Radio Control Manual
Series L10

CONDUCTIX wampfler

Conductix Incorporated

The technical data and images which appear in this manual are for informational purposes only. **NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE CREATED BY THE DESCRIPTIONS AND DEPICTIONS OF THE PRODUCTS SHOWN IN THIS MANUAL**. Conductix makes no warranty (and assumes no liability) as to function of equipment or operation of systems built according to customer design or of the ability of any of its products to interface, operate or function with any portions of customer systems not provided by Conductix.

Seller agrees to repair or exchange the goods sold hereunder necessitated by reason of defective workmanship and material discovered and reported to Seller within one year after shipment of such goods to Buyer.

Except where the nature of the defect is such that it is appropriate, in Seller's judgment, to effect repairs on site, Seller's obligation hereunder to remedy defects shall be limited to repairing or replacing (at Seller's option) FOB point of original shipment by Seller, any part returned to Seller at the risk and cost of Buyer. Defective parts replaced by Seller shall become the property of Seller.

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.

Additionally, Seller's obligation shall be limited by the manufacturer's warranty (and is not further warranted by Seller) for all parts procured from others according to published data, specifications or performance information not designed by or for Seller.

Seller further agrees to replace or at Seller's option to provide a refund of the sales price of any goods that do not conform to applicable specifications or which differ from that agreed to be supplied which non-conformity is discovered and forthwith reported to Seller within thirty (30) days after shipment to the Buyer. Seller's obligation to replace or refund the purchase price for non-conforming goods shall arise once Buyer returns such goods FOB point of original shipment by Seller at the risk and cost of Buyer. Goods replaced by Seller shall become the property of Seller.

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.**

Seller makes no warranty (and assumes no liability) as to function of equipment or operation of systems built to Buyer's design or of the ability of any goods to interface, operate or function with any portions of Buyer's system not provided by Seller.

Seller's liability on any claim, whether in contract, tort (including negligence), or otherwise, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair, replacement or use of any products or services shall in no case exceed the price paid for the product or services or any part thereof which give rise to the claim. In no event shall Seller be liable for consequential, special, incidental or other damages, nor shall Seller be liable in respect of personal injury or damage to property not the subject matter hereof unless attributable to gross misconduct of Seller, which shall mean an act or omission by Seller demonstrating reckless disregard of the foreseeable consequences thereof.

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 entitles claiming through the Buyer.

INDEX

1.0 Radio Warranty

1.1 Warranty
1.2 Warranty Period
1.3 Warranty Service
1.4 Excluded Parts
1.5 Remarks

2.0 Safety Considerations

2.1 Symbols
2.2 Warnings
2.3 Emergency Procedures

3.0 Standard Components

3.1 Receiver (RX) & Transmitter (TX)
3.2 Accessories
    3.2.1 Per Radio Kit
    3.2.2 Per Radio Transmitter

4.0 Installation Procedure

4.1 General Precautions
4.2 Receiver Preparation
    4.2.1 Installation Preparation
    4.2.2 Installation Procedure
4.3 Transmitter Setup
    4.3.1 Procedure

5.0 Operation

5.1 General Precautions
5.2 Standard Operation
    5.2.1 Power on Procedure
    5.2.2 TX Power Indication
5.3 Programming
    5.3.1 ID-Code Remote Setting
    5.3.2 Via Copier
5.4 Emergency Procedure

6.0 Basic Troubleshooting and Maintenance

6.1 General Precautions
6.2 General Error Code and Resolution

7.0 Function Settings

7.1 Pushbutton Customization
7.2 R1/R2 Settings
7.3 Optional Power-On Modes
7.4 Password Operation

8.0 Specifications

8.1 General
8.2 Transmitter
8.3 Receiver

9.0 Appendix

9.1 General Wiring Diagram (for Radio/Pendant Operation)

1.0 Radio Warranty

1.1 Warranty

1.1.1 Conductix-Wampfler guarantees that this equipment meets its published specifications at the time of shipment from the factory. This equipment will perform as described if installed properly. However, Conductix-Wampfler cannot guarantee that operation of remote control system is absolutely error-free, or without interruption.

1.2 Warranty Period

1.2.1 This equipment is warranted against defects in materials and workmanship for a period of 18 months from the date of shipment. During the warranty period, Conductix-Wampfler is responsible for necessary repairs/replacement as long as the product can be proven defective.

