

INSTALLATION & OPERATION MANUAL

SAGA1-L Series

- **SAGA1-L4**
- **SAGA1-L6**
- **SAGA1-L8**
- **SAGA1-L6B**
- **SAGA1-L8B**

The main contents of this manual are organized into the following chapters.

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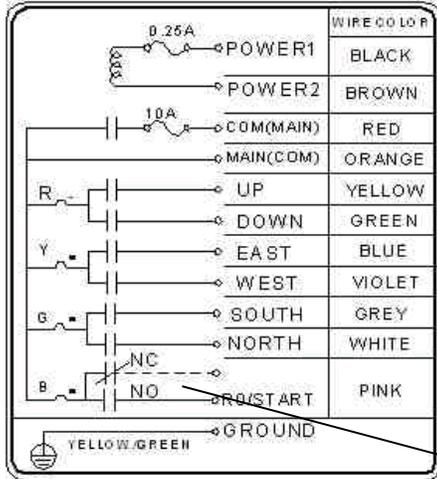
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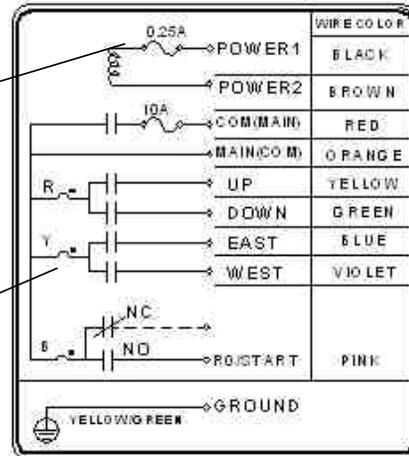
1.0

● WIRE DIAGRAM OF SAGA1-L SERIES:

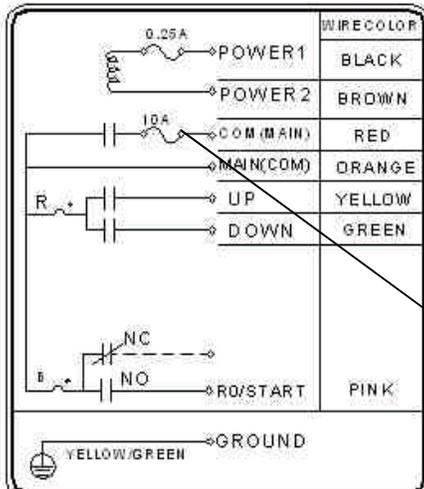
SAGA1-L8, L8B



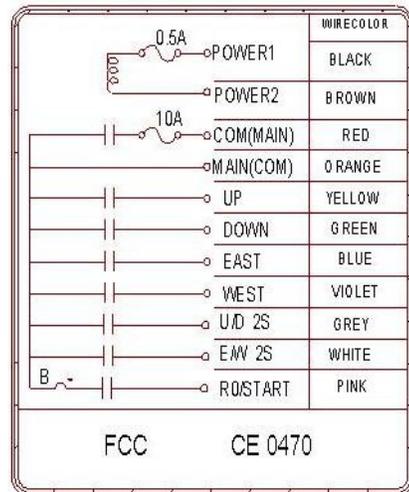
SAGA1-L6



SAGA1-L4



SAGA1-L6B



Remark: (1) The R0/START could be N.C. or N.O.

(2) The fuse for the power AC24/48/110/220/380V is 0.5A.

The fuse for the power DC12/24V is 1.5A.

(3) The fuse for AC type at the COM(MAIN) is 10A.

The fuse for DC type at the COM(MAIN) is 20A.

(4) The com lines have been arranged prior to shipment, if an independent

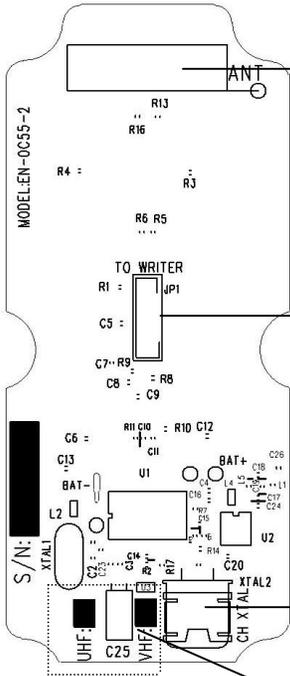
COM line is required, please refer to page:8/23.

Note: The polarity direction for the power of DC12/24V isn't required when plugging in the power line connector.



