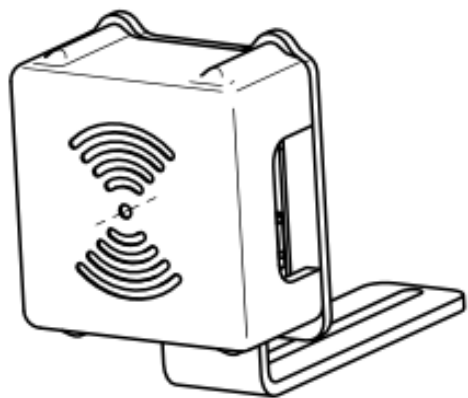


Robot elevator position detection module

# E-RFID Product Manual



# statement

Copyright © 2019 KEENON ROBOTICS CO.,LTD.

Copyright , all rights reserved

Without the express written permission of KEENON ROBOTICS CO.,LTD. , any unit or individual shall not copy , copy, transcribe or translate part or all of the contents of this manual without authorization, and shall not conduct any method (electronic, photocopying, recording , etc.) for the purpose of profit. )Spread.

This manual is only for user reference and guidance, and the description may not be detailed enough. If you encounter problems that cannot be solved, please contact our technical support engineers.

This manual will be updated from time to time, and the latest user manual will add the latest content and pictures without prior notice.

The content in this manual is for reference only, please refer to the actual product. NO REPRESENTATIONS MAKE A WARRANTY OF ANY KIND .

You can visit our website to check the latest manual

<http://www.keenonrobot.com>



@擎朗智能

# Safety Notice

## Warning:

This product is a robot elevator position detection module, which can only be installed in elevator shafts, and should not be used in outdoor (such as open balconies), rough ground (such as stairs) and other environments.

This device is not intended for use by persons (including children) with poor physical health, sensory or mental abilities, or lack of experience and knowledge, unless the use of the device is supervised or directed for their safety by a responsible person.

The installation and maintenance of this equipment requires professional personnel to operate. The relevant personnel must hold the elevator operation certificate that can be qualified for elevator electrical installation and maintenance, and enter the elevator shaft for construction operations according to the safety requirements of elevator installation and maintenance operation. This product should not be cleaned and maintained by non-professionals.

Before use, please make sure that the elevator is in normal use, so that the robot cannot use the elevator normally.

Do not move the fixed elevator position detection module at will. If you need to move it, please contact the staff of KEENON Company.

Please clean and maintain the host when it is turned off or powered off.

Do not hit the elevator location module with hardware or sharp objects.  
spill any liquid inside this product.

The robot is an electronic product , please keep it away from fire.

If you need to ship the product, please make sure that the host is turned off and it is recommended to use the original box for packaging.

Please use this product in accordance with the instructions in the user manual or getting started guide. Any loss or injury caused by improper use shall be borne by the user.

Power Supply:

**Do not use any third party power adapter. Do not disassemble, repair or modify the power adapter without authorization.**

# Manual Introduction

This manual mainly introduces the functional characteristics, installation and use methods of the robot elevator position detection module E - RFID, and matters needing attention in use.

This manual includes the following :

1. Introduction of elevator position detection module: Briefly describe the overview, component composition and detailed technical parameters of the elevator position detection module.
2. Operation steps: Introduce the preparations and precautions during the installation and use of the elevator position detection module.
3. Appendix: Introduce the applicable site requirements, common faults and safety precautions of the elevator position detection module.
4. After-sale service policy.

# Table of contents

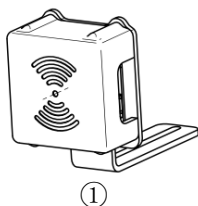
Statement .....	2
Safety Notice .....	4
Manual Introduction .....	6
Product introduction .....	8
Product Overview .....	8
Parts List and Instructions .....	8
Basic Parameters	79

# Product introduction

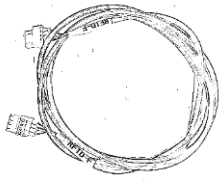
## product description

This product is an elevator position detection solution terminal specially designed for robots to move autonomously in multi-storey buildings. It is used in high-end buildings , such as star-rated hotels, high-end office buildings, high-end communities, and high-end indoor public places. The robot elevator position detection module integrates RFID module and RFID tag. The RFID module is installed on the elevator car roof, and the RFID tag is installed on the hoistway wall. When the elevator is running in the hoistway, the RFID module reads the RFID tag installed in the hoistway wall. The floor position of the elevator can be detected.

