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Message chair controller  
KP04  
product manual

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## 1 Product brief

This series of products is the android system massage chair control screen, used for massage chair human-computer interaction, using the UART interface to communicate with the massage chair host.

## 2. Product function and performance

This product mainly has the following functions :

1. Realize the human-computer interaction with the massage chair;
2. Light sensing and distance sensing function;

order number	product model	product features	remarks
1	KP04		Orgard custom

explain :

- (1) This article is only applicable to the models listed above;
- (2) For the specific functions of each model, see the "Hardware Configuration Table";

### 2.1 Functional description

#### 2.1.1 Hardware Configuration

function	Specification description	KP04	remarks
CPU	Quad-core 1.3 GHz, Cortex-A7 architecture CPU	×	
	Quad-core, Cortex-A55 architecture CPU	✓	
FLASH	4 GB	×	
	32 GB	✓	
SDRAM	512 MB	×	
	4 GB	✓	
Serial communication	UART	✓	
display screen	6.95 inch LCD , 1024 RGBx600 pixels	×	
	12.3inch LCD , 1920 RGBx720 pixels	✓	
touch screen	capacitive touch screen	✓	
Infrared induction	>30cm	✓	
key	power switch	✓	
WIFI	2.4 GHz	✓	
	5 GHz	✓	
BT	2.4 GHz	✓	
Power Supply Voltage	DC5V (powered by a massage chair)	×	
	DC24V (powered by a massage chair)	✓	

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**Product function option description :**

"√": Indicates that the product supports this feature and is configured as standard;

"×": It indicates that the product does not support this function;

"◎": Indicates that the product supports this function and can be configured according to the order requirements;

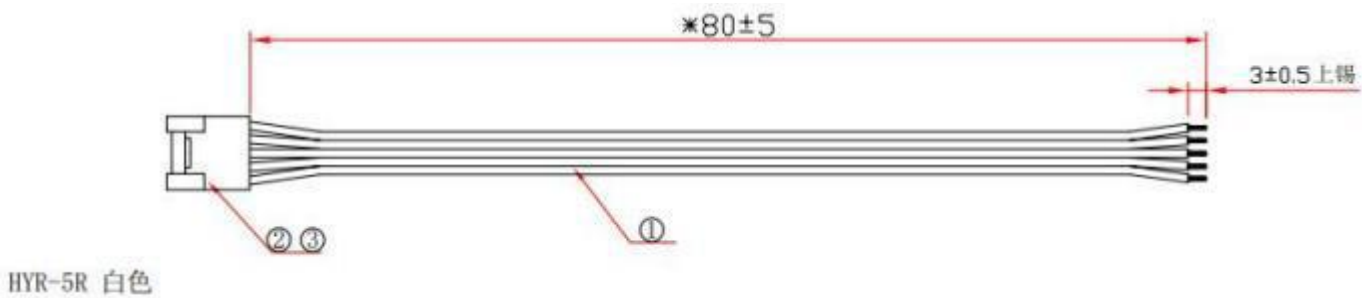
"△": Product reserved function, only used for special orders, not configured by default;

2.1.2 Software :

type	description	KP04	remarks
operating system	Android 4.4.2	×	
	Android12	√	

2.2 External interface of the system

2.2.1 Wiring schematic diagram:

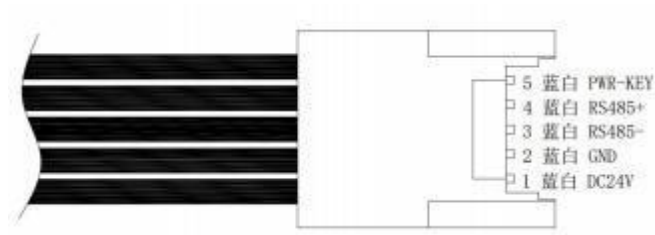


KP 04 wiring diagram (size unit: mm)

2.2.2 Definition of the interface pin

product model	The pin number	Feet name	functional description
KP04	1	Blue and white	DC24V
	2	Blue and white	GND
	3	Blue and white	RS485-
	4	Blue and white	RS485+
	5	Blue and white	PWR-KEY

2.2.3 Schematic diagram of the interface function



Schematic diagram of the KP 04 interface

2.3 Performance indicators

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### **2.3.1 Product implementation standards**

Product implementation standards are detailed in the product specification.

