

GLC 2k

Advanced Setup/Troubleshooting

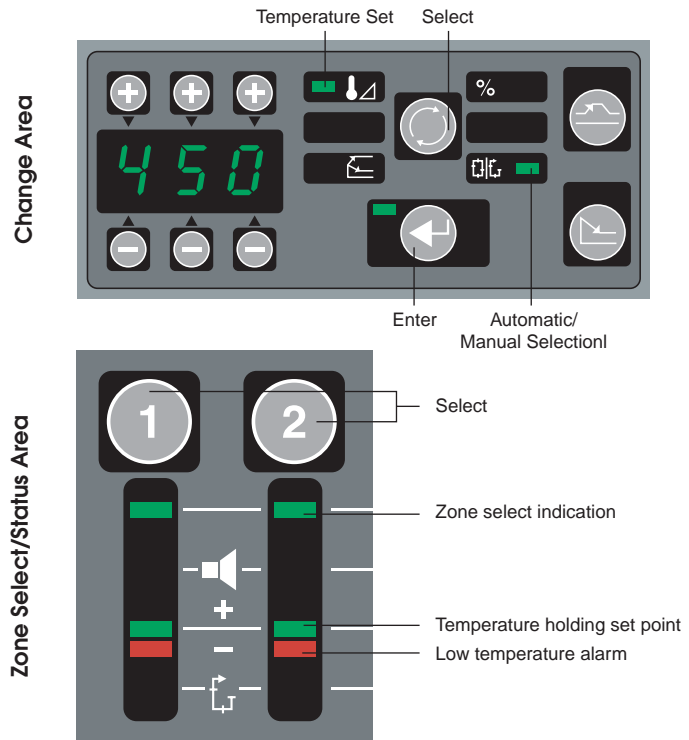
- Hot Runner Temperature Controller
- 12 Zone Maximum per Tier
- 1 HBE-24 Female Connector for Power per Tier (Standard)
- 1 HBE-24 Male Connector for Thermocouple per Tier (Standard)
- Remote Mount Alarm Relay
- External Communications RS232/RS485



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GLC 2K Start Up Procedure

- 1 Dry Cycle Mold, Apply Full Tonnage, 3-4 Times (Pinch any wires in advance of operation)
- 2 Turn Individual Zones "Off"
- 3 Turn "On" Main Disconnect
- 4 Select Zone or Zones, Press 1st Zone, Hold, Press Last Zone, Hold, Release. All Zones Lit are Selected
- 5 Change Area – Select Temperature Set, Enter Set Point, Press Enter, All Zones Selected will Change
- 6 Select Zone or Zones, Press 1st Zone, Hold, Press Last Zone, Hold, Release. All Zones Lit are Selected
- 7 Change Area – Select Automatic/Manual Selection, Enter "0" for Automatic Operation, Press Enter
- 8 Turn "On" Zone Power Switch. Apply Power to Manifolds first if required by Manifold Supplier
- 9 Zones will read a Low Temperature Alarm, Zones are close or holding Set Point When the Green Temperature Holding Set Point Light is Illuminated



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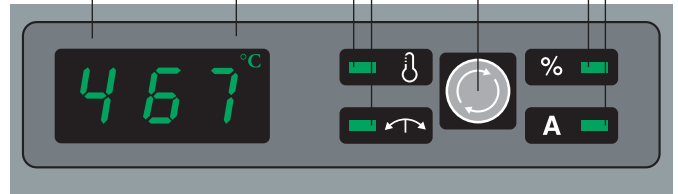
www.gammaflux.com; www.gammaflux.de

"I" = On, "O" = Off
Power Switch Zone 1



Degree C if lit, degree F if dark
Actual Value for zone selected, if a group is selected the lowest zone is displayed
Deviation from automatic set point
Actual Temperature
Percent output
Select
Amps

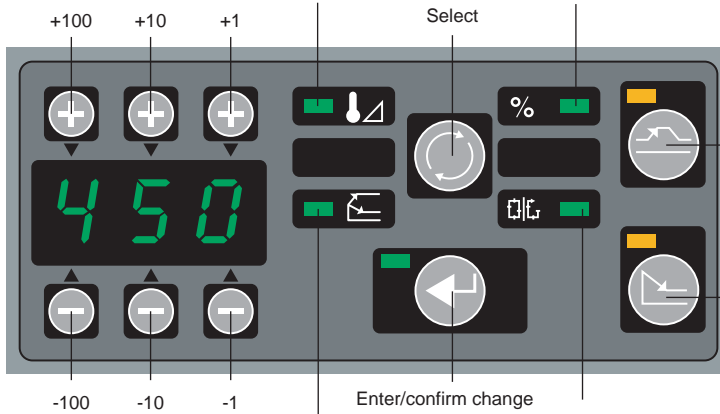
View Area



Temperature set point, change/view
(Select zones – Press 1st zone and hold, press the last zone, release, enter set point, press enter)

Manual % set point, change/view (Select zones – press 1st zone and hold, press the last zone, release, enter % set point, press enter, all zones lit will change)