1.3 Warranty Service

1.3.1 For warranty service or repair, this equipment must be returned to Conductix-Wampfler. Customer is responsible for shipping charges to Conductix-Wampfler. Conductix-Wampfler's warranty covers only parts and factory labor. No on site in and out charges are covered under this warranty.

1.4 Excluded Parts

1.4.1 This warranty does not include consumable parts such as joysticks, batteries, fuses, buttons, and relays. Also, this warranty does not cover defects caused by improper installation, improper/insufficient maintenance, unauthorized modification, improper operation, ignorance of environmental specifications, and/or improper software/interfacing.

1.5 Remarks

1.5.1 No other warranty is expressed or implied, except for the above mentioned. The remedies provided herein are the buyers' sole and exclusive remedies. Conductix-Wampfler shall not be liable for any direct/ indirect, special, incidental, or consequential damage. Consult Conductix-Wampfler general warranty for further information.

2.0 Safety Considerations

2.1 Symbols

2.1.1 Safety Considerations

This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation. This product requires strict adherence to instructions in order to ensure operational safety.

2.1.2 Safety Symbols

The following symbols may be found on the remote control or throughout the remote control documentation. Their purpose is to alert you to potentially dangerous situations.

Refer To Manual
When the product is marked with this symbol refer to the instruction manual for additional information.

High Voltage
Indicates presence of hazardous voltage. Unsafe practice could result in severe personal injury.

Protective Earth Ground
Indicates protective earth terminal.

Warning
Denotes hazard. Included text will give proper instructions. Failure to follow instructions could result in severe personal injury and/or property damage.

Caution
Denotes hazard. Included text will give proper instructions. Failure to follow instructions could result in minor personal injury and/or property damage.

2.0 Safety Considerations (continued)

2.2 Warnings

2.2.1 Read this manual carefully before operating and installing this product.

2.2.2 Due to the complex nature of equipment, it is necessary to read the entire manual before installation.

2.2.3 Only authorized personnel should service this equipment. Unauthorized work on this unit will void the warranty.

2.2.4 This manual is for reference only; please call your distributor or Conductix-Wampfler if further assistance is required.

2.2.5 The equipment has been tested for correct operation before delivery from the factory. However, it must not be used in critical or hazardous operation where incorrect operation may cause personal or equipment damage.

2.2.6 After daily operation, please shut off main power in crane, the power to the receiver, and remove transmitter key.

2.2.7 Transmitter should be placed in a safe place when not in use to avoid accidental pressing of buttons.

2.2.8 The crane should be equipped with mainline contactor, limit switches, and other require safety devices as dictated by CMAA, OSHA, or all other applicable governing regulations.

2.2.9 The GND (ground) of receiver must be connected to ground of machine, or electrical shock can occur.

2.2.10 Do not use this device during electrical storms or under conditions of electrical interference.

2.2.11 Ensure transmitter batteries are in good condition and power for receiver is correct.

2.2.12 Installation and maintenance should be done only while the machine's main power and receiver's power are off and locked out to prevent electrical shock.

2.2.13 Contents of the manual may be amended by the manufacturer without notice.

3.0 Standard Components

3.1 Receiver & Transmitter

3.1.1 A standard and full set of L10 wireless pendant consists of:

700DHHL10 Kits include two (2) transmitters.

NOTE: Upon receipt of the radio kit, please identify and verify the following components are included as listed.

3.1.2 Receiver

Receiver Part No. **701L10001**

3.1.3 Transmitter

Two Speed Transmitter, Part No. **701L10002**

3.0 Standard Components (Continued)

3.2 Accessories

3.2.1 Accessories Per Radio Kit

1. **701L10005** - IOM (Installation and Operations Manual - L10 Series) (1 pc.)
2. Spare Fuse Kit
3. Radio Setting Sheets

3.2.2 Accessories Per Radio Transmitter

1. **700DIROP10** - Alkaline batteries for transmitter (2 pcs.)
2. **701C0026** - Strap for transmitter (1 pc.)
3. **701C0025** - Button legend sheet for transmitter (1 pc.)
4. **701C0041** - Protective Cover (1 pc.)
5. **701C0024** - Spare Key (1 pc.)

4.0 Installation Procedures

4.1 General Precautions

4.1.1 Observe all safety precautions when climbing or working on the machine.

4.1.2 Turn off the main power source of cranes before installation to avoid electric shock. Lockout/Tagout the main power source.

