Founded in 2005, Touch-To-Go Technologies is the leader in elevator touchscreen systems. Our products have been sold to projects located throughout North America and internationally. Touch-To-Go is part of the DMG group of companies.
OVERVIEW

A Touch-To-Go elevator touchscreen system takes the place of conventional pushbuttons inside an elevator. In the process, it transforms user-elevator interaction from an ordinary button-press into a dynamic, intuitive experience.

In a typical installation, touchscreens are permanently mounted inside the elevator’s car operating panels (COPs) in the location where pushbuttons are typically installed.

The touchscreen graphics represent the floors served by the elevator, and passengers choose their destination by touching the appropriate area of the touchscreen. The touchscreen graphics change state to indicate that the request was recognized, and the elevator takes the passenger to the requested floor. Upon arrival at the floor, the graphics return to their original state.

Emergency controls, door open, door close, etc. are still implemented with conventional pushbuttons; the touchscreen only supports selection of the destination floor.

BENEFITS
An elevator touchscreen system provides many benefits over traditional buttons, including:

• The ability to fully customize the touchscreen graphics to match the style, identity, and branding of the property in which the system is installed.
• The ability to provide additional information to passengers, such as map data, floor contents, or tenant names and logos.
• The use of large print and familiar icons to make the property more accessible.
• The ability to change the appearance and contents of the screen on demand or on a scheduled basis.
• A large quantity of buttons can be implemented in less space than with conventional buttons (for elevators with a large number of stops).
• Graphics can change automatically to support destination dispatch, swing cars, and special use cases such as fire service and medical emergencies.

INSTALLATION HIGHLIGHTS
Successful deployment of an elevator touchscreen system involves three steps:

• Elevator car operating panel design, preparation and fabrication,
• Preinstallation of components during panel fabrication,
• Final installation and testing (on-site).

ADA / Appendix E / Barrier Free compliance is achieved through either a keypad or redundant pushbuttons.

The Touch-To-Go system connects the same way as conventional pushbuttons allowing maximum flexibility for fixture upgrades, full modernizations or new construction. It is compatible with almost any modern controller.
The following diagram shows a typical installation of a Touch-To-Go touchscreen system in an elevator with center-opening doors and dual swing-return car-operating panels. Many other system configurations are possible (1 or 2 COPs, 1 or 2 touchscreens, keypad or regular buttons, center or side-opening doors, swing return or applied panels, etc.). The diagram shows just one of many possible configurations, and it is intended only for component identification purposes.
TOUCHSCREENS

The touchscreen is the primary method by which elevator passengers select their destination floor. It is a color LCD with an integrated touch-sensitive glass panel and a watertight bezel.

Touchscreens are available in a variety of sizes to suit most elevators. Generally, it is recommended to select the largest screen that the elevator panel can accommodate. In elevators with a single car-operating panel (COP), a single touchscreen is used. In elevators with dual COPs, two touchscreens are used (one in each panel) — both display the same content.

**Model**

- **17S**: Available by special order (not stocked)
- **19W**: Available by special order (not stocked)
- **19S**: Available by special order (not stocked)
- **21W**: Standard Product

**Viewable Area**

- **17S**: 10.6 x 13.3
- **19W**: 10.0 x 16.1
- **19S**: 11.9 x 14.8
- **17S**: 10.6 x 13.3

**Overall Dimensions**

- **17S**: 12.0 x 14.5
- **19W**: 11.7 x 17.5
- **19S**: 13.5 x 16.3
- **17S**: 12.0 x 14.5

**Recommended Size**

- **17S**: 10.6 x 13.3
- **19W**: 10.0 x 16.1
- **19S**: 11.9 x 14.8
- **17S**: 10.6 x 13.3

**Dimensions**

- **Viewable Area (in)**: 10.6 w x 18.8 h
- **Dimensions (in)**: 12.0 w x 14.5 h x 1.9 d
- **Dimensions (mm)**: 306 w x 368 h x 49 d
- **Resolution (px)**: 1024 w x 1280 h
- **Glass Type**: Tempered 4mm
- **Viewing Angle**: Standard (160°)
- **Availability**: Special Order

