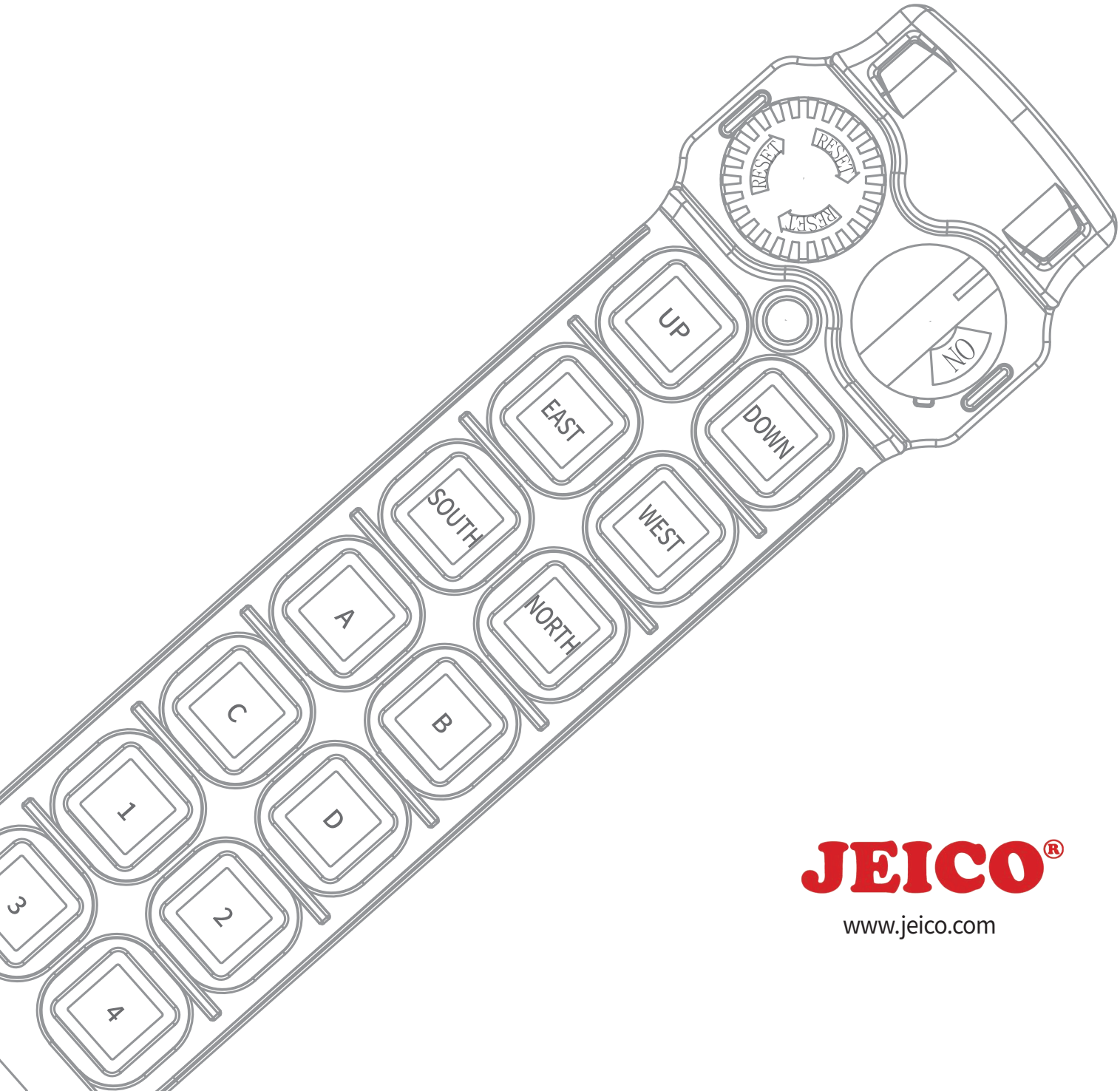
REMOTE CONTROL

JREMO 14K

O&M MANUAL



JEICO®

www.jeico.com

WARRANTY

JREMO® Remote Controllers must be handled, installed, operated, and maintained by (an) authorized and (a) qualified person(s), and

Upon the above condition guaranty period from the date of (delivery, installation, inspection) shall be one calendar year.

Subject to confirming defects not caused by improper installation, improper operation and/or insufficient maintenance, unauthorized modification, ignorance of environmental specifications, or improper interfacing, irresistible forces such as war(s), strike(s), Act(s) of God, and so on; all such the defects shall be treated as in no warranty.

JEICO® INDUSTRIAL REMOTE CONTROLLER		
MODEL	**JREMO 14K**	**JREMO 14K**
Serial No.		
Channel No.		
Lot No.		

