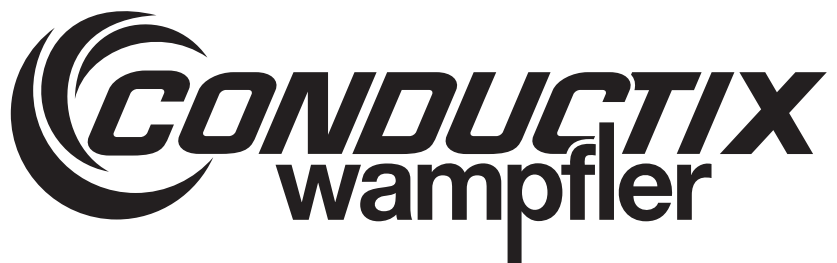


# Radio Remote Controls Manual

## K Series



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Seller shall only be obligated to make such repair or replacement if the goods have been used by Buyer only in service recommended by Seller and altered only as authorized by Seller. Seller is not responsible for defects which arise from improper installation, neglect, or improper use or from normal wear and tear.

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There is no guarantee or warranty as to anything made or sold by Seller, or any services performed, except as to title and freedom from encumbrances and, except as herein expressly stated and particularly, and without limiting the foregoing, **there is no guarantee or warranty, express or implied, of merchantability or of fitness for any particular purpose or against claim of infringement or the like.**

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Seller is not responsible for incorrect choice of models or where products are used in excess of their rated and recommended capacities and design functions or under abnormal conditions. Seller assumes no liability for loss of time, damage or injuries to property or persons resulting from the use of Seller's products. Buyer shall hold Seller harmless from all liability, claims, suits and expenses in connection with loss or damage resulting from operation of products or utilization of services, respectively, of Seller and shall defend any suit or action which might arise there from in Buyer's name - provided that Seller shall have the right to elect to defend any such suit or action for the account of Buyer. The foregoing shall be the exclusive remedies of the Buyer and all persons and entities claiming through the Buyer.

## **1.0 Warning and Caution**

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## 1.0 Warning and Caution

The following symbols may be found on the product or throughout the documentation.

| Symbol                                                                            | Description                                                                                                                                                              |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Refer to Manual</b><br>Refer the user manual for additional information when product marked with this sign.                                                           |
|  | <b>Dangerous Voltage</b><br>Indicated presence of hazardous voltage. Unsafe practice could result in severe personal injury.                                             |
|  | <b>Warning</b><br>Denotes a hazard. Included text gives proper procedures. Failure to follow instructions could result in severe personal injury and/or property damage. |
|  | <b>Caution</b><br>Denotes a hazard. Included text gives proper procedures. Failure to follow instructions could result in minor personal injury and/or property damage.  |

## 2.0 Important Information Before You Start

### 2.1 Important

**Due to the complex nature of equipment, read this entire manual carefully before operation and installation.**

- 2.1.1 Never allow any unauthorized personnel to dismantle equipment as this may cause the equipment damage.
- 2.1.2 The equipment has been stringently tested for quality assurance before delivery from factory. However, it must not be used in extremely dangerous situations, or where damage may result.
- 2.1.3 After operation, switch off crane main power as well as receiver unit and remove rotary key from transmitter unit.
- 2.1.4 The transmitter should be kept in a safe place when not in use to avoid any unintentional operation.
- 2.1.5 The crane should be equipped with main power relay, limit switch and the other safety devices required.
- 2.1.6 Do not use this device during electrical storms or where there are conditions of high electrical interference.
- 2.1.7 Always check transmitter battery and receiver input power conditions before operation.
- 2.1.8 The installation and maintenance service is allowed only when the crane and receiver power are turned off to avoid electrical shock.
- 2.1.9 The contents of the manual may be amended by the manufacturer without notice.
- 2.1.10 The specification and function is subjected to change without notice by manufacturer.

