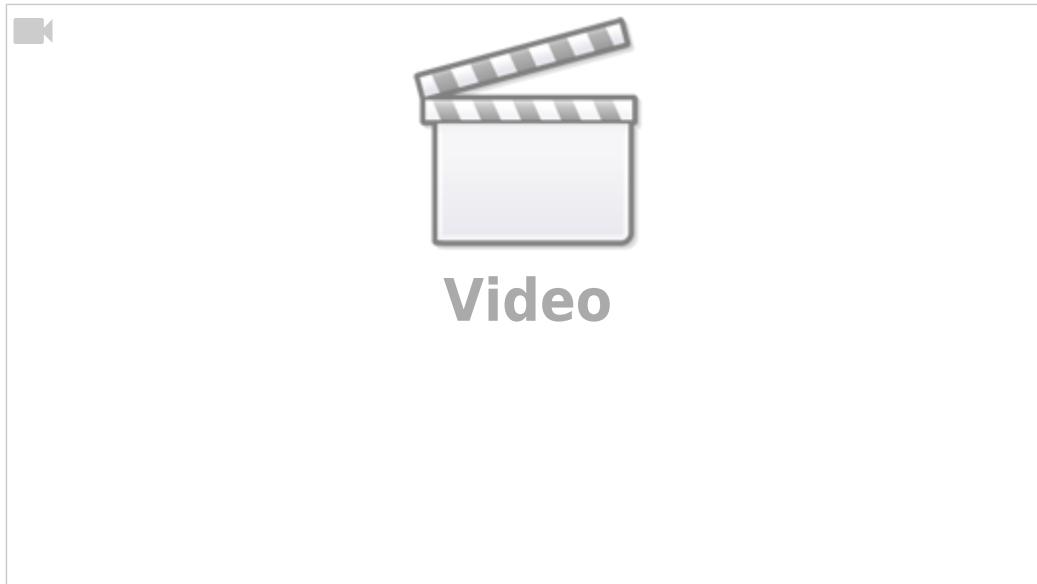


## Servo ON/OFF



**Summary:** It is necessary to have the following 4 Software PLC commands: `_HANDLER_INIT` to start the servo when the myCNC software is turned on, `_HANDLER_EXIT` to turn the servo off when the software is shut down, `_HANDLER_SERVO_ON` to manually turn on the servo, and `_HANDLER_SERVO_OFF` to manually turn it off. This is done through the use of the 60000 and 60001 global variables.

---

The Servo ON and Servo OFF commands allow the user to create an automatic PID ON/OFF (for example, when opening/closing the myCNC software), as well as a manual set of buttons or commands to turn on and off the servo motor(s).