2.0

● TRANSMITTER PCB LAYOUT:

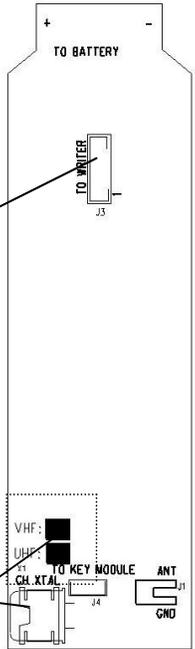


SAGA1-L4, L6, L8

Internal Antenna

This terminal is used for copier to read and write data or connecting to PC for function setting through software.

Replacing this Crystal to change the frequency on the transmitter.



SAGA1-L6B, L8B

There are two kinds of frequencies VHF and UHF are available marking with a check is the current frequency band and please make sure not to replace a VHF crystal unit into UHF PC board or visa versa.

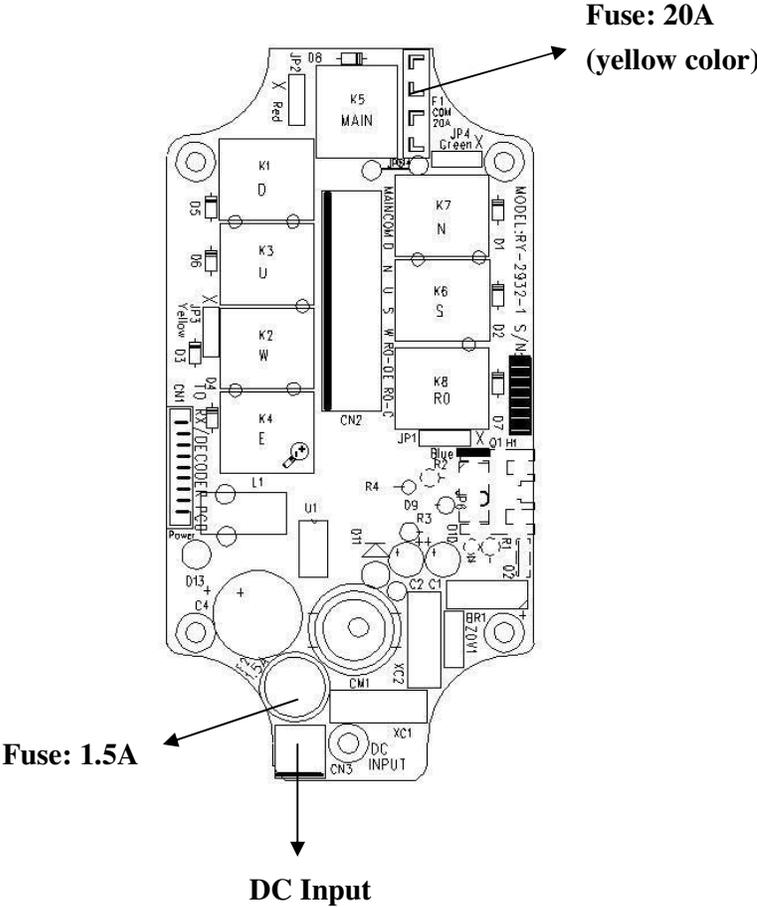
- VHF:310.0325~331.165MHz
- UHF:425.5925~446.725MHz