### **2.3.2 Performance indicators required by customers**

(1) ESD:

KP 04: air discharge  $\pm 15$  KV;

(2) Certification requirements: SRRC certification;

## 2.4 Technical parameters

### 2.4.1 Electrical performance

order number	product model	rated voltage	power rating	Standby power	remarks
1	KP04	DC24V $\pm$ 10%	12W	5W	

### 2.4.2 Working environment

Operating temperature:  $-10^{\circ}\text{C} \sim +55^{\circ}\text{C}$

Storage temperature:  $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Relative humidity: 20%~80%

### 2.4.3 Wireless parameter

<input checked="" type="checkbox"/> 2.4GHz WIFI function / 2.4GHz WIFI 功能				
Support Type:	<input checked="" type="checkbox"/> $\sqrt{\text{802.11b}}$	<input checked="" type="checkbox"/> $\sqrt{\text{802.11g}}$	<input checked="" type="checkbox"/> $\sqrt{\text{802.11n(H20)}}$	<input checked="" type="checkbox"/> 802.11n(H40)
Support Type:	<input checked="" type="checkbox"/> $\sqrt{\text{2412~2472MHz}}$ (EU Freq. band)	<input checked="" type="checkbox"/> $\sqrt{\text{2412~2462MHz}}$ (USA Freq. band)	<input checked="" type="checkbox"/> $\sqrt{\text{2484MHz only for 802.11b}}$ (Japan Freq. band)	
Antenna Technology:	<input checked="" type="checkbox"/> $\sqrt{\text{SISO}}$		<input checked="" type="checkbox"/> $\sqrt{\text{MIMO}}$	
Antenna Delivery:	<input checked="" type="checkbox"/> $\sqrt{\text{1*TX+1*RX}}$	<input checked="" type="checkbox"/> $\sqrt{\text{2*TX+2*RX}}$	<input type="checkbox"/> 3*TX+3*RX	<input type="checkbox"/> Other <input type="text"/>
Antenna Type:	FPC		Antenna Gain:	$\geq 2.49\text{dBi}$ , $\leq 4.29\text{dBi}$

<input type="checkbox"/> 5GHz WIFI function / 5GHz WIFI 功能				
Support Type:	<input checked="" type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n(H20)	<input checked="" type="checkbox"/> 802.11n(H40)	
	<input checked="" type="checkbox"/> 802.11ac(20MHz)	<input checked="" type="checkbox"/> 802.11ac(40MHz)	<input checked="" type="checkbox"/> 802.11ac(80MHz)	<input type="checkbox"/> 802.11ac(160MHz)
Operation Band:	<input checked="" type="checkbox"/> U-NII Band 1: 5.15~5.25GHz		<input checked="" type="checkbox"/> U-NII Band 2: 5.25~5.35GHz	
	<input checked="" type="checkbox"/> U-NII Band 2e: 5.47~5.725GHz		<input checked="" type="checkbox"/> U-NII Band 3: 5.725~5.825GHz	
DFS Type:	<input type="checkbox"/> Master	<input type="checkbox"/> Slave with radar detection	<input checked="" type="checkbox"/> Slave without radar detection	
Antenna Technology:	<input checked="" type="checkbox"/> SISO		<input checked="" type="checkbox"/> MIMO	
Antenna Delivery:	<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX	<input type="checkbox"/> Other <input type="text"/>

<input type="checkbox"/> Bluetooth function / 蓝牙功能					
Support Type:	<input checked="" type="checkbox"/> V2.1+EDR	<input checked="" type="checkbox"/> V3.0+HS	<input checked="" type="checkbox"/> V4.0	<input checked="" type="checkbox"/> V5.0	<input type="checkbox"/> Other <input type="text"/>
Support Function:	<input checked="" type="checkbox"/> EDR	<input type="checkbox"/> HS	<input checked="" type="checkbox"/> BLE	<input checked="" type="checkbox"/> EDR+BLE	<input type="checkbox"/> Other <input type="text"/>

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## FCC Requirement

### FCC Statement:

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.

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 quipment 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.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada' s licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.