

Cruise control system

Specifications – Fuel button & motion buttons

1. The “fuel” button is used to control the motion.
 - Fuel button will be simulated by the middle led PC1 PIN
 - When press it the LED will be on until I raise my hand
2. The “Right” or “Left” buttons are used to change the direction.
 - Right button will be simulated by the right led PC0 PIN
 - Left button will be simulated by the left led PC2 PIN
 - When press Right button the LED will be on until I raise my hand
 - When press Left button the LED will be on until I raise my hand

When I press fuel button and right button the middle led PC1 PIN and the right led PC0 PIN will be on.

When I press fuel button and Left button the middle led PC1 PIN and the left led PC2 PIN will be on.

Forbidden press right button and fuel button then change to left button **you must raise your hand from fuel button.**

Forbidden press left button and fuel button then change to right button **you must raise your hand from fuel button.**

When I press “Right” or “Left” at the same time nothing happened.

3. The “Forward” or “Backward” buttons are used to change the direction.

When I press “Forward” or “Backward” at the same time nothing happened.

Specifications – LCD

Always display MODE : and it's default is D (forward) .

- If I press fuel button will tack action according on MODE at LCD display.
- LCD display cruise control state and its default is OFF, when press the button it will change the state.

Specifications – Waiting button

1. The “Waiting” button is used to make delay 1s.
 - Waiting button will be simulated by the relay1 PC4 PIN
 - When press it the relay will toggle 1s.
 - When press I press it again it will stop.

Specifications – cruise control buttons

The “cruise control” button is used to control the distance between your car and the other front cars in traffic.

- Its default is OFF.

If it is ON

- Will keep the distance equal 20cm
- If it is greater than 20 he will move the car automatically to keep the distance =20cm (fuel button will be on (middle led is on) and back to off if the distance =20).

If i was in forward state and pressed backward the cruise control will stop.

If it is on and I pressed fuel button the cruise control will stop.

If it is off and I press it to be on and the distance between your car and the front one less than 20 the car will not move until the distance is greater than 20cm.

Hardware

- ☐ Board: *Eta32mini* kit with AVR atmega32
- ☐ Use peripherals from the board
 - ☐ 3 LEDs
 - left led → left button
 - Right led → Right button
 - middle led → Fuel button
 - ☐ Relay → Waiting button
 - ☐ LCD
- ☐ Ultrasonic
- ☐ HC05