



# WIRED USB KEYBOARD

## **MODEL: KB-22**

compatibility Windows98,  
XP/2000/ME/Vistar/Win7/  
Win8/ Win10/  
LINUX/ANDROID/IOS and  
other operating systems,  
support multi-language  
version

This solution is based on the  
design of the  
high-performance 83083  
single-chip microcomputer,  
providing customers with a  
keyboard solution with high  
stability and low cost. To  
adapt to the rapid  
technological innovation of  
the PC market.



# WHY KB-22



## 1. Mechanical characteristics

### 1-1. Keycap operation load (finished product)

Keycap load:  $55 \pm 7g$

### 1-2. Operating stroke (finished product)

Total stroke:  $40/-0.4mm$

Electric shock stroke:  $3+0/-0.4mm$

### 1-3. Switch life: 10 million times

### 1-4. Button pull force: $\geq 1.0Kg$

### 1-5. Keycap offset requirements

#### 1-5-1. keycap overall displacement requirements

As shown in the figure below, the overall displacement of the keycap in the X and Y directions is less than 0.5mm

#### 1-5-2. Knob rotation angle deviation requirements:

As shown in the figure below, the torsion offset of the keycap should be less than 0.6mm.

#### 1-5-3. Inclination requirements:

As shown in the figure below, the tilt of the keycap should be less than 1.0mm

#### 1-5-4. High and low key requirements:

As shown in the figure below, the high and low keys of the same row of keycaps should be below 0.5mm:

#### 1-5-5. Straightness requirements

As shown in the figure below, the front and back offset of the same row of keycaps must be less than 0.5mm

#### 1-5-6. Clearance requirements between key caps:

As shown in the figure below, the gap between top, bottom, left and right is  $1 \pm 0.2mm$



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- 1-6. Operating life: Under the working condition of DC 3V 0.1mA, it is tested more than 10 million times at a rate of 4 times per second
- 1-7. Operating temperature: -40°C to +85°C
- 1-8. Storage temperature: -10°C to +50°C
- 1-9. Tactile feeling: Knocking anywhere on the button at a rate of 4 times per second feels no bad hand feeling

## 2. Electrical characteristics

### 2-1-1. Electrical performance requirements

Maximum voltage/current: DC5.5V/100MA

Standard voltage/current: DC5V/100MA

### 2-1-2. Response time: The free response time of the key switch from on to off is less than 35ms.

### 2-2. Power input

#### 2-2-1. Working voltage: USB 5V.

#### 2-2-2. Typical working current is less than: 100Ma (single keyboard working current)

### 2-3. Instructions for using FN shortcut keys

FN+F1--- Player FN+F2 --- Volume reduction

FN+F3--- Volume plus FN+F4 --- Mute

FN+F5---previous song FN+F6 ---next song

FN+F7--- play/pause FN+F8 --- pause play

FN+F9--- Browser FN+F10 --- Mailbox

FN+F11 --- Computer FN+F12 --- Favorites





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## 3. Test or inspection standard

3-1. Test conditions: In the absence of special regulations, tests are carried out under the following conditions:

Test temperature: +5 to +35°C

Test humidity: 45% to 85% RH

**3-2. Low temperature test:** After testing under the following conditions, put it in a room with normal room temperature and humidity for 1 hour and then test:

(1) Test temperature: -20+/-2°C

(2) Test time: 72 hours

(3) The water droplets formed in the test should be removed.

Judgment standard: appearance and function should be normal after the test.

**3-3. High temperature test:** After testing under the following conditions, put it in a room with normal room temperature and humidity for 1 hour and then test:

(1) Test temperature: +55+/-2°C

(2) Test time: 72 hours

Judgment standard: appearance and function should be normal after the test.





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**3-4. Humidity test:** After testing under the following conditions, put it in a room with normal room temperature and humidity for 24 hours and then test:

- (1) Test temperature: +50+/-2°C
- (2) Relative humidity: 90 to 95%
- (3) Test time: 72 hours
- (4) The water droplets formed in the test should be removed.

Judgment standard: appearance and function should be normal after the test.

## **3-5. High and low temperature cycle test**

- (1) The water droplets formed in the test should be removed
- (2) Test time: 4.5 cycles totaling 83.25 hours

Judgment standard: appearance and function should be normal after the test.

## **3-6. Vibration test 300 times / 200 times / minute straight**

Test method

Judgment standard: no institutional or electrical defects are allowed after the test.

| Item | High speed test   | Low speed test     | type        | time     | Cycle number |
|------|-------------------|--------------------|-------------|----------|--------------|
| 1    | 300 times/ minute | 200 times / minute | straight    | 0.5 hour | 3            |
| 2    | 300 times/ minute | 200 times / minute | Reverse     | 0.5 hour | 3            |
| 3    | 300 times/ minute | 200 times / minute | up and down | 0.5 hour | 3            |





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## 3-7. Drop test

3-7-1. Drop test with packaging: Load the carton and place it at a height of 70cm with 1 corner, 3 sides, and 6 sides to let it fall freely. The electrical and mechanical properties must be normal.

3-7-2. Bare metal drop test

(1) Drop height: 60cm

(2) Test type: 1 drop on 1 corner, 3 sides and 6 sides each

(3) Judgment: After the test, the keyboard shell must not be cracked, and the electrical performance must work normally. And after each drop, the number of keycaps must be less than 8PCS.

## 3-8. Character wear test:

3-8-1. Eraser wear test

Material: rubber

Speed: 60 times/minute

Stroke: 12mm

Strength: 500gf

Judgment: After 200 rounds of tests, the font must be clean and free of cracks





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## 3-8-2. Hundred grid test

### (1) Test method

Cross the razor blades on the surface of the keycap with laser engraving or printed characters to make a knife mark, stick it tightly on the surface with adhesive tape, and then tear the tape in the vertical direction after 1 minute.

Knife mark distance: 1mm

Tape material: 3M NO: 610 or NICHBAN NO: 405

Tape width: 18mm

(2) Judgment: The characters will not be stuck.

## 4. Functional test

Use keyboard special test software to test all keycaps to ensure that the feel and function of each keycap are OK.





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## 5. Identification

In the bare metal keyboard, the single keyboard packaging box and the reinforced outer box should have a signature mark. The logo on the keyboard and the stand-alone packaging box should have the product model, version, serial number and code indicating the date of manufacture.

## 6. Keyboard size and weight

Size: (L) 412.mm x (W) 122mm x (H)

28mm±0.3mm

Weight: 350g±20g

## 7. Keyboard shell material

The face shell HIPS, key caps, and bottom shell are all HIPS pumped pellets. The wire is 2.8\*1.35 meters, 4 cores 7 .01mm copper clad steel wires, carbon paste conductive film, 10 million times silica gel.

## 8. Trademarks and character craftsmanship

Characters: Silkscreen Trademark: Silkscreen



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