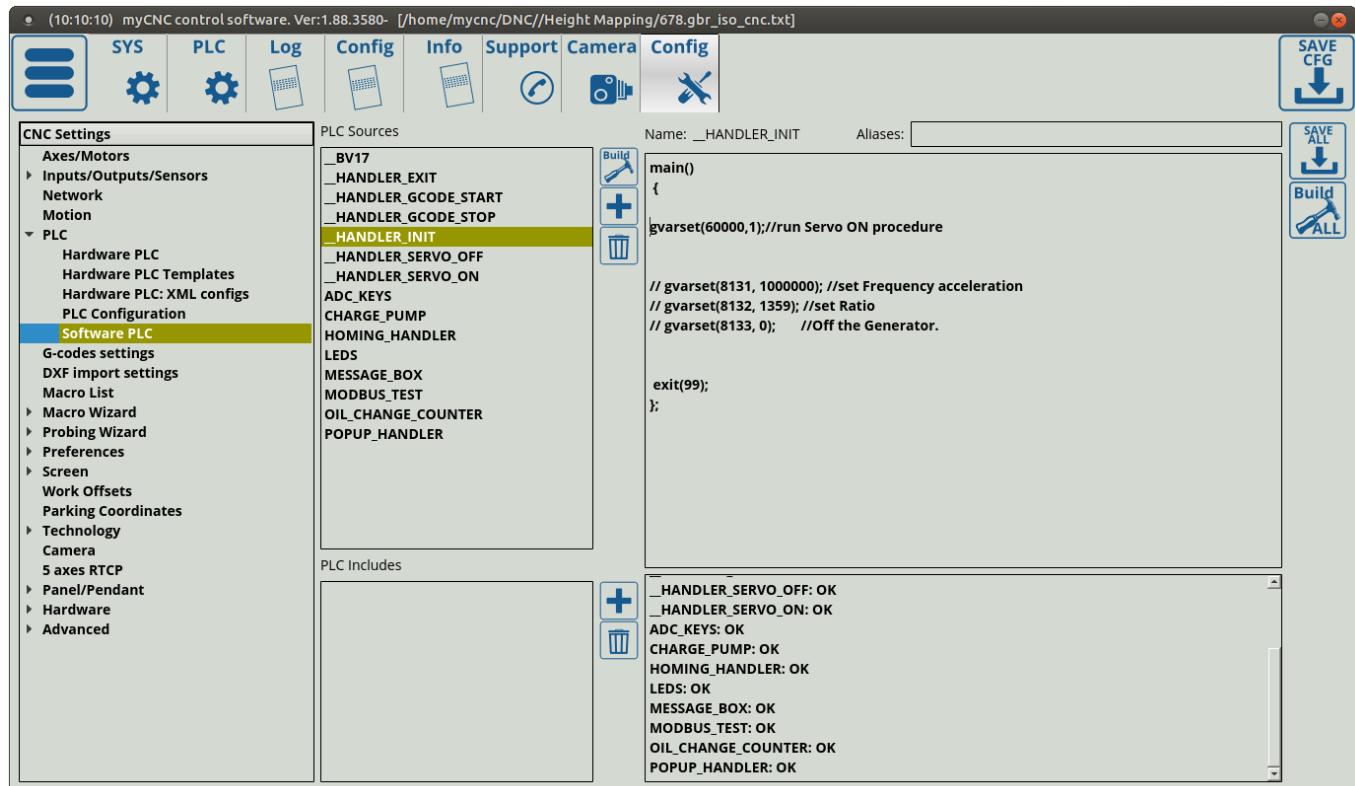
The automatic turning on and off of the servo motor on software start/close can be done by going into Settings > Config > PLC > Software PLC and creating `_HANDLER.INIT` and `_HANDLER_EXIT` files (if they do not yet exist) with the following code:

### [\\_HANDLER\\_INIT.PLC](#)

```
main()
{
  gvarset(60000,1); //turn Servo PIDs On
  exit(99);
};
```

### [\\_HANDLER\\_EXIT.PLC](#)

```
main()
{
  gvarset(60001,1); //turn Servo PIDs Off
  exit(99);
};
```



As can be seen, writing 1 to the register 60000 will turn the PIDs on, while writing 1 to register 60001 will turn the servo PIDs off. This will also be used in manual servo control, where an on-screen button can be utilized to quickly switch the motor on and off.

