

CE



TC50

*Multi-Cavity Hot Runner Temperature Controller
Quick Start up Guide*



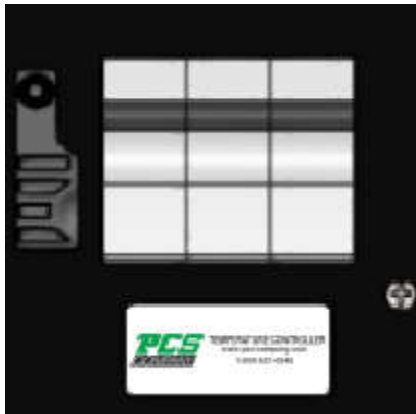
6 Zone Mainframe



12 Zone Mainframe

Congratulations on your purchase of your TC50 Temperature Controller
We trust you will find the controller software easy to work with.
This booklet is a simple guide to getting you started using the system.

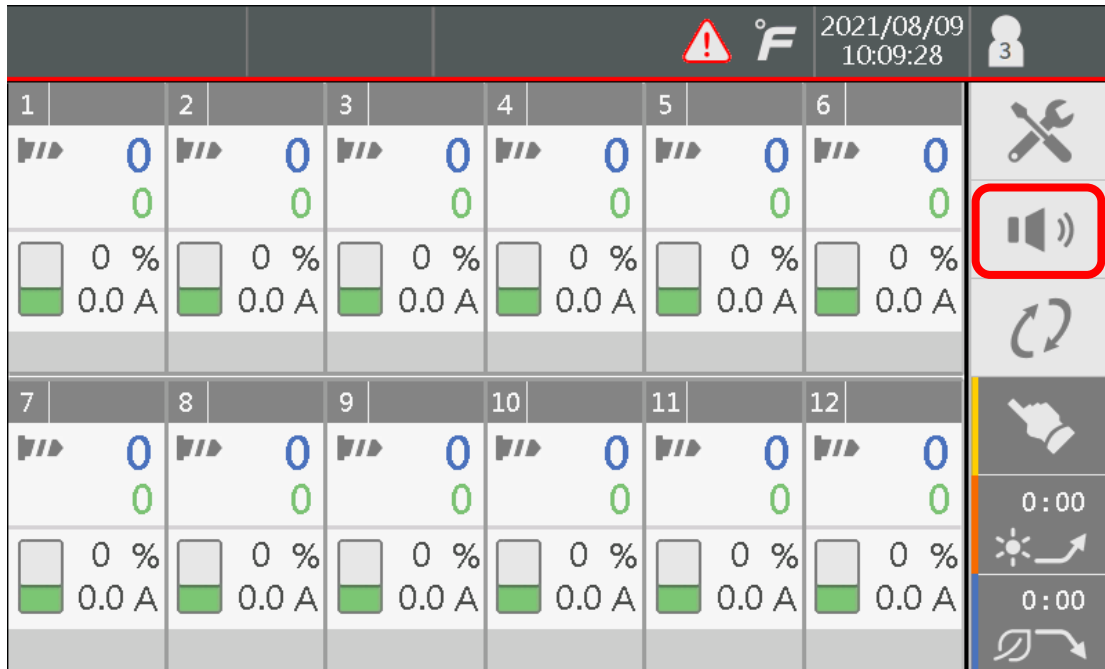
Before powering up the system, make sure you have the power plug connected to a **230-240V** supply. Next, make sure your hot runner cables are properly connected.
Turn on the main power switch





