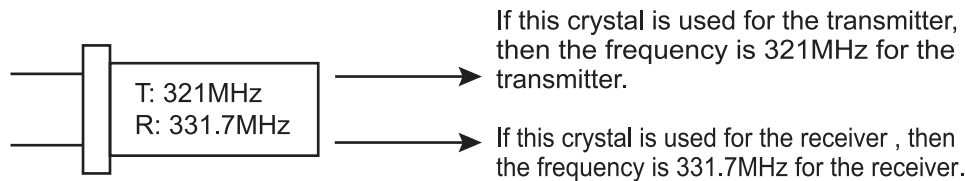


The frequencies shown on the same Crystal for the transmitter and receiver will be different as below:



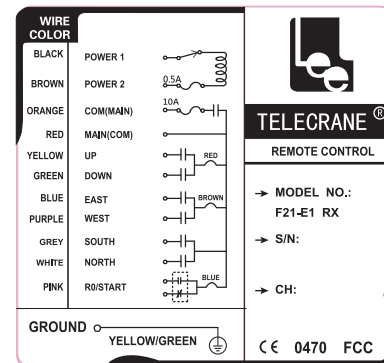
## NO.8 LED Malfunction Alert

- TX red LED is flashing quickly when any function pushbutton is pressed, then the problem could be:
  - One of the pushbutton is jammed.
  - The EMS mushroom has not been released.
  - The system is not properly powered on according to the instructions.
 If a problem on the above is found, please contact the distributor for repair.
- TX LED will flash slowly if the memory of the transmitter is defective. Please contact the distributor for repair.

## NO.9 Troubleshooting

- If TX LED remains with "ON" in red, please remove the batteries and insert again.
- If the RX does not respond at all, please turn off the power supply for 20 seconds and then turn it on again to the receiver.

## NO.10 Receiver wiring diagram



## NO.1 WARRANTY

### 1-1 Limited Warranty

TELECRANE guarantees that this product meets its published specifications at the time of shipment from the factory. Under proper installation it should work as expected. However, TELECRANE cannot guarantee that operation in TELECRANE system is absolutely error-free, or without interruption.

### 1-2 Warranty period

This equipment is warranted against defects in material and manufacturing for a period of one year from the date of shipment. During the warranty period, TELECRANE is responsible for necessary repair as long as the product can be proven to be defective.

For warranty service or repair, this product must be returned to the service facility designated by TELECRANE. Buyer will pay for shipping charges to TELECRANE while TELECRANE will bear return shipping charges.

### 1-3 Excluded Items

This warranty does not include consumable parts such as batteries, fuses, buttons and relays. Also this warranty does not cover failure or damage resulting from misuse, accident, unauthorized modification, unsuitable operating environment, natural disasters, improper software setting or improper maintenance.

### 1-4 Limitation of liability and remedy

If your TELECRANE product fails to work as warranted above, TELECRANE maximum liability under this limited warranty is expressly limited to the lesser of the price you have paid for the product. TELECRANE disclaims any liability as a result of any direct/indirect, special, incidental or consequential damages.

### 1-5 Remarks

No other warranty is expressed or implied, except for the above mentioned. Any use of this remote control product would be regarded the same as agreed to all clauses within this user manual.

## NO.2 ATTENTION

### 2-1 Attention

- Please carefully read the manual before installing and operating this device.
- Due to the complex nature of this equipment, it is necessary to read the entire manual before installation.
- 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.
- After operation, shut off both crane main power and receiver power, and remove transmitter key.
- After operation, by pressing "STOP" pushbutton switches off receiver unit then keeping the transmitter in a safe place when not in use to avoid any unintentionally operation.
- The crane should be equipped with main power relay, limit switch and other safety devices.
- Do not use this device during electrical storm or where there are conditions of high electrical interference.
- Make sure that the batteries are in good condition and power for receiver is correctly supplied.
- The installation and maintenance service is allowed only when the receiver power is disconnected to avoid electrical shock.
- The contents of this manual may be amended by the manufacturer without notice.
- The specification and function of remote control is subjected to change without notice by manufacturer.

### 2-2 Precautions

- Operating in an industrial facility is relatively dangerous; therefore, operator must have taken the adequate trainings in using F21-E1 & F21-E1B.
- Besides obtaining qualification certificate for operating this remote control product, users must also be both physically and mentally in well conditions, and has sufficient knowledge with safety precaution.
- Although F21-E1 & F21-E1B transmitters are solid made for certain level of impact and weathering resistance, but any malicious destruction or improper use might still cause high possibility of potential damage.
- When transmitter battery power is low (Red LED), replace the batteries immediately.
- If the severe interference occurred, the operation must be stopped immediately.
- Be sure to know the "Procedures of Emergency" as follows.

## NO.3 PROCEDURES OF EMERGENCY

In case of an Emergency, please follow the procedure below and contact authorized distributor for service immediately.

- ★ Press "STOP" button,
- ★ Remove the magnetic key(for E1B) or remove the battery cap(for E1),
- ★ Switch off crane main power,
- ★ Contact authorized distributor for inspection.

## NO.4 General Operation

- Remove the transmitter's battery cover.
- Install Fresh AA-size batteries in the battery box. Make sure the "+" and "-" directions are correct.
- Turn on the power according to the "Power-On Modes".

*Note: LED indicator will flash in red color if proper procedures are not followed.*

- Operate transmitter by pressing each pushbutton.
- After operation, perform the following procedures in sequence:
  - ★ Press "STOP" button,
  - ★ Remove batteries if not used for a long period.

## NO.5 Transmitter Batteries

The AA size alkaline batteries are required for the transmitter. DO NOT use rechargeable batteries. The LED will flash green when the battery power is sufficient. The LED will flash red when the battery power is low, and it is required to replace with fresh batteries immediately.

## NO.6 Receiver Power Supply

There are 6 different type transformers with different voltages for the AC power supply containing AC 24, 36, 48, 110, 220, 380V which will be selected by customer.

## NO.7 Crystal Replacement

### INSTRUCTIONS:

- (1). Pry up the crystal unit with a flat screwdriver.
- (2). Remove the crystal unit from the system.
- (3). Use needle nose pliers to straighten both pins of the new crystal unit.
- (4). Insert the new crystal unit vertically into the PC board.
- (5). Press the new crystal down into the socket.