



## Specifications

Voltage	+12 VDC nominal (+10.2 min to +15max)
Current	125mA average
Alarm	85dB
Frequency	318 MHz 433 MHz (Europe)
Dimensions	6.015" L X 4.010" W X 1.5" D
Housing Material	Flame Retardant ABS Plastic, UL Flame Rating 94-5VA
Signal Strength	Line of Sight 200 feet
Warranty	One (1) year
Installation	Approximately an hour

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PATENTED

## Owner's Manual and Installation Guide



**-Important information -  
Read thoroughly before installation  
or operation of CAST**

Tournament fishing continues to be one of America’s fastest growing sports. Our award winning CAST (Cast Advantage for Sport & Tournament) is designed to ensure your experience is successful, fulfilling and safe. ***CAST is a wireless "kill switch" that helps prevent many of the injuries associated with falls overboard. It frees the operator from the traditional tether of a lanyard.-style kill switch and is designed to be worn by all passengers .***

**WARRANTY**

Complete your warranty card upon purchase. Send the completed warranty card to Propeller Guard Technologies within 30 days of purchase. CAST manufacturer’s warranty, implied or otherwise, is void without timely receipt of these documents.

**WARNING**

The boat owner/operator is responsible for fully instructing each occupant about the safe operation of the vessel and its equipment per the manufacturer’s owner’s manual and documentation. The boat owner/operator is also responsible for ensuring occupants know safe boating practices. Propeller Guard Technologies urges operators and occupants attend boating safety classes before operating the boat. To find classes near you, call your nearest boating safety office (county, state and/or US Coast Guard Auxiliary). **The owner/operator is responsible for fully understanding CAST and instructing every occupant about its location and proper use prior to every launch.**

**Note: Only sensors of the same color originally packaged with your unit will activate the system.**

**Color Codes**

<u>Motor</u>	<u>Wire Colors</u>	<u>CAST Wire Colors</u>
<b><u>Evinrude/Johnson/Mercury</u></b>		
+12VDC with ignition on	Purple	Red
Outboard side of kill switch	Black with Yellow Line	White
Ground side of kill switch	Black	Black
<b><u>Honda/Suzuki</u></b>		
+12VDC with ignition on	Black with Yellow Line	Red
Outboard side of kill switch	Black with Red Line	White
Ground side of kill switch	Black	Black
<b><u>Yamaha</u></b>		
+12VDC with ignition on	Yellow	Red
Outboard side of kill switch	White	White
Ground side of kill switch	Black	Black
<b><u>Tohatsu</u></b>		
+12VDC with ignition on	Red	Red
Outboard side of kill switch	Brown	White
Ground side of kill switch	Black	Black

## Installation Instructions — Outboards continued

### Warning!

**Always refer to your boat's owner's manual to ensure the color codes and required wires are correct.**

5. After securing the control module, access the following wires: (you may use the wire color code on page 12 in this manual). These wires may be located under the helm or near the ignition switch:
  - The wire supplying +12VDC when the ignition switch is turned on.
  - The wire used for the Stator/Magneto (kill switch).
  - The wire or grounding block used for circuit ground.
6. Attach the red wire from the control module to the wire that has +12VDC when the ignition is turned on.
7. Attach the white wire from the control module to the wire that is used to turn off the motor (kill switch) at either the ignition switch or the ignition harness. This will supply circuit ground to the motor when the sensors are activated, turning off the motor. When installing for Dual Outboards, repeat step 7 using the Green Wire from the Control Module for the second Outboard Motor (kill Switch).
8. Attach the black wire from the control module to the boat's grounding block or to the circuit ground, as appropriate to your boat.
9. Reconnect the battery and test the system per the owner's manual section. If the system does not operate properly, recheck all your connections, including the ground connection. Refer to the Troubleshooting portion of this owner's manual.
10. Confirm proper operation of CAST.
11. Keep all CAST product documentation in a dry, convenient place.
12. Follow this owner's manual instructions and content prior to every launch.

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## Mandatory System Check

**Prior to every launch, the operator is required to conduct a CAST system check as follows:**

### 1. Sensor Test -

- a. Ensure sensor color is the same color that was originally packaged with your CAST.
- b. With the boat in the water, start the motor or simply turn your key until power is supplied to the ignition.
- c. Place the control module in the Sensor Test Mode. The light (L.E.D.) will illuminate, indicating the test mode has been activated.
- d. Submerge the sensor in water. The control module will sound an alarm and the same L.E.D. will blink, indicating the sensor battery is good.
- e. Complete steps b. and c. for **all** sensors on board, even if you don't intend on using all of them.
- f. Continue to Falls Overboard Test.