The PCS logo will appear on your screen at startup

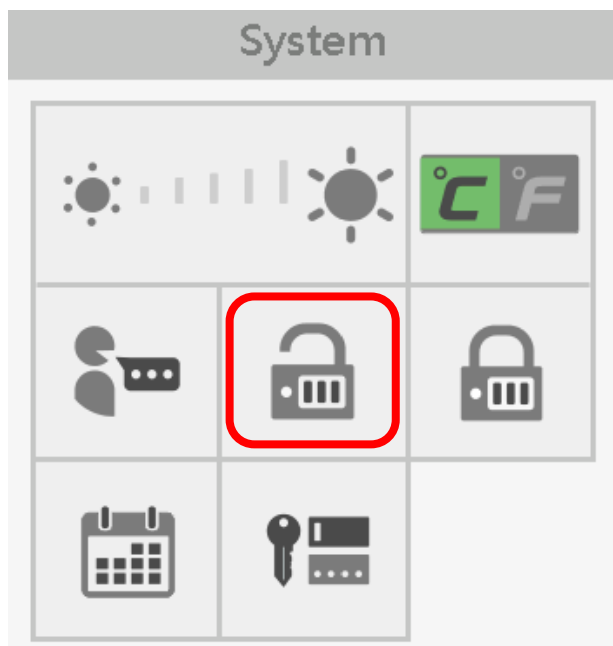


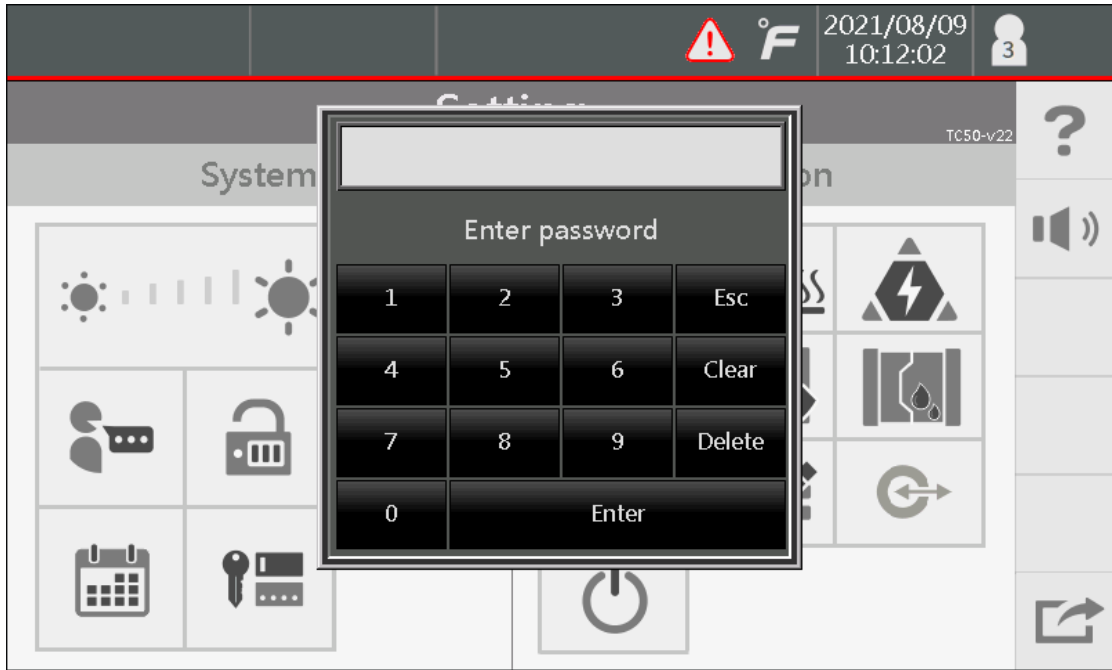
At this time you will hear the alarm sounding which is normal. Touch the screen and it will change over to the main screen. On the RH side you will find the alarm button. Touch it and the alarm will turn off.



The first thing you will need to do each time you start the controller is to LOG in. On the top tool

bar touch the  button. Next pick the  button and window will pop up





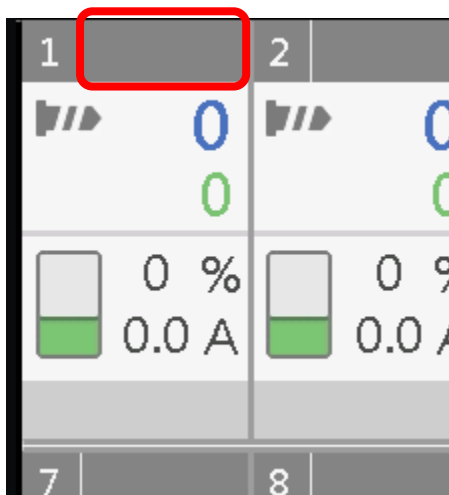
Type in the password and then Enter.