**Standard Product**

- **Model**: 21W
- **Viewable Area (in)**: 10.6 x 18.8
- **Dimensions (in)**: 12.1 w x 20.2 h x 1.9 d
- **Dimensions (mm)**: 269 w x 477 h
- **Resolution (px)**: 1080 w x 1920 h (Full HD)
- **Glass Type**: Tempered 3mm
- **Viewing Angle**: Extra Wide (178°) LED
- **Availability**: Standard Product
**KEYPADS**

The keypad is a secondary method by which passengers can select their destination floor. It is intended for use by persons who are unable to use the touchscreen system (e.g. due to visual impairment or other disabilities).

The keypad complies with the 2010 ADA Standards for Accessible Design and ASME A17.1-2007 / CSA B44-07 Appendix E requirements for persons with physical disabilities. The keypad is also compliant with earlier codes CSA B44-00 and CSA B44-04. A special keypad is available meeting San Francisco requirements.

The keypad is approximately 4.25” x 5.75” in size, and markings for the non-numeric keys can be customized to meet the needs of each elevator.

In some instances, a set of standard pushbuttons is used in place of a keypad; for additional details, please refer to the disability code compliance section of this document.

**SERVICE PORT**

The system’s service port is located in the elevator’s service cabinet. Along with two customer-supplied keyed switches, the service port allows for administration of the system without the need to open the car operating panels. Keyed switches must be rated for low-current, low-voltage operation.

<table>
<thead>
<tr>
<th>SERVICE CABINET  (front view)</th>
<th>TOUCHSCREEN</th>
<th>SERVICE PORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable Service Port</td>
<td>CPU Reset</td>
<td>Admin Menu</td>
</tr>
<tr>
<td>Customer-supplied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three-position keyed switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two independent sets of N.O. contacts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key removable in OFF position only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key trapped in other positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring-loaded in CPU RESET position only</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Suggested parts:
- Telemecanique ZB4BG814 switch,
- ZB4BG4 collar, and two ZBE1016 contacts

<table>
<thead>
<tr>
<th>SERVICE CABINET  (rear view)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Port Board</td>
<td></td>
</tr>
<tr>
<td>(supplied with system)</td>
<td></td>
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</tbody>
</table>

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<td>(supplied with system)</td>
<td></td>
</tr>
</tbody>
</table>
ELEVATOR INTERFACE UNIT

The elevator interface unit is the device responsible for handling all communications between the elevator and the touchscreen system. It is mounted to the rear of the keypad.

It is fully electrically isolated from the elevator wiring. Destination floor requests are sent to the elevator via contact closures, and acknowledgements are received via illumination of LEDs, similar to conventional buttons. **In almost all cases, wiring is identical to what would be done for conventional buttons.**

The elevator button wiring connects to the elevator interface unit; all wiring for destination floor pushbuttons must be routed here. Cables from the elevator interface unit also connect to the service port in the service cabinet, and to the CPU panel. Sufficient clearance must be left around this device to allow for these connections.

Elevator interface units are available in multiples of 24 floors, supporting elevators with up to 24, 48, 72, or 96 stops. A CAN-bus unit is also available, greatly reducing field wiring requirements.

**STANDARD 3-WIRE CONNECTION**
LED common, button common, and 1 wire per floor

**OPTIONAL 4-WIRE CONNECTION**
LED common, button common, and 2 wires per floor
**21W TOUCHSCREEN WITH INTEGRATED CPU**

Our 21.5” touchscreen contains a robust and powerful integrated CPU, built directly into the touchscreen housing. For maximum reliability, the device is passively cooled and constructed from solid-state components with no moving parts or fans.

This integrated design greatly reduces space and wiring requirements within the COP, in addition to simplifying service and installation processes.

All wiring connections to other components terminate on the back of the touchscreen. Polarized connectors are used to prevent connection errors, and the use of locking connectors and cable clamps prevents cables from being accidentally dislodged.

The touchscreen is only 47.5mm (1⅞”) thick, making it easy to fit in most COPs.

A full-HD industrial-grade LCD panel is used, with a long-lifespan LED backlight and very wide viewing angles. This produces a crisp, bright, vivid image.