3.0

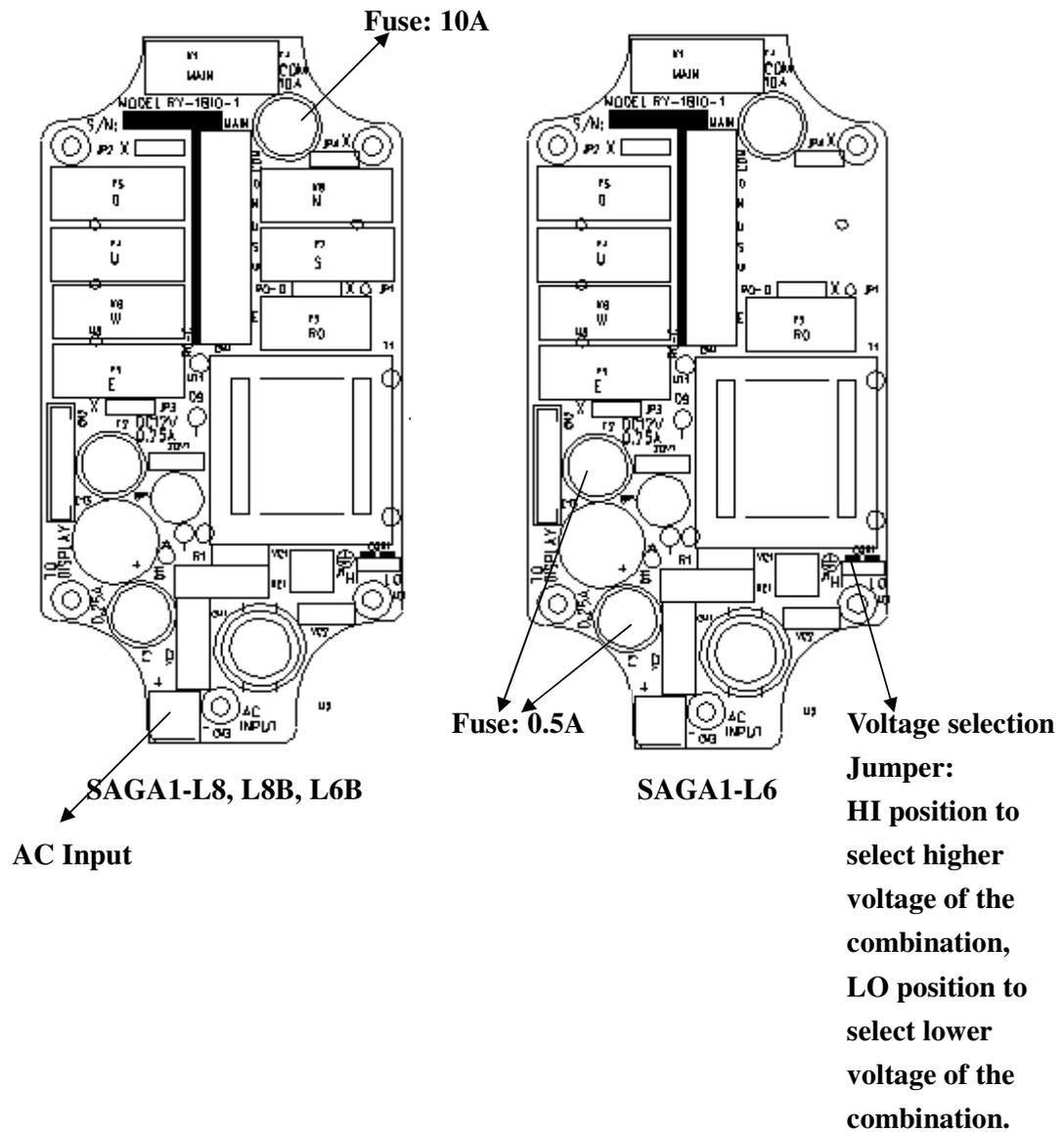
● RECEIVER PCB DIAGRAM:

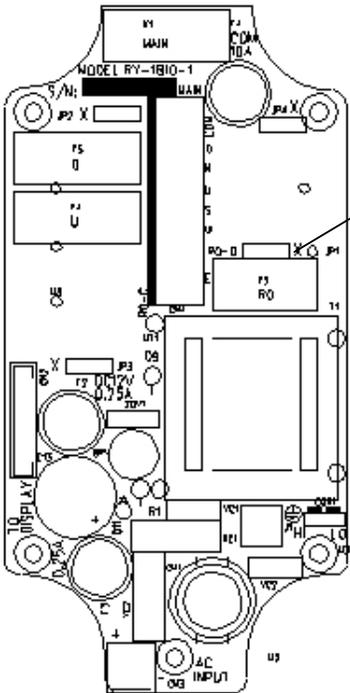
3-1. Relay Board for SAGA1-L8, L6, L4, L8B, L6B 3-1-1 DC Type



Remark: The polarity direction of DC Input isn't required when plugging in the power line connector.

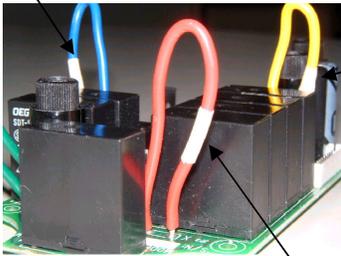
3-1-2 AC Type





SAGA1-L4

If an independent COM line is required then cut the wire labeled with a white “X” as showing as below. The longer part of the wire will become the new COM Line.



Cut the wire here.

