INMOTION Controls, Inc.

K200-HV Series
K400-HV Series

Basic Installation Instructions

February 2020

Contents

Guarantee, service, repairs and maintenance
Inmotion Controls, Inc. products are covered by a guarantee/warranty against material, construction and manufacturing defects. During the guarantee/warranty period, Inmotion may replace the product or faulty parts. Work under guarantee/warranty must be carried out by Inmotion Controls, Inc.

The following are NOT covered by the guarantee/ warranty:
▪Faults resulting from normal wear and tear
▪Parts of a consumable nature such as pushbuttons, relays, fuses etc.
▪Products that have been subject to unauthorized modifications
▪Faults resulting from incorrect installation and use
▪Condensation and water damage

Maintenance:
▪Repairs and maintenance must be carried out by qualified personnel.
▪Use spare parts from Inmotion Controls, Inc. only.
▪Contact your representative if you require service or other assistance.
▪Keep the product in a dry, clean place.
▪Keep contacts and antennas clean.
▪Wipe off dust using a slightly damp, clean cloth.

Chapter 1: Customer Information

Thank you for purchasing an Inmotion Controls, Inc. radio remote control.
READ ALL INSTRUCTIONS CAREFULLY BEFORE MOUNTING, INSTALLING AND CONFIGURATING THE PRODUCT.
This manual includes general information concerning the operation of the radio remote control transmitter.

General Information on Safety
•Persons under the influence of drugs and/or alcohol and/or other medicine that impairs their reaction may not assemble, disassemble, install, put into operation, repair or operate the product.
•All conversions and modifications of an installation/system must conform to the relevant safety requirements. Work on the electrical equipment must be performed only by qualified, authorized personnel and in accordance with the relevant safety requirements.
•In the event of malfunctioning, visible defects or irregularities, the product must be stopped, switched off and the relevant master switches must be switched off.

Symbols and Definitions for Warnings	
	Warning against hazardous situation
	Warning against electrical voltage

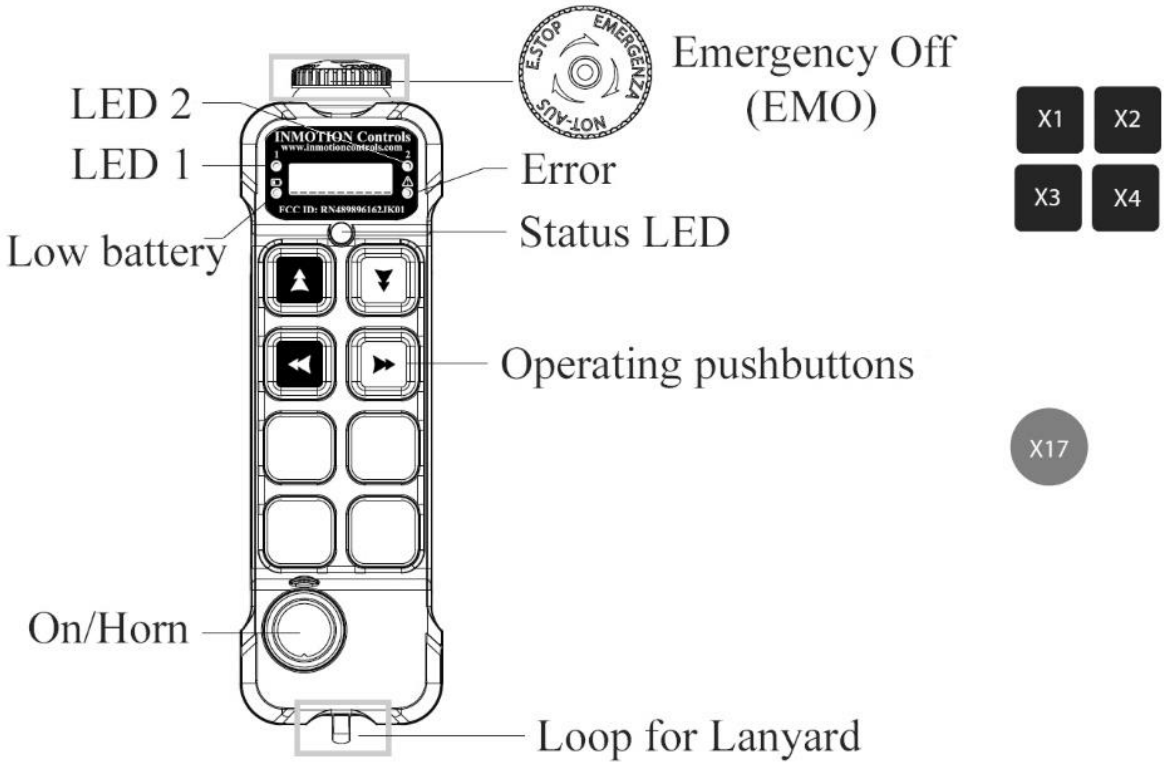
FCC Part 15 (FCC ID: RN489896162JK01)
* This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.
* You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