The 21W touchscreen is powered by a small 12VDC power supply separately mounted in the COP.

**OTHER TOUCHSCREENS - SPECIAL ORDER ONLY**

The 21W touchscreen contains an internal CPU. Other sizes (available by special order) require a separate CPU panel which controls the operation of the touchscreens. It must be installed inside the car operating panel. Only one CPU panel is required per elevator, even if there are two touchscreens present. This CPU panel is 11.75” x 8.5” x 3.3”. Please inquire for further details.

For maximum reliability, the CPU panel is constructed from solid-state components with no moving parts or fans.

AC power is connected to the system at the CPU panel. For dual car-operating panel elevators, mount the CPU panel in the lower portion of the COP. Cables to the other COP are routed out the bottom of the CPU panel and beneath the elevator doors.
**POWER AND WIRING REQUIREMENTS**

The system requires an AC power connection of 100-120V AC 3.5A MAX, 50-60Hz or 200-240V AC 2A MAX, 50-60Hz and is to be connected to a maximum 20A branch circuit. Conductors shall be Cu, Al, or Cu-Al, and the ground wire must be 14AWG. Typical power consumption is 40-60W.

The AC power must come from a reliable uninterrupted source of power to keep the system operational. This connection is made at the CPU panel. All components outside of the CPU panel operate from low voltage DC power supplied by the CPU panel.

Electrical codes generally require a dedicated circuit for car lighting; therefore it is advised that the touchscreen system be supplied by an alternate circuit. The circuit powering the touchscreen system must shut off when the main power to the elevator control is shut off.

**EMERGENCY CONTROLS AND DOOR OPEN/CLOSE**

Emergency controls, door open, door close, etc. should be implemented with conventional pushbuttons; the touchscreen only supports selection of the destination floor.

**NETWORKING (optional)**

Multiple elevators can be networked together to simplify processes such as system configuration or graphics updates.

If systems are to be networked, a piece of twisted-pair cable must be included in the traveling cable. Cables from all elevators must terminate at a common point in the machine room. Inside the elevator, the twisted-pair cable must terminate near the CPU panel.

**POWER SAVING MODE (optional)**

Touch-To-Go Elevator Touchscreen Systems include a power-saving mode which can turn off the touchscreens after a configurable period of inactivity. Enabling this feature will prolong the life of the touchscreens in addition to conserving energy.

This mode can be configured on a fixed schedule (for elevators that are known to be unused at certain times of day) or it can be configured to operate automatically.

For automatic operation, the system requires a means of detecting when passengers are present in the elevator so that power to the touchscreens can be restored. In most elevators, the car lighting is turned on/off by the elevator controller based on occupancy, so the touchscreen system may be signalled using a customer-provided relay that is driven by the car lighting circuit.

Once the system is alerted to passenger presence, the LCD screens resume operation within approximately one second. Touching the screens or pressing a key on the keypad will also return the system to normal operation.

The relay should have a pair of normally-open, low-current, low-voltage, low-resistance contacts that close to indicate passenger presence. Contact closure can be momentary or constant.

Connections are made to the touchscreen system’s service port board, which is mounted in the elevator’s service cabinet.

**ELEVATORS WITH TWO CAR OPERATING PANELS**

Dual-COP installations require a channel, conduit, or duct located above or beneath the elevator doors so that cables can be run between the main and auxiliary COPs. A minimum diameter of 2” is required to allow connectors to pass through.
Installation of a Touch-To-Go touchscreen system is straightforward. Our partner, MAD Elevator Fixtures, can supply car operating panels with the equipment installed, prewired, and tested. This reduces on-site labour and makes the process as simple as possible.

For customers who wish to install the system in their own COPs, a detailed installation manual is provided with each order. The process is simple and steps can be summarized as follows:

- Mount the touchscreen to the cutout and studs in the COP
- Mount the keypad to the cutout and studs in the COP
- Mount the elevator interface unit to the rear of the keypad
- Mount the CPU panel to the studs in the COP
- Mount the service port board to the studs in the service cabinet
- Connect the keyed switches to the service port board
- Connect the cables (supplied) from the CPU panel to each of the other components
- Connect the elevator button wiring to the elevator interface unit
- Connect power to the CPU panel

Systems are shipped preloaded with graphics for each job, and preprogrammed with the required operating parameters. They are ready to use upon power-up, and in most cases, no on-site programming or configuration is needed.