### 2.2 Precautions

- 2.2.1 Press EMS button and switch off main power of crane and receiver after operation. Then remove transmitter rotary key and keep in a safe place.
- 2.2.2 The following situations may cause receiver response delay and stop operation immediately when situation occurs.
  - a) Beyond operation range
  - b) During sever radio interference
- 2.2.3 Remove transmitter batteries when not in use for a long period of time.
- 2.2.4 To extend product life, please follow the standard operation procedure and maintain system regularly.
- 2.2.5 Check EMS button and other main functions before operation.
- 2.2.6 Press EMS button during system failure or any abnormal conditions occur.
- 2.2.7 The operator must be familiar with emergency procedures before operating the system.

### 2.3 Emergency Procedures

**In case of emergency, please follow the procedure below:**

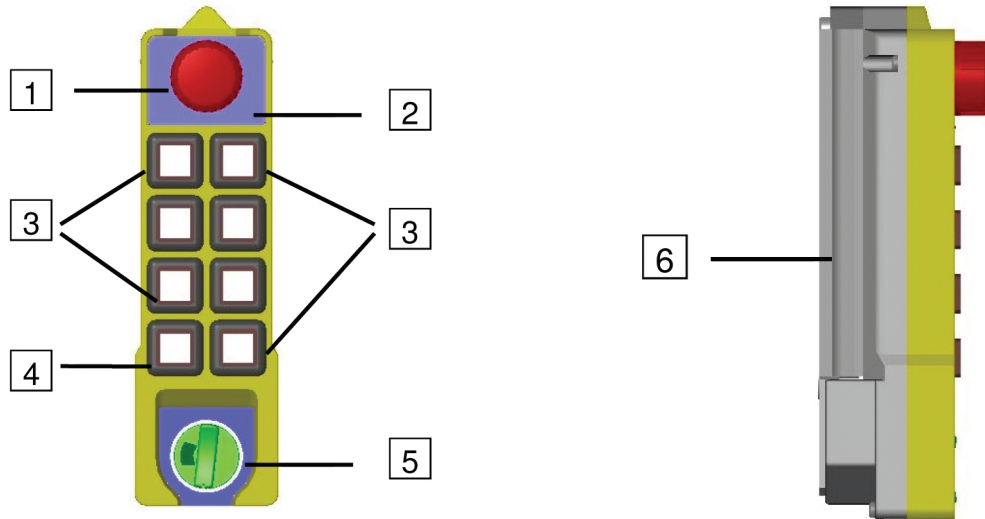
- 2.3.1 Press EMS button and stop operation.
- 2.3.2 Switch rotary key to "OFF" position and remove it from transmitter unit.
- 2.3.3 Switch off crane main power.
- 2.3.4 Contact the authorized distributor for further assistance.

## 3.0 Specification

| General Specification |                                                                    |
|-----------------------|--------------------------------------------------------------------|
| ID Code               | Over 1 Million Sets                                                |
| Channel Space         | 25 KHz                                                             |
| Hamming Distance      | $\geq 4$                                                           |
| Structure             | Enhanced Glass-Fiber                                               |
| Operation Environment | -40°C ~ +85°C                                                      |
| Operating Distance    | Up to 100 M                                                        |
| Transmitter           |                                                                    |
| Power                 | AA Battery x 4                                                     |
| Emission Power        | < 10mW                                                             |
| Dimension             | 163x49x45mm (Series K1/K2)<br>274x77x42mm (Series K3/ K4)          |
| Weight                | 210 g (Series K1/K2)<br>385 g (Series K2/K3)                       |
| Receiver              |                                                                    |
| Power                 | 24/48/110/220/380VAC ( $\pm 20\%$ )                                |
| Dimension             | 167x154x88mm (Series K1/K2)<br>310x160x95mm (Series K2/K3)         |
| Weight                | 2100g (Series K1/K2 with cable)<br>2900g (Series K2/K3 with cable) |

