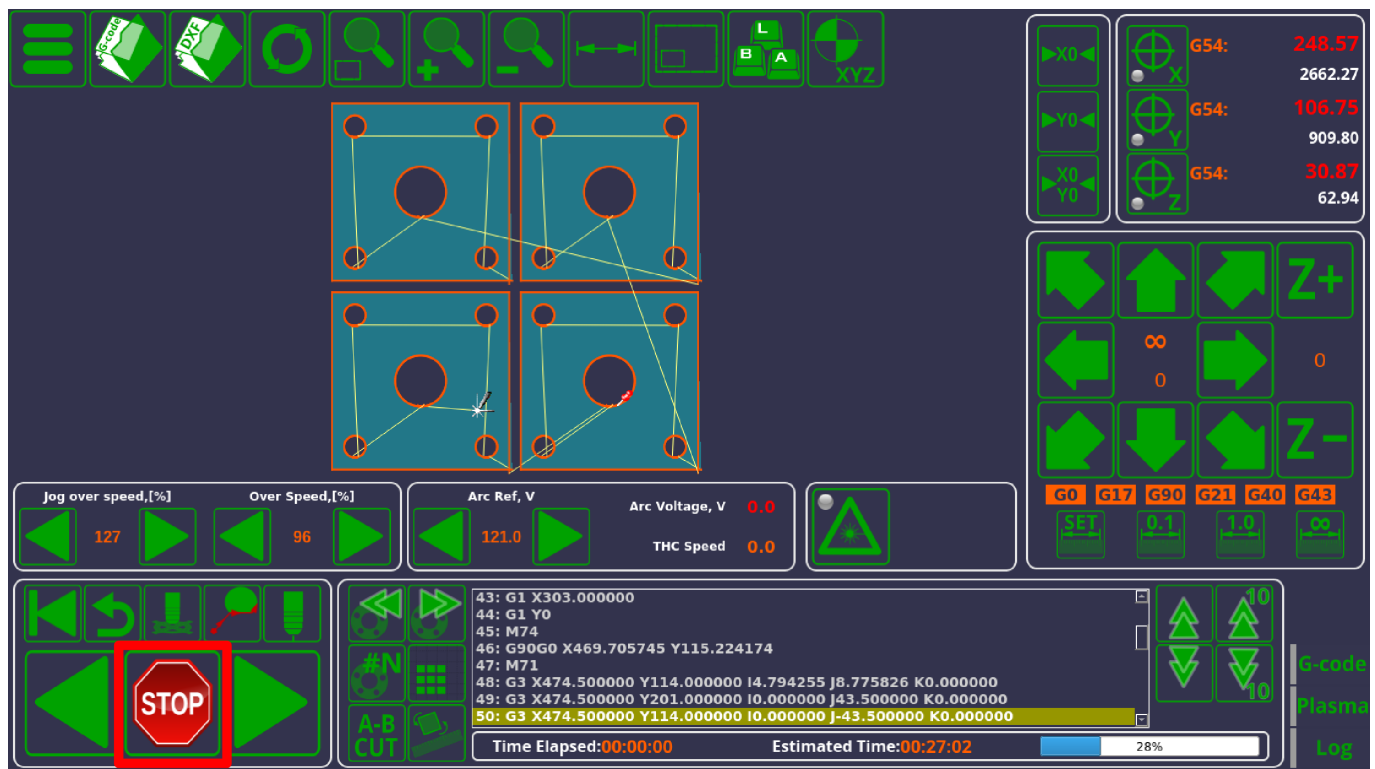


Stop/End program button commands



When using myCNC, the actions performed by the program when the Stop button is pressed are defined in the following files:

- M02.plc (Settings > Config > PLC > Hardware PLC)
- OFF.plc (Settings > Config > PLC > Hardware PLC)
- __HANDLER_GCODE_STOP (Settings > Config > PLC > Software PLC)

The actions taken upon pressing the button differ depending on the sequence of events. If pressing ONCE, the M02.plc procedure is started (below is the M02.plc for the Plasma profile X1366P):

M02.plc

```
#include pins.h
#include vars.h
#include func_plasma.h

main()
{
    timer=0;

    portclr(OUTPUT_DRILL_VALVE_DOWN);
    portset(OUTPUT_DRILL_VALVE_UP);
    portclr(OUTPUT_DRILL_POWER);

    stop_thc();
    stop_trigger1();
}
```

```
//turn off power source
portclr(OUTPUT_PLASMA);

portclr(OUTPUT_PROBE);
test_lift_after_cut();
do_lift_after_cut();
proc=plc_proc_idle;

start_trigger2();
exit(99);
};
```

If the Stop button is pressed TWICE, the OFF.plc procedure will be utilized:

OFF.plc

```
#include pins.h
#include vars.h
#include func_plasma.h

main()
{

portclr(OUTPUT_DRILL_VALVE_DOWN);
portset(OUTPUT_DRILL_VALVE_UP);
portclr(OUTPUT_DRILL_POWER);


//stop_thc();
//stop_trigger1();


//turn off power source
portclr(OUTPUT_PLASMA);
portclr(OUTPUT_PROBE);
//proc=plc_proc_idle;

exit(99);
};
```

The two separate commands allow for a variety of stopping configurations. M02.plc procedure can often be set to have some sort of lift control to prevent issues do to the working tool potentially coming into contact with the working material/surface, while the OFF.plc might be set to clear all relevant ports to turn the system off, and end the program. Sometimes, when issues arise with the lift procedure, or with any of the processes described in the M02 procedure, it is advisable to click the Stop button twice in order to obtain a complete and total G-code run shutdown (if that is the way that the codes have been set up). Alternatively, on some profiles the OFF.plc will not perform any additional actions as compared to M02.plc, or vice versa - the configuration depends almost entirely on the particular needs of the user and the machine.

Additionally, whenever the myCNC player stops running G-code, the `__HANDLER_GCODE_STOP` Software PLC (which is continuously running in the background) will be activated. This handler (along with the other Software PLC handlers) allows to monitor for some event, such as stopping a G-code run, and having some code be executed after the event has occurred. By default, the `__HANDLER_GCODE_STOP` simply consists of the following code:

`__HANDLER_GCODE_STOP`

```
main()  
{  
    exit(99);  
};
```

Therefore, in a default configuration, this handler will simply activate, do nothing and then close. However, in situations where it is necessary to add a command which will activate whenever the G-code run has stopped, `__HANDLER_GCODE_STOP` can be altered. For example, the code can be changed to look the following way if it is necessary, for example, to turn off the output port #3 when the run is stopped:

`__HANDLER_GCODE_STOP`

```
main()  
{  
    portclr(3);  
    exit(99);  
};
```

In non-default configurations, there can be a number of outputs/inputs being set and cleared upon program stop. Often, when issues arise with the ports being set and cleared seemingly at random upon program start/stop, it is an issue with port set / port clear code being left over in the M02, OFF, and `__HANDLER_GCODE_STOP` commands.

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