European Union Regulatory Notice
This device bearing the CE marking is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This device complies with the following harmonized European standards.
Safety: EN 60950-1:2006+A11:2009+A1:2010+A12:2011
EMC: ETSI EN30 1489-1 V1.9.2 2001-09; ETSI EN 301 489-3 V1.4.1 2002-08
Radio: ETSI EN 300 220-1 v2.4.1: 2012; ETSI EN 300 220-2 v2.4.1: 2012
The following CE marking is valid for EU harmonized telecom products.
CE 0560

IC Statement (IC: 10821A-8989616201)
This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Chapter 2: General Description

The K series transmitter comes in different versions, featuring 2, 4, 6, or 8 pushbuttons. The transmitter also features 2-step pushbuttons. Both steps of each pushbutton can operate different functions like controlling the speed of a movement, step 1: slow, step 2: fast.



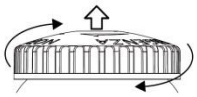
Start/ Horn switch

The K series transmitter has a Start/Horn pushbutton on the left side. The Start/Horn switch has 2 functions:

1. Press to Start.
2. Press for horn while operating.

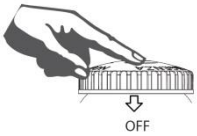
Start the transmitter in operating mode

1. Turn to release the Emergency Off button.
2. Press the ”START” button.



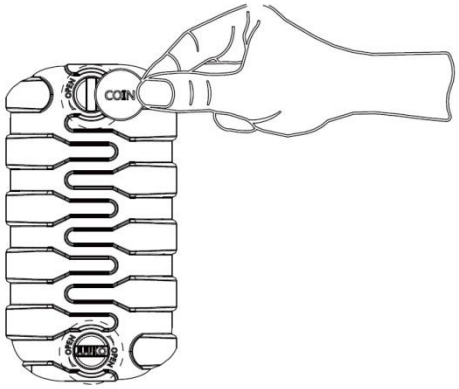
Turning the transmitter off

Turn the transmitter off by completely pressing the Emergency Off button. The transmitter turns off. All relays deactivate.



Chapter 2: General Description

Changing the batteries:
BATTERY TYPE: 2 x 1.5V(LR6 AA)