Change Area



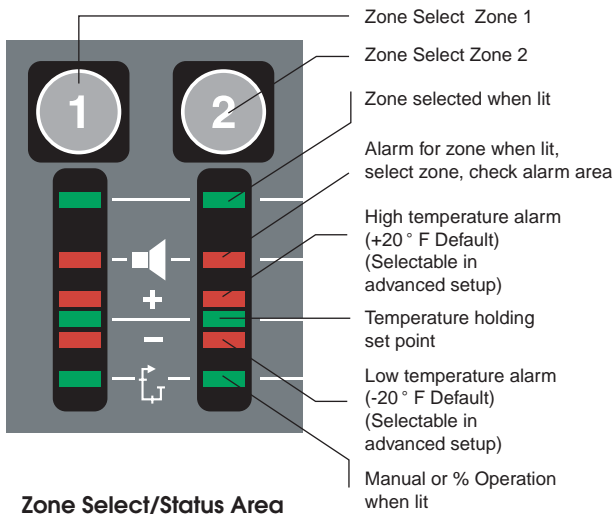
Boost – Temporary increase to zones selected, degrees increased selectable, default in setup (20° F), Time increased selectable in setup (1 min. default) (Select zones – Press 1st zone and hold, press the last zone, release, press boost – enter boost amount, enter, all zones lit will change (To cancel, press boost)

Standby – (all zones) Change automatic set point to temperature in setup (220° F default), cut manual % set point in half (Press standby, press enter) (To cancel press standby)

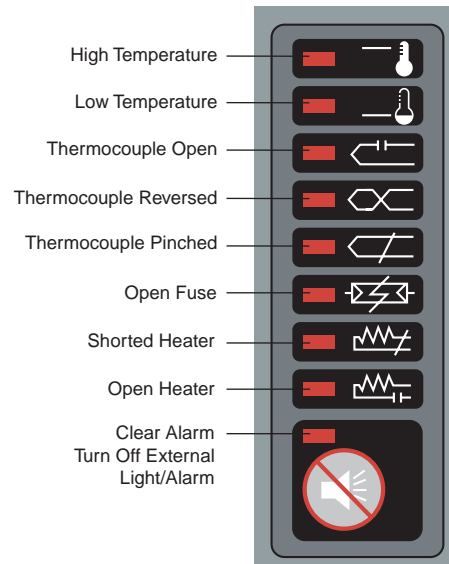
Trim – Permanent, automatic set point change for zone or zones selected. (Select zones – press 1st zone and hold, press the last zone, release, enter change amount, press enter, all zones lit will change) (+/- 20° F Max)

Automatic/manual selection (Select zones – press 1st zone hold, press the last zone, release, enter 0 or 1, press enter)
"0"=Automatic or temperature control
"1"=Manual or % control

Alarm Area



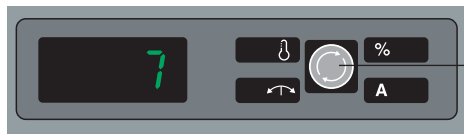
Zone Select/Status Area



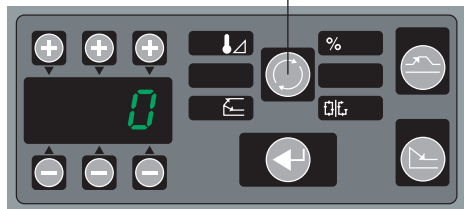
Advanced Set Up

The GLC 2K is shipped to the customer so that No set up work is required for basic operation. Set points in Automatic and Manual may be entered and the zone will be controlled by turning on the zone's power switch. Many customers require advanced features to satisfy their operation. This page will describe the basics of "Advanced Set Up". Please note that security level codes are not standard. To place security on the GLC 2K you must activate security by selecting your own personalized security codes.

View Area



Change Area



Access/Exit Advanced Setup

To Access Advanced Set Up, Press both Select buttons at the same time, hold and release. Selection LED's go dark when in Setup Mode.

Instructions

The View Area will display the Set Up Number.
The Change Area will display the Current Value.

To Scroll Up – Press the View Area Select Key
To Scroll Down – Press the Change Area Select Key
To Make a change – Press the + or - Keys.
To Confirm the Change – Press Enter.
To Set up the Controller please reference the Advanced Set Up Guide.

Advanced Setup Guide – Level 2 Security to Change

#	Limit (Default)	Explanation
(0)	0-4 (0)	Restore Mold Set Up - Access Setup, 0-View Area, Select Mold Set Up 1-4 - Change Area, Enter
(1)	0-4 (0)	Save Mold Set Up - Access Setup, 1-View Area, Save As 1-4 - Change Area, Enter
(2)	+/- 100F or 50C (20F)	Boost Set Point, Timed Automatic Temporary Set Point Change for the selected zones
(3)	999 Seconds (60 Sec)	Boost Time Set Point - The amount of time the selected zone or zones will change temporarily
(4)	932F or 500C (932F)	Automatic Set Point Limit - The Maximum Set Point the operator can enter in Automatic
(5)