



INSTALLATION GUIDE



General installation guide

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Contents:

Master FOB – Remote control

Start Panel

CECU (CoastKey Engine Control Unit)

CoastKey harness

User manual

Heat shrink butt connectors

Screws and cable ties



Installation:

Checklist before installation

- Check that the battery terminals, main power switch and common connection points are free from corrosion and that there are no loose connections. Check that the engine(s) tilt, and any other devices to which CoastKey is to be connected operates normally before installation. The main power switch must be turned off during the installation.
- Read the installation guide and user manual completely before installing the CoastKey system.
- The CoastKey system must not be installed in an explosive environment.
- The CoastKey system and design may not be changed or tampered with.
- The CoastKey should only be used for its original purpose and only installed as per the directions in this Installation Guide.
- Familiarize yourself with all safety rules and regulations in your region to avoid a breach of these rules and help prevent accidents.
- The installation of the CECU (CoastKey Engine Control Unit) is permitted only in areas that are protected against water intrusion. Ensure the CECU (CoastKey Engine Control Unit) is securely and firmly attached to the inside of the console with cable ties or screws.
- Strong electromagnetic fields may affect the system. The Start Panel should therefore not be placed in the immediate vicinity of other live cables or any radio devices such as VHF, radar or similar equipment.
- For security reasons, the power supply to the CECU (CoastKey Engine Control Unit) is to be connected through a main power switch.
- Power supply 12-24V. Maximum system load per. output is 5A.
(Check current draw when connecting to external systems like anchor winch etc.)
- Remember to complete the Test and Safety Form in this guide.



If your boat is equipped with multiple engines, repeat the installation procedure for each engine. If the tilt function is to be connected to multiple engines, the signal (Yellow and White wires) from the CoastKey harness on the first CECU (CoastKey Engine Control Unit) must be connected to the wires for common tilt of the engines.



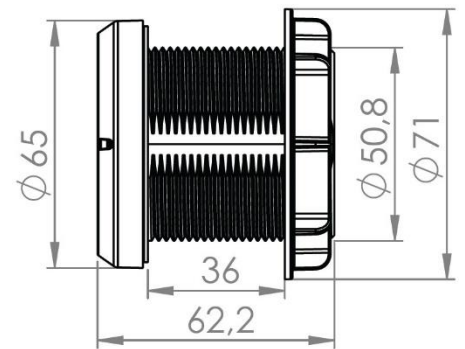
Location of the Start Panel

Drilling of holes:

The diameter of the Start Panel is 50.8 mm. Therefore, use a 52mm (2-1/16") hole saw of good quality designed for the material to be drilled.



Make sure not to damage existing cables or installations when drilling the hole!



Installation procedure

All connections must be made in parallel.

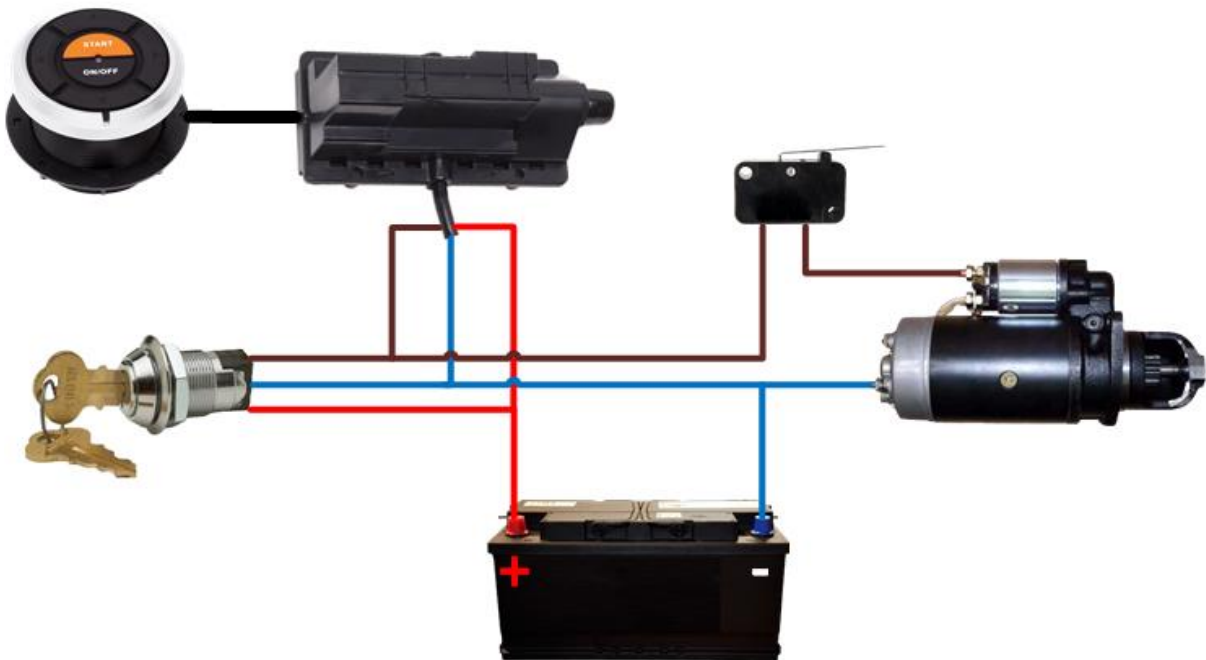
All electrical connections must be made with **heat shrink butt connectors**. It is very important that the coupling is performed correctly for reliability. Make sure that the butt connectors **are properly crimped** and the glue seals the connection.