**Do not use a low battery sensor. Replace it immediately from your dealer, retailer or by contacting Propeller Guard Technologies (530-710-2792).**

## Installation Instructions — Outboards

### **WARNING!**

**Professional installation is recommended. Please contact your local dealer, certified marine mechanic, or Propeller Guard Technologies' technical support department to ensure proper installation.**

### **Installation:**

1. Confirm that the serial number on the back of the control module begins with 99. The number 99 designates an outboard model.
2. Ensure that the battery, motor, ignition and wiring system is in good working order. **The battery must maintain a minimum of 10 volts DC while cranking for the control module to function properly.** Once confirmed, disconnect the battery.
3. Locate a convenient, secure area at the helm to mount the control module. CAST is packaged with sufficient wire length to complete interface with the ignition system.
4. Place the control module at the intended mounting location. Use the supplied mounting screws and a Phillips head screwdriver for mounting the control module. **Avoid causing damage to any other wires, hoses or the boat's hull.**



## Troubleshooting Guide - Outboards

The ignition key needs to be in the on position and a minimum of 10VDC is required to activate the Rescue Mode.

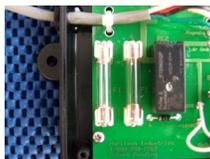
If CAST is ever damaged, its "fail safe" circuit will automatically activate, preventing the engine from starting. However, an emergency by-pass is provided by activating the Rescue Mode. Once in Rescue Mode, the owner/operator can start the vessel. To isolate the problem, use the guide below:

**Symptom:** Engine will **not turn off** when the sensor is submerged.

- Is the sensor the same color as those in the original package?
- Is the control module in the Rescue On Mode?
- Is there an open ground?
- Are the wires properly connected?
- Does the sensor require replacement, (low battery)?

**Symptom:** Engine will **not start** although the sensor is dry.

- Are there opens in the wiring connections or breaks in the wiring harnesses?
- Is the wiring harness properly connected to the Control Module?
- Are any of the fuses (2) in the control module bad?
- Does the boat's battery have sufficient power (minimum of 10VDC)?



Location of fuses within the control module

If these troubleshooting measures do not resolve the problem, activate the Rescue Mode. Once activated, the owner/operator can start the vessel.

## Mandatory System Check

### 2. Falls Overboard Test -

- a. Complete Sensor Test on **all** sensors as instructed in **1. Sensor Test**.
- b. With the boat in the water, start your motor.
- c. Submerge a sensor into the water.
- d. Confirm the control module sounds an alarm, the L.E.D. illuminates and the motor shuts off.
- e. After the motor has shut off, immediately attempt to restart the motor. It should **not** start.
- f. Place the control module in Rescue Mode On, which permits restarting the motor. In Rescue Mode On, you will hear a consistent tone alarm and the LED will illuminate.
- g. Rescue Mode will continue to alarm. This indicates all CAST safety features are deactivated.
- h. Press Rescue Mode Off after confirming CAST is operating properly.
- i. Instruct all passengers about CAST's location and use.

**If CAST should not function as designed, take appropriate measures (refer to troubleshooting section of this manual). If troubleshooting does not resolve the issue, immediately contact Propeller Guard Technologies (530-710-2792).**

## Mandatory Instructions to Occupants

**Prior to every launch, the owner/operator is required to instruct every occupant about the following:**

### Overview:

1. The importance of safe boating.
2. The dangers associated with falls overboard.
3. The location and proper operation of CAST.
4. To attach a sensor securely to his person (i.e., to his personal flotation device (PFD), belt loop, swimming suit, etc.) and continuously wear the sensor while on board.
5. Wear only sensors of the same color as originally packaged with the unit.
6. Always wear a life jacket.

### Sensor Wear & Care:

#### **Use in fresh water:**

Sensors can signal from many feet under water, which permits sensor wear anywhere on a person, except under clothing or in areas that could prevent or delay saturation upon entry into the water.

#### **Use in salt or brackish water:**

**Warning:** The higher mineral content of these waters filters sensor signal strength. In this type of water, the sensor must break the surface of the water to activate the control module and shut down the motor.

Attach the sensor to a wrist, upper shoulder or above a PFD's buoyancy line.

Clean the sensor with fresh water after immersion to ensure there is no mineral build on the sensor.

## Rescue Mode

**Warning: NEVER operate your boat with CAST in Rescue Mode, unless it is damaged or while conducting an actual rescue.**

You must supply +12V DC to place CAST in Rescue Mode. Rescue Mode will not activate without sufficient power.

Locate the control module. Press the pad marked Rescue Mode On. The LED will illuminate and alarm will sound.

In Rescue Mode the safety features of CAST are *deactivated and no longer afford protection from injuries associated with falls overboard*. If you elect to operate the boat with Rescue Mode on, we urge you to wear the OEM supplied tethered lanyard until CAST is reactivated.

The owner/operator of the vessel is required to inform all occupants when CAST is deactivated and warn them about hazards associated with falls overboard.

If CAST does not operate as described, immediately contact your local dealer or Propeller Guard Technologies for repair or replacement parts.