

1 SCOPE

This document provides a specification for the SEJIN AND OEM USB keyboard.

2 THE SEJIN Mini-keyboard with FSR MOUSE, SMART CARD

- Designed with the users in mind, it has a pleasant appearance and is Convenient to use.
- No extra power supply is required.
- It is compatible with the Microsoft Keyboard and Trackball, Smart card
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3 Mini-keyboard with FSR MOUSE INSTALLATION

- Turn the power supply off to your computer.
 - Check the USB port at the back of your computer and insert
- The connector at the end of the Mini key-board cables into the USB port
- Turn the power supply on to your computer.

4 MECHANICAL PERFORMANCE

4.1 Key switch Operation

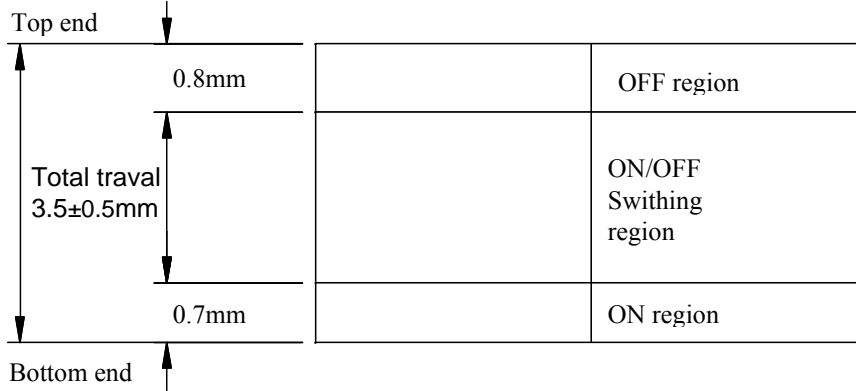
2.1.1 Operating system

Non - lock rubber tactile feeling.

2.1.2 Stroke

3.5±0.5mm with measuring load 200gf applied.

2.1.3 Operating Region



Need to modify the above diagram according to new key travel.

2.1.4 Operating force

The operating curve is defined to the following drawing and the relationship between the operating force and travel is provided. The operating force has a tolerance of 60 ± 25gf

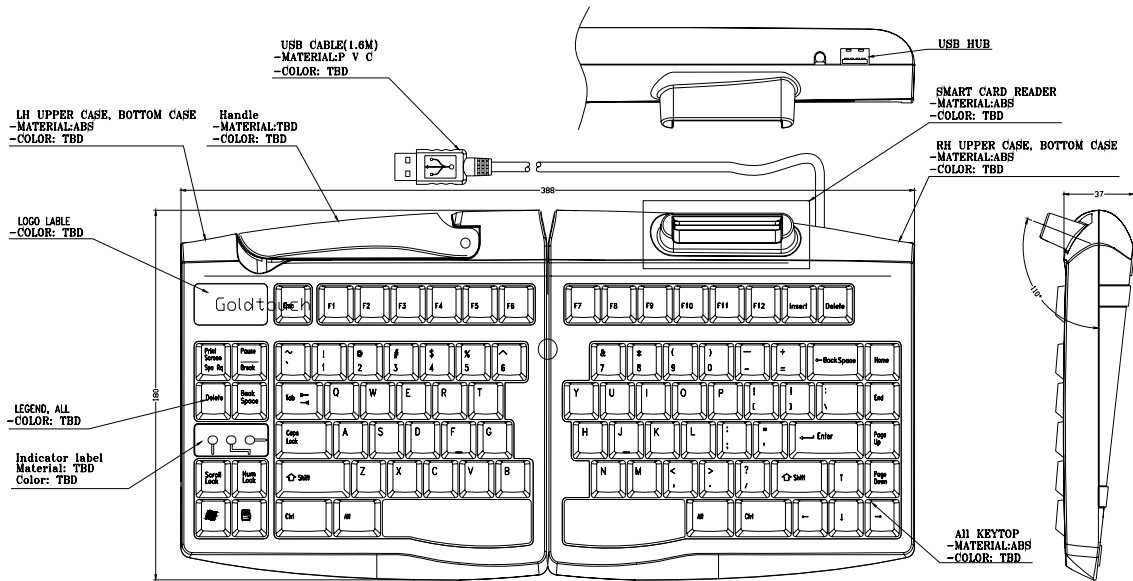
4.2 Operating feeling

No definite stickiness or other abnormality shall be allowed when force is applied with a finger to key-top center at the rate of 3 times on a second.