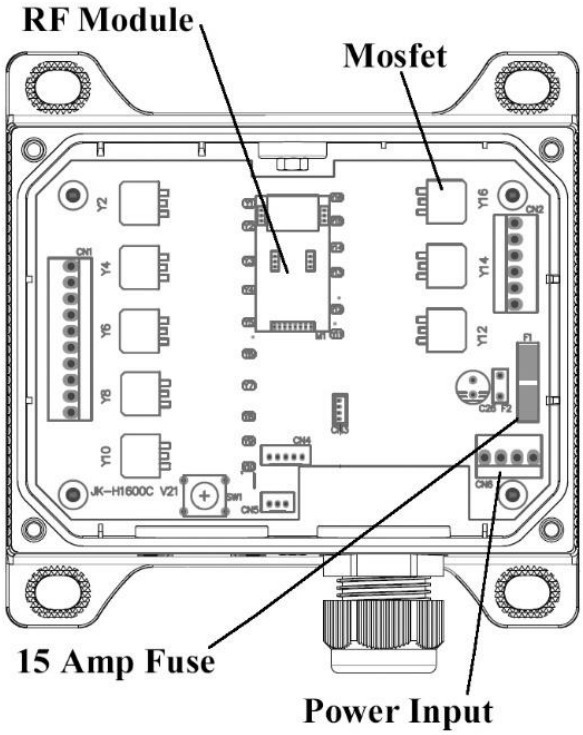


Technical Data
Transmitter

Frequency Range	433.0525~434.7775MHz
Modulation method	4FSK
Typical operating range	300 feet
Control system	PLL (Phase Lock Loop)
Antenna impedance	50 ohms
Typical response time for commands	50ms~100ms
Power Supply	LR6 (AA) 1.5Volt x 2
Antenna	Internal
Average power consumption	16ma@3VDC (default setting)
Radio-frequency power	<10dBm (default setting)
Operating and storage temperature	-4°F ~ 131°F / -40°F ~ 149°F
Protection rating	IP65
Dimensions	7.63” x 2.25” x 2.00” (2-8 buttons)
Weight (including battery)	Approx. 11.46 ounces
Housing material	PA6 (30% Glass Filled)

Chapter 3: Receiver

WARNING! The receiver must NOT be opened by any other than a qualified installer. Make sure to turn the electricity off before opening the receiver. The receiver is intended for wireless control of cranes, hoists, monorails and other types of equipment. The receivers operate in one step control for typical Hoist, Trolley and Bridge control.



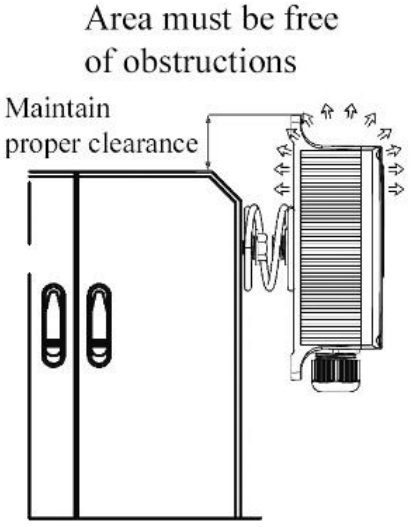
Technical Data

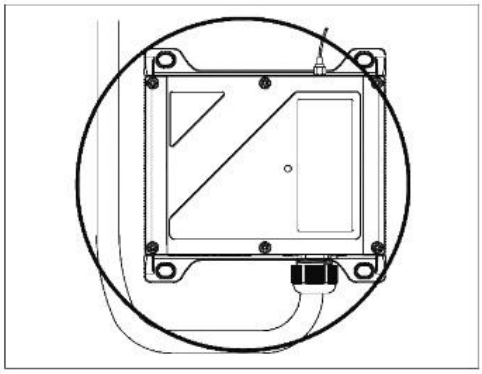
Frequency	433.0525~434.7775MHz
Modulation Method	4FSK
Sensitivity	-112dBm@baud 1.2K bps
Control System	PLL
Antenna impedance	50 ohms
Typical response time for commands	50mS ~ 100mS
Power Supply	12 ~ 24V DC
Antenna	Internal
Standby power	<16mA @ 24VDC
Operating and storage temperature	-4°F~131°F/-40°F~149°F
Protection degree	IP 65
Dimensions	5.59” x 5.55” x 2.30”
Weigh	1.76 Lbs.
Housing material	PA6 (30% Glass Filled)

Chapter 3: Receiver

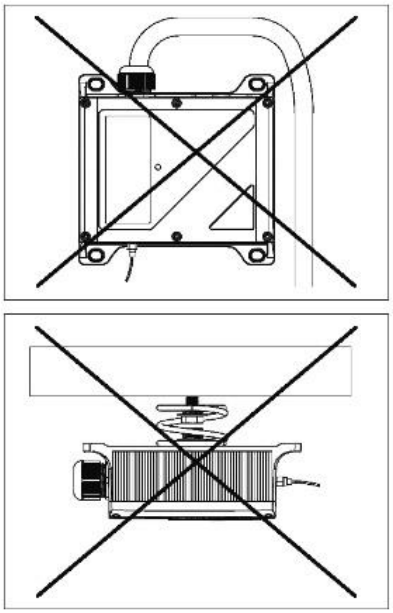
WARNING! DO NOT FLUSH MOUNT THE RECEIVING ASSEMBLY. PLEASE MAINTAIN PROPER CLEARANCE

AS SHOWN. PLEASE USE THE SUPPLIED MOUNT!