## 4.0 Transmitter & Receiver Overview

### Series K1/K2 Transmitter Overview



1 EMS Button

3 Function Button

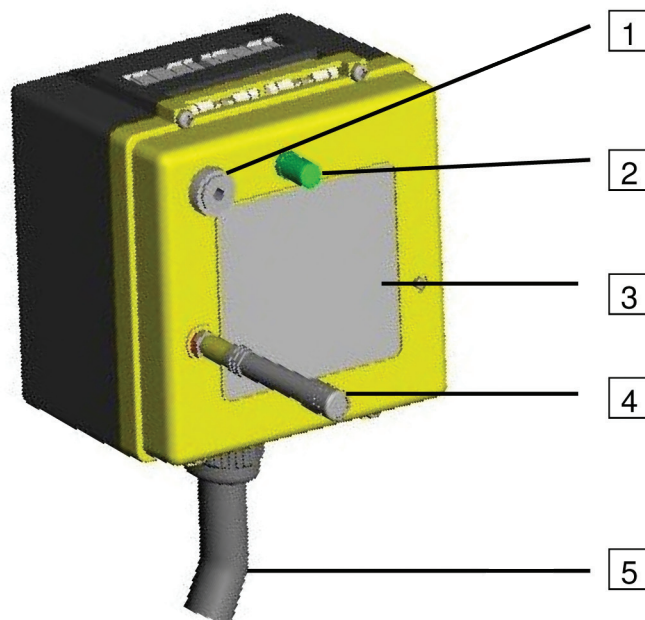
5 Rotary Key

2 LED Indicator

4 START / Alarm Button

6 Battery Cover

### Series K1/K2 Receiver Overview



1 Alarm (Horn)

3 Receiver Wiring Diagram

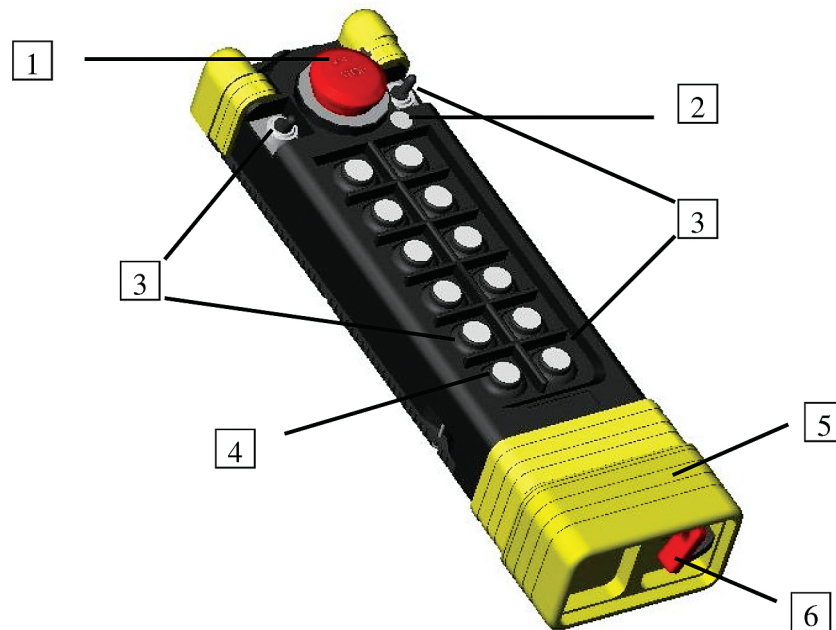
5 Cable

2 Power - On Indicator

4 Antenna

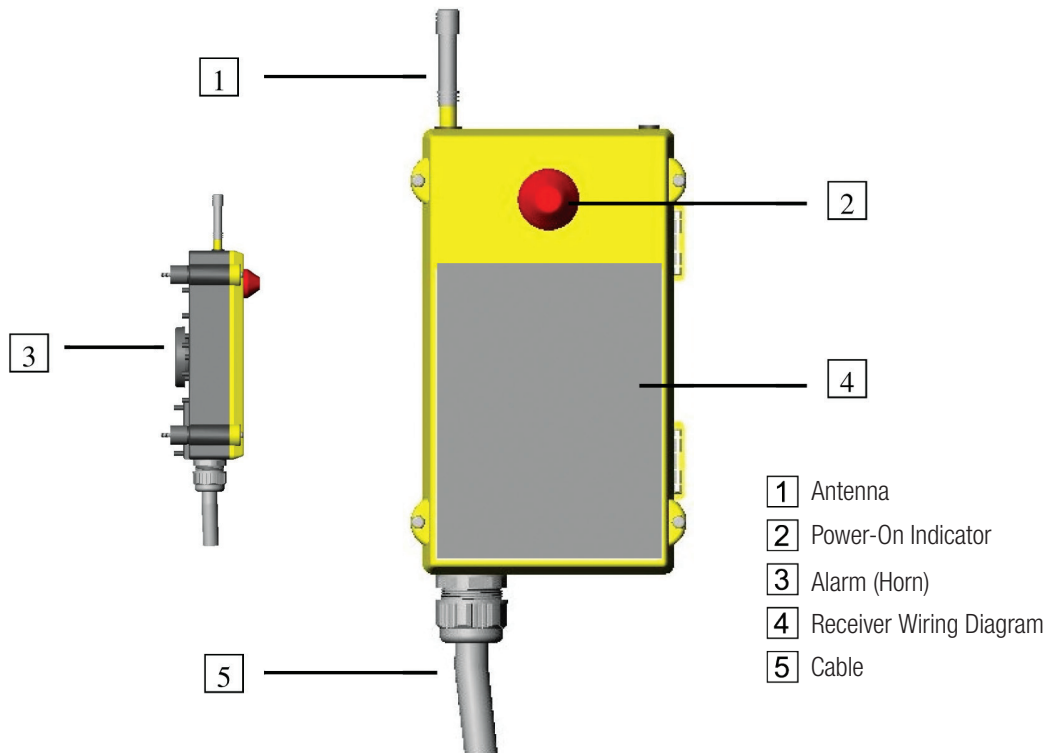
## 4.0 Transmitter & Receiver Overview

### Series K3/K4 Transmitter Overview



- |                                       |                               |
|---------------------------------------|-------------------------------|
| <b>1</b> EMS Button                   | <b>2</b> LED Indicator        |
| <b>3</b> Function Button & A/B Switch | <b>4</b> START / Alarm Button |
| <b>5</b> Battery Cover                | <b>6</b> Rotary Key           |

### Series K3/K4 Receiver Overview



- |                                  |
|----------------------------------|
| <b>1</b> Antenna                 |
| <b>2</b> Power-On Indicator      |
| <b>3</b> Alarm (Horn)            |
| <b>4</b> Receiver Wiring Diagram |
| <b>5</b> Cable                   |



## 5.0 General Operation

### 5.1 Getting Started

5.1.1 Install 4 new AA-size batteries in the battery compartment (make sure batteries correctly installed according to the indication of “Positive” & “Negative”) and close battery cover firmly.

5.1.2 Insert rotary key into transmitter unit and switch to “ON” position.

5.1.3 Press START button to power the system.