## Parts List and Instructions







③



④



⑤

Figure 1: Product component composition diagram

serial number	part	Installation location	quantity	Remark
①	RFID read head	elevator car roof	1	
②	RFID tags	elevator shaft wall	3 2	
③	RFID cable	E-BOX with robot elevator IoT module Slave connection	1	
④	expansion screw	For installing RFID tags	1	
⑤	Fixing bolts	For fixed RFID read head	1	

**\*Reminder:** There will be differences in the packing list of different batches, please refer to the actual product.

## Product basic parameters

model	E-RFID
Product Size	113*83*59mm
Rated voltage	DC12V

Maximum operating current	0.2A
Maximum working power consumption	2.4W _
Working temperature and humidity	-10-50℃: RH: 5%～85%, no dust
storage temperature	-30℃-60℃
working environment	The altitude of the installation site does not exceed 1 000 m
IoT Support	Robot Elevator IoT Module : Supports communication with KEENON's self-developed Robot Elevator IoT module to send and receive elevator floor locations

# Product interface description

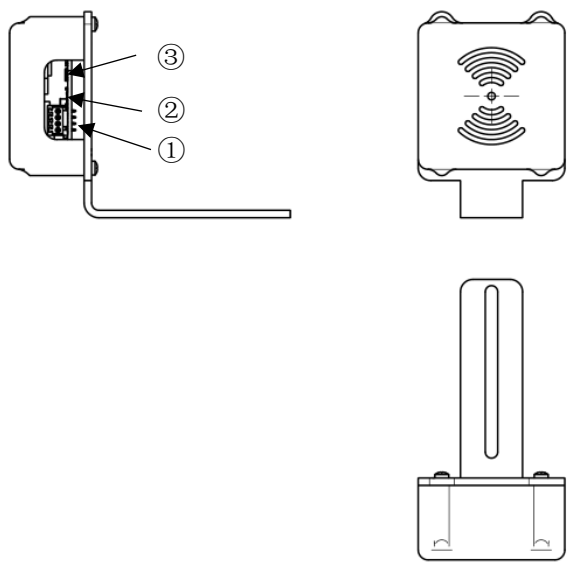


Figure 2: Schematic diagram of the interface of the robot elevator position detection module

Note: The projection perspective in Figure 2 is the first perspective.

serial number	interface name	illustrate	Remark
①	RS232 interface	Power communication port	with E-BOX Slave connection
②	RS232 indicator	Blinks when communicating	
③	Power Indicator	always bright	

# Operation steps (using elevator position detection module)

Follow the steps below to start using your elevator location detection module.

## Installation and commissioning

The installation, commissioning and maintenance of this product requires the operation of professionals. The relevant personnel must hold the elevator operation certificate qualified for elevator electrical installation and maintenance, and enter the elevator shaft for construction operations according to the safety requirements of elevator installation and maintenance operation. For specific installation and construction steps and requirements, please refer to the "Robot Elevator Construction Plan" provided by KEENON. For specific adjustment steps and requirements, please refer to "QL - SOP - W3 - A5" provided by KEENON.

# Appendix

## Elevator requirements for applicable scenarios

The relevant requirements of the site elevator applicable to the robot elevator position detection are shown in the table below. For more detailed requirements, please contact the pre-sales staff of KEENON .

project	Requirements/Classification	illustrate
Clearance between compartments and landing door sill	$\leq 40\text{mm}$ _ _	standard response
Leveling accuracy	$\leq 5\text{mm}$	adjust with elevator maintenance when exceeding
Mandatory closing time	$\geq 30\text{ s}$ _	If you are not satisfied, you need to confirm with KEENON
Number of stops	$\leq 28$ layers	standard response
	29 ~ 55 floors	Confirm with KEENON
Control Box Button Type	mechanical button	standard response
	touch button	Confirm with KEENON
	touch screen	Confirm with KEENON
Floor Button Pin Numbering Mechanism	none/double click/reverse	standard response
	click	Need to contact the elevator manufacturer to cancel
card reader	Third party installation	Confirm with KEENON
	original elevator	Confirm with KEENON
elevator shaft	Non-steel structure shaft	RFID tags need to be installed on non-metallic walls

# Exception List and Fault Clearing

Fault phenomenon	Possible causes and solutions
The indicator light of the robot elevator position detection module is off	<div><div>1.</div><div>The power supply is not connected properly, please check the robot IoT module E-BOX Is the slave power supply normal?</div></div> <div><div>2.</div><div>Please check if the RS232 interface is loose</div></div>

## After-sales service policy:

KEENON ROBOTICS CO.,LTD. (referred to as "KEENON") and its authorized dealers implement the after-sales principle of "who sells, who is responsible". This after-sales service policy only applies to products sold within the territory of the People's Republic of China ( excluding Hong Kong, Macao and Taiwan ) .

