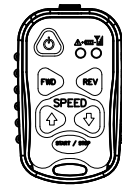


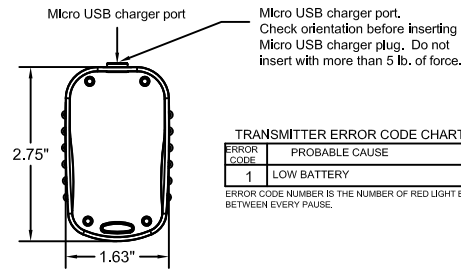
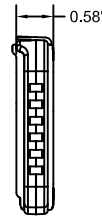
Only use approved chargers
WALL CHARGER/ 110-240VAC
CAR CHARGER/ 12-24VDC

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.

Changes or modifications not expressly approved by Kar-Tech will void the user's authority to operate the equipment.

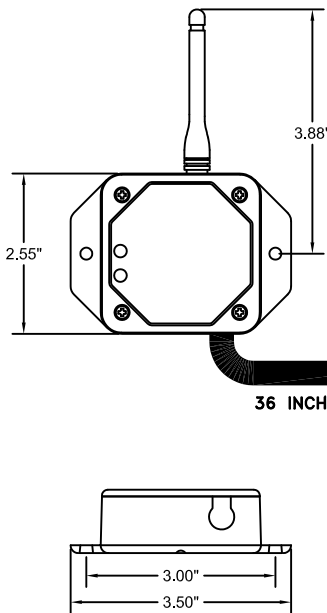
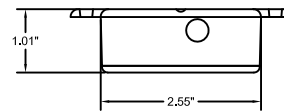


TRANSMITTER, MICRO, 6 BUTTON, VFD



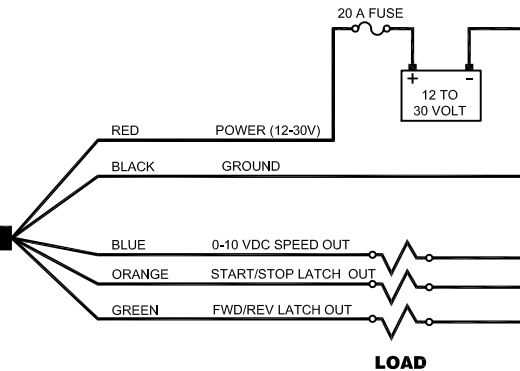
ERROR CODE	PROBABLE CAUSE
1	LOW BATTERY

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE.



ERROR CODE	PROBABLE CAUSE
1	NO LINK

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE.



RECEIVER, MINI, 2 ON/OFF OUT, 0-10V OUT, VFD

OUTPUTS OUT OF RANGE LOGIC SETTINGS:

- Every output stays ON for the out of range by default
- To select ALL outputs stay on for out of range:
 - Turn ON transmitter and Turn OFF receiver
 - Press and Hold SPEED INC, SPEED DEC and START/STOP
 - Turn ON receiver
 - Setting is done in first 2 seconds of receiver power up and communication with transmitter
- To select ALL outputs turn off for out of range:
 - Turn ON transmitter and Turn OFF receiver
 - Press and Hold FWD, REV and START/STOP
 - Turn ON receiver
 - Setting is done in first 2 seconds of receiver power up and communication with transmitter