PRECAUTIONS 04

CHAPTER I. GENERAL SPECIFICATIONS 06

1.1. COMMON SPECIFICATION 06
1.2 Transmitter (Tx) 06
1.3 RECEIVER (Rx) 06
1.4 Model Suffixing 06

CHAPTER 2. JREMO 14K Standard Set 07

2-1 Standard set 07
2-2 CONTROL CONTACTS WIRE DIAGRAMS 08

CHAPTER 3. INSTALLATION & FUNCTION SETTING 10

3-1 CAUTIONS FOR INSTALLATION 10
3-2 HOW TO INSTALL JREMO® SERIES TX 11
3-3 HOW TO INSTALL JREMO® SERIES RX 12
3-4 HOW TO START & USE PASSWORD(PWD) 13

CHAPTER 4. MAINTENANCE 14

4-1 STANDARD OPERATION 14
4-2 FUSES 14

CHAPTER 5. TROUBLESHOOTING 15

5-1 SELF DIAGNOSIS (LED SIGNAL ERROR MESSAGE) 15
5-2 LED Diagnosis 15
5-3 Troubleshooting 16

APPENDIX I - 433 BAND FREQUENCY TABLE 17

APPENDIX II - 447 & 173 & 429 FREQUENCY TABLE 18

APPENDIX III - OPTIONAL ACCESSORIES 19

A. ANNOUNCEMENT

- This O&M Manual is for **JREMO® 14K** and the specification is referred to Chapter 1.
- Before installation and operation look through this manual and make sure having a full acknowledgement of this manual.
- **JREMO®** series' remote controllers compose a High-Tech systemized, and a full knowledge of this manual is a must in advance of installation as well as operation of this remote controllers.
- Do not try to dismantle or unscrew **JREMO®** series except a skilful, an expert, and an authorized.
- This manual is for reference and good for installation and for maintenance, for better functions and qualities it may be changed, modified, revised without notice in advance. For more details consult an adjacent agent and/ or supplier.
- Each and all the J**REMO®** series' remote controller is tested under severe condition and passed without any default found at factory and is ready for an immediate use for a normal/insufficient condition or so, however, in an emergency and/or in an any dangerous possibility, do not use.
- After use switch off the main power of the equipment(ex. winch) and confirm the receiver power off, and also confirm EMS button of the transmitter is in a pressed down position.
- When not in use stay the transmitter in a safety area and do not allow an unauthorized to attempt to use it.
- Equipment(ex. winch) using this remote controller must have main relays, limit switches, separate COM lines, and other appropriate devices for safety operation.
- When metal container for receiver casing is used make sure Ground(GND) to be sure connected to metal part of equipment(ex. winch).
- Do not use in a severe interfered area and/or lightening or so.
- Make sure power sources are correct.
- Power off and do not use during installation and/or maintenance so as to avoid any electric shock or so.
- Do not try to copy, modify, or release this remote controllers without permission in advance by **JEICO**, such an action is illegal. **JREMO®** series' remote controller have many international patents, certificates, and so on.

- Without notice in advance and within **JEICO**'s discretion this manual may be revised, added, and/or deleted for better use.

B. GENERAL CAUTIONS

- Operator must be healthy both physically and mentally.
- Even though this remote controller is versatile, durable, and good for outdoor use try to avoid to contact directly by an excessive shock, pressure, wind, snow, rain, ices, or sunlight, high temperature, humid, gas, and etc.
- During operation when found power is weak replace all the batteries with all new AA batteries.
- When rechargeable batteries (however, it is not recommended because of shorter life) are used, use of AA 1.2V Ni-MH 2,500 mAH or above.
- When not in use take out batteries from the transmitter and put aside in a different area.
- In an emergency follow up the below emergency measures.

C. EMERGENCY MEASURES

JREMO® Series has designed for safety, meeting with various kind of emergencies and for self-recovering. Billions of different I.D. code, Self-Diagnoses, super qualified and isolated protection against voltage surges and/or interferes, etc. are the basic integral functions for solving any unexpected accident or trouble in an emergency. So when such an emergent function is detected, **JREMO®** series will off the work immediately and stop all the function automatically.

For emergency follow up the below procedure in advance and then call an adjacent **JEICO®** agent and/or supplier for an emergency service.

1. Press EMS(Emergency Stop) Button. (red mushroom at top left)
2. Off the rotary key and pull out the key. (green key at top right)
3. Power off receiver power. Power off main power of Equipment.
4. Inquire adjacent **JEICO®** agent and or supplier.

Chapter 1. GENERAL SPECIFICATIONS

1.1. COMMON SPECIFICATION

- Frequency Ranges & Channel Numbers
  - 433 Bands : 433.050～434.7750 Mhz, 70 channels
  - 447 Bands : 447.600～447.9875 Mhz, 32 channels
  - 173 Bands : 173.025～173.7875 Mhz, 35 channels
  - 429 Bands : 429.2500～429.7375Mhz, 40 channels
- I.D. Code : 2^{32} (Over 4 Billion)
- Temperature : -10 °C ～ +60 °C
- Remote Distance : 30 ～ 150 M.
- Case Construction : Glass-Fiber
- Protection Grade : (Tx) IP55 / (Rx) IP66

1.2 Transmitter (Tx)

- Modle : **JREMO 14K**
- Batt. Power : 4 x 1.5 V Alkaline Batteries (LR6 AA Size)
- Type : Single or Double Push Button Type
- Size : 173 x 62 x 46 mm (L x W x H)
- Weight : Approx. 355/395/450 gr. (Batteries Incl.)