4.3 Using the Keyboard



Articulate Wired keyboard With smart card



you can have access to all the key functions of a full-sized keyboard

Using the Numeric Keypad

Press NumLK key to turn on the embedded numeric key pad. The numeric functions of the key pad are Enabled and the NumLock LED turn on.

To turn the numeric key pad off, press NumLK again The Num Lock LED turn off.

5 WORKMANSHIP STANDARDS

5.1 Electrical Criteria

Electrical assemblies and components shall meet the requirements of commercial.

5.2 Keycap Cosmetics

The legend of keycap has to be printed with LASER cutting methodology by SEJIN standard and will have to pass the Sejin standard abrasion test.

6 ELECTRICAL REQUIREMENTS

6.1 Operating voltage range

DC 4.0V ~5.25V

6.2 Operating current

Max 250mA, 5VDC

6.3 Insulation resistance

More than 100M ohm at 250V DC

6.4 Contact resistance

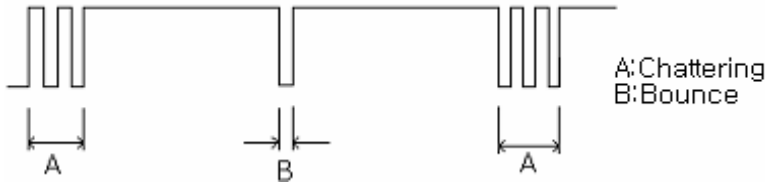
2KΩor less



6.5 Chattering and bounce

The operation force shall be applied according to the normal operating method at 5V DC, 5mA. There shall be no bounce and chattering within 10msec when it is measured using a specially prepared tester or a synchroscope.

※ Chattering and bounce are defined as following diagram :



7 ENVIRONMENTAL REQUIREMENTS

The following specifications pertain to the keyboard assembly.

7.1 Operational ambient temperature and humidity

Temperature : 0 ~ 50°C
 Humidity : 85%RH

7.2 Storage ambient temperature and humidity

Temperature : -20 ~ 60°C
 Humidity : 95%RH

7.3 Shock

There should be no abnormal operation and appearance of the keyboard when an impact of 10G has been applied to the packaged keyboard. The testing method shall be in accordance with 213B of MIL-STD-202E

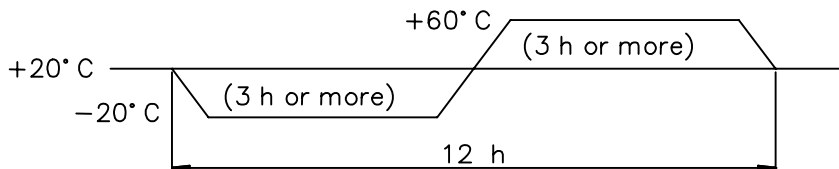
7.4 Key life Test

Standard: a. key-switch life: 10,000,000 cycles of operation at 25 degrees Celsius ambient temperature. The cycling rate is between 10 to 1000 cycles of operation per minute

- 1) Test equipment : Plunger Type.
- 2) Actuation speed : 4 times/sec
- 3) Press pressure : 150±50g

7.5 Heat Cycle Test

Check Method: By the condition shown in the figure below, repeat heat cycle test for 2 times.



Standard: When the test is finished, followings must be satisfied.

- a. All functions operate normally.
- b. There are no defects which harm commercial value, e.g., change of color, rust or change of form.

7.6 Low Temperature Test

Check Method: Leave for 96 hours under -25°C.



Standard: The keyboard operates normally after the test.

7.7 High Temperature Test

Check Method: Leave for 96hours under +70°C.

Standard: The keyboard operates normally after the test.

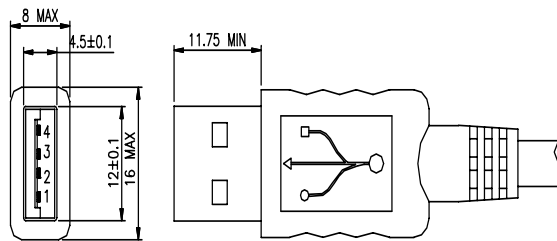
8 USB Keyboard interface

The keyboard comprises the key switch section and signal processing circuit.

The keyboard cable connects to the system with a USB connector.

The following table shows the pin configuration and signal assignments.

Contact Number	Signal Name
1	VBUS
2	D-
3	D+
4	GND
Shell	Shield



FCC NOTICE

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITION:
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,
INCLUDING INTERFERENCE THAT MAY CAUSE UNDERSIRED
OPERATION.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer of an experienced radio/TV technician for help.

NOTE : The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.