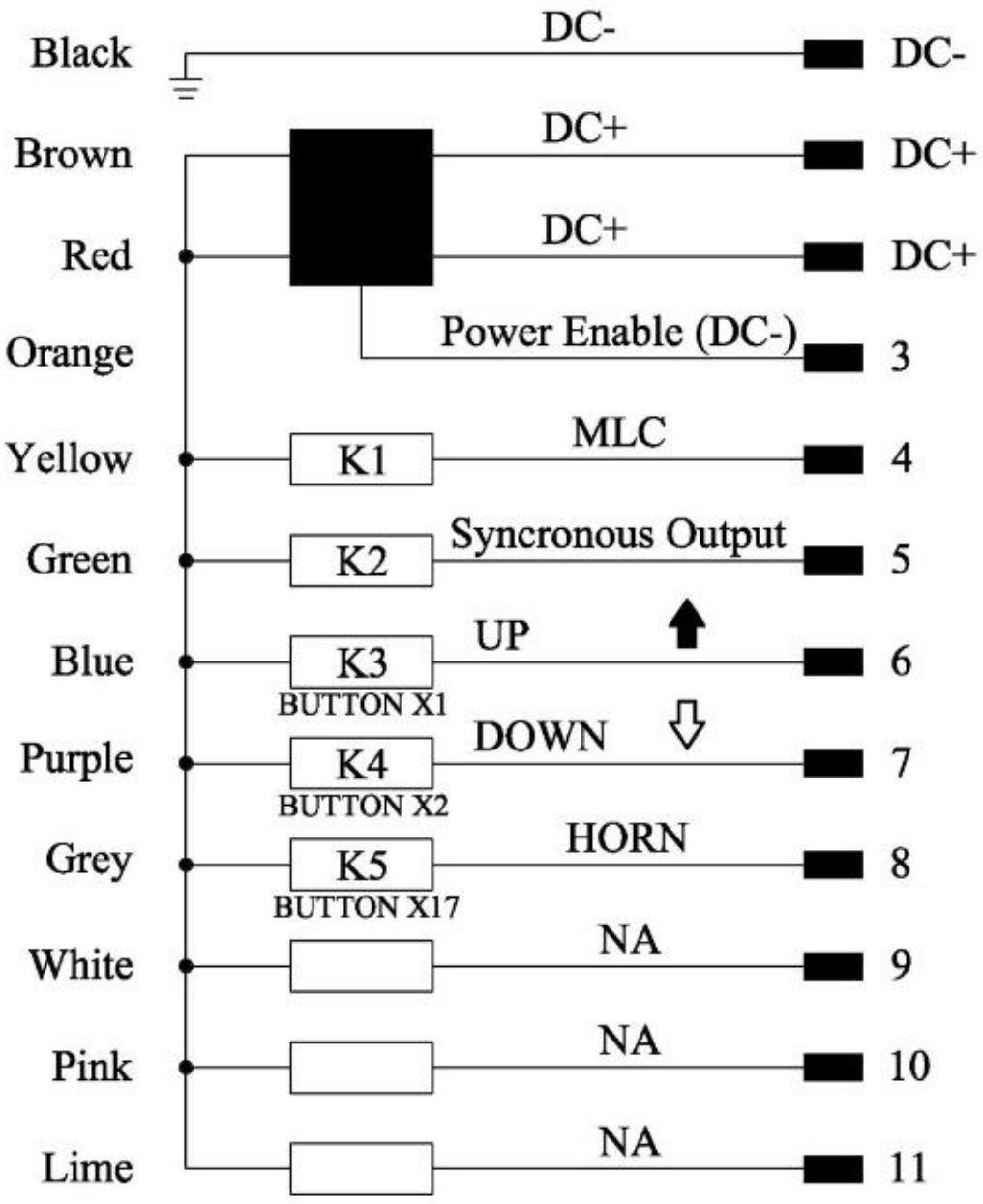


Do not flush mount.
Use the supplied mounting spring.