1.3 Receiver (Rx)

- Casing : **RX3, RX4**
- Power : AC100~240V or DC12~40V(OPT AC48V, DC 60V)
- Type : Remote Main Lamp Indication
- Ralay : AC =>“A” Contact, 250VAC/5A, 125VAC/10A
  DC =>“A” Contact, 24VDC/15A, 120VAC/15A
- Size, mm : **RX3** : 90x152/215x105, **RX4** : 107x200x165
- Weight, gr. : 950/1350/1220(Cable Incl. except RX4)

1.4 Model Suffixing

JREMO 14K **A** **(RX3)**

Model Name

Suffix

RX Size(Normally not indicated)

Type \ Model		Rx Casing Size 14K
A	Single P/B	RX3*
B	Double P/B	RX4
C	U/D Creep	RX3*
D	Double P/B	RX4
M	Mobile for DC Rx	RX4

* Optional Rx casing **RX4** for **14K A & C**

CHAPTER 2. JREMO 14K Standard Set

JREMO 14K Standard Set comprises one transmitter and one receiver as following as a set

2-1 STANDARD SET

TRANSMITTER

A/B/C/D/M
233 x 62 x 46 mm
Approx. 355 gr.

Single & Creep P/B

RX3
90 x 215 x 105 mm
Approx. 1,350 gr.
24 Core Cable

Double P/B

RX4
107 x 200 x 165 mm
Approx. 1,220 gr.(Cable Exc.)
Double P/B : 32 Core Cable
For Single DC: 32 Core Cable

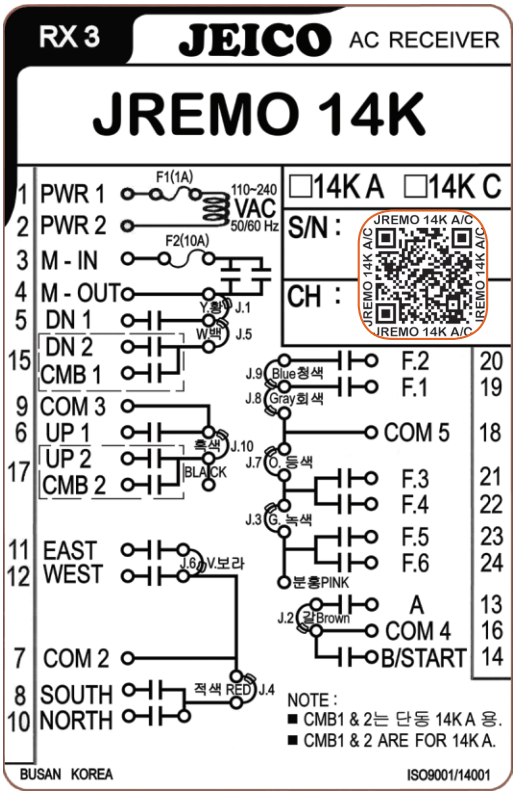
■ STANDARD SET	MODEL NAME	RECEIVER
Single P/B	: **JREMO 14K A**	⇨ **RX3** (24 Core Cable) opt. **RX4** (32 Core Cable)
Creep P/B	: **JREMO 14K C**	⇨ **RX3** (24 Core Cable) opt. **RX4** (32 Core Cable)
4 Double P/B	: **JREMO 14K CC***	⇨ **RX4** (32 Core Cable)
6 Double P/B	: **JREMO 14K B**	⇨ **RX4** (32 Core Cable)
8 Double P/B	: **JREMO 14K BB***	⇨ **RX4** (32 Core Cable)
12 Double P/B	: **JREMO 14K D**	⇨ **RX4** (32 Core Cable)
Single P/B For D.C.	: **JREMO 14K M**	⇨ **RX4** (32 Core Cable)

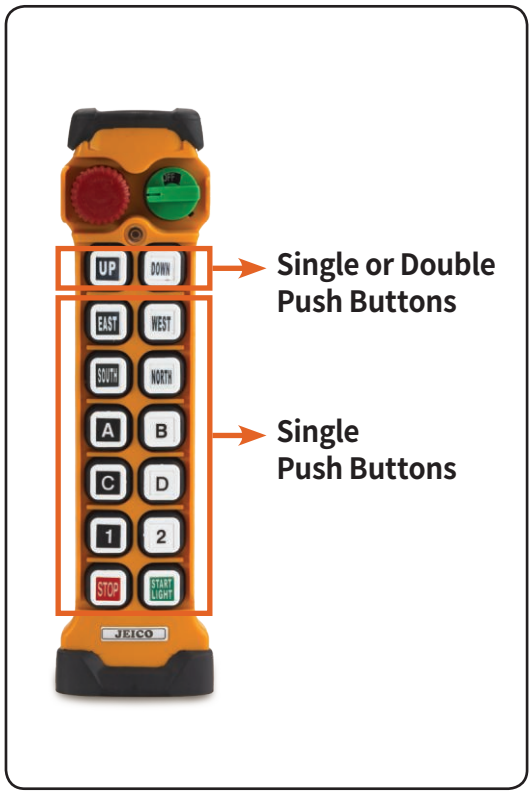
Note : Suffix “CC” and “BB” are only for factory production purpose and after production they will be released to be suffixed each **“B”** instead **“CC”** and **“D”** instead **“BB”**.