**Note: Red LED indicator will flash when fail to follow procedures above accordingly.**

5.1.4 Press function button for operation.

5.1.5 Follow the procedure below when finished with operation.

1. Press EMS button.
2. Switch rotary key to “OFF” position.
3. Remove rotary key and keep in a safe place.
4. Remove batteries if not to be used for long period of time.

### 5.2 Transmitter LED Indicator

|                           |                                                                                                                                                        |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Green</b> (Full Power) | Operate as usual.                                                                                                                                      |
| <b>Yellow</b> (Mid Power) | Unload the article as soon as possible and stop operation until batteries are replaced.                                                                |
| <b>Red</b> (Low Power)    | An EMS signal will be sent to receiver automatically to turn off receiver. To avoid the interruption during operation, check battery power frequently. |

**Note: Switch rotary key to “OFF” position to turn off transmitter completely thus extending the battery life, otherwise transmitter is in standby mode when rotary key remains in the “ON” position.**

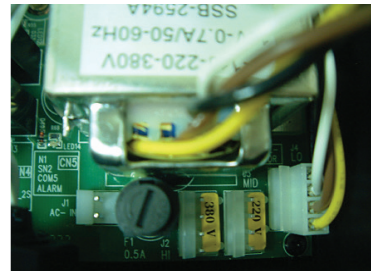
### 5.3 Changing Receiver Input Voltage

If the factory preset receiver voltage is different from application, follow the procedures below to change input voltage. (Three different voltage options for each receiver as shown in the picture with yellow label.)