4.1.3 Receiver must be installed as to not touch any part of the machine or structure during the operation, except for mounting provisions.

4.1.4 The receiver must be fastened securely via shock-proof mount provided.

4.1.5 Before installation, inspect the crane's safety devices and make sure everything is in proper working condition.

4.1.6 Make sure you understand the crane circuits and power distribution as well as the function setting of this remote controller, to avoid incorrect wiring.

4.1.7 To avoid any interference, the receiver must be located away from motors, frequency drives, and power cables (shown on page 5).

4.1.8 Coil suppressors must be installed on all contactor coil and relay coils. Conductix-Wampfler recommends RC type suppressors Conductix-Wampfler Parts 103KVFCC1 with wire leads or 103KVFCC2 with bare metal leads.

4.1.9 The receiver should be installed on the exterior surface of the electrical control box. Mounting the receiver inside the electrical control box is not correct. An external antenna kit (Conductix-Wampfler part number 700DIROP9) must be used when receiver is installed in a metal enclosure.

4.2 Receiver Preperation

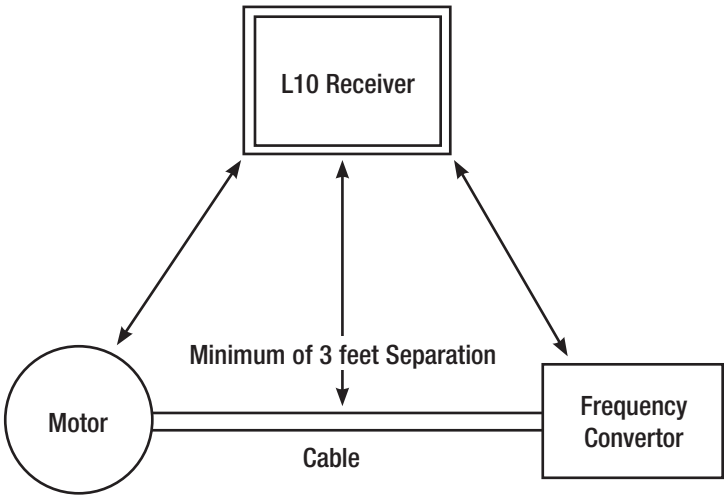
4.2.1 Installation Preparation

1. Read through the following steps and procure all proper tools to complete this installation.

2. Select a proper location.
   a. Select a stable place free from electrical noise, vibration, excessive heat, etc.
   b. Select a place where you can see the receiver or antenna from the ground.
   c. Select a place where there is no interference (e.g. keep away from motors, relays, magnetic switch, and power cables).
   d. Keep away from high voltage wiring and devices.
   e. The Receiver's box must be at least 1.5" (4cm) away from the other obstacles.

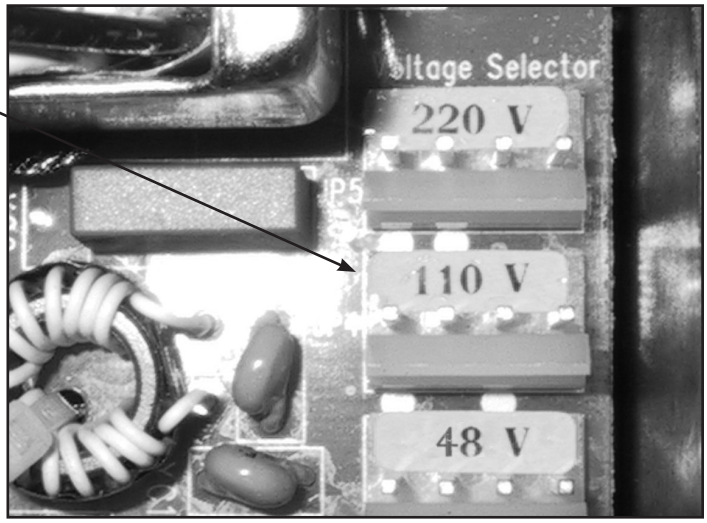
3. Receiver Power Supply. The input power source for the receiver can be 110VAC, 220VAC, or 48 VAC 50/60Hz (for 12VDC please contact Conductix-Wampfler). Measure your supply voltage, it must be within 10% of the selected above nominal voltages, failure to do so will void the warranty.

