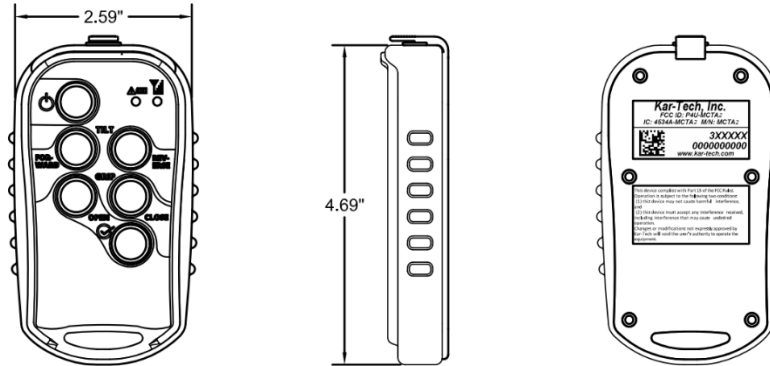


TRANSMITTER ERROR CODE CHART

ERROR CODE	PROBABLE CAUSE
1	LOW BATTERY

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

- Only use approved chargers**
- MICRO WALL CHARGER 110-240vac (B20172A)
 - MICRO CAR CHARGER 12-24VDC (B20173A)

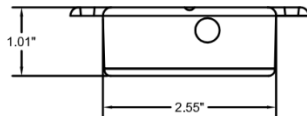


PART NUMBER 3A4532A - TRANSMITTER, MACRO, 6 BUTTON

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.
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.

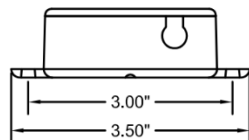
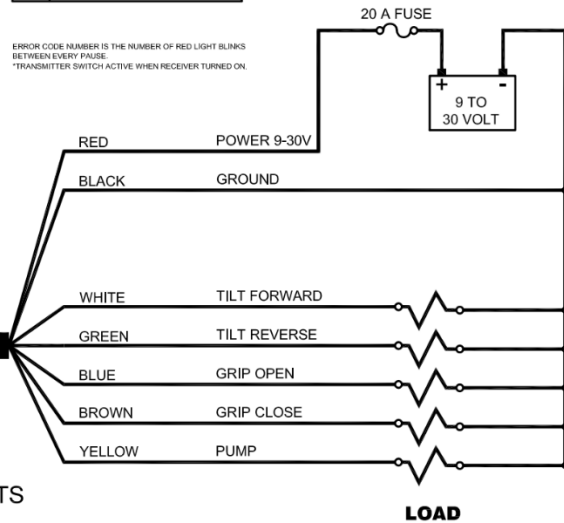
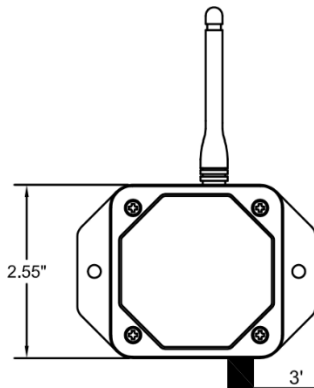


RECEIVER ERROR CODE CHART

ERROR CODE	PROBABLE CAUSE
1	NO LINK
2	TILT FORWARD OUTPUT ERROR
3	TILT REVERSE OUTPUT ERROR
4	GRIP OPEN OUTPUT ERROR
5	GRIP CLOSE OUTPUT ERROR
6	PUMP OUTPUT ERROR
7	TRANSMITTER NOT IN NEUTRAL MODE*

NOTE: The output control circuit is designed with open load diagnostics. Disable unused outputs using programming feature. For high input impedance applications like a PLC, add a 1K resistor to ground for each output to eliminate the error code and leakage voltage

ERROR CODE NUMBER IS THE NUMBER OF RED LIGHT BLINKS BETWEEN EVERY PAUSE.
 *TRANSMITTER SWITCH ACTIVE WHEN RECEIVER TURNED ON.



P/N: 3A4533A
 RECEIVER, MINI, 5 OUTPUTS

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 LED's 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** LED's 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 a shorted or open output. Refer to the ERROR CODE CHART tables and count the number of blinks to determine the output with the fault.
- The transmitter's **red** LED blinks 1 time per second if the batteries are low and need to be replaced.
- PUMP output will come on when any of the other outputs are activated.
- ENABLE button must be pressed and held for the GRIP OPEN function to work.

SYNCRONIZING 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

1. Make sure both the transmitter and receiver are off.
2. Press and hold the POWER button on the transmitter for more than 10 seconds. The **red** and **green** LED will start to blink.
3. Apply power to the receiver.
4. Wait a few seconds until only the **green** LED begins to blink on the transmitter.
5. 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. To change the time the transmitter waits before going to sleep, use the following procedure:

1. With the transmitter off, press and hold buttons GRIP OPEN, GRIP CLOSE, ENABLE with POWER.
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. TILT FORWARD = 15 minutes
 - b. TILT REVERSE = 30 minutes
 - c. GRIP OPEN = 60 minutes
 - d. GRIP CLOSE = 120 minutes
 - e. ENABLE = disabled
4. 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.

1. Make sure both transmitters and the receiver are off.
2. On transmitter A, press and hold the POWER button for 10 seconds until LED's blink, then release. **Green** and **red** LED's will blink together at this point.

3. On transmitter B, press and hold buttons ENABLE, TILT REVERSE and POWER simultaneously until both LED's start to blink.
4. Wait for a few seconds until the **green** LED starts to blink on both transmitter A and transmitter B.
5. Turn both transmitters off.
6. Synchronize one of the transmitters to the receiver using SYNCHRONIZING TRANSMITTER AND RECEIVER instructions above.

If 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 TILT FORWARD, TILT REVERSE and GRIP OPEN buttons with POWER for 5 seconds.
3. Release all the buttons when **green** and **red** LED's start toggling.
4. Press any button and release. **Green** LED should start blinking rapidly.
5. ID change sequence complete.

SPECIFICATIONS

- RF: 902-928 MHz FHSS 10mW
- Temperature:
 - Receiver: -40 to 85° C
 - Transmitter: -20 to 60° C
- Outputs: 5A sourcing, 20A system maximum.
- Transmitter power: Rechargeable 3.7V Lithium Polymer battery. Battery life: 30 to 40 hours continuous.

NOTE: ALL OUTPUTS ARE MOMENTARY.