5.3.1 Switch off receiver main power.

5.3.2 Remove the connector from original position.

5.3.3 Insert connector to new voltage position accordingly.

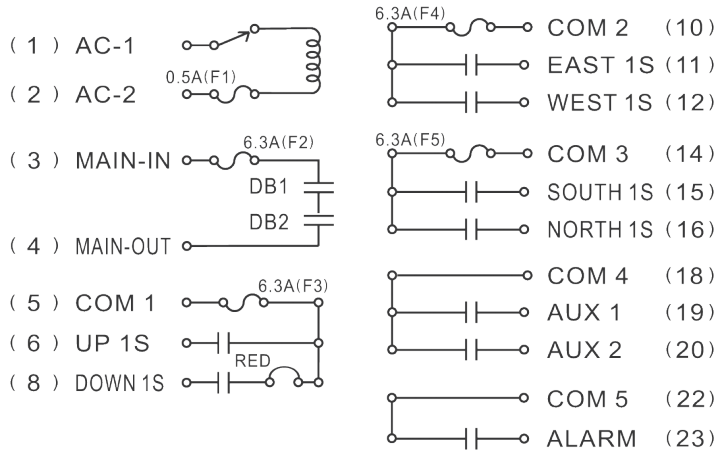


**Note: Four different transformer options are available for K Series.**

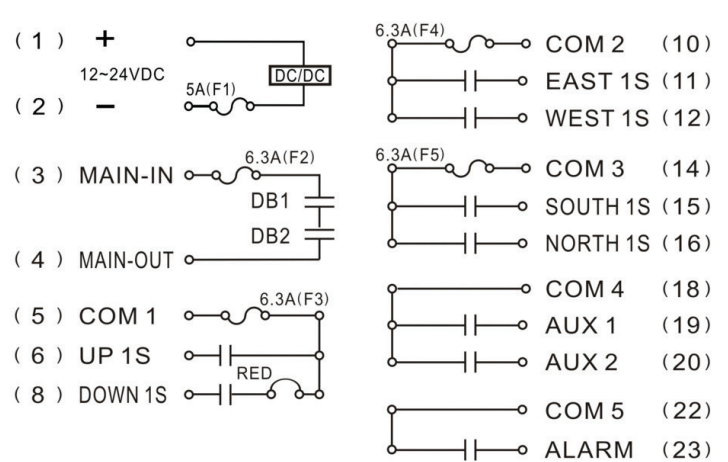
- (1) 24V/42V/230V
- (2) 48V/110V/220V
- (3) 110V/220V/380V
- (4) 48V/220V/380V