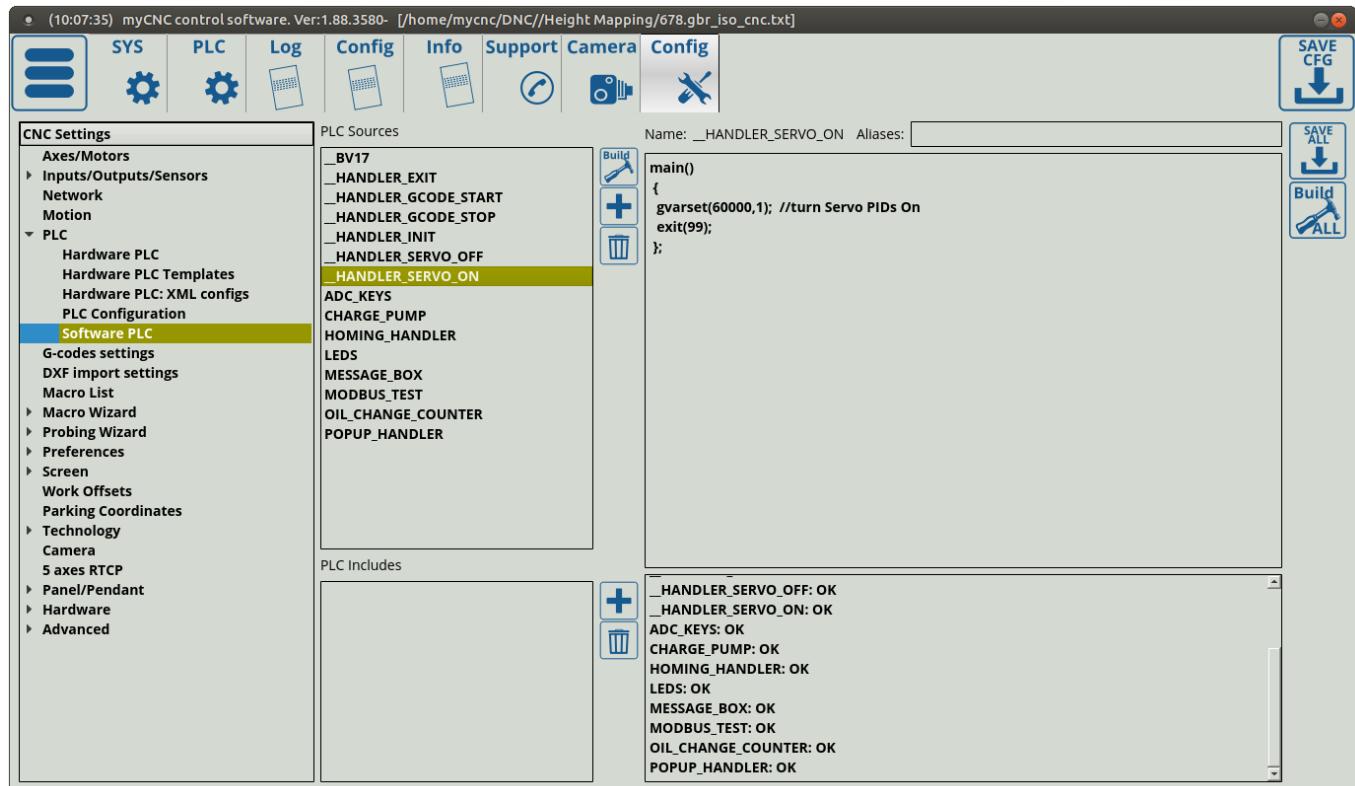
In order to do so, it is necessary to have the `_HANDLER_SERVO_ON` and `_HANDLER_SERVO_OFF` commands in the Software PLC section. These can be extremely similar to the INIT and EXIT commands shown above, as they effectively perform the same task (differences begin to crop up only when additional actions are required on servo startup, or on program start, etc). By default, the following code is required for each respective PLC command:

### [\\_HANDLER\\_SERVO\\_ON.PLC](#)

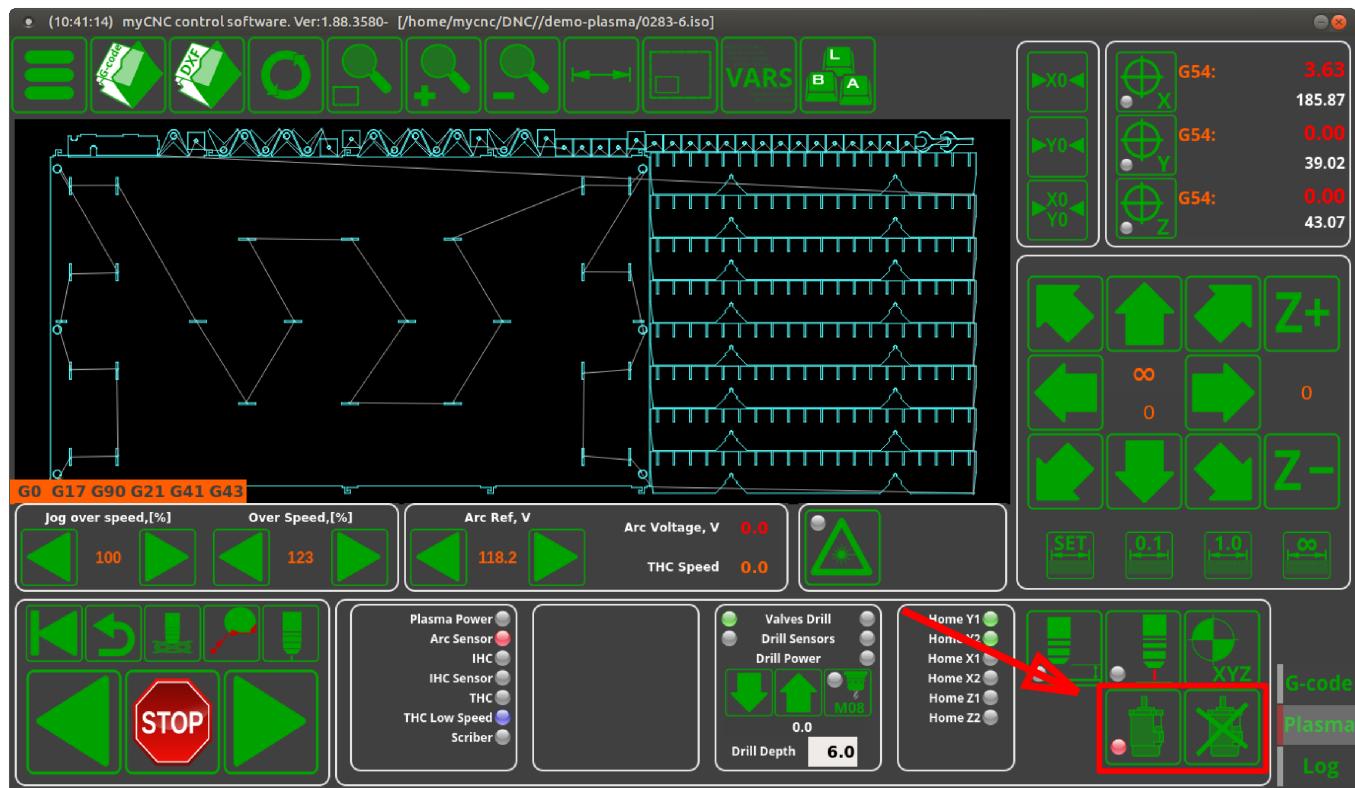
```
main()
{
    gvarset(60000,1); //turn Servo PIDs On
    exit(99);
};
```