Block Diagram - Equipment Connections
Customized graphics, created specifically for each project, are the key to a successful elevator touchscreen system implementation, and our touchscreen graphics can showcase the building’s style and image while simultaneously helping passengers reach their destination.

The touchscreen graphics can incorporate maps of the facility. Time spent riding the elevator can be used by passengers to orient themselves and determine where to go when they exit the elevator.
WAYFINDING (continued)

Maps can be unique to each elevator, showing only relevant information. Maps can also be rotated for each elevator to match actual orientation when the passenger exits.

The touchscreens can match colors, typefaces and icons used on other signage for a stress-free and seamless visitor experience.

Familiar icons and large touch-sensitive areas make the system easy to use.
Anchor store logos and tenant listings can be shown for improved orientation and branding in retail applications.
Maps can also be implemented for display only on user request, allowing for other information to be displayed when the map is not required.
BRANDING

Providing tenant names and descriptions can provide assurance to visitors that they are headed to the correct floor, while also promoting the corporate identity of each tenant and of the building. The graphics can be used to extend design elements from other parts of the property into the elevator itself.
The elevators are one of the most frequently used public areas of a building. A Touch-To-Go elevator touchscreen system can effectively communicate the building’s style, image and identity to tenants and visitors.
Multiple language selections can be programmed, making the system easy to use for international visitors, government buildings, etc.
HOTELS

Promote the identity and image of the hotel through the graphics. The touchscreen provides an effective means of highlighting and promoting building features and commonly-used services (pool, spa, restaurant, etc.) with pictures.

Touchscreens eliminate the need for engraved inserts and plaques on the car operating panels. Graphics can be changed as needed for special events or promotions.
Architectural renderings can be incorporated into the graphics. A crisp building graphic identifies destination floors when selected — this lets passengers visualize where they are going within the building and reinforces status associated with higher floors.

Screens can be varied to provide notice to building occupants of events and building information. Instructions can be added to the screen (e.g. scan access card).
MUSEUMS

Exhibits are clearly identified and graphics are easily changed to reflect new exhibits, shows, and presentations. Graphics can incorporate a ‘Coming Soon’ section to provide notice of future events and encourage repeat visits. The screen can be used to provide acknowledgement of those who provide donations to the museum. Graphics can showcase prominent pieces of art or special exhibits.

Our products were chosen by the Solomon R. Guggenheim Museum (New York City)
Bold, vibrant, colorful graphics provide high contrast, and large digits and large touch areas make the screen easy to read and easy to use. Universal symbols allow for ease of use in a multilingual facility; place a call by touching the digit, the symbol or the text.

The seamless smooth glass surface is easy to clean with any glass-approved solution. Unlike mechanical pushbuttons, contaminants will not get trapped. A liquid tight bezel prevents accidental entry of fluid into electronics. Calls can be placed by touch with a gloved or covered hand. This, along with effective cleaning, will prevent the transfer of germs.
As the touchscreen only replaces the call buttons, code blue (medical emergency) activation and operation remains unchanged. The Touch-To-Go system has priority inputs that can trigger a change in the graphics when code blue is activated; the graphics can automatically change to a simplified layout including instructions for passengers.

Floor numbers will still be present to allow medical personnel to choose the required floor once code blue has been activated by a key switch or card reader in the car.
The appearance of the elevator buttons can be changed on demand or automatically through an infinite number of scheduled changes. Special events and holidays can be given unique themes to add interest and excitement to the elevator ride. Tenant listings can be scheduled to update in accordance with future move-in and move-out dates.

Our built-in scheduling system allows you to assign and view future theme changes on a color-coded calendar. Touching any date in the calendar will show what is scheduled to display on that date.