## 6.0 Receiver Wiring Diagram

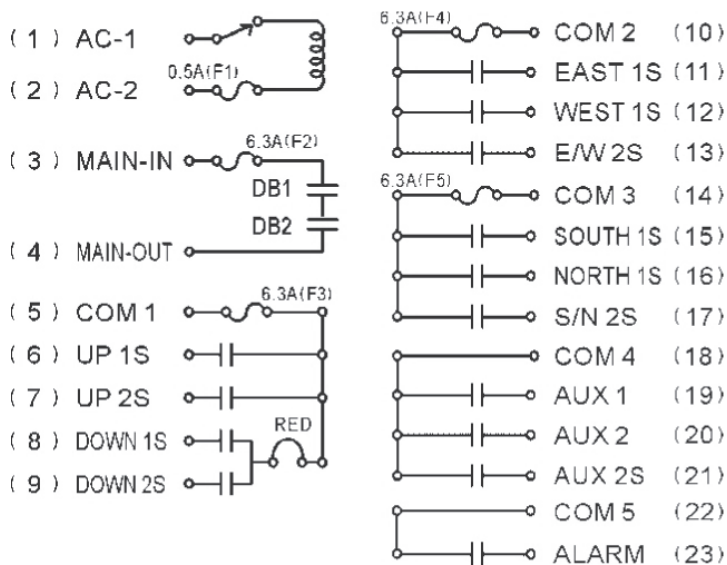
K1 Series



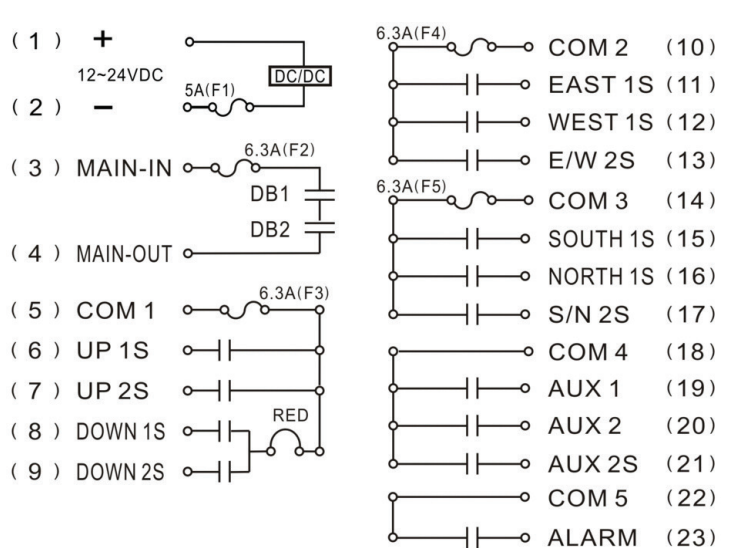
K1 Series (DC)



K2 Series

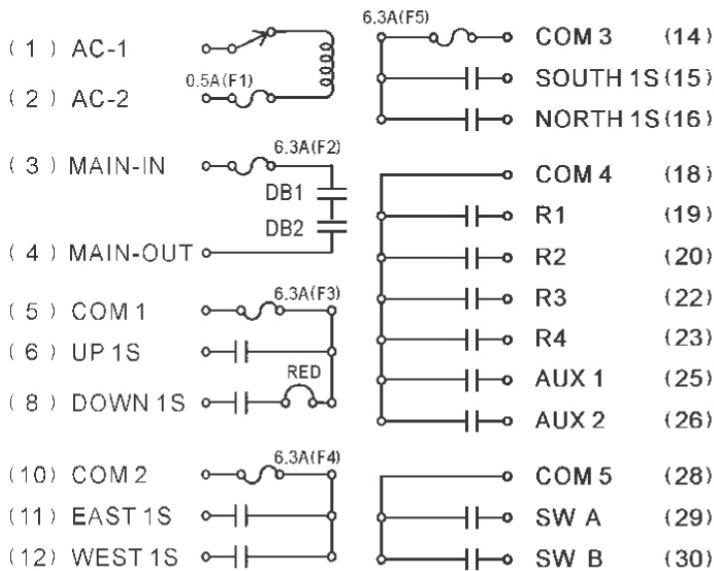


K2 Series (DC)