### 一、 Free warranty service

From the date of sale of the product, within the effective warranty period of the product (different parts of the product have different warranty periods, please refer to the "Main Components Warranty Period Table" for details ) . If the warranty period is exceeded or the warranty service is not met, KEENON will charge a certain fee with reference to the market price. For details, please contact the after-sales service hotline: 4009651808 for product maintenance.

Main Parts Warranty Period Table	
name	warranty period

Mainframe (without consumable parts)	1 year
--------------------------------------	--------

### **1. Warranty Service Scope**

During the warranty period, if there is no exception to the free warranty service, if the product has a performance failure, the company will provide a free warranty service.

### **2. Exceptions to Free Warranty Service**

1. Product damage caused by negligence, negligence, misuse or disaster (such as: food liquid stains, product water ingress, external force cracking, scratches and damage to peripheral components, etc.);
2. Damage caused by improper use in accordance with the product manual;
3. Damage caused by the use of exceeding the safe load weight;
4. The performance of consumable parts (universal wheel , power adapter) is reduced due to normal wear and tear;
5. Damage caused by exposure to moisture, extreme temperatures or other extreme environments;
6. Damage caused by crash , fire , flood or other external causes;
7. Appearance damage, including but not limited to scratches or other physical damage on the product surface;
8. Unable to provide legal purchase vouchers or documents from formal channels, or forge or alter the documents, or the content of the sales vouchers or product purchase vouchers provided does not match the product ;
9. Other situations not expressly stipulated but equivalent to the above acts.

### **3. Free warranty service team**

The KEENON technical support team will provide after-sales

service to customers through remote technical guidance or on-site service.

## **二、 return policy**

### **1. Return Conditions**

Customers have the right to submit a return application within 7 natural days (return period) from the date of receipt of the product, and go through the return procedures after being reviewed by KEENON.

### **2. In the following circumstances, KEENON has the right to refuse the customer's return application**

- (1) Return requests made after the product return period of more than 7 natural days (calculated from the date of receipt) ;
- (2) The appearance defect of the returned product affects the secondary sales, and the outer packaging, accessories, gifts, manuals and other accessories are missing and damaged;
- (3) When returning goods, it is impossible to provide legal purchase vouchers or documents through formal channels, or forgery or alter the documents, or the content of the sales vouchers or product purchase vouchers provided does not match the product ;
- (4) Tear up, alter labels, machine serial numbers, waterproof marks, anti-counterfeiting marks, etc. ;
- (5) Other situations not expressly stipulated but equivalent to the above behaviors.

## **三、 Exchange Policy**

### **1. Exchange conditions**

30 natural days (replacement period) from the date of receipt of the product , if the product fails to operate normally and is still unable to operate normally after being repaired by the



technical support team of KEENON, the replacement procedure will be processed after the inspection of KEENON Intelligent.

**2. In the following circumstances, KEENON has the right to refuse the customer's exchange application**

- (1) Request for replacement after the product replacement period of more than 30 natural days (calculated from the date of receipt );
- (2) The appearance defect of the exchanged product affects the secondary sales, and the outer packaging, accessories, gifts, manuals and other accessories are missing and damaged;
- (3) When exchanging goods, it is impossible to provide legal purchase vouchers or documents through formal channels, or falsify or alter the documents, or the contents recorded in the sales vouchers or product purchase vouchers provided are inconsistent with the products ;
- (4) Damage caused by crash, fire, flood or other external causes ;
- (5) Other situations not expressly stipulated but equivalent to the above behavior

## **KEENON Robotics Co., Ltd.**



**400-9651-808**



**pr@keenon.com**



**11th Floor, Building 56, Golden Collar Capital, No.**

**1000 Jinhai Road, Pudong New Area, Shanghai**

**Website : <http://www.keenon.com>**