There are 3 levels of passwords

Level 1	Type in (1,1,1,1) Enter	This is the basic level
Level 2	Type in (2.2.2.2) Enter	This is the intermediate level
Level 3	Type in (3,3,3,3,) Enter	This is the advanced / management level

You are now ready to set up the controller to run.

Now pick in the darker gray area next to the zone number you want to set up.



Below is the view of the individual zone set up page. On this page, you will set up all the options to control this zone.

Step 1: Pick the type of heater you are setting up (TIP / M.F) "TIP" is for nozzle / "M.F" is for manifold.

It is important to select the correct heater type, so the control runs the soft start and auto tuning correctly

The screenshot shows the 'Zone Setting' interface for zone 1. The 'HT.Type' field is highlighted with a red box and contains 'TIP MF.'. Other settings include PV: 1, SV: 0, Switch: On, Mode: Auto, and various alarm and limit settings.

Zone Setting				Ver.	0.0
Nº.	1	PV	0	SV	0
		Switch	On	Off	Mode
			Auto	Man.	
PV.Offset		Manual %	0	Low Limit	On Off
TC.Type	J	K	Boost TP.	0	L.ALM.Range
HT.Type	TIP	MF.	Standby TP.	0	L.ALM.Standby
Soft Start	On	Off	Output LMT.	0	High Limit
Soft Start Timer	0	Temp LMT.	0	H.ALM.Range	0
ST.Mode	No	TC Abnormal	Stop	H.ALM.Standby	On Off
AT.Mode	On	Off	Slave Zone	1	Absolute Alarm
PB.	0	TRG. Mode	P.A. Z.C.	Absolute ALM.Range	0
IT.	0	Current Detect	On	Off	
DT.	0	Room TP.	0		

Step 2: We recommend you select a zone for each zone to Slave to, if you lose your TC on this heater zone for example if zone 1 - 8 are nozzle zones you will want all of these zones to slave off another nozzle zone. The system will automatically look for this zone if the TC fails and will keep running.

The screenshot shows the 'Zone Setting' interface for zone 1. The 'Slave Zone' field is highlighted with a red box and contains '1'. Other settings are identical to the previous screenshot.

Zone Setting				Ver.	0.0
Nº.	1	PV	0	SV	0
		Switch	On	Off	Mode
			Auto	Man.	
PV.Offset		Manual %	0	Low Limit	On Off
TC.Type	J	K	Boost TP.	0	L.ALM.Range
HT.Type	TIP	MF.	Standby TP.	0	L.ALM.Standby
Soft Start	On	Off	Output LMT.	0	High Limit
Soft Start Timer	0	Temp LMT.	0	H.ALM.Range	0
ST.Mode	No	TC Abnormal	Stop	H.ALM.Standby	On Off
AT.Mode	On	Off	Slave Zone	1	Absolute Alarm
PB.	0	TRG. Mode	P.A. Z.C.	Absolute ALM.Range	0
IT.	0	Current Detect	On	Off	
DT.	0	Room TP.	0		

Step 3: Under the alarm column, you may want to set up the upper and lower limits before the alarm activates. If you set these points, make sure you turn on the alarms (green "on" / gray "off").

Zone Setting		Ver. 0.0	
No. 1	PV 0	SV 0	Switch On Off
Mode Auto Man.			
PV.Offset	0	Manual %	0
TC.Type	J K	Boost TP.	0
HT.Type	TIP MF.	Standby TP.	0
Soft Start	On Off	Output LMT.	0
Soft Start Timer	0	Temp LMT.	0
ST.Mode	No	TC Abnormal	Stop
AT.Mode	On Off	Slave Zone	1
PB.	0	TRG. Mode	P.A. Z.C.
IT.	0	Current Detect	On Off
DT.	0	Room TP.	0
		Low Limit	On Off
		L.ALM.Range	0
		L.ALM.Standby	On Off
		High Limit	On Off
		H.ALM.Range	0
		H.ALM.Standby	On Off
		Absolute Alarm	On Off
		Absolute ALM.Range	0

Step 4: Finally, you will now set the temperature you want to run at. This is located on the top RH side (Set Value is the temperature you want the zone to run at)