### [\\_HANDLER\\_SERVO\\_OFF.PLC](#)

```
main()
{
    gvarset(60001,1); //turn Servo PIDs Off
    exit(99);
};
```



The manual code allows to use buttons to turn on and off the servo motor such as seen in the X1366P Plasma profile:



The Servo ON output for enabling/disabling the servo should be set in Settings > Config > Axes/Motors:

SYS    PLC    Report    Info    Support    Cutchart    **Config**    **SAVE Cfg**

**CNC Settings**

**Axes/Motors**

- › Inputs/Outputs/Sensors
- Network
- Motion
- › PLC
- G-codes settings
- DXF import settings
- Macro List
- › Macro Wizard
- › Probing Wizard
- › Preferences
- › Screen
- Work Offsets
- Parking Coordinates
- › Technology
- Camera
- 5 axes RTCP
- › Panel/Pendant
- › Hardware
- › Advanced

| Enabled                               | Pulses per unit | Max   | Backlash | Axes mapping           | Speed profile          |
|---------------------------------------|-----------------|-------|----------|------------------------|------------------------|
| X <input checked="" type="checkbox"/> | 500             | 10000 | 0        | X                      |                        |
| Y <input checked="" type="checkbox"/> | 500             | 10000 | 0        | Y                      |                        |
| Z <input checked="" type="checkbox"/> | 1000            | 6000  | 0        | Z                      |                        |
| A <input type="checkbox"/>            | 82.3723229      | 0     | 0        | A1 - rotation around X | Constant surface speed |
| B <input type="checkbox"/>            | 82.3723229      | 0     | 0        | B1 - rotation around Y | Constant surface speed |
| C <input checked="" type="checkbox"/> | 82.3723229      | 0     | 0        | C1 - rotation around Z | Constant surface speed |
| U <input type="checkbox"/>            |                 | 0     | 0        | X                      | Slave of XYZ           |
| V <input type="checkbox"/>            |                 | 0     | 0        | X                      | Slave of XYZ           |
| Plus                                  |                 |       |          |                        |                        |

Machine Axes configuration: 3 Axes (XYZ)

Scan along rotational axis:

Motor outputs configuration:

| Motor #0                            | Motor #1                 | Motor #2                 | Motor #3                 | Motor #4                 | Motor #5                 | Motor #6                 | Motor #7                 |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Attach To Axis: X                   | X                        | Y                        | Y                        | Z                        | Z                        | X                        | X                        |
| Inversion: <input type="checkbox"/> | <input type="checkbox"/> |

Servo drivers configuration:

|                     |                                  |
|---------------------|----------------------------------|
| Servo ON output: 48 | <input type="button" value="▼"/> |
|---------------------|----------------------------------|

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