

# Keypad-E10-Product Functional Specifications

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## 1. Product Appearance




## 2. Feedback Functions

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### 2.1 Power on/off

- Press any key to power on.
- Press  key for a while and release it when screen shows “turning off”. Also support automatically power off according to base or keypad time settings.
- Turn off automatically after the keypad is offline 3 minutes long.


### 2.2 Sign in

- Press  key to sign in (default).
- The screen will show “signed” when successfully submitted.

### 2.3 Vote

- Press [ $\sqrt{\times/?}$ ] (Yes/No/Abstain) to vote and screen will show “Received” when successfully submitted.
- Support vote as [Yes/No/Abstain] and [Yes/No].

### 2.4 Batch vote

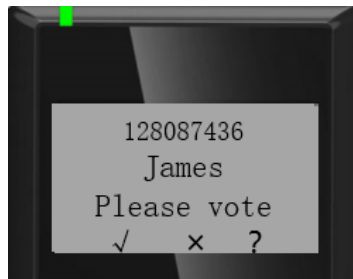
- Support maximum 200 resolutions downloaded to a keypad, press [ $\blacktriangle/\blacktriangledown$ ] to review resolutions and press [ $\sqrt{\times/?}$ ] to vote for each resolution and press  to submit these resolutions.
- Support to show resolution title with maximum 14 letters.

### 2.5 Proxy vote

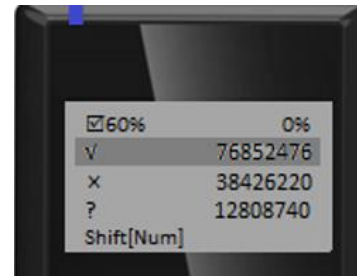
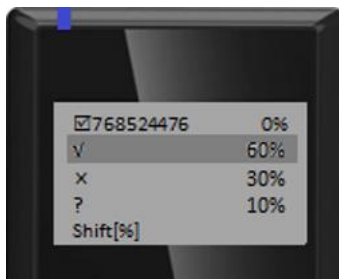
- Support to use the above Batch Vote to implement Proxy Vote, maximum 200 proxies for one resolution;
- Support to show resolution title with maximum 14 letters.


### 2.6 Split voting

- support to distribute number of shares to a keypad by software. Each keypad maximum 1,000,000,000 shares.




.support to split votes according to a rate of shares or number of shares.



.press any key of [✓/x/?] (Yes/No/Abstain) to enter split voting, then press [+/-] to plus/minus rate or number of shares for a vote, press [▲/▼] to move to other votes, and press  to submit.  
. support vote as [Yes/No/Abstain] and [Yes/No]

## 2.7 Evaluation

- Support to show evaluation title with maximum 7 Chinese characters or 14 letters.
- Press [+/-] to select evaluation choices and press  key to submit.
- Default built in 8 kinds of common evaluation templates :

-- Satisfied / Acceptable / Unsatisfied

-- Satisfied / Acceptable/ Unsatisfied / Not Sure

-- Satisfied / Acceptable / Neutral / Unsatisfied

-- Very Satisfied /Satisfied / Not Sure / Unsatisfied / Very Unsatisfied

-- Totally Agree / Agree / Not Sure/ Disagree /Totally Disagree


-- Excellent / Good/ Poor

-- Excellent / Good / Average/ Poor

-- Excellent / Competent / Average/ Incompetent

- Support to custom one evaluation template in the software, then download and saved in keypad until next download.


## 2.8 Batch evaluation

· Support maximum 200 evaluations downloaded to a keypad, press [▲/▼] to review evaluations and press [+/-] to select choice for each evaluation and press  to submit all the evaluations.

- Support to show evaluation title with maximum 7 Chinese characters or 14 letters.


· Support to allow vote with a lack of specified evaluation number, if allows, the specified number evaluations should be finished before submit.

## 2.9 Score

· Support inter score from 0 to 100, the min/max and default value could be configured in software , press +/- to add or reduce score, and press  to submit.

## 2.10 Election

· Support maximum 200 candidate names, and maximum selected number is 80. Each name has maximum 14 letters or 7 Chinese characters.