Zone Setting		Ver. 0.0	
No. 1	PV 0	SV 0	Switch On Off
Mode Auto Man.			
PV.Offset	0	Manual %	0
TC.Type	J K	Boost TP.	0
HT.Type	TIP MF.	Standby TP.	0
Soft Start	On Off	Output LMT.	0
Soft Start Timer	0	Temp LMT.	0
ST.Mode	No	TC Abnormal	Stop
AT.Mode	On Off	Slave Zone	1
PB.	0	TRG. Mode	P.A. Z.C.
IT.	0	Current Detect	On Off
DT.	0	Room TP.	0
		Low Limit	On Off
		L.ALM.Range	0
		L.ALM.Standby	On Off
		High Limit	On Off
		H.ALM.Range	0
		H.ALM.Standby	On Off
		Absolute Alarm	On Off
		Absolute ALM.Range	0

Things to consider:

Under the Control column, there is the Manual setting / Boost setting / Standby set point.

Manual: If you know what power % works for this zone, program this setting if the TC fails, the controller will automatically change to this setting.

Boost Temp. : Shows the amount above set point you would like the boost to go up. You can put in the amount you feel would best work for your application.

Standby Temp. : This temp setting is the amount you want the heater to lower to, below set point when the system would be sitting idle (not molding parts).

At this point, you have made all the basic settings you want to control this zone. Now select the



to save these settings.

The screen will go back to showing all the zones. If you want to use these same

settings on the other similar zones , open the same zone you just set up. Now look for the



on the RH side. Select this icon.

The next window that will appear will list all the features of each zone. You can pick the feature /

features you want to copy to other zones or you can pick the



to pick all features.



After you pick the items to copy select the

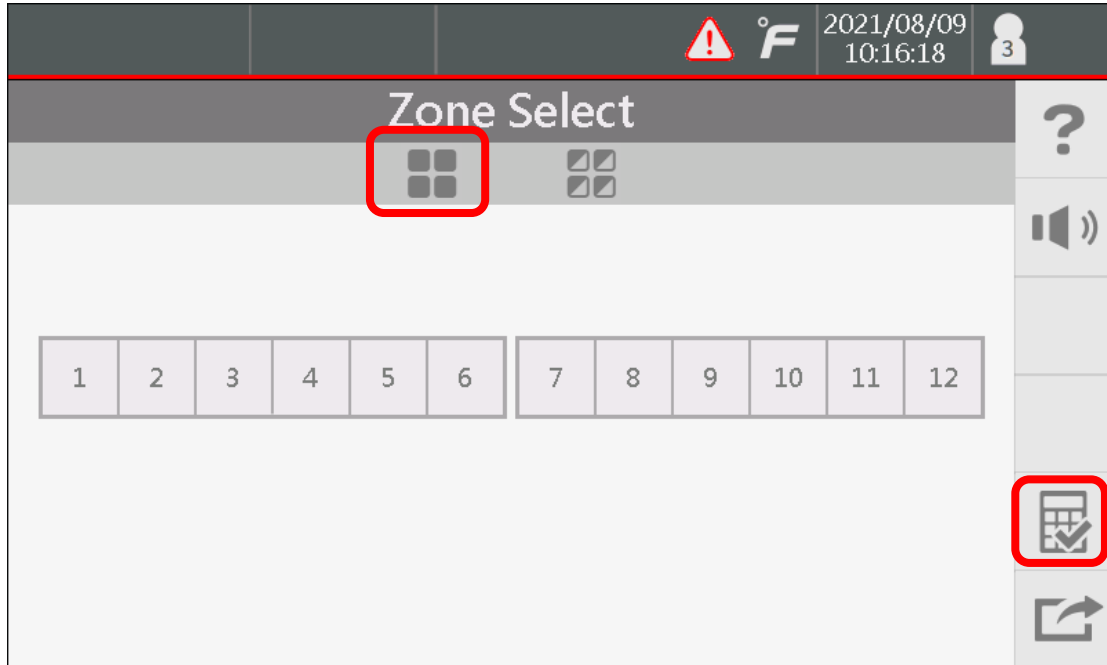


to accept.