For heavy duty or upon request **JREMO 14K A&C** can be released with **RX4** casing receiver as an optional instead of with **RX3** casing.

2-2 CONTROL CONTACT WIRE DIAGRAM

▪ **JREMO 14K A & C (with RX3 Casing Receiver)**
Single & Creep P/B AC Diagram





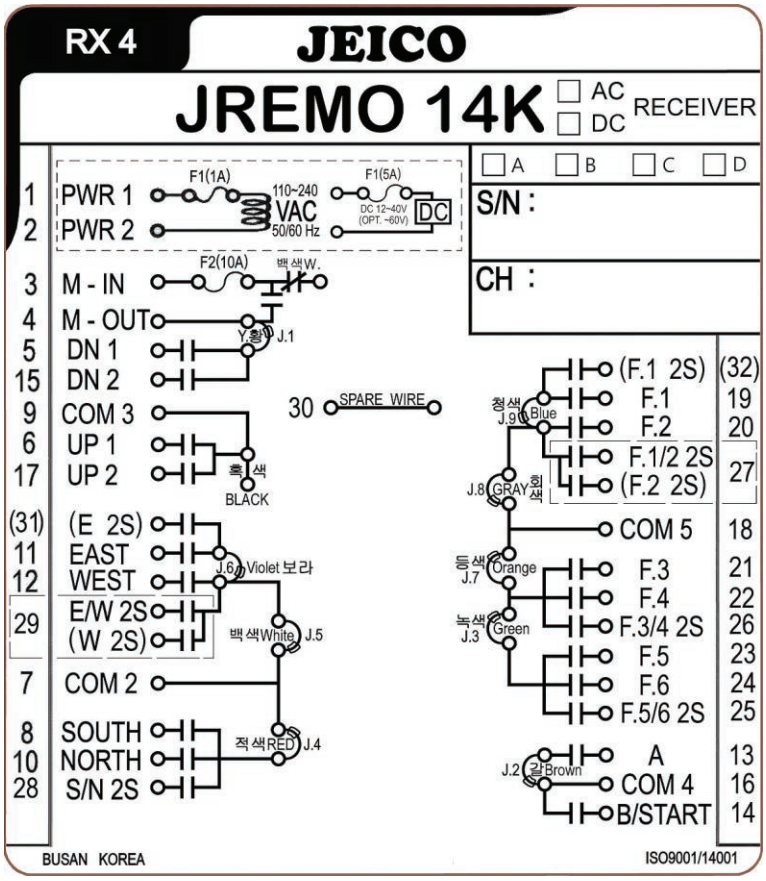
- RECEIVER : **RX3**
  SIZE : 90 x 215 x 105 mm, approx.1,350 gr.
- CABLE SPEC. : 0.75 Sq, 600VAC, 24 Core, approx. 1.7 m long, numbered
- RELAY SPEC. : 250VAC/5A, 125VAC/10A "A" Contact
- INPUT POWER : AC 100~240V 50/60Hz
- FUSE SPEC. : 1A(F1) / 10A(F2), 20MM Column Fuse

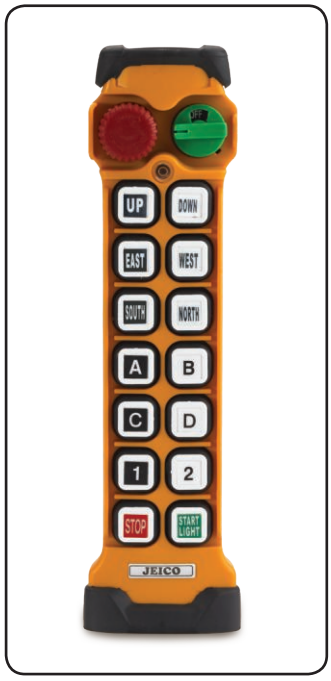
Note 1 : Combination(CMB 1 & CMB 2) functions are only for single p/b type model **JREMO 14K A**.

Note 2 : For more than 4 double p/b use **RX4** receiver casing.