NOTE: The Factory Default is 110VAC



4.2.1.1 Modify Power Supply Connection

After the desired power supply is confirmed, disconnect the plug from the 110V connector, located in the lower left corner of the relay module board as shown, and insert it into the correct connector on the relay module. Verify the plug is inserted correctly.



4.2.2 Installation Procedure

1. Turn off the main power for crane or device.

2. Find a proper place for the receiver as detailed in the previous section.

3. Drill a hole for the 8mm stud, mount the receiver with 8mm diameter hex nut.

4. Connect wires to the control circuit of crane according to the receiver's wiring diagram and control contact diagram.

5. Secure the cables between the receiver and crane so that the cable sheath will not wear out due to vibration of the crane.

6. Turn on the main power for crane.

7. Complete Section 4.3 and then operate the transmitter to test every function and make sure all motions are correct (read by LED indicator).

8. This completes the installation of receiver.

4.3 Transmitter Setup

4.3.1 Place batteries in proper direction into battery compartment, and screw on transmitter's bottom cover, after battery installation the transmitter will sound two (2) 0.5 second long beeps to indicate proper installation.

NOTE: For the following procedures the buttons on the transmitter will be reffered to as noted above.

5.0 Operation

5.1 General Precautions

5.1.1 After operating, please press EMS (Emergency Mushroom Stop) mushroom to shut off main power in the receiver remove transmitter key.

5.1.2 Stop operating when irregular response occurs due to insufficient transmitter power, beyond the remote control range, or severe interference.

5.1.3 Remove the batteries when the equipment is not going to be used for a long period of time.

5.1.4 Operators must be properly trained and certified, understanding safe operation of the machine and this radio control.

5.1.5 Operator must be familiar with emergency procedures before operating (See Section 5.4).

5.1.6 Transmitter is durable and weather-resistant, but care should be taken not to subject it to severe impacts or undue abuse.

5.1.7 This product is suitable for use in industrial environments. Proper care and maintenance will extend system's life.

5.1.8 Check EMS mushroom and the other security functions of entire system before daily operation, including (but not limited to) switches, E-Stop operation, etc.

5.1.9 Stop operating if the operator's view is not clear of machine or load.

5.1.10 Press EMS mushroom when malfunctions or abnormal conditions occur.

5.2 Standard Operation

5.2.1 Default Power On Procedure

1. Rotate EMS mushroom clockwise and pull out.
2. Turn rotary key switch clockwise to "ON" position.
3. Continue to turn key switch to "START" position in order to turn on power (after releasing the rotary key switch, it will automatically return to the "ON" position).

5.2.2 Transmitter Power Indication

Transmitter has power indication function with LED display.

"Green Color Flashing" Sufficient power to operate transmitter (In order to save power, one can program to turn off LED display when power level is sufficient).

"Red Color Flashing" Insufficient Power. Transmitter will send out an emergency stop signal to the receiver due to insufficient power. Operator should avoid this situation in order to maintain operation safely.

5.2.3 Change of Frequency

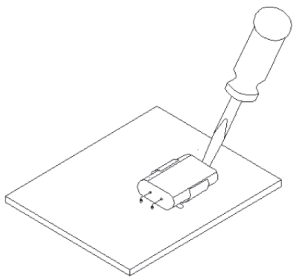
It is easy to change frequency of the SAGA1-L series simply by replacing correspondent frequency crystal in both the TX and RX.

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

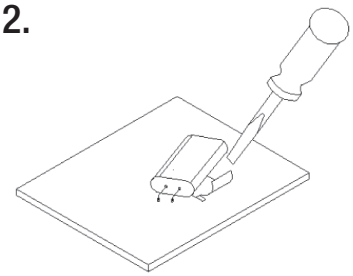
5.2.3.1 Instructions

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.

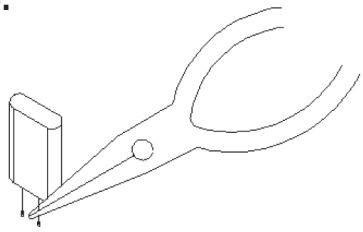
1.



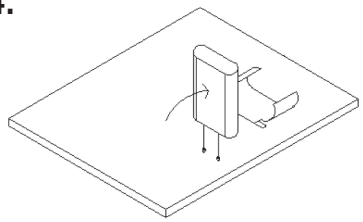
2.