Parameter Copy			?
<input type="checkbox"/> Setting Value	<input type="checkbox"/> Manual %	<input type="checkbox"/> Low Limit	
<input type="checkbox"/> Zone Switch	<input type="checkbox"/> Boost TP.	<input type="checkbox"/> L.ALM.Range	
<input type="checkbox"/> Control Mode	<input type="checkbox"/> Standby TP.	<input type="checkbox"/> L.ALM.Standby	
<input type="checkbox"/> PV.Offset	<input type="checkbox"/> Output LMT.	<input type="checkbox"/> High Limit	
<input type="checkbox"/> TC.Type	<input type="checkbox"/> Temp LMT.	<input type="checkbox"/> H.ALM.Range	
<input type="checkbox"/> HT.Type	<input type="checkbox"/> TC Abnormal Behavior	<input type="checkbox"/> H.ALM.Standby	
<input type="checkbox"/> Soft Start	<input type="checkbox"/> Slave Zone	<input type="checkbox"/> Absolute Alarm	
<input type="checkbox"/> Soft Start Timer	<input type="checkbox"/> TRG. Mode	<input type="checkbox"/> Absolute ALM.Range	
<input type="checkbox"/> ST.Mode	<input type="checkbox"/> Current Detect		
<input type="checkbox"/> AT.Mode			

The next window will allow you to pick which zones you want to copy your settings to.

Again you select each zone individually or pick the  to select all. Finally select the  to accept and copy all your settings to the other zones



Once you have completed this step, you should have all your (TIP) nozzle zones set up to the same profile follow the same steps to set your manifold (M.F) zones.

When you look at the main window, you will see that the nozzles will look like nozzles and the manifold zones will look like manifolds.

If you have a Feeder bushing on your system, set this zone as your last zone and set it as a nozzle zone.



Nozzle zones (TIP)



Manifold zones (M.F)



Start Button

2021/08/09 10:17:39						3
1	2	3	4	5	6	 0:00 0:00
0 0.0 A	0 0.0 A	0 0.0 A	0 0.0 A	0 0.0 A	0 0.0 A	
7	8	9	10	11	12	
0 0.0 A	0 0.0 A	0 0.0 A	0 0.0 A	0 0.0 A	0 0.0 A	

Now that you have customized all your zones, you are ready to run. Click the



in the Top RH corner to start the system running.

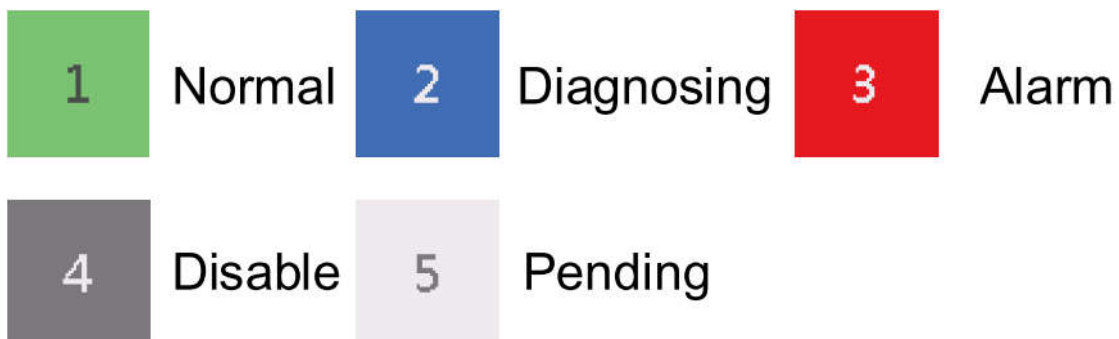
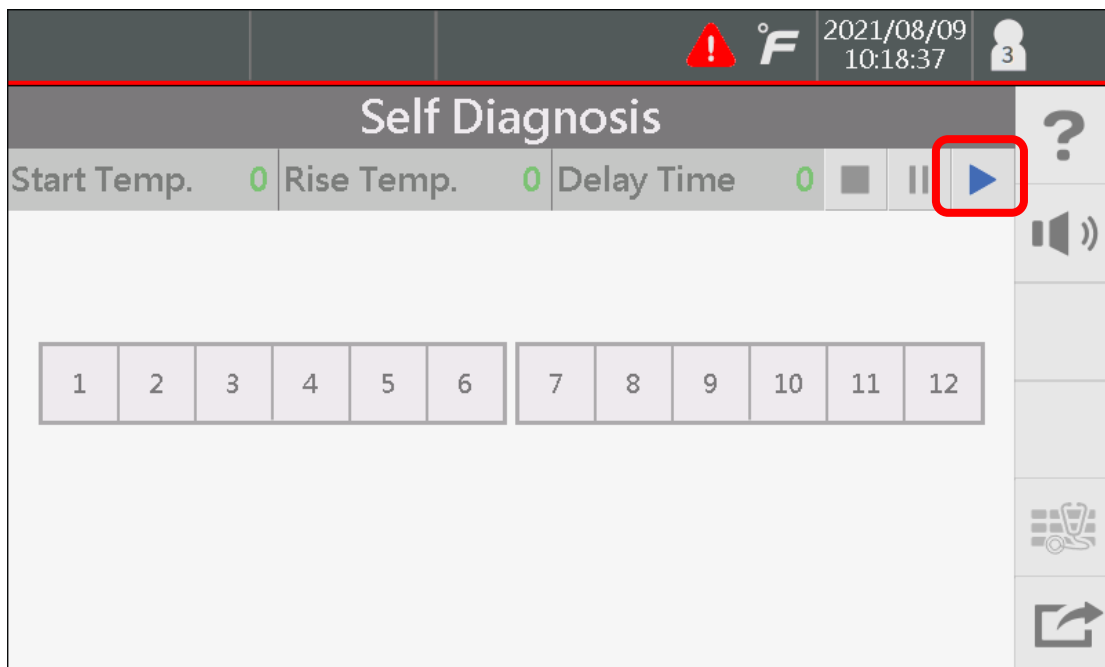
Optional items to consider.

