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**Installation instructions of wide area locator**

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**Tianjin Keepsens Information Technology Co., Ltd.**

Abstract:

Operating Manual for Container Positioning System

Change order No.	Change date	Changing person	Change method

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## **1 Overview:**

Dear users, thank you for using our products; To enable you to be familiar with the product faster, refer to the document description if you have any question. The description about technical parameters and the direction for use of the wide area locator are mainly introduced in the document, and the users can quickly understand how to use the product by the picture instruction information. When you encounter an unsolvable problem in the use process, contact our company's technical personnel. Thank you for your trust.

### **Note:**

The information applies to the following models: Standard container locator;

The illustrations in the information may be different from the product. The material object shall prevail.

## **2 Installation instruction**

The installation instructions cover host, no-load/heavy load sensor and door opening/closing sensor.

### **2.1 Tools and materials**

The required articles are installed as follows:

- CS1000 equipment (host, no-load/heavy load sensor and door opening/closing sensor).
- Host mounting bracket.
- Electric drill and 3.2mm/4.5mm drill
- Chamfering bit with diameter being 2cm
- M4 self drilling tapping screw
- Marking pen
- Length of M4 sunk phillips screw: 16mm.
- M4 nut
- M4 gasket and spring washer.
- Scouring pad or towel
- White silicone sealant XD-6120

- 1.8 m herringbone ladder
- Cross screwdriver and pincer pliers

## 2.2 Host

### 2.2.1 List for installation materials

1 piece of host equipment, 2 mounting brackets, 4 screws, 8 nuts, 8 gaskets and 8 spring washers.

### 2.2.2 Installation steps

1) Insert the stud for mounting bracket into the positioning hole shown in Figure 2-1a from the back of the host with effect shown in Figure 2-1d



Figure 2-1a Host Location Hole



Figure 2-1b Mounting Bracket



Figure 2-1c Inserting Bracket



Figure 2-1d Bracket Placement Effect

2) Remove the release paper on the mounting bracket, install the host and mounting bracket into the groove on the left of the container ventilation opening, and carry out gent pressing to make the

mounting bracket to the container wall. The distance between the upper side of the host and the upper edge of the container is about 15cm, as shown in figure 2-2b, the solar panel and equipment marks face the outside of the container, and the equipment mark is under the solar panel.

Note: Ensure that the surface of the host is clean and dry, and the scouring pad or towel can be used for cleaning when necessary.

Note: The host cannot be placed on the welding cracks or rivets.



Figure 2-2a Host Installation Site



Figure 2-2b Host Installation Site

3) Take down the host, mark the position of 4 location holes of the mounting bracket on the container wall (2 pieces for each bracket) and take down the mounting bracket.

4) Drill holes with the chamfering bit (diameter: 20mm) 1~2cm below the upper mounting bracket, as shown in Figure 2-3.

Warning: In case of spark or inevitable overheating in the process of drilling, the installation shall be stopped immediately.



Figure 2-3 Bracket Drilling Position

Figure 2-4 Drilling Position of Chamfering Bit

5) The  $\Phi 4.5$  drill is used to drill holes at the location hole marked by Step 3), as shown in Figure 2-5.

Note: Don't directly drill a hole by the mounting bracket.



Figure 2-5 Drilling of Mounting Bracket

6) Put the mounting bracket back to the position as per Step 3), align 2 holes of the bracket to the borehole in Step 5), insert the screw into the hole of mounting bracket from the container outside, harness the gasket and spring washer onto the screw from the container inside successively, and use the nut to fix the screw to complete the fixation of mounting bracket. All boreholes on the container wall shall be sealed with XD-6120 silica gel.



Figure 2-6a Fixation of Mounting Bracket



Figure 2-6b Fixation of Mounting Bracket



Figure 2-6c Indication for Applying the Sealant

7) Hang the host equipment onto the mounting bracket stud anew, harness the gasket and spring washer onto the stud successively and use the nut for fixation, as shown in Figure 2-7. The host equipment installation is completed. The installation effect is shown in Figure 2-9.

Note: The position shall be consistent with that in Step 2) when being hung to the host anew.