Checklist after Installation

Please refer to user manual for proper procedure for carrying out the steps below.	OK	Fail
Turn on the ignition and start the engine(s) with the Master FOB unit. Check that the start sequence works correctly and as specified.		
Check the radio range by moving the Master FOB unit more than 20 meters away from the boat to make sure that the wireless lanyard cord is functioning properly and stops the engine(s). (The distance needed to stop the engine(s) on land can vary based on the radio reflection where the boat is located.)		
The ignition is activated automatically 12 seconds after a man overboard situation has occurred. Check that the engine(s) can be started directly from the Start Panel after a simulated man overboard situation.		
Enter your PIN code by pressing the buttons on the Start Panel and check that the engine(s) starts.		
Check that the AUX functions work from the Start Panel. (Only single engine installation)		
(Optional) If AUX function(s) are connected please check that the these are working from the Master FOB unit.		

Wiring diagrams

Starter circuit



1. Make sure the main power switch is switched off or the battery is disconnected before starting the installation.
2. Locate the 12-24V supply wire connected to the manual ignition switch. Cut and strip the wire close to the ignition switch and connect both ends of the wire with the RED wire coming out of the CoastKey harness.
3. Locate the GROUND wire on the manual ignition switch. Cut and strip the wire close to the ignition switch and connect both ends of the wire with the BLUE wire coming out of the CoastKey harness.
4. Locate the START wire on the manual ignition switch. Cut and strip the wire close to the ignition switch and connect both ends of the wire with the BROWN wire coming out of the CoastKey harness.



The start signal must NEVER bypass the neutral switch that prevents start of the engines when in gear. (This does not apply to engine types that have a neutral switch located in the engine)



A list of wiring color codes for the most common brands of marine engines is provided in this manual, see "Electrical circuit color codes". If your engine is not listed, use a multimeter to determine which wires to connect to.

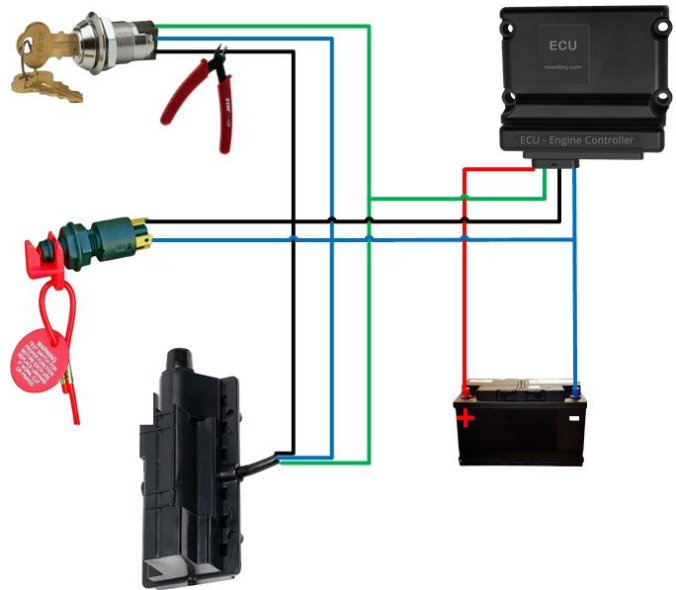
Ignition and engine kill switch circuit

Locate the IGNITION wire on the manual ignition switch. Cut and strip the wire close to the ignition switch and connect both ends of the wire with the GREEN wire coming out of the CoastKey harness.