A) Mold Self Diagnostics :

This feature is found under the  button on the top tool bar.

Any time you are starting a new hot runner system or a system that has recently been repaired, it would be a good idea to run this program. This feature will heat up each zone to the temperature you set it up for (rise Temp.) The delay time is the time the system waits before going to the next zone to test. When the test is done you will have the zone number in green if it is good, red if there is an issue. To start the test

push the  button.



If you want to review the details of the test or save them, go under the Mold button at the top tool bar and select Diagnosis Record. From here, you can save the details onto a Flash Drive.

Diagnostic Report								?
Zone	Amp	TC	HT	Fuse	TRIAC	Wiring		
1	1	0.0	OK	OK	OK	OK	OK)
2	2	0.0	OK	OK	OK	OK	OK	
3	3	0.0	OK	OK	OK	OK	OK	
4	4	0.0	OK	OK	OK	OK	OK	
5	5	0.0	OK	OK	OK	OK	OK	
6	6	0.0	OK	OK	OK	OK	OK	
7	7	0.0	OK	OK	OK	OK	OK	
8	8	0.0	OK	OK	OK	OK	OK	
9	9	0.0	OK	OK	OK	OK	OK	
10	10	0.0	OK	OK	OK	OK	OK	
11	11	0.0	OK	OK	OK	OK	OK	↗
12	12	0.0	OK	OK	OK	OK	OK	