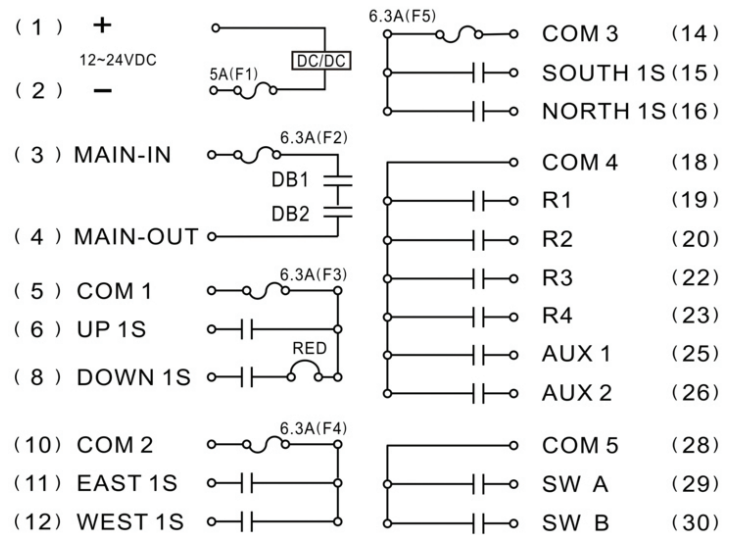


## 6.0 Receiver Wiring Diagram

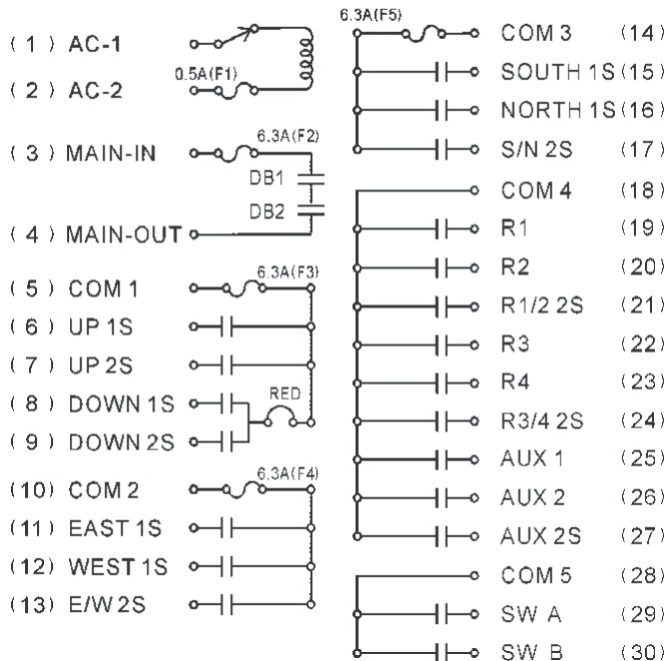
K3 Series



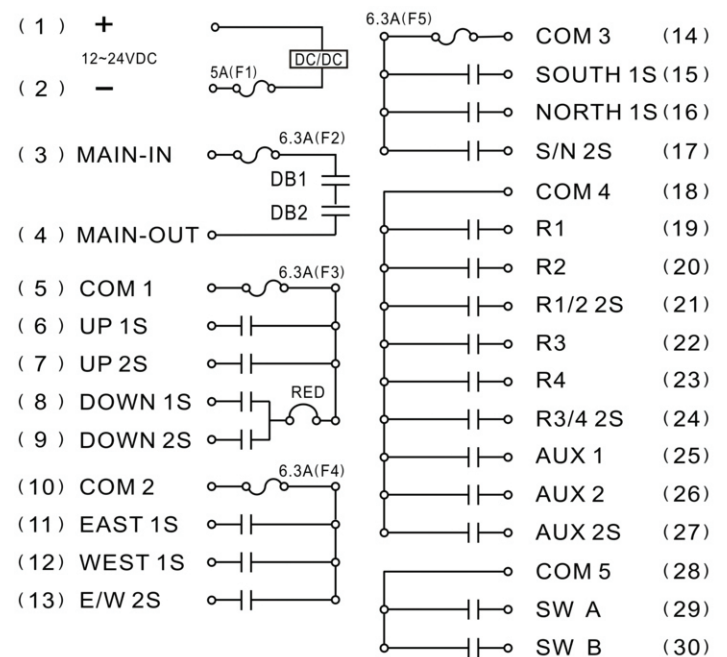
K3 Series (DC)



K4 Series



K4 Series (DC)



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