3-2. Independent COM Line:

The SAGA1-L series offer optional independent COM lines as:

SAGA1-L8/L8B	4 independent COM lines	Up/Down, East/West, South/North and R0
SAGA1-L6	3 independent COM lines	Up/Down, East/West, R0
SAGA1-L4	2 independent COM lines	Up/Down, R0
SAGA1-L6B	1 independent COM line	Up/Down ~East/West 2S and R0



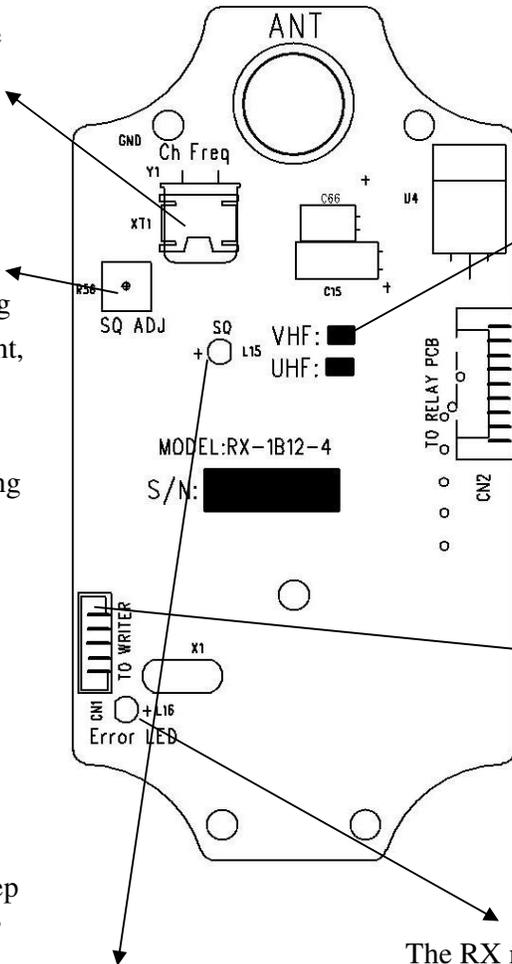
Please refer to the above figures of receiver relay boards and if an independent COM line is required then cut the wire labeled with a white “X”. The longer part of the wire will become the new COM Line. Then you may connect this new COM wire with an existed spare output wire, otherwise, you have to use an extra wire made by yourself.

3-3. Receiver/Decoder Board for SAGA1-L8, L6, L4, L8B, L6B

Replacing this **Crystal** to Change the frequency on the receiver.

SQ ADJ is used for a minimum receiving sensitivity adjustment, please don't adjust arbitrarily.

If necessary, adjusting clock wise (allow receiving a weaker signal) until the SQ lamp turns on, then adjusting counter clock wise (allow receiving a stronger signal) until the SQ lamp turns off to keep the SQ lamp at "off" status before operating.



There are two kinds of frequencies **VHF and UHF** are available marking with a check is the current frequency band and please make sure not to replace a VHF crystal unit into UHF PC board or visa versa.

VHF:310.325~331.165MHz
UHF:425.5925~446.725MH

This terminal is used for copier to read and write data or connecting to PC for function setting. through software.

The **SQ** lamp will turn on when receiving any radio signal. It was taken as interference if the SQ lamp didn't at "off" status before operating.
The receiving sensitivity is adjustable via the SQ ADJ.

The RX memory is defective if the **Error LED** flashes red every 0.5 second slowly.

4.0

● CHANGE OF FREQUENCY

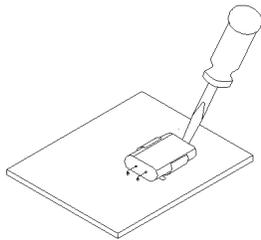
The frequency of SAGA1-L system can be simply changed by only replacing the correspondent crystal frequency in both the TX and RX. Please refer to below procedure in regards to replacing the crystal.



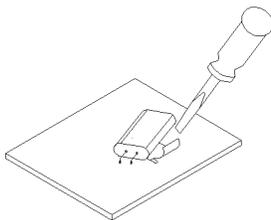
Note: To replace a new crystal, please note that there are 2 kinds of frequencies (VHF and UHF) are available. The indication of VHF or UHF is shown on the PC board with a check mark "V" and please make sure to not replace a VHF crystal unit into UHF PC board or visa versa.

Procedures:

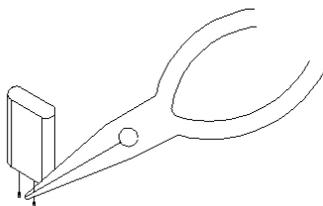
- (1). Pry up the crystal unit with a flat screwdriver



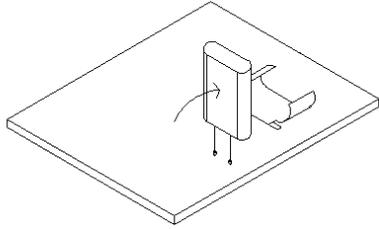
- (2). Remove the crystal unit from the system.