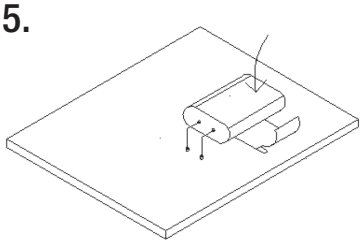
3.



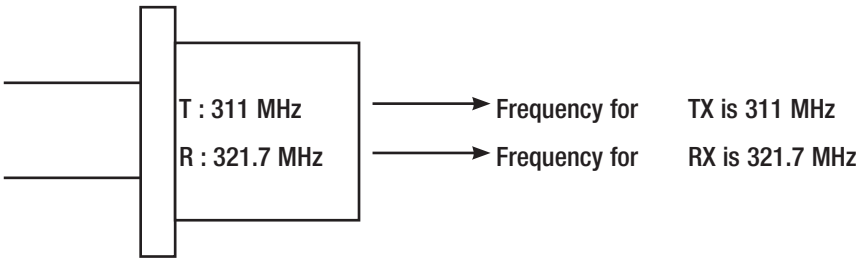
4.



5.



Attention: The frequency will be different when plugging the same crystal into the Tx or RX. For example:



5.3 Programming

You can only complete radio remote setting if the transmitter has been setup for remote setting at the factory.

5.3.1 ID-Code Remote Setting

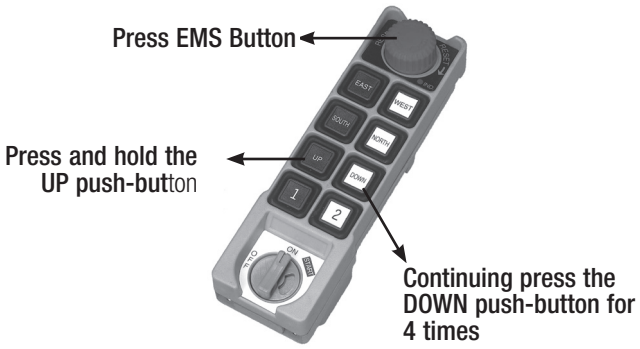
ID-Code remote setting allows you to pair the new TX or RX if one of them is damaged. Using ID-Code remote setting will make both the TX and RX to have the same ID-Code.

5.3.1.1 Please make sure the following conditions before ID-Code remote setting:

a) Both TX and RX are of the SAME model and frequency.
b) Place the transmitter as close as possible to the receiver to avoid interference.
c) Turn off the RX power more than 10 seconds and turn it on again.

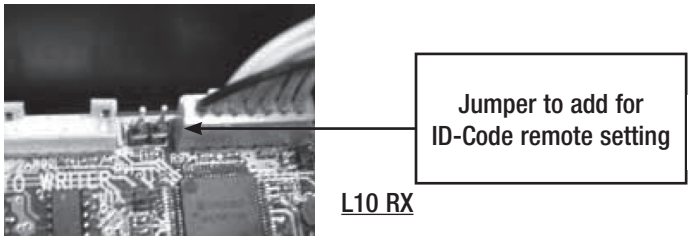
5.3.1.2 ID-Code remote setting Instructions:

a) Press and hold the transmitter EMS button.
b) Press UP push-button and hold it.
c) Press DOWN push-button 4 times and release "EMS & UP" push-buttons when the red light on the transmitter is flashing.
d) Start the system as usual.



Attention:

*In case ID-Code remote setting fails, repeat the instructions above within 4 minutes.
*ID-Code remote setting is available for ID Code only. It will not change function settings.
*Within the operating distance, all same model systems on the same frequency will be paired with the transmitters ID Code.
*A jumper added inside the receiver is necessary to enable the ID-Code remote setting function.



5.3.2 Via Copier

The copier (Conductix-Wampfler Part Number 700PROC)
instructions are detailed in a separate manual. Please contact Conductix-Wampfler for information.

5.4 Emergency Procedure

5.4.1 Emergency Procedure

1. Press EMS Mushroom.
2. Turn the rotary key to the "OFF" position.
3. Remove the rotary key.
4. Open the battery compartment and remove the transmitter's batteries.
5. Shut off the main power of the crane and dis-continue operation until the problem is resolved.
6. Contact your distributor or Conductix-Wampfler to diagnose the problem.