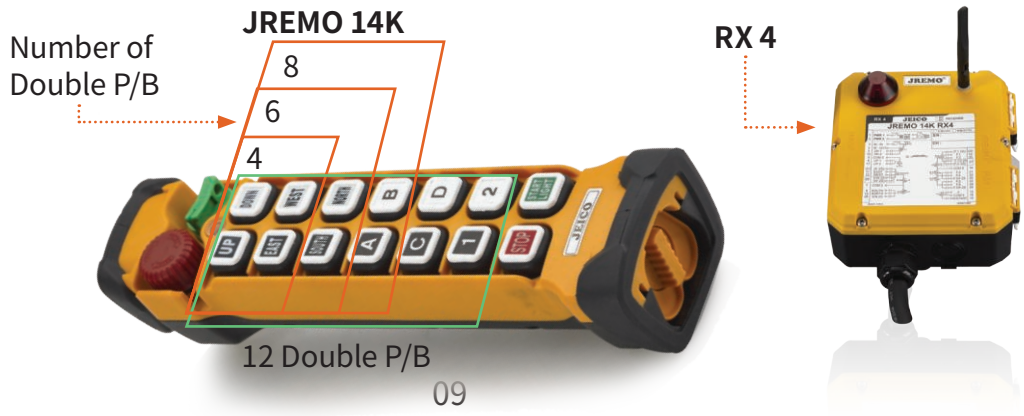
Note 3 : **RX4** receiver for **JREMO 14K A&C** is option.

- **REMO 14K B & D (with RX4 Casing Receiver),** and
- **JREMO 14K M (with RX4 Casing Receiver)** Diagram





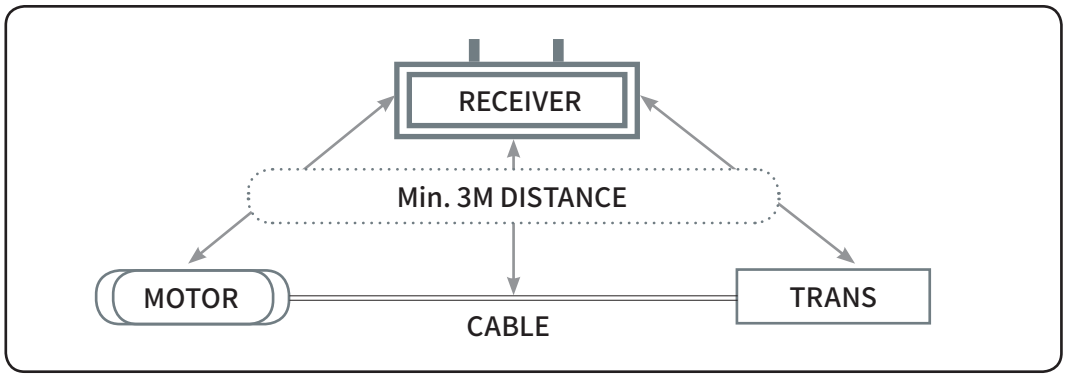
	JREMO 14K B & D	JREMO 14K M
RECEIVER	RX4, 107 x 200 x 165 mm, approx. 1,220 gr.	
CABLE	32Core Number Cable	2Core Number Cable
	0.75 Sq, 600VAC, approx. 1.7m long	
RELAY	240VAC/7.5A 120VAC/15A	24VDC/15A 120VAC/15A
FUSE	F1(1A) / F2(10A)	F1(1A) / F2(10A)
	20MM Column Fuse	
INPUT POWER	AC 100~240V 50/60Hz	DC 12~40V (opt. ~60V)



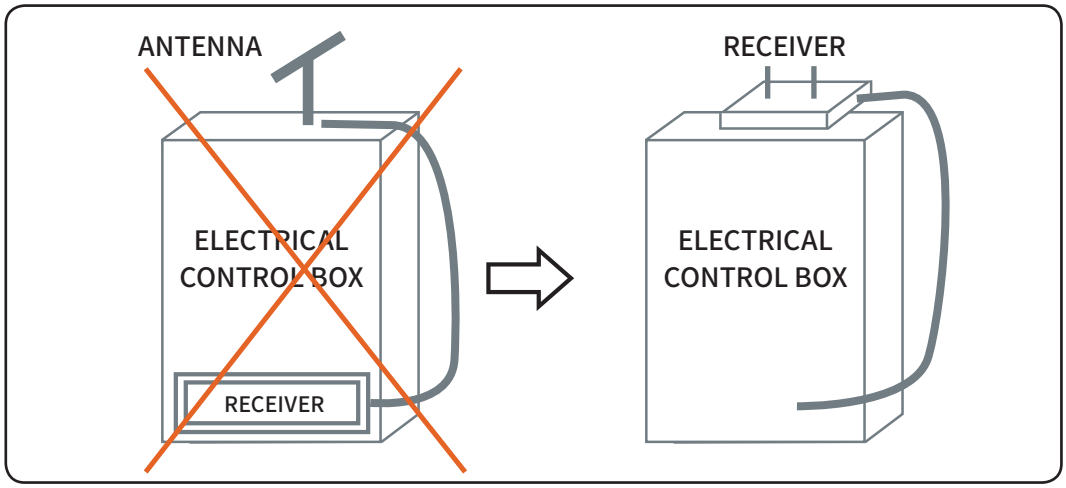
CHAPTER 3. INSTALLATION & FUNCTION SETTING

3-1 CAUTIONS FOR INSTALLATION

1. Follow up all the safety rule of equipment (ex. crane)
2. Switch off the main power of equipment (ex. crane) in a first action.
3. Install receiver where there will have any other obstructions.
4. Fix receiver firmly.
5. Use an optional external antenna in case receiver installs inside the metal closed box or electrical panel.
6. Check safety devices of equipment(ex. crane) before installation and confirm it is under utmost safety condition.
7. Do not try to install without gaining in skill for electrical circuit diagrams and operation circuits of equipment(ex. crane), remote controller's functions, etc for avoiding an unexpected accident, wrong functions, etc.
8. For avoiding any possible interferes install receiver far from motor and transducer as following illustration :



9. Install receiver top outside of electrical control box and installation in inside the control box is not a proper method.