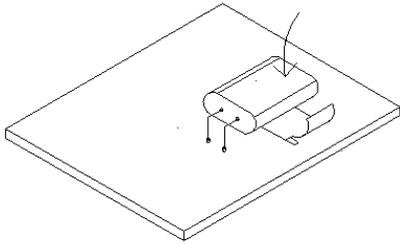
- (3). Use a needle nose pliers to straighten both pins of the new crystal unit.



(4). Insert the new crystal unit vertically into the PC board.



(5). Press the new crystal down into the socket.

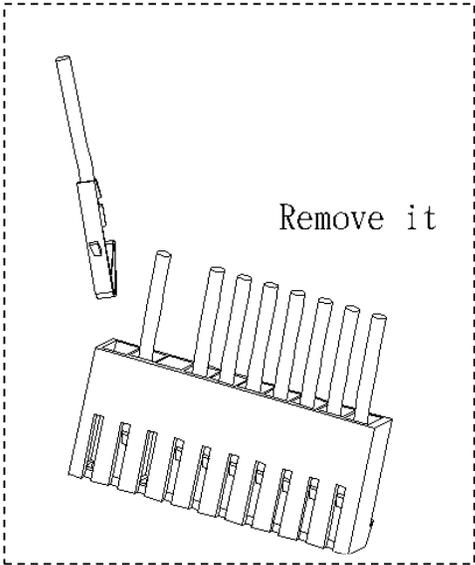
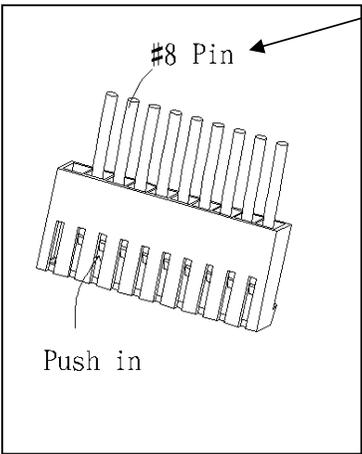


5.0

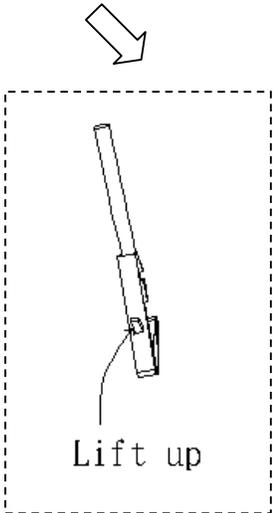
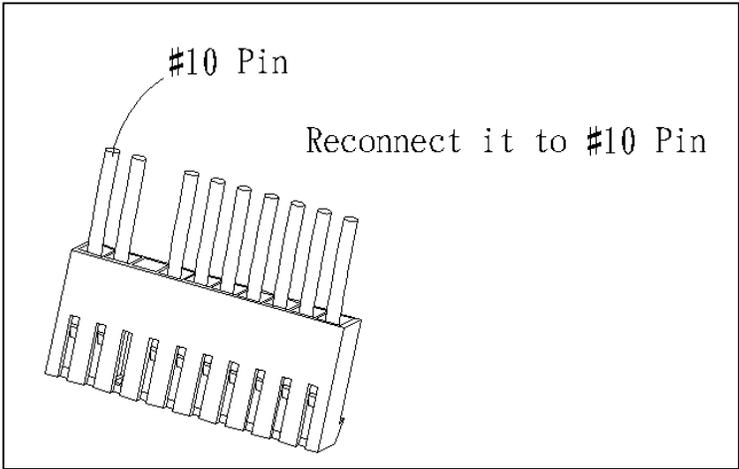
● CHANGE OF NO/NC CONTACT OF R0/START RELAY

The R0/START key of the new SAGA1-L crystal series provides **NO and NC contact**. The NO is the default setting. If a NC output is necessary, please remove the No. 8 wire (R0/Start, pink color) from the connector and insert it into No. 10.

Procedures:



The R0/START is N.O.



The R0/START is N.C.