Zone: Zone NO

Amp: Heater amperage

TC: Thermocouple status


HT: Heater status

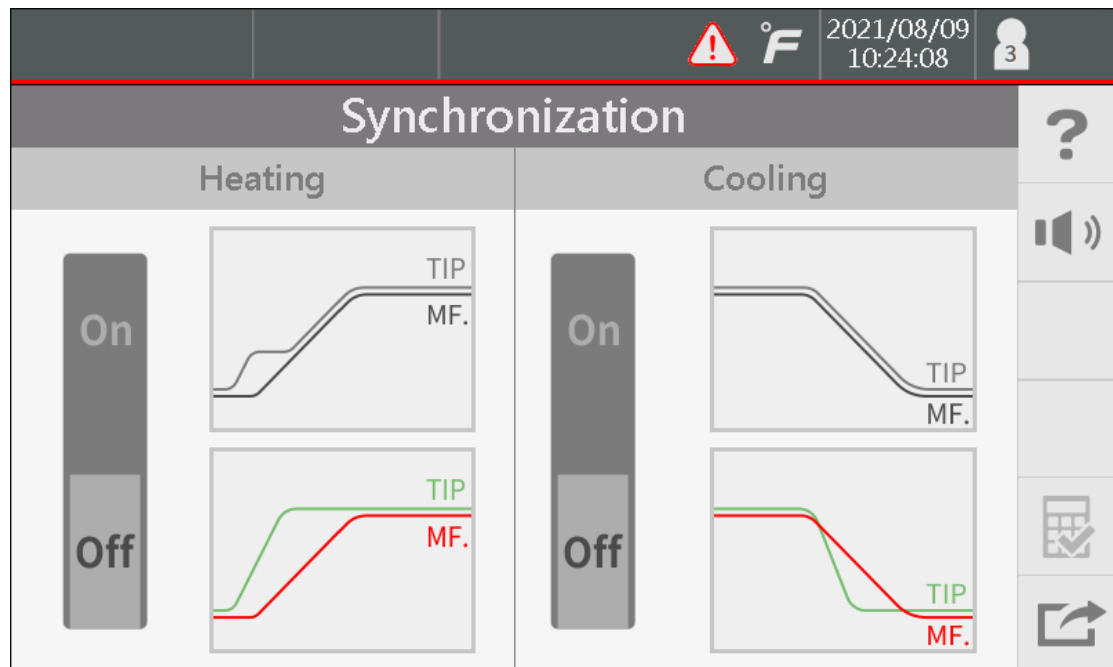
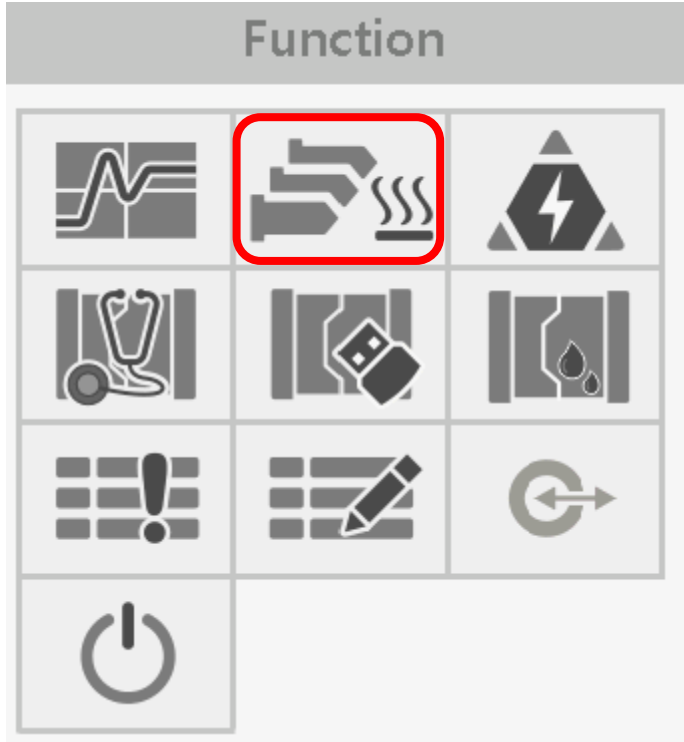
Fuse: Fuse status

TRIAC: TRIAC status

Wire: Wiring error

B) Synchronous Heating :

Under the  button on the top tool bar, turn this feature on. This will restrict the nozzles to heat up at the same pace of the Manifold heater zones.



C) Slave Zone :

This feature is good to set up when you program you system at the start. For each zone you are using it is a good idea to give the zone the name of another zone that runs the same. For example, your nozzle zones run all the same. For Nozzle 1 you would put Nozzle 2 as the slave zone. If the TC fails while the system is running, then this heater will follow the TC from Nozzle 2 automatically.

TC Abnormal	Slave
Slave Zone	Stop
TRG. Mode	Manual
Current Detect	Continue
Room TP.	0

D) Manual Mode :

It is a good idea to put the power percentage you want to run your zone if a TC fails. The controller will automatically switch to slave the zone or manual run the zone when the TC fails, if you have made these settings at the beginning. During the first run, you can watch the percentage of each zone on the main screen. This will show you what percentage the zone works at to maintain temperature.

TC Abnormal	Manual
Slave Zone	Stop
TRG. Mode	Manual
Current Detect	Continue
Room TP.	0



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