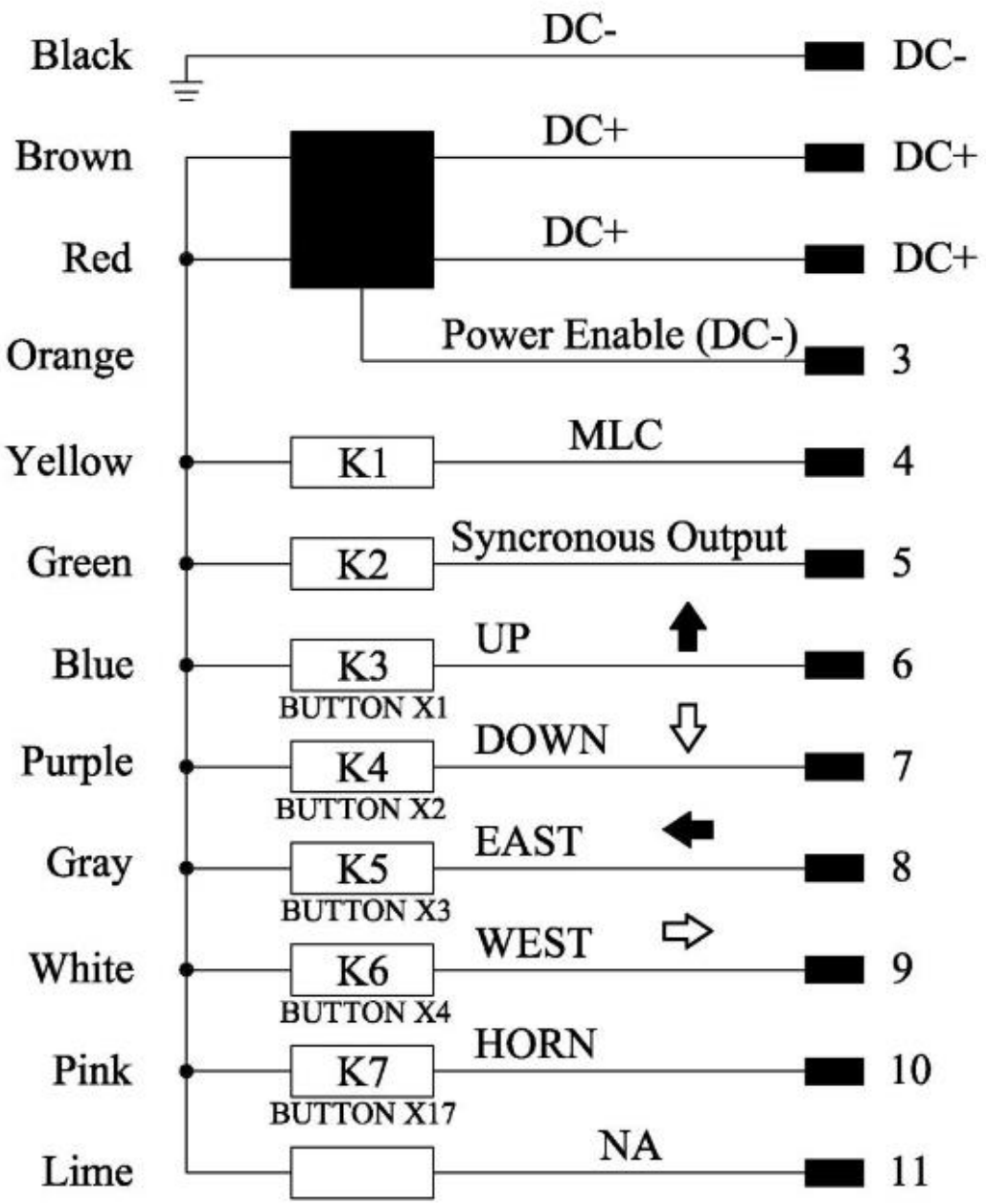
Chapter 3: Receiver

K200-HV Wiring Diagram



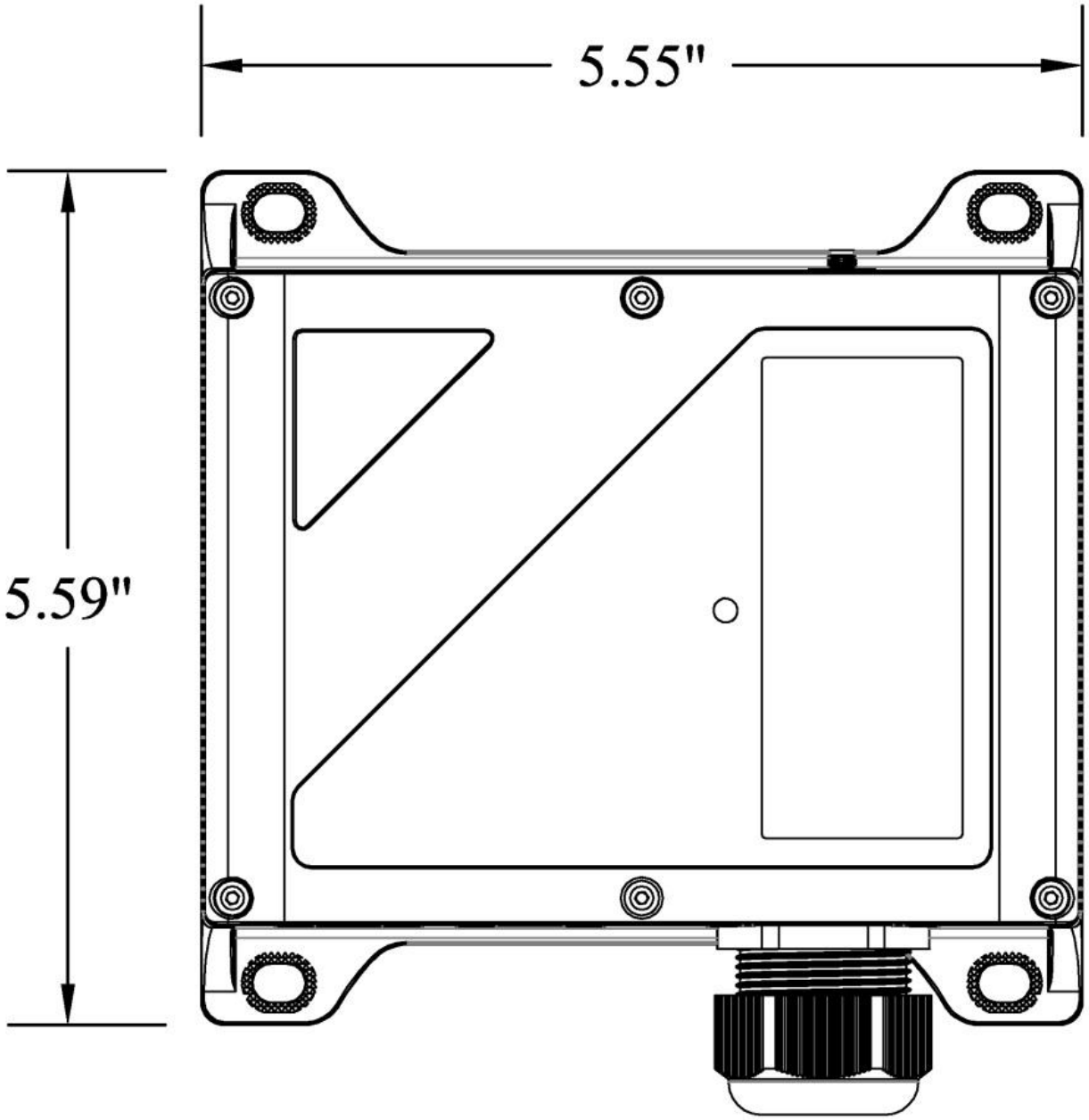
Chapter 3: Receiver

K400-HV Wiring Diagram



Chapter 3: Receiver

Receiver Dimensions (Not to scale)



Chapter 4: Troubleshooting

Transmitter

LED Signal (● Short, ▬ Long)			Failure Analysis	Solution
	Red LED	Green LED	-Corrosion on the Battery Terminals	-Clean the Battery Terminals
Status				
🔋	●●●●●●		-Low Battery	-Replace the batteries.
⚠				
	Red LED	Green LED	-Transmitter is not Communicating with the receiver.	-Check the power supply of the receiver.
Status		●●●●●●		-Check the fuse in the receiver.
🔋				
⚠				
	Red LED	Green LED	-Pushbutton damaged	-Contact dealer.
Status		●●●●●●		
🔋				
⚠	▬●●			

Receiver

Should an error occur, the LED of the receiver will indicate the cause.

LED Signal (● Short, ▬ Long)			Failure Analysis	Solution
Status	Red LED	Green LED	-RF error	-Check the antenna and make sure it is not loose.
				-Contact dealer.
	▬●●●			
Status	Red LED	Green LED	-Receiver is not powered.	-Check the fuse.
				-Check the power supply.

Status	Red LED	Green LED	-invalid data (from a different transmitter) received.
		▬	

Chapter 5: Accessories

Pushbutton Protector

Waterproof Case

Lanyard

INMOTION Controls, Inc.
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