3-2 HOW TO INSTALL **JREMO®** SERIES TX

3-2-1. BATTERIES

A. Insert 2 AA batteries at right position with + and -. An opposite position will cause an excessive heat to cause battery leakage, burning, and so on, any malfunction caused by such the poor batteries' handling will not be of free recovery no matter how long the guarantee period remained.

B. Precautions

1. Do not use low power type rechargeable batteries.
   Recommend : Use 2500mAH or above.
2. Use all new & fully charged batteries for replacement.
   Any un-fully charged one(s) may cause the same to the above clause 3-2-1 A matters.

C. Change of Batteries : When led signals with red and green flashes in turn it shows battery powers are low. Replace them all 2 batteries immediately and simultaneously with new ones.

D. When not in use press down the EMS button for saving battery life as well as off the battery power, and for safety as well.

3-2-2. FUNCTION SETTING & COPYING

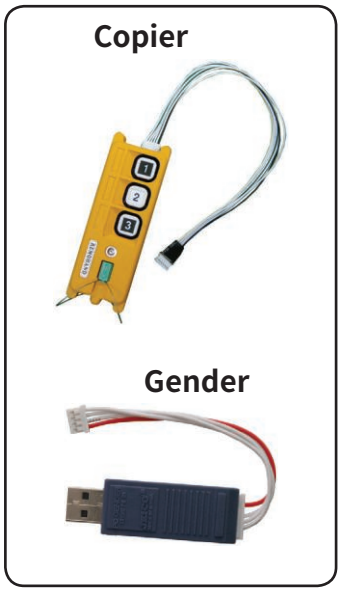
In case to change either Tx or Rx, or modify functions its mating transmitter and receiver must be identical and set both at the same time for sure identification. Function settings can be done either by the copier or by PC software, or from direct Rx-Rf at Rx to/from Tx. Either method is an optional.

A. Function set by Copier

1. Unscrew Battery Cap at Tx and Open the top cover at Rx.(Please note when the Copier to use both Tx and Rx power should be shut down.)
2. Connect Copier either to Tx or Rx.
3. Follow the instruction of Copier Manual that will be provided as an optional order.

B. Function set by Software

1. Software can be provided as an optional order and,
2. It needs another connector (i.e. Gender) with



the software.

C. Direct Copying from Rx

1. Connect Tx and Rx by a connector cable (an optional provision).
2. Place the COPY-RUN s/w nob to COPY position, and Tx Led will blink with green light.
3. Paring (Copying) from Rx to Tx done.
4. Unplug the connector and place the s/w to RUN position.

D. Consult **JEICO** distributor and/or agent for further support.

3-3 HOW TO INSTALL **JREMO®** SERIES RX

3-3-1. PREPARATIONS

A. Prepare tools.

B. Select a proper place for installation.

1. Choose a safe area, a visible area of receiver or antenna.
2. Avoid a spark area (ex. motors, relays, magnet switches, electric cables are likely generating sparks and interferes)
3. Avoid high voltage and current area.
4. Receiver is to be distanced at least 3cm from obstacles.

C. Match receiver power

1. Check input power source and make sure to connect to the right position.
2. In case DC power, make sure receiver is also for DC.
3. AC Power
   Use AC Receiver.
   Standard AC power source is 100 ~ 240V Free Volts.
   24V, 48V etc. are optional.
4. DC Power
   Use DC Receiver.
   Standard DC power source is DC12 ~ 40V Free Volts.
   For 48VDC, 60VDC consult **JEICO** distributor and/or agent.

3-3-2. INSTALLATION SEQUENCE

A. Power off equipment(ex. crane).

B. To install receiver always try to use with the Rx Fixing Plate or Rx Fixing Bracket when applicable.

C. Connect each wire end of receiver cable to a mating connector of equipment(ex. crane).

1. Confirm both circuit diagram of receiver and equipment(ex. crane) are in sequence and connected correctly.
2. Confirm ground is o.k.
3. Check and confirm power source.
4. Make sure the selector switch positioned to pendent.

D. Power on transmitter :

1. Turn on the rotary s/w after released up the EMS button.
2. Press Start Pushbutton of the transmitter and,
3. Confirm if the receiver MAIN Lamp is on.

E. Press each function button of transmitter and confirm remote operation in a good working condition by confirming led lights inside the relay board of receiver.