Schedules can be updated from within the elevator, or prepared at your desk using our Theme Creator software package and loaded into the elevator through the service port.
UPDATES

We can provide complete graphic design services, or the graphics can be independently developed and managed by each customer. Customer graphics are typically created in an application such as Adobe® Illustrator® or Photoshop®, and then converted for use in the elevator with our Theme Creator software. The Theme Creator software defines how each part of the screen responds to touch and also allows for scheduling of touchscreen graphics.

After preparing graphics using the Theme Creator software, the graphics are loaded into the elevator using a USB port in the elevator’s service cabinet. The process is fast and easy; files can be loaded from a USB flash drive in just a few seconds without opening the elevator’s car-operating panels.

ADDITIONAL CONTENT

User-defined areas on the screen can be reserved for messages, custom graphics, information, and other similar content. This content can be updated without changing the rest of the graphics. For example, hotel restaurant specials, museum exhibits, or condo building information can be updated by customers on their own.

NETWORKING

The elevators may be networked to allow for ease of system administration. Graphics for all elevators in the building can be updated by visiting only one car. Or, remote updates allow the graphics to be changed over the internet.
In cars that serve high-rise and low-rise floors, the touchscreens offer the ability to limit the floors served by the elevator.

At Absolute Condos, a residential high-rise tower in Toronto, Ontario, a keyswitch in the service cabinet provides the ability to switch the car between low and high rise operation by changing the graphics. In independent service or at activation of phase 1 fire service, graphics change to allow access to all floors served.
DESTINATION DISPATCH

Touch-To-Go touchscreens are a convenient and elegant approach to implementing destination dispatch systems.

In full destination dispatch mode, the ability to touch the screens is deactivated, but screens are used for listing of the elevator’s current destination floors. The listing can be done with the full custom graphics and benefits of tenant and property branding offered by the system.

When control is needed within the car (e.g. independent service, fire service, or when the elevator is not in destination dispatch mode), screens can be activated to accept touch. This eliminates the need for redundant pushbuttons behind locked doors in cabinets.

Ability to easily and automatically switch between these modes provides for smoother implementation and a better customer experience during upgrade or overlay installation.
BUILDINGS WITH MANY FLOORS

With conventional buttons, it can be a challenge to fit a large number of call buttons on a COP while meeting ADA / Appendix E requirements.

Without the need for bulky braille tags, a Touch-To-Go system allows you to increase the density of the call buttons on a single panel while maintaining clean user-friendly aesthetics. It is possible to fit 96 pushbuttons onto a single screen.

ADA and Appendix E compliance is met by the integrated Touch-To-Go keypad installed below the screen on one of the elevator’s car operating panels.

FIRE OPERATION

Because the Touch-To-Go system only replaces the call buttons, fire operation remains unchanged. Our touchscreens cannot be activated by heat, and can be operated with a gloved hand. Installation of touchscreens instead of buttons has no effect on the elevator’s ability to function in fire service mode.

The system has priority inputs that can optionally trigger a change in the graphics when the elevator enters fire service mode. This allows for the system to automatically display graphics designed specifically for fire operation. Fire operation graphics are simplified screens without decorative design elements and have large touch areas for ease of use.
FIRE OPERATION (advanced)

Touchscreens can be configured to display the floor plate maps of each destination floor once the fire service phase I key switch has been activated. This can aid emergency responders in navigating the building.

An optional video feed to an in-car monitor such as the DMG Matisse PI can display a video feed of the destination floor, allowing for assessment of the situation prior to opening the car doors.
When installing an elevator touchscreen system, it is important to consider use of the system by disabled passengers and ensure that the elevator car meets all necessary codes pertaining to accessibility.

An elevator touchscreen system can provide greater accessibility to visually impaired passengers. Through the use of larger, high contrast virtual buttons, information is more readily available. The touchscreen requires only 55 grams of force to operate, which is less than a traditional pushbutton.

However, there may be cases where a passenger is unable to operate the touchscreen, and in these cases it is important to comply with applicable codes and standards. Two options are available for achieving compliance with codes specific to use by the disabled: the touchscreen may be coupled with a keypad, or with a set of conventional buttons.