6.0 Basic Troubleshooting and Maintenance

6.1 General Precautions

6.1.1 Daily inspection is important and will ensure safety of operation. Inspection should include testing "emergency stop" and other safety devices and functions. If there is any doubt, operation must be stopped immediately and problems must be corrected before operation is resumed.

NOTES:

1. Malfunction alarm mode can be set by software for the "Simple Alarm Mode." Simple Alarm Mode is discussed in section 6.2. The following Sections 6.3 and 6.4 explain the "Morse Mode" for error messages.

2. Alarm (error messages) are transmitted according to Morse Code. "•" indicates short tone for duration of 0.25 of a second; "-" indicates a long tone for a duration of 0.5 of a second; intervals between tones are 0.25 of a second. An example for a transmitter push-button error message follows.

3. When an error message is detected by receiver or transmitter's self-diagnostics, an alarm will sound and "Power-OFF" will be activated. Unless the malfunction has been corrected, it will be impossible to "Power ON" the radio system.

4. Maintenance technicians can use these error messages. However, we recommend the technician replace only the module. The defective module should be returned to the distributor for the repair of components. This will eliminate further damage to the radio control.

5. If you do not understand an error message from the transmitter or receiver, or the signal is not listed in this manual, please contact Conductix-Wampfler for clarification and recommendations.

6.2 General Error Code & Resolutions

6.1.1 In order to simplify maintenance, this remote control system has been designed with the built-in self-diagnostics circuits in the transmitter and receiver. As long as the CPU is in proper working condition, malfunctions in push-button, RF circuit, relay, and relay driver circuits (including relay coil and relay contact) can be detected. When malfunction occurs, transmitter or receiver will generate a simple and clear alarm. Not only will the operator and maintenance personnel fully understand the condition of remote controller, but the self-diagnostics can also reduce lost production time by signaling the cause of damage.

NOTE: When "Simple Alarm Mode" is selected, alarm signals are shown on the list below. When "Morse Alarm Mode" is selected, please refer to sections 6.3 and 6.4

Malfunction	Error Message	Simple Alarm Signal	
Transmitter	Encoder Module Malfunction	-	NOTE: Each "-" indicates a 0.5 second alarm. Each pause between lasts 0.25 seconds. The alarm message will repeat every two (2) seconds.
	RF Module Malfunction	- -	
	Insufficient Power to Operate the Transmitter	- - -	
Receiver	Relay Module Malfunction	-	
	Receiver/Decoder Module Malfunction	- -	
	Power Failure	- - -	

7.0 Function Settings

7.1 Pushbutton Customization

7.1.1 The L10 radio series pushbuttons can be programatically altered at the factory to operate in a variety of modes.

1. Normal Momentary Operation
2. On/Off Mode - This mode allows the button pair to operate a single relay turning on and off with a pair of buttons.

7.2 Correspondence Between Pushbutton and Relay Output

7.2.1 SAGA1-L10 only Up/Down is with 4 relays, others with 3. Their corresponding relation is shown as below:

⊗ = Relay is on ◯ = Relay is off

	UP		DOWN	
1. Normal/Normal				
1st Step		2nd Step		1st Step		2nd Step	
2. Toggle/Toggle				
1st Step			1st Step		
3. On/Off				
1st Step			1st Step		
4. Normal/Toggle				
1st Step		2nd Step		1st Step		
5. Dual Motor(1)/Dual Motor(1)				
1st Step		2nd Step		1st Step		2nd Step	

Note: When pushbutton is released from 2nd speed and back to 1st one, the 1st speed relay is activated again till the pushbutton is totally released.

7.0 Function Settings

UP **DOWN**

6. Dual Motor(2)/Dual Motor(2)

1st Step

2nd Step

1st Step

2nd Step

Note: When pushbutton is released from 2nd speed and back to 1st one, the 1st speed relay is not activated but bypassed to nothing.

7. 3 Speed Acce./3 Speed Acce.

1st Step

2nd Step

1st Step

2nd Step

3rd Step

3rd Step

Note: The second step pushbutton must be pressed and held when pushing or turning “Start” pushbutton or key to reach third speed.

8. Digital Acce./Digital Acce.

1st Step

2nd Step

1st Step

2nd Step

3rd Step

4th Step

3rd Step

4th Step

Note: The second step pushbutton must be pressed and held when pushing or turning “Start” pushbutton or key to reach the third and fourth speed.