F. Close upper case of receiver and set the selector switch to remote position.

3-4 HOW TO START & USE PASSWORD(PWD)

For the safety and secure operation **JREMO** series has adopted several types of start functions as following to achieve enhanced safety :

■ Main ON Function

Std : EMS UP ⇨ Rotary S/W ON ⇨ (PWD) ⇨ Any button, Main ON

Opt. : EMS UP ⇨ Rotary S/W ON ⇨ (PWD) ⇨ Start P/B, Main ON

■ PWD setting

An optional setting method may be used by referring to a separate PWD setting manual which is not included for a standard provision.

CHAPTER 4. MAINTENANCE

4-1 STANDARD OPERATION

A. Twist up the EMS button of Tx and do as START ON function procedure preset and find the Rx Main Lamp ON. During normal operation see if the Tx led shows Green light which is normal, and if the battery power of Tx goes weak then the Tx led light will turn to red and green color. In this case stop the operation before any abnormal functions such as delay responses, intermitting runs, no stops, etc during working with red and green led signalling.

B. Push the EMS button when every normal operation finished and/or in any emergency situation may occur do the same immediately, and position the Rotary S/W to OFF after the EMS button pushed down.

C. In case not in use for a long-term operation, take off all the batteries from tx for avoid of any contamination and/or unnecessary consumption of battery power.

4-2 FUSES

A. A replaceable fuse is put inside the fuse column.

B. For replacement of fuse, use a flathead screwdriver or by hand to push down head of the fuse cap by rotating 90°anticlockwise to open the cap.

C. Replace with a new fuse and close the cap in opposite procedure.

CHAPTER 5. TROUBLESHOOTING

5-1 SELF DIAGNOSIS (LED SIGNAL ERROR MESSAGE)

JEICO remote controllers have a renewed method of self diagnostic troubleshooting against so much complicated and riddled electronic structures, and yet it is easy to check and find causes and measures for any malfunctions may occur. **JEICO** takes a type of Led signaling error message for better, quick restoration in normal even at site.

5-2 LED Diagnosis

	Causes	LED Signals	Measures
Transmitter (TX)	EMS Button not up	Red Light	Pull up EMS Button
	Rotary S/W not ON	Red Light	Set to ON position
	Push Button defect	Red Flash	Replace with new button(s)
	Encoder Module defect	No Signal	Replace with a new module
	Batteries Consumed	No Signal	Replace with new batteries
	Low Power	Red & Green Flashes	Replace with new batteries
Receiver (RX)	Decoder defect	Lamp Off	Replace with a new Rx/Rf
	Wrong Power Source	Lamp Off	Replace Fuses and/or Replace Relay Board Connect Right Power
	Main Relay defect	Lamp Off	Replace Main Relay
	Rx-Rf COPY position	Lamp Off	Set to RUN position
	Main Power Off	Lamp Off	Engage Main Power

5-3 Troubleshooting

Appearances	Causes	Measures
Tx Led No Signal & Not Working	1. Wrong Bat. Direction 2. Battery Consumed 3. Old Batteries 4. Encoder Module defect	1. Place in right pole direction 2. Replace with new batteries 3. Replace with new batteries 4. Replace with new module
Tx Led Red Light & Not Working	1. EMS Button Not Up 2. Very Low Batteries 3. Old Batteries 4. Button Jam	1. Twist Up EMS Button 2. Replace with new batteries 3. Replace with new batteries 4. Replace with new buttons
Tx Led Red and Green Flashes & Working	1. Low Battery Power 2. Old Batteries	1.Replace with new batteries 2. Replace with new batteries
Tx Led Green Flashes & Not Working	1. Tx Antenna defect 2. Rx/Rf Module defect 3. Rx Antenna defect 4. Wrong Rx Power 5. Cable Short-circuit 6. No Remote Positioned 7. Frequency Interferes	1. Replace with new antenna 2. Replace with new Rx/Rf 3. Replace with new antenna 4. Correct Rx power source 5. Change with new Cable 6. Set to Remote Position 7. Set to other channel
Rx Lamp ON & Not Working	1. Cable Short-circuit 2. No Remote Positioned 3. Frequency Interferes 4. Relay defect 6. Out of distance	1. Change with new Cable 2. Set to Remote Position 3. Set to other channel 4. Replace relay with new one 6. Be in a running area
Rx Lamp OFF & Not Working	1. Tx Antenna defect 2. Rx Antenna defect 3. Rx/Rf Module defect 4. Power Short-circuit 5. Frequency Interferes 6. Main Fuse Burned 7. Main Relay defect 8. Rx-Rx COPY position	1. Replace with new antenna 2. Replace with new antenna 3. Replace with new Rx/Rf 4. Change with new Cable 5. Set to other channel 6. Replace fuse with new one 7. Replace relay with new one 8. Set to RUN position

