



Technical drawing of a pin. The pin has a diameter of 1/2 inch and a length of 1/2 inch. A hole with a diameter of 0.58 inch is drilled through the center of the pin.

ERROR CODE	PROBABLE CAUSE
1	LOW BATTERY

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY RAISE

- 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.
  - When POWER is pressed on the transmitter the SPEED output goes to 0V and is inoperable. To operate again, power off the receiver then turn the receiver back on.
- Latching outputs stay on if transmitter goes out of range. Please see under receiver pictorial for the settings.

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

- ### 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:

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

**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:

1. Make sure both transmitters and the receiver are off
2. 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
3. On Transmitter B, press and hold FWD, REV, and POWER buttons simultaneously until both LEDs start to blink
4. Wait for few seconds until the green LED starts to blink together for Transmitter A and Transmitter B turns off.
5. Turn both the transmitters off
6. 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:

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

SPECIFICATIONS:

- RF: 902-928MHz FHSS 10mW
- Temperature: Receiver: -40 to +85°C Transmitter: -20 to 60°C
- Outputs : 5A, Sourcing, 10A 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

<b>KAR-TECH</b> <b>Delafield, WI 53018</b>					REVISION TRACKING XX    3 XXI   2 XXII   1 XXIII   0	
<b>TITLE</b> <b>MICRO &amp; VC 95 PROP 0-10V SYS</b>						
<b>COMPANY/JOB</b> <b>KAR-TECH</b>					<b>APPROVAL</b> 3A-482-1-C-3	
<b>CHG DRAWING DO NOT REVISE MANUALLY</b>						
SCALE	UNITS	DATE	DESIGNED	APPROVED	DRAWING NO.	
1/16" = 1"	RF	01-04-91			3A-482-1-C-3	