9. Synthesis/Synthesis

1st Step

2nd Step

1st Step

2nd Step

Up + Down

Note: When Up and Down pushbuttons are pressed at the same time the second relay works as “Toggle”, released when they are pressed simultaneously again.

7.3 Optional Power On Modes

7.3.1 These additional methods of powering can be set at the factory. If you have requested one of the following optional modes, use the steps below to turn our your radio system.

1. Any Pushbutton Power-On Mode
    a. Rotate EMS mushroom clockwise and pull out.
    b. Turn rotary key switch clockwise on “ON” position.
    c. Press any pushbutton on the transmitter. This will turn on the power as well as arm the transmitter and execute the function of the depressed pushbutton.
2. “Start” Pushbutton Power-On Mode
    a. Rotate EMS mushroom clockwise 45^0 and pull out.
    b. Turn rotary key switch clockwise to “ON” position for SAGA1-L10.
    c. Continue to turn rotary key switch to “START” position to turn on power for SAGA1-L10 (the rotary key switch will return to “ON” position automatically after been released).

7.4 Password Operation

1. Rotate EMS mushroom clockwise and pull out.
2. Turn key clockwise to “ON” position.
3. Press the pushbutton sequentially to enter password within 10 seconds (Remark: This time duration of “Password Enter” can be set by software. At the time of “Password Enter” the LED indicator will flash with green color).
4. The buzzer of the transmitter will sound one-long beep sound to indicate the password is correct. After buzzer turns off, “Power-On” according to the proper procedure and return to normal operation.
5. If password is incorrect, then the buzzer will sound with two (2) short beeps and one (1) long beep. Enter the correct password again after buzzer has turned off.

NOTES:

1. The function of the password can be set by the software in order to avoid unauthorized people from using the remote.
2. One must re-enter password to return to normal operation if EMS mushroom has been pressed (or “emergency stop” signal has been transmitted due to transmitter auto power off).
3. Turning key switch to “OFF” and back to “ON” will not require re-entry of password.

8.0 Specifications

8.1 General

Operation Frequency	310 to 320 MHz
Hamming Distance	> 4
I.D. Code	2^{32}; more than 4 billion codes (set by factory, never repeated)
Temperature Range	-22ÞF ~ 167ÞF (-30Þ ~+75ÞC)
Channel Spacing	5kHz/6.25kHz or integral multiple (12.5 kHz Default)
Maximum Operation Range	Up to 330 ft. (100 meters)
Structure	Glass Fiber-Nylon
Protection Degree	IP65 (NEMA 4)