APPENDIX I : 433 BAND FREQUENCY TABLE

TOTAL NUMBERS : 70 CHANNELS
Channel Spacing : 25 Kc

CH. NO.	MHz	CH. NO.	MHz
001	433.050	036	433.925
002	433.075	037	433.950
003	433.100	038	433.975
004	433.125	039	434.000
005	433.150	040	434.025
006	433.175	041	434.050
007	433.200	042	434.075
008	433.225	043	434.100
009	433.250	044	434.125
010	433.275	045	434.150
011	433.300	046	434.175
012	433.325	047	434.200
013	433.350	048	434.225
014	433.375	049	434.250
015	433.400	050	434.275
016	433.425	051	434.300
017	433.450	052	434.325
018	433.475	053	434.350
019	433.500	054	434.375
020	433.525	055	434.400
021	433.550	056	434.425
022	433.575	057	434.450
023	433.600	058	434.475
024	433.625	059	434.500
025	433.650	060	434.525
026	433.675	061	434.550
027	433.700	062	434.575
028	433.725	063	434.600
029	433.750	064	434.625
030	433.775	065	434.650
031	433.800	066	434.675
032	433.825	067	434.700
033	433.850	068	434.725
034	433.875	069	434.750
035	433.900	070	434.775

Calculation : Mhz = 433.050 + (N-1) x 0.025, 01≤N≤70

APPENDIX II : 447 & 173 & 429 FREQUENCY TABLE

TOTATAL NUMBERS : 32 (447 Bands) / 35 (173 Bands) / 40 (429 Bands) CHANNELS
Channel Spacing : 12.5Kc

CH. NO.	MHz
001	447.6000
002	447.6125
003	447.6250
004	447.6375
005	447.6500
006	447.6625
007	447.6750
008	447.6875
009	447.7800
010	447.7125
011	447.7250
012	447.7375
013	447.7500
014	447.7625
015	447.7750
016	447.7875
017	447.8000
018	447.8125
019	447.8250
020	447.8375
021	447.8500
022	447.8625
023	447.8750
024	447.8875
025	447.9000
026	447.9125
027	447.9250
028	447.9375
029	447.9500
030	447.9625
031	447.9750
032	447.9875
033	-
034	-
035	-

CH. NO.	MHz
001	173.0250
002	173.0375
003	173.0500
004	173.0625
005	173.0750
006	173.0875
007	173.1000
008	173.1125
009	173.1250
010	173.1375
011	173.1500
012	173.1625
013	173.1750
014	173.1875
015	173.2000
016	173.2125
017	173.2250
018	173.2375
019	173.2500
020	173.2625
021	173.2750
022	173.6250
023	173.6375
024	173.6500
025	173.5625
026	173.6750
027	173.6875
028	173.7000
029	173.7125
030	173.250
031	173.7375
032	173.7500
033	173.7625
034	173.7750
035	173.7875

CH. NO.	MHz
001	429.2500
002	429.2625
003	429.2750
004	429.2875
005	429.3000
006	429.3125
007	429.3250
008	429.3375
009	429.3500
010	429.3625
011	429.3750
012	429.3875
013	429.4000
014	429.4125
015	429.4250
016	429.4375
017	429.4500
018	429.4625
019	429.4750
020	429.4875
021	429.5000
022	429.5125
023	429.5250
024	429.5375
025	429.5500
026	429.5625
027	429.5750
028	429.5875
029	429.6000
030	429.6125
031	429.6250
032	429.6375
033	429.6500
034	429.6625
035	429.6750
036	429.6875
037	429.7000
038	429.7125
039	429.7250
040	429.7375

Calculation : Mhz = 447.6000 + (N-1) x 0.125, 01≤N≤32
Calculation : Mhz = 173.0250 + (N-1) x 0.125, 01≤N≤35
Calculation : Mhz = 429.2500 + (N-1) x 0.125, 22≤N≤40

APPENDIX III : OPTIONAL ACCESSORIES

RAIN/DUST COVER

Tx Hook

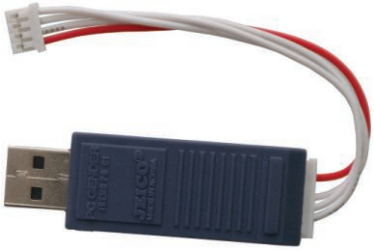
MAGNET ANTENNA

Rx Fixing Plate

or

Rx Fixing Bracket

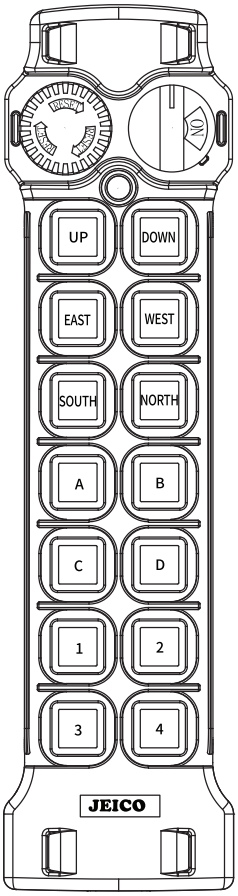
Copier



PC Gender & Software

Full Cover
(Water & Oil free)

Silicon &
Leather Cover



JEICO®

www.jeico.com

J Building, 94-1, Choryang-ro, Dong-gu, Busan, 48805, Korea
Tel. +82-51-818-7727 **Fax.** +82-51-804-2150 **Email.** jeicorp@kita.net
www.jeico.com