### Achieving Compliance Using Conventional Buttons

For buildings whose elevators serve a small number of floors, one to two rows of compact conventional pushbuttons may be located beneath the touchscreen. For elevators with dual car operating panels, this set of buttons is typically only required on one of the two panels in order to achieve compliance with disability and accessibility codes.

For the purposes of evaluating code compliance, the buttons can be considered to be the primary means of operating the elevator, and the touchscreen can be considered as being supplemental to the buttons. As long as the buttons are installed in a manner that complies with disability and accessibility codes, no further changes are needed as a result of the presence of the touchscreen.
For buildings whose elevators serve a moderate to large number of floors, a tactile keypad is available for entering a destination floor.

The keypad is compliant with the requirements of ANSI A117.1 and ASME A17.1 / CSA B44 Appendix E-9.5 and the 2010 ADA Standards for Accessible Design. It contains a dedicated ground floor button and automatically rejects invalid call requests. The keypad is a space-efficient solution for achieving code compliance in buildings with a large number of floors. For elevators with dual car operating panels, only one keypad is required or supported per elevator.
The following drawings and table are provided to help confirm the standards compliance of the keypad.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical key arrangement</td>
<td>Standard telephone sequence</td>
<td>Standard telephone sequence</td>
<td>Standard telephone sequence</td>
<td>Standard telephone sequence</td>
</tr>
<tr>
<td>Button Size</td>
<td>0.790”</td>
<td>Minimum 0.750”</td>
<td>Minimum 0.750”</td>
<td>No requirement defined</td>
</tr>
<tr>
<td>Button Height</td>
<td>0.085”</td>
<td>Minimum 0.060”</td>
<td>Raised or flush</td>
<td>No requirement defined</td>
</tr>
<tr>
<td>Operating Force</td>
<td>Finger-activated, less than 1 pound force to operate.</td>
<td>No requirement defined</td>
<td>No requirement defined</td>
<td>Operable by one hand, no grasping, pinching, or twisting. Max 5 pounds force to operate.</td>
</tr>
<tr>
<td>Character Height</td>
<td>0.500” (Canada only) 0.625” (Canada or USA)</td>
<td>Minimum 0.500”</td>
<td>No requirement defined (elevators excluded from character height requirements)</td>
<td>Minimum 0.625”</td>
</tr>
<tr>
<td>Character Placement</td>
<td>Centered</td>
<td>Centered</td>
<td>Centered</td>
<td>Centered</td>
</tr>
<tr>
<td>Character Font</td>
<td>High contrast, non-glare Conventional character forms Black on matte silver</td>
<td>High contrast, non-glare Conventional character forms</td>
<td>High contrast, non-glare Conventional character forms</td>
<td>High contrast, non-glare Conventional character forms</td>
</tr>
<tr>
<td>Dot on “5” key</td>
<td>Base diameter 0.119” Height 0.028”</td>
<td>Base diameter 0.118” -0.120” Height 0.024-0.031”</td>
<td>Base diameter 0.118” -0.120” Height 0.025-0.037”</td>
<td>Base diameter 0.118” -0.120” Height 0.025 to 0.037”</td>
</tr>
<tr>
<td>Main entry floor</td>
<td>Five-pointed star to indicate main entry floor</td>
<td>Five-pointed star to indicate main entry floor</td>
<td>Five-pointed star to indicate main entry floor</td>
<td>No requirement defined</td>
</tr>
<tr>
<td>Visual display</td>
<td>Touchscreens will show registered car destinations</td>
<td>Visible indicators must show registered car destinations</td>
<td>Visible indicators must show registered car destinations</td>
<td>Visible indicators must show registered car destinations</td>
</tr>
<tr>
<td>Relevant sections of each standard</td>
<td>E-9.5 (car control keypads) E-20.4 (characters)</td>
<td>4072.111 (car control buttons) 4072.112 (keypads) 703.4 (characters)</td>
<td>4074.6.3 (key arrangement) 4074.7.2 (keypads) 703.5 (characters) 309.4 (operating force)</td>
<td></td>
</tr>
</tbody>
</table>
A special keypad design is available to address the disability access requirements of the City and County of San Francisco Department of Building Inspection. The following drawings and table are provided to help confirm the standards compliance of this keypad. Because this keypad also complies with the standards mentioned on the previous page, those will not be repeated here.