Figure 2-7 Indication for Nut Fixation

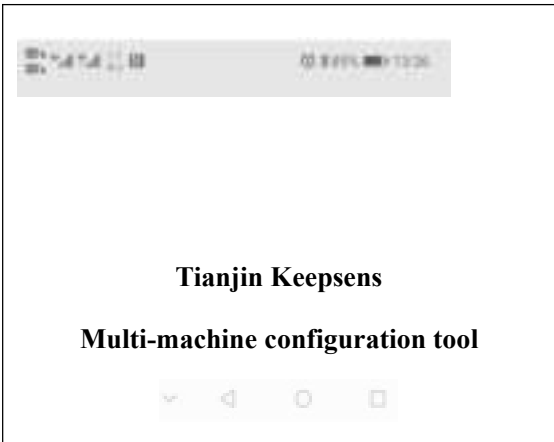
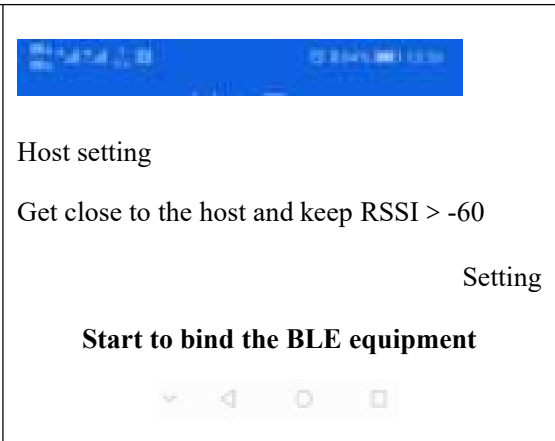


Figure 2-8 Installation Effect for the Host

### 3 Description about equipment binding and unbinding operation


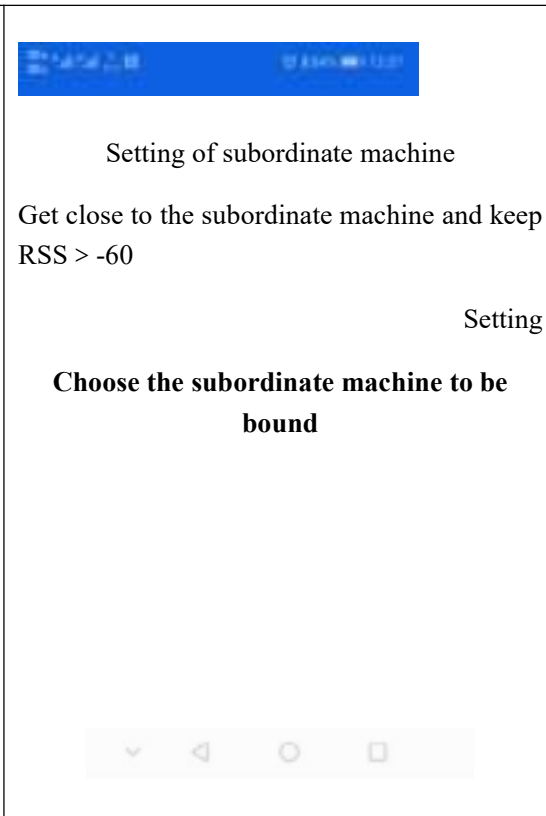
#### 3.1 Binding of host equipment and sensor equipment

- 1) Enable the APP Tianjin Keepsens multi-machine configuration tool with the loading interface shown in Figure 3-1.
- 2) Click [Start To Bind the BLE Equipment] on the APP main interface

	
Figure 3-1 APP Loading Interface	Figure 3-2 APP Main Interface

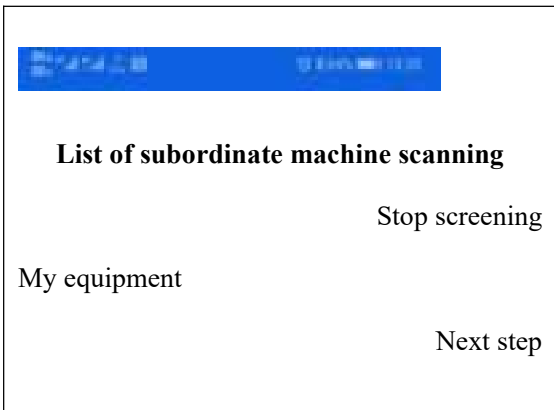
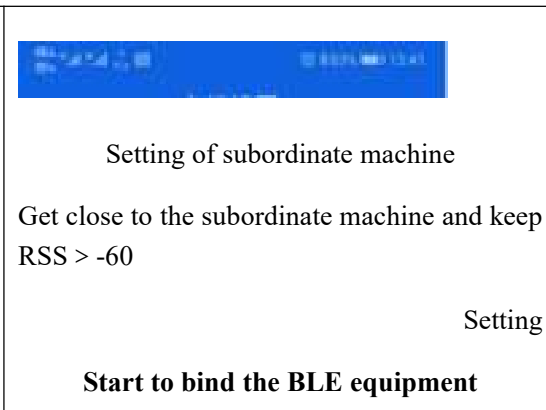
- 3) The mobile phone shall be near the host to be bound, and the bluetooth number of the host equipment to be bound shall be chosen from the list of host scanning.