OPERATION

- To turn on the transmitter, press and hold the POWER button for at least 2 seconds and release
- To turn the transmitter off, press and hold the POWER button until the LEDs turn off
- The transmitter is designed with a power saving feature which turns the transmitter off after 15 minutes if no buttons are pressed.
- There are red and green LEDs both on the keypad of the transmitter and inside the receiver case. The green LED will blink rapidly when the transmitter and receiver are communicating. It will blink slowly if there is no communication (i.e. - no power to the receiver)
- The red LED on the receiver will blink if there is an error. Refer to the ERROR CODE CHART table and count the number of blinks to determine the fault.
- The transmitter's red LED blinks 1 time per second if the battery is low and needs charging
- All outputs are latching.
- REV button latches FWD/REV output on, FWD button turns FWD/REV output off.
- The SPEED output is at 0VDC when the receiver is powered.
 - System voltage should be minimum of 12V to have the 0-10 VDC complete range.
 - Each press of the INCREASE button increases the SPEED output voltage by 1VDC.
 - Hold the INCREASE button for 3 seconds and the SPEED output ramps up to 10VDC over 1 second.
 - Each press of the DECREASE button reduces the SPEED output voltage by 1VDC.
 - Hold the DECREASE button for 3 seconds and the SPEED output will ramp down to 0VDC over 1 second.
- Latching outputs stay on if transmitter goes out of range. Please see under receiver pictorial for the settings.

SYNCHRONIZING TRANSMITTER AND RECEIVER

Each transmitter and receiver pair is synchronized together at the factory. If a new transmitter is needed, synchronizing is required. Use the following procedure:

- Make sure both the transmitter and receiver are off.
- Press and hold the POWER button on the transmitter for more than 10 seconds. The red and green LED will start to blink.
- Apply power to the receiver and wait for a few seconds until only the green LED begins to blink on the transmitter
- Teach complete

SLEEP TIME

All transmitters have the ability to change the sleep time from the default to user's preference. The transmitter is factory set to turn off (sleep) after 15 minutes irrespective of receiver status. To change the time the transmitter waits before going to sleep, use the following procedure:

- With the transmitter off, press and hold SPEED INCREASE, SPEED DECREASE, START/STOP, and POWER buttons.
- Release the buttons. At this point, both lights will blink once per second
- On the transmitter, press one of the following buttons to adjust the sleep time:
 - REV = 15 minutes
 - FWD = 30 minutes
 - SPEED DECREASE = 60 minutes
 - SPEED INCREASE = 120 minutes
 - START/STOP = Disabled
- Sleep time programming complete

CLONING TRANSMITTERS

WARNING! - This feature can pose a safety hazard for operators if both transmitters are used simultaneously- use with CAUTION!

Occasionally, it is desirable to have more than one transmitter work with a single receiver. This is accomplished by a process called cloning. Cloning allows an additional transmitter (B) to have the same ID code as the original transmitter (A). If this feature is desired, use the following procedure:

- Make sure both transmitters and the receiver are off
- On Transmitter A, press and hold the POWER button for 10 seconds until LEDs blink, then release. Green and red LEDs will blink together at this point
- On Transmitter B, press and hold FWD, REV, and POWER buttons simultaneously until both LEDs start to blink
- Wait for few seconds until the green LED starts to blink together for Transmitter A and Transmitter B turns off.
- Turn both the transmitters off
- Synchronize one of the transmitters to the receiver using SYNCHRONIZING TRANSMITTER AND RECEIVER instructions above

If the cloning feature has been invoked and is no longer desired, the ID code of one of the transmitters needs to be changed. This will unclone the transmitters.

If this is desired, use the following procedure:

- Make sure the transmitter is off.
- Press and hold buttons FWD, SPEED DECREASE, and START/STOP with POWER button.
- Release all the buttons when GREEN and RED LEDs started toggling.
- Press any button and release, GREEN LED should be blinking rapidly.
- ID change Sequence complete.

SPECIFICATIONS:

- RF: 902-928MHz FHSS 10mW
- Temperature: Receiver: -40 to +85°C Transmitter: -20 to 60°C
- Outputs : 5A, Sourcing, 20A system max
- Transmitter Power : 3.7 V LiPo battery
- Battery life: 30-40 hours continuous
- Receiver current: 26 to 34 mA @ 12 VDC without load

SCALE		SHEET		DATE		CREATED		APPROVED		DRAWING NO.	
FULL		BF		01-04-21						3A-482-1-C-3A	

TOLERANCE	
XX	± .1
XXX	± .05
XXXX	± .015
FRACTIONS	± 1/8
ANGULAR	± 0.5 deg