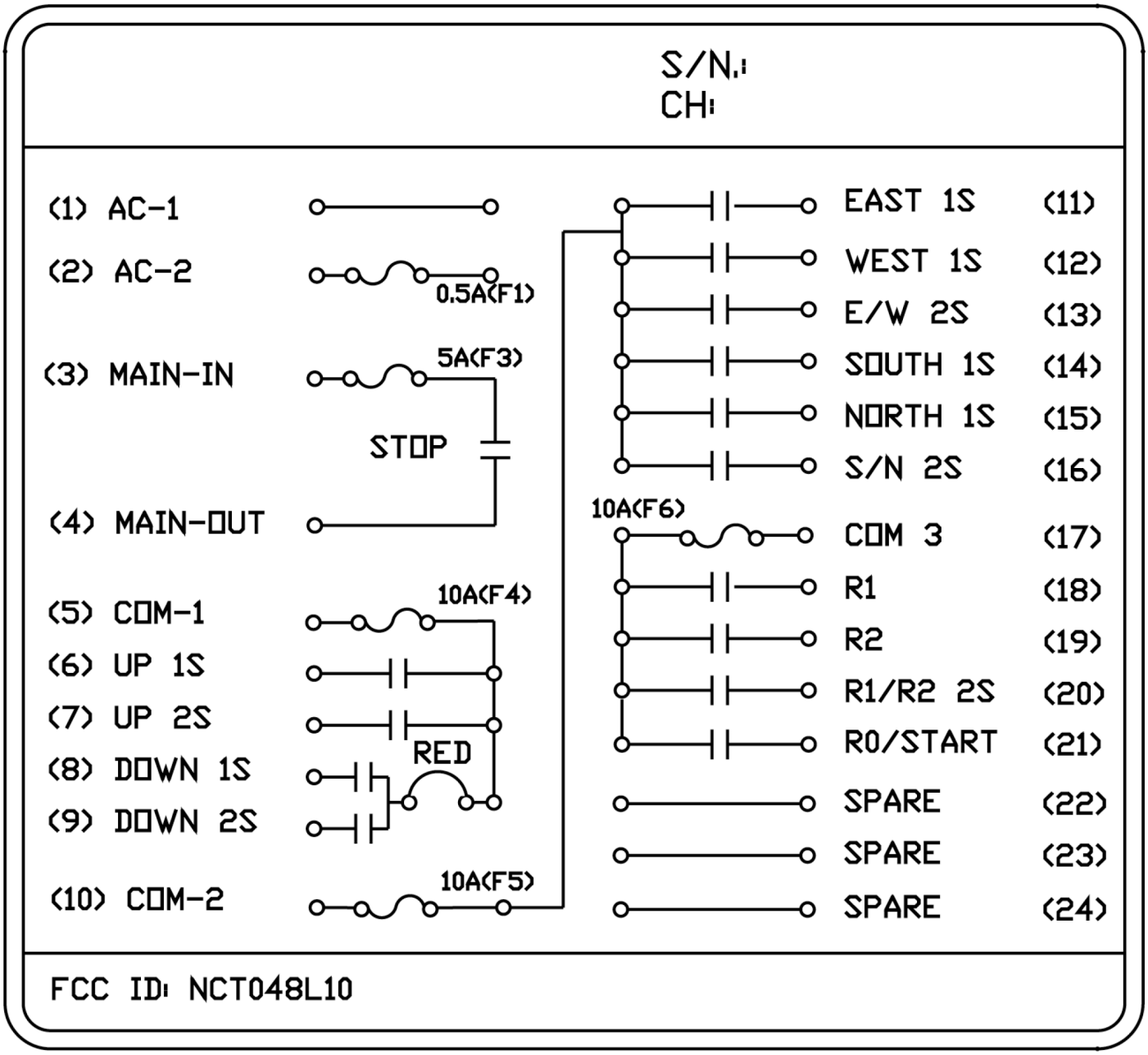
8.2 Transmitter

Power Supply	Two 1.5 volt Alkaline or rechargeable batteries (AA size)
RF Power	< 10 mWatts - < 2 mWatts
Modulation	± 2.5kHz; Narrow Band FM
Pushbutton Type	Two-step Mechanical Switch
Dimensions	6.42" X 1.93" X 1.77" (163 X 49 X 45mm) (L x W x H)
Weight	0.62 lbs. (280 g) (w/batteries)

8.3 Receiver

Power Supply	AC 48/110/220V (50/60Hz) (tolerance ± 10%) selectable DC 12V (tolerance ± 10%)
Sensitivity	-110DBm (Date Error Rate $<10^{-3}$)
Image Rejection	> 60dB
Adjacent Channel Rejection	> 80dB (± 20kHz)
Output Relays	10A/250VAC; 8A/30VDC
Dimensions	6.57" x 6.06" x 3.46" (167 x 154 x 88mm) (L x W x H)
Weight	3.08 lbs. (1400 g) (w/o cable)

9.1 General Wiring Diagram (for Radio/Pendant Operation)



Notes

www.conductix.us

USA / LATIN AMERICA
10102 F Street
Omaha, NE 68127

Customer Support
Phone +1-800-521-4888

Phone +1-402-339-9300
Fax +1-402-339-9627

info.us@conductix.com
latinamerica@conductix.com

CANADA
1435 Norjohn Court
Unit 5
Burlington, ON L7L 0E6

Customer Support
Phone +1-800-667-2487

Phone +1-450-565-9900
Fax +1-450-851-8591

info.ca@conductix.com

MÉXICO
Calle Treviño 983-C
Zona Centro
Apodaca, NL México 66600

Customer Support
Phone (+52 81) 1090 9519
(+52 81) 1090 9025
(+52 81) 1090 9013

Fax (+52 81) 1090 9014

info.mx@conductix.com

BRAZIL
Rua Luiz Pionti, 110
Vila Progresso
Itu, São Paulo, Brasil
CEP: 13313-534

Customer Support
Phone (+55 11) 4813 7330

Fax (+55 11) 4813 7357

info.br@conductix.com

Contact us for our Global Sales Offices