6.0

● TROUBLESHOOTING

Item	Phenomenon	Cause	Action Required
1	Red LED flashing quickly (every 0.2 sec.) when any motion pushbutton of Transmitter is pressed.	a) One of the pushbutton is jammed. b) The system is not properly powered according to the instruction.	a) Replace the pushbutton. b) Power on again according to the instruction.
2	TX LED flashes red and yellow reciprocally and slowly (every 0.5 sec.)	The memory of the TX is defective.	Send back the Manufacturer.
3	RX Error LED flashes red slowly (every 0.5 sec.)	The memory of the RX is defective.	Send back the Manufacturer.
4	The operating distance is shorter or an intermittent operation is happened.	It was interfered by other Radio Remote Controller /or unknowing signal with the same frequency.	Replace the crystal of both TX and RX to change the frequency.

Remark: The memory of the TX and RX has Anti-copy function design, any inadequate action on decoding the firmware of the memory will cause the trouble as the above item 2 and 4.

3. “Up / Down Pushbutton” Function Setting:

Item	Content	Description
A	Normal/Normal (Interlock) Normal/Normal (Non-Interlock) Normal/Toggle (Control by EMS) Toggle/Normal (Control by EMS) Toggle/Toggle (Control by EMS) Off /On (Control by EMS)	<p>“Normal/Normal (Interlock)”: When “Up” or “Down” is pressed, if the other is pressed too, then both of them will be off.</p> <p>“Normal/Normal (Non-Interlock)”: Both of “Up” and “Down” work independently or simultaneously when they were pressed at the same time.</p> <p>“Normal/Toggle (Control by EMS)”: “Up” is on when pressed, off when released; “Down” is on once pressed, off when pressed again.</p> <p>“Toggle/Normal (Control by EMS)”: Reverse to above description.</p> <p>“Toggle/Toggle (Control by EMS)”: Both “Up” and “Down” work once pressed, off when pressed again independently.</p> <p>“Off/On (Control by EMS)”: “Down” is on once pressed, off when “Up” is pressed afterwards.</p>

4. “East / West Pushbutton” Function Setting:

Same as “Up / Down Pushbutton” Function Setting

5. “South / North Pushbutton” Function Setting:

Same as “Up / Down Pushbutton” Function Setting

6. “Transmitter” Function Setting:

item	Title	Content	Description
A	Transmit Mode	1. Continuous 2. Non-Continuous	<p>“Continuous”: The signal is transmitting to the receiver by transmitter continuously during “Power-On”.</p> <p>“Non-Continuous”: The signal is transmitting to the receiver only when pushbutton on transmitter is pressed.</p>
B	Power saving *	1. Enable 2. Disable	<p>“Enable”: Enable the “power saving mode”.</p> <p>“Disable”: Disable this function.</p>
C.	Save-Power	1. 1 min~30 min 2. Non-Execute PS. Only appears when the Transmitter Mode is “Continuous”	<p>“1 min~30 min”: Choose the due time for the transmitter to cut off its own power if no operation signal sending out by any pushbutton pressed to save power.</p> <p>“Non-Execute”: Disable this function.</p>

D.	Auto Off (Tx)	1. Enable 2. Disable	<p>“Enable”: Enable the transmitter to send EMS signal to the receiver too before its own power is off.</p> <p>“Disable”: Disable this function but the transmitter still will be power off itself if the “Save-Power” is executed.</p>
E.	Led On/Off	1. On 2. Off	<p>“On”: Enable LED lights on while operating.</p> <p>“Off”: Disable LED lights on.</p>
F.	Led Off-Time	0~4.0 sec	Determine the interval of LED shining time.

7. “Receiver” Function Setting:

Item	Title	Content	Description
A	Passive Act	1. Power-Off 2. Relay-Off	<p>“Power-Off”: The “Power”(main relay) is off when not receiving any normal signal from the transmitter for a certain period of time.</p> <p>“Relay-Off”: Only those operating functional replays are off when not receiving signal from transmitter for a certain period of time.</p>
B	Auto Off (Rx)	1. 10 min~4 hour 2. Non-Execute	<p>“10min~4hour”: Choose the due time for the receiver to cut off “Main Relay” if no signal received.</p> <p>“Non-Execute”: Disable this function.</p>



General Specification

Frequency Range: 433.05~434.79 MHz
ID Code: 32 Bits
Channel Space: 250 KHz
Hamming Distance: ≥ 4
Housing Material: Reinforced Plastic and Glass Fiber
Protection Class: IP65
Operating Temp.: -40°C ~ +80°C
Maximum Operating Range: Up to 100 Meters
TX Emission Power: < 10 mW

Your provider



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