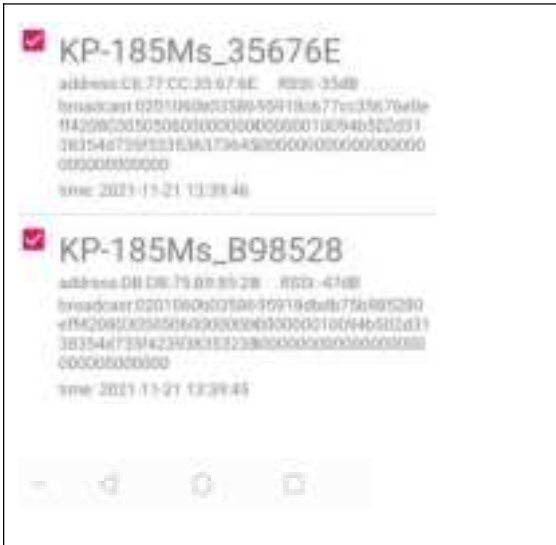

4) Click [Choose the Subordinate Machine To Be Bound].

	
Figure 3-3 List of Host Scanning	Figure 3-4 Subordinate Machine Setting

5) The mobile phone shall be close to the no-load/heavy load sensor and (or) door opening/closing sensor to be bound, and tick the bluetooth number of the sensor equipment to be bound from the list of subordinate machine scanning. A no-load/heavy load sensor and a door opening/closing sensor are chosen at the same time in this case. Click [Next Step] after selection; It means the binding of host equipment and sensor equipment is completed after the "successful binding" arises in the lower part of the screen.

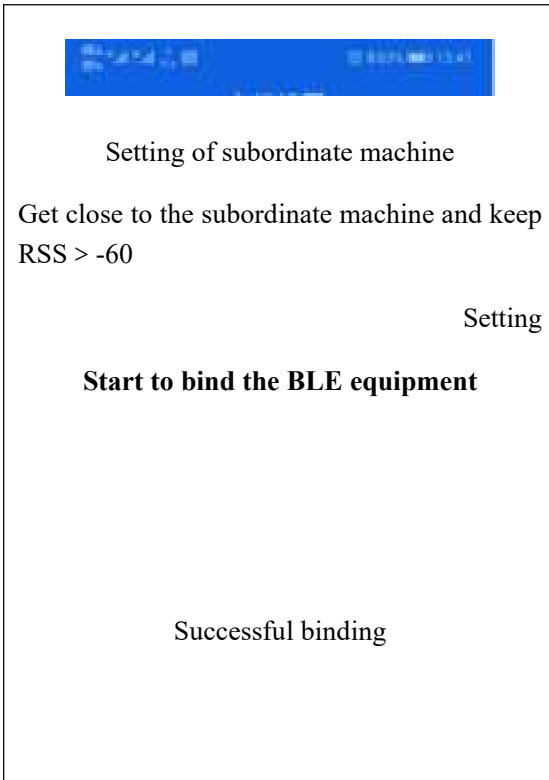
The display interface in each step of the binding operation is listed from Figure 3-2 to Figure 3-6.

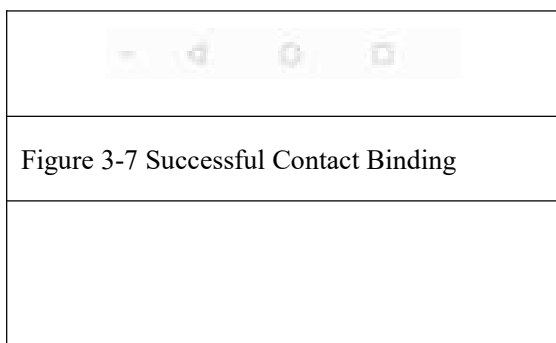
	
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<p>Figure 3-5 List of Subordinate Machine Scanning</p>	<p>Figure 3-6 Successful Binding</p>

### 3.2 Unbinding of host equipment and sensor equipment

Execute Step I and Step II in the host equipment and sensor equipment binding, and click the [Unbinding] Button near the host equipment bluetooth number to be unbound in the list of host scanning. It means the unbinding operation is completed (as shown in Figure 3-7) when the "successful unbinding" arises in the lower part of the screen.


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**15.21NOTE:** 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.

**15.105NOTE**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 communications. 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 or an experienced radio/TV technician for help
- This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

**15.19NOTE**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.

#### Declaration of Conformity

Hereby, [Tianjin Keepsens Information Technology Co., Ltd.] declares that the radio equipment type [Wide area locator, KP-CCXG700] is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <http://www.keepsens.com/>

#### RF exposure statement

RF exposure information: The Maximum Permissible Exposure (MPE) level has been calculated based on a distance of  $d=20$  cm between the device and the human body. To maintain compliance with RF exposure requirement, use product that maintain a 20cm distance between the device and human body.

Operating frequency range: 2400-2483.5MHz max power -2dbm

Max power for WWAN :

GSM900 33dbm

GSM1800 31dbm

WB1 25dbm

Wb8 24dbm

LBand 1: 24 dBm

LBand 3: 24 dBm

LBand 7: 24 dBm

LBand 8: 25 dBm

LBand 20: 25 dBm

LBand 28: 25 dBm

LBand 38: 24 dBm

LBand 40: 23 dBm