· Press [v] to check the candidate; Another [v] press or [x] press will uncheck this candidate; Press [Up/Down] to view all the candidates. Press  to confirm and submit.


## 2.11 Accumulative voting mode

· Support maximum 80 candidate names, and maximum selected number is also 80. Each name has maximum 14 letters.

· support to distribute number of shares to a keypad by software. Each keypad maximum 1,000,000,000 shares.




.press [▲/▼] to view candidates, and press [+/-] to plus/minus rate or number of shares for a candidate, press


[√] (Yes) to switch rate or number of shares, press  to submit.



## 2.12 Single choice

- Support choosing 1 from 10 options at most.
- Press [▲/▼] to review and select the option, then press [OK] to submit.
- Two submission modes: automatically submit after selecting or press  to submit.
- Support option format as letters (A.B.C).


## 2.13 Multiple choices

- Max choosing 10 from 10.
- Press [▲/▼] to review. And press [√] to select and  to submit after entering your choices.
- Support option format as letters (A.B.C).

## 2.14 Power failure protection

- When there is an abnormal power failure or battery replacement, keypad will save the input data and recover automatically when power back.

## 2.15 Software & Functions

Software /Functions	SunVote EVS
Sign in	Press  to sign in
Vote	YES
Proxy vote	YES
Evaluation	YES
Election	YES

## 3. Management Functions

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### 3.1 Keypad match

- New keypad should match to the specified base station before use to avoid being reused and added randomly.
- The matched keypad and base station can be identified automatically without matching again.

### 3.2 ID Number

#### 3.2.1 Set ID number

- Keypads have to be uniquely numbered to assure the uniqueness of voting data.
- Set numbers in two modes: separately (for small quantity of keypads) and in batches (for large number of keypads).

#### 3.2.2 Modify ID number

- ID number will be kept automatically after setting. If you want to modify it, it will be in the same way as number setting.

#### 3.2.3 Check ID number

- Check keypad ID by single keypad operation or through base station command, which is convenient for distribution and hardware testing.

### 3.3 Online test

· The base station can control all keypads via online test function to simulate actual operation of user and test the working status of batch keypads.

### 3.4 Change channel automatically

· After changing the base station channel, keypads can find the matched base station again in about 10 seconds and automatically communicate with it.

### 3.5 Status indication

- Online status indication.
- Voting progress indication.
- Submission status indication.
- Low power indication (battery icon showing in screen and base station is able to identify low battery keypad in software).

### 3.6 Screen backlight

- Support to control all keypads to enable or disable screen backlight remotely.

### 3.7 Submitting mode

- Use software to allow vote revisable or not. If set as revisable, people could modify their vote then re-submit.

### 3.8 Confidential mode

- Support confidential mode and non-confidential mode.

In confidential mode, keypad screen only shows “Received” after voting, the exactly vote value (Yes or No or Abstain) will be hidden for confidential while in non-confidential mode, screen will show the vote value, for example [Yes] .

### 3.9 Firmware version

- Support to check firmware version in the software.

### 3.10 Remote power off

- Base station supports to remotely control all keypads power off.

## 4. Specifications

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### 4.1 Enclosure

- Material: ABS plastics
- Dimensions: 110mm × 58mm × 16mm (L×W×H)
- Weight: 86g (Net weight with battery)
- Color: black

### 4.2 Keypad ID & SN

- Each keypad has a unique ID number between 1 and 9999 and a global unique 12-digital number as its identification.
- Software supports to select ID or SN as the keypad identification for voting in the system.
- In one location, if there are some sets of systems in use at the same time, the keypad ID in each system will not affect others.

### 4.3 User input

- Total 8 keys with indicators, when a function is open, the corresponding indicator will be lighted, details as below:
  - 1 key for sign in/ submit/power off, with green indicator;
  - 3 keys for Yes/No/Abstain, and correspondingly with green, red and white indicator.
  - 2 keys for Up/Down [▲/▼], with white indicators.
  - 2 keys for evaluation or score [+/-], with white indicators.