Locate the KILL SWITCH wire on the manual ignition switch. Cut the wire close to the ignition switch and connect ONLY the wire from the ENGINE with the Black wire coming out of the CoastKey harness. Insulate any loose ends.

The CoastKey system will not work as intended if the engine kill switch signal-wire is connected to the manual ignition switch. Hence the wire must be disconnected from the ignition switch. (The original kill switch will work in parallel with the CoastKey system)

Some engine types require that a separate manual kill switch be installed. (E.g. some models from Evinrude.)



CECU (CoastKey Engine Control Unit) and Start Panel

Install the CECU according to the "Checklist before installation". Next plug the CECU into the CoastKey harness. Then connect to the Start Panel using the cord from the CECU and make sure that the connection is tightened.

i Secure the CoastKey harness and other loose wires using cable ties to ensure that no cables remain loose. Turn on the main power switch and complete the "Test and Safety Form" before using the system.

i If your boat is equipped with multiple engines, repeat the installation procedure for each of the engines. If the tilt function is to be connected to multiple engines, the signal (Yellow and White wires) from the CoastKey harness on the first CECU (CoastKey Engine Control Unit) must be connected to the wires for common tilt of the engines.

Diesel engines equipped with a stop button

Several types of diesel engines require a stop action, for example, pressing a stop button or turning the ignition key the opposite way to stop the engine(s).

If the engine requires a stop action the CECU lanyard output (black wire) must be configured to drive a stop solenoid by sending a positive 12/24V signal, rather than a ground signal as is typical on gasoline engine installations. In this case, connect/splice the CoastKeys generic harness to the wire going from the stop button (or the ignition key switch stop output) to the stop solenoid on the engine(s).

In some cases, the 12/24V signal appears to be constant to the diesel pump to keep the engine running. In such an installation, the stop signal must be retrieved from the CoastKey ignition cable (Green wire). (Max load 5A)

AUX function circuit (optional)

The figure to the right shows an example of connection to an anchor winch.

Locate the UP-signal wire coming from the switch. Cut and strip the wire and connect both ends of the wire with the YELLOW wire coming out of the CoastKey supplied harness.

Locate the DOWN-signal wire coming from the switch. Cut and strip the wire and connect both ends of the wire with the WHITE wire coming out of the CoastKey supplied harness.



The CECU is always connected in parallel to the manual switch.

- i** All electrical connections must be connected with waterproof heat shrink butt connectors. It is very important that the coupling is performed correctly for reliability. Make sure that the butt connectors are properly crimped and the glue seals the connection.
- i** Secure the CoastKey harness and other loose wires using cable ties to ensure that no cables remain loose. Turn on the main power switch and complete the "Test and Safety Form" before using the system.
- i** If your boat is equipped with multiple engines, repeat the installation procedure for each of the engines. If the tilt function is to be connected to multiple engines, the signal (Yellow and White wires) from the engine cable on the first CECU (CoastKey Engine Control Unit) must be connected to the wires for common tilt of the engines.
- i** If the additional function(s) are used to operate third party equipment, the installer must ensure that the total power consumption is within the specifications. If you exceed the load of 5A the output must be connected via a separate relay. (Power supply 12-24V)

Electrical circuit color codes

Suzuki from 2004			
Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	White	12VDC
Ground	Blue	Black	Ground
Start	Brown	Brown	Start signal
Ignition	Green	Gray	Ignition signal
Engine Cut-off signal	Black	Green	Engine Cut-off signal
Tilt up signal	Yellow	Light blue	Tilt up signal
Tilt down signal	White	Pink	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Evinrude			
Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Red / Lilac	12VDC
Ground	Blue	Black / White	Ground
Start	Brown	Yellow / Red	Start signal
Ignition	Green	Lilac	Ignition signal
Engine Cut-off signal	Black	Black / Yellow	Engine Cut-off signal
Tilt up signal	Yellow	Blue / White	Tilt up signal
Tilt down signal	White	Green / White	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Yamaha			
Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Red	12VDC
Ground	Blue	Black	Ground
Start	Brown	Brown	Start signal
Ignition	Green	Yellow	Ignition signal
Engine Cut-off signal	Black	White	Engine Cut-off signal
Tilt up signal	Yellow	Light blue	Tilt up signal
Tilt down signal	White	Light green	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Mercury - Mariner - Mercruiser

Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Red	12VDC
Ground	Blue	Black	Ground
Start	Brown	Yellow / Red	Start signal
Ignition	Green	Lilac	Ignition signal
Engine Cut-off signal	Black	Black / Yellow	Engine Cut-off signal
Tilt up signal	Yellow	Blue / White	Tilt up signal
Tilt down signal	White	Green / White	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Honda

Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	White / Black	12VDC
Ground	Blue	Black	Ground
Start	Brown	Black / White	Start signal
Ignition	Green	Black / Yellow	Ignition signal
Engine Cut-off signal	Black	Black / Red	Engine Cut-off signal
Tilt up signal	Yellow	Light green	Tilt up signal
Tilt down signal	White	Light blue	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Yanmar 6LPA

Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Red	12VDC
Ground	Blue	Grounding point	Ground
Start	Brown	White	Start signal
Ignition	Green	Red / Black	Ignition signal
Engine Cut-off signal	Black	White / Brown	Engine Cut-off signal
Tilt up signal	Yellow	* Optional	Tilt up signal
Tilt down signal	White	* Optional	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Volvo D4 / D6

Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Red	12VDC
Ground	Blue	Black	Ground
Start	Brown	Yellow	Start signal
Ignition	Green	Blue	Ignition signal
Engine Cut-off signal	Black	Lilac	Engine Cut-off signal
Tilt up signal	Yellow	* Optional	Tilt up signal
Tilt down signal	White	* Optional	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Volvo D3

Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Blue	12VDC
Ground	Blue	Black/grounding point	Ground
Start	Brown	Yellow / Red	Start signal
Ignition	Green	Lilac	Ignition signal
Engine Cut-off signal	Black	-	Engine Cut-off signal
Tilt up signal	Yellow	* Optional	Tilt up signal
Tilt down signal	White	* Optional	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>

Volvo KAD 300

Signal function of the CECU	Color on the CoastKey harness	Color on the ignition / control lever	Signal function engine
12VDC	Red	Red	12VDC
Ground	Blue	Black/grounding point	Ground
Start	Brown	Yellow / Red	Start signal
Ignition	Green	Red / Blue	Ignition signal
Engine Cut-off signal	Black	Lilac	Engine Cut-off signal
Tilt up signal	Yellow	* Optional	Tilt up signal
Tilt down signal	White	* Optional	Tilt down signal
Digital input	Gray	<i>Not in use</i>	<i>Not in use</i>



Technical data

Master FOB

Dimensions (D x H): 50x12mm
Weight: 42g
Battery: CR2032
Battery life: Up to 2 years
(700-800 hours of engine operating time)
IP class: 67

Start Panel

Dimensions (D x H): 65x63mm
Weight: 75g
Power supply: 12/24V
IP class: 66
Power consumption:

- 1.7 mA at main power on and ignition off.
- 0 mA at main power is off.

General data

Radio Frequency: 2.4 GHz
Range: 6-10 meters
Temperature range: -25C to + 60C

The product is certified according to the following standards:

- C€ Safety: EN 60950-1
- EMC: EN 301 489-17 V3.1.1
- Radio: EN 300 328 V2.1.1
- FCC Part 15.249
- ISED RSS-210

CECU (CoastKey Engine Control Unit) (single)

Dimensions (L x W x H): 130x65x50mm
Weight: 180g
Power supply: 12/24V
IP class: 44
Power consumption:

- 0.3 mA with main power on and ignition off.
- 0 mA with main power is off.

Max load per output: 5A

CECU (CoastKey Engine Control Unit) (twin)

Dimensions (L x W x H): 130x65x50mm
Weight: 250g
Power supply: 12/24V
IP class: 44
Power consumption:

- 0.6 mA with main power on and ignition off.
- 0 mA with main power is off.

Max load per output: 5A

CECU (CoastKey Engine Control Unit) (triple)

Dimensions (L x W x H): 130x65x50mm
Weight: 430g
Power supply: 12/24V
IP class: 44
Power consumption:

- 0.6 mA with main power on and ignition off.
- 0 mA with main power is off.

Max load per output: 5A

CECU (CoastKey Engine Control Unit) (quad)

Dimensions (L x W x H): 130x65x50mm
Weight: 500g
Power supply: 12/24V
IP class: 44
Power consumption:

- 0.6 mA with main power on and ignition off.
- 0 mA with main power is off.

Max load per output: 5A



Disclaimer

See the user manual for further information.

The user manual must be read completely before using the CoastKey system.

Repairs that include the CoastKey product shall only be carried out by CoastKey AS, or by certified personnel, in accordance with applicable instructions.



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Please retain this information for future reference.

Designs, manuals and features are subject to change.

For more information, visit our website:

www.CoastKey.com