### Item

<table>
<thead>
<tr>
<th>Item</th>
<th>City and County of San Francisco Department of Building Inspection, Administrative Bulletin #AB-090</th>
<th>Touch-To-Go Keypad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical key arrangement</td>
<td>Standard telephone sequence, 12 keys</td>
<td>Standard telephone sequence, 12 keys</td>
</tr>
<tr>
<td>Button Size</td>
<td>0.750” minimum</td>
<td>0.790”</td>
</tr>
<tr>
<td>Button Height</td>
<td>0.125” minimum</td>
<td>0.125”</td>
</tr>
<tr>
<td>Button Shape</td>
<td>Square shoulders, no sharp corners or edges</td>
<td>Square shoulders on face, sharp edges removed</td>
</tr>
<tr>
<td>Button Slope</td>
<td>15° to 25°</td>
<td>15°</td>
</tr>
<tr>
<td>Character Font</td>
<td>White characters on a black surface</td>
<td>White characters on a black surface</td>
</tr>
<tr>
<td>Minus key</td>
<td>Minus sign on key in lower right corner</td>
<td>Minus sign on key in lower right corner</td>
</tr>
<tr>
<td>Star key</td>
<td>Five-pointed star key in lower left corner dispatches elevator to main entry floor</td>
<td>Five-pointed star key in lower left corner dispatches elevator to main entry floor</td>
</tr>
<tr>
<td>Accessibility function key</td>
<td>Below numeric keys, rectangular or square in shape, larger than other keys, contains ISA and raised triangle symbol</td>
<td>Below numeric keys, rectangular, larger than other keys, contains ISA and triangle symbol</td>
</tr>
<tr>
<td>Button action</td>
<td>Mechanical, detectable motion</td>
<td>Mechanical, moves when pressed</td>
</tr>
<tr>
<td>Additional keys</td>
<td>If present, additional keys must be to the right of the numeric keypad, with raised lettering and braille.</td>
<td>No additional keys</td>
</tr>
<tr>
<td>Relevant section of the bulletin</td>
<td>Section I, part C (keypad)</td>
<td>Section I, part C (keypad)</td>
</tr>
</tbody>
</table>
Keypad - Speech Output

The disability access requirements of the City and County of San Francisco Department of Building Inspection require keypad console speech output. This section details the speech-related features available on the Touch-To-Go product.

Note that speech output requires a dedicated loudspeaker ($3\Omega, 3\text{ W})$ to be provided as part of the car operating panel; this can be supplied by Touch-To-Go, or a customer-supplied speaker can be used if available.

Speech output is offered as an option for California keypads as well as for standard keypads.

| Item                      | City and County of San Francisco Department of Building Inspection, Administrative Bulletin #AB-090 | Touch-To-Go System                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|----------------------------------------------------------------------------------------------------------|                                                                                                                                                                                                                                                                                                                                                  |
| Verbal announcement of floors served | When the Accessibility Function key is pressed, a verbal announcement of floors served by the elevator group shall be provided. | When the Accessibility Function key is pressed, the system can speak a user-configurable phrase that can describe the floors served.                                                                                                                                                                                                                                                                       |
| Instructions              | After the Accessibility Function key is pressed, a speech prompt shall direct the user to enter a destination floor. | When the Accessibility Function key is pressed, the system can speak a user-configurable phrase that instructs the user to enter their destination floor. Note that this phrase is independent of and in addition to the announcement of floors served.                                                                                                                                                                                                                       |
| Announcement of keypad entry | When a destination floor has been entered on the keypad or through an access control system, a speech prompt will, within two seconds, indicate the destination floor that was entered. | When a destination floor has been entered on the keypad, a speech prompt will indicate the destination floor that was entered. This happens within two seconds of the entry being accepted.                                                                                                                                                                                                                                               |
| Invalid entries           | The keypad console shall make an audible indication of an invalid key press sequence.                   | The keypad will make a beep tone if the key sequence is not valid.                                                                                                                                                                                                                                                                                                                                 |
| Speech volume             | Auditory volume shall be at least 10dBA above ambient sound level, but not more than 80 dBA.            | Volume is to be set by the installer of the equipment.                                                                                                                                                                                                                                                                                                                                                  |
| Relevant section of the bulletin | Section I, part E (Keypad Console Speech Output)                                                      |                                                                                                                                                                                                                                                                                                                                                  |
Emergency controls, door open, door close, etc. should always be implemented using conventional mechanical controls. These controls should be grouped below the touchscreen at the height specified by the appropriate section(s) of the elevator code (typically 35" above finished floor).