#### 4.4 Display & Sound

- 128\*64 Dot matrix monochrome LCD display, dimension: 38.38mm x 24.94mm
- Support Chinese characters, English letters, digital numbers and icons.
- LCD shows single strength, channel, keypad ID, battery status, successful submission information, charging status and so on.
- 1 triple-color LED light, indicating keypads work and communication, key press and data receiving statuses.

#### 4.5 Communication parameter

- Specific SunVote ARS communication protocol.
- Once base station successfully receives the response data, it will send confirmation and indicate it on the keypad.
- All keypads can be tested online automatically to get their working status information.
- Adopt international two way RF 2.4GHz digital communication technology with multiple channels.
- Channels: 32 channels, RF power < 200mW (23 dBm)
- Operation distance: reliable operation within 100-meter radius.
- Speed: 200pcs keypads will be received within 3-5 seconds. 400pcs keypads will be received within 5-10 seconds.

#### 4.6 Battery parameter

- Battery type: use 1 piece of rechargeable Lithium-ion battery (1100mAh)
- Charging methods: use a single charge or charging box.
- Battery life
  - about 3 hours to get battery fully charged
  - when fully charged, 16 hours continuous working time with LCD back light on, and 70 hours continuous working time with LCD back light only on for voting.
  - 72 hours standby time

-- 37 months storage time with the keypad shutdown

--working voltage: 3.2V-4.2V, low power voltage: 3.6V.

#### 4.7 Secondary development support

· Customize the color, logo, keyboard, display and operation distance as per customer needs (contact sales for charges, MOQ and other requirements).

· Support completely new SunVote SDK secondary development software kit (contact sales for details).

#### 4.8 Anti-interference parameter

· As per test result, the keypads will not be influenced by communication devices such as phones and phone jammers.

· If the interference signal of 2.4G devices (such as wireless router) is strong, it is useful to adjust the base station channel. After adjusting, the keypads will auto track the channel and switch automatically.

#### 4.9 Keypad removal and management

· Single charger or charging case is optional.

· Built-in lanyard hole for optional and fashion lanyard.

### 5. System Structure

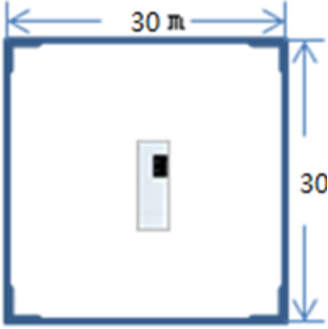
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#### 5.1 Optional (Contact sales for more details)

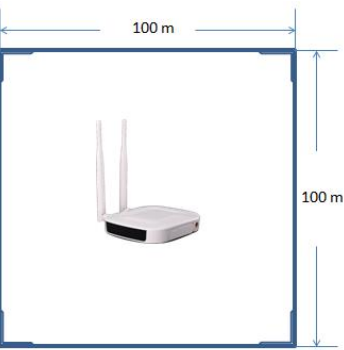
Keypad	Software	Base Station	Applicable Occasions
E10	SunVote EVS	EA1000	Competitive prices, light and small, suitable for rooms less than 30 meters *30 meters for no more than 400 people and with less obstructions
		EA4000T	Suitable for large rooms less than 100 meters *100 meters for no more than 2,000 people and with complex environment

## 5.2 Typical cases on configurations

### 5.2.1 Case 1

	Room size	30 meters * 30 meters
	Seats	Less than 400 people
	Recommended base station	EA1000 * 1pcs
	Spare base station	EA1000 * 1pcs
	Recommended keypad	Number of participants + 8 spares
	Recommended placement of base station	Located anywhere, recommend placing at 1.5 meters high.

### 5.2.2 Case 2

	Room size	100 meters*100 meters
	Seats	No more than 2,000 people
	Recommended base station	EA4000T *1pcs
	Spare base station	EA4000T *1pcs
	Recommended keypad	Number of participants + 40 spares
	Recommended placement of base station	Located anywhere, recommend placing at 1.5 meters high.

## 6. Service & Support

- Warranty: 2 years (limit maintenance, component and manpower)
- Please contact us for details: [sales@logosav.com](mailto:sales@logosav.com)

Technical support service: [r.ragazzini@logosav.com](mailto:r.ragazzini@logosav.com)

## 7. FCC Statement

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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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