parts such as LED chips can be added and EL can be installed.
- Can be easily attached to the enclosure by adhesive applied to the reverse side.

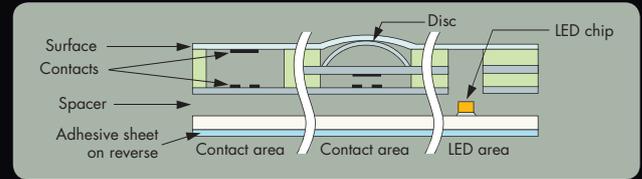
Over 20 standard products

Card Insertion Type

- Available with 4 or 16 keys, with or without clicks, and with a black or gray surface sheet.
- The surface sheet allows you to use the keyboard straight away by entering characters and symbols on the included card and then inserting the card. This also reduces initial expenses.
- The card is simply inserted between the surface sheet and the switches, allowing a high degree of freedom in the design and production.



Structural Drawing (General Type)



General Type

- Available with 4, 12, 16 or 24 keys, with or without clicks. Illumination can be added in addition to clicks in the 12- or 16-key type.
- A surface sheet can be created for each type if desired.



FK Series (Mechanical Switches)

In addition to reliable operations and a pleasing feel, this series has a long life and high contact stability.

- A wide variation of contact areas can be selected to suit your needs, from NKK's tactile switches to stroke type pushbutton switches and rubber buttons.

- Comprehensive range of features to suit your needs, including splash proofing, dust proofing and features for special purposes.
- In addition to an operation unit, features such as an LED display with a light-guiding panel (LGP) or a teaching box can be included.
- Various designs, sizes, circuits, installed parts, etc. to enhance your application.



Examples of Customized Products

An operation panel, display unit and cable can be included to create assembly products

Customize your sheet keyboard any way you want, in any amount from low volumes to large lot sizes!

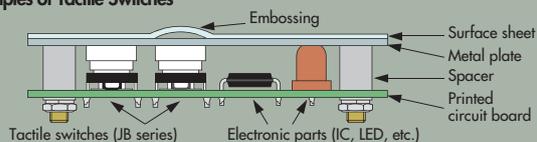
Illumination Type

- Despite its slim size, this type illuminates the entire operation area and has a clear click.

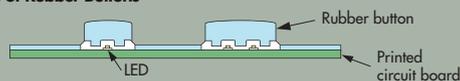


Structural Drawing

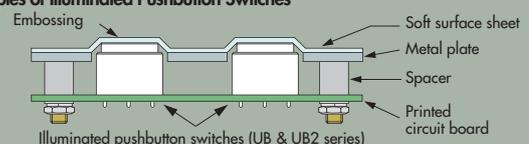
Examples of Tactile Switches



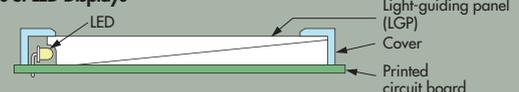
Examples of Rubber Buttons



Examples of Illuminated Pushbutton Switches



Examples of LED Displays



**Touch Screen + Membrane Keypads + Switches
= Comprehensive Solutions for Diverse Applications**
Combine NKK's touch screens, sheet keyboards and switches
and enjoy a wide range of merits.

With improved operation panel designs, unit procurement and batch procurement of full panels to reduce costs, and more compact sizes before, we provide performance that exceeds your expectations in a wide variety of ways.

Console panel



Touch screen Switches

Medical equipment



Touch screen Switches

Sewing machines



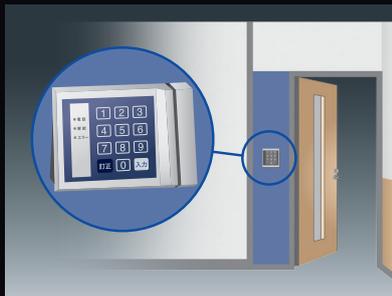
Touch screen Sheet keyboards Switches

Multi-function printers



Touch screen Sheet keyboards Switches

Access control panels



Sheet keyboards Switches

ATMs and POS devices



Touch screen Switches

Operation panels for coin parking meters



Touch screen Switches

Power units for wheelchairs



Sheet keyboards

Ticket vending machines



Touch screen Switches

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