Door open, door close, stop, and other emergency controls are not implemented on the touchscreen and are completely independent of the touchscreen system. They operate exactly as they would if no touchscreen system was present.
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>Touchscreen and CPU: 0°C to 50°C (operating), -20°C to 60°C (storage) Keypad and Elevator Interface Unit: -20°C to 60°C</td>
</tr>
<tr>
<td>Standards Conformance, System</td>
<td>Elevator and Escalator Electrical Equipment Conforms to ASME A17.5-2011 Certified to CSA B44.1-11, Fourth Edition Intertek/ETL-listed as a Recognized Component (C/US)</td>
</tr>
<tr>
<td>Fail-Safe Operation</td>
<td>In a system with two touchscreens, in the event of failure of one touchscreen, the other touchscreen remains operational. In a system with keypads, in the event of a failure of the touchscreen(s) or CPU, the keypad remains operational. Power is required for the keypad to operate and it is recommended that the system be supplied by an uninterrupted source of emergency power. In systems with conventional elevator buttons, in the event of a failure of the touchscreen(s) or CPU, the elevator may still be operated by conventional elevator buttons.</td>
</tr>
<tr>
<td>Emergency Recall / Fire Service</td>
<td>The Touch-To-Go elevator touchscreen system does not affect the ability of the elevator to respond to emergency recall or fire service requests.</td>
</tr>
<tr>
<td>Fire Retardation</td>
<td>The touchscreen meets UL standard 94HB.</td>
</tr>
<tr>
<td>Vandalism / Breakage Resistance</td>
<td>Touchscreens are constructed from tempered glass with a safe break pattern. They contain no overlays or coatings to wear out, scratch, or tear. The touchscreen meets the UL-60950 and CSA 22.2 No. 60950 ball drop test requirements (0.5 kg, 50 mm diameter ball dropped from 1.3 m).</td>
</tr>
<tr>
<td>Electrostatic Protection</td>
<td>The touchscreen meets Level 4 (15 kV air/8 kV contact discharges) per EN 61 000-4-2, 1995.</td>
</tr>
<tr>
<td>Chemical resistance</td>
<td>The active area of the touchscreen is resistant to all chemicals that do not affect glass, such as acetone, toluene, methyl ethyl ketone, isopropyl alcohol, methyl alcohol, ethyl acetate, ammonia-based glass cleaners, gasoline, kerosene, and vinegar.</td>
</tr>
</tbody>
</table>

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This document may contain unintentional errors or omissions, and codes, standards, or product specifications may have changed since this document was prepared. Touch-To-Go Technologies does not guarantee that the information in this document is applicable to all jurisdictions; you are responsible for verifying all details pertaining to your installation.
The following letter was received by MAD Elevator Fixtures following a presentation of the Touch-To-Go Elevator Touchscreen System to the New York City Department of Buildings Elevator Unit. The system was approved by New York City and found to be in compliance with all applicable codes. Please verify compliance with local codes in your area; we are happy to assist with any questions you may have.
BLINKING LIGHT INDICATES HELP IS ON THE WAY
LE CLIGNOTEMENT INDIQUE L'ARRIVÉE DU SECOURS

Touch the screen to select your destination

P7
P6
P5
P4
P3

P2

P1

Arrivals
Uncovered walkway to terminal
Shuttle
Delta Hotel - lobby
Express Pay

Departures
Covered walkway to terminal
Short term parking
Ground transportation
Baggage claim
Information
Express Pay

ALARME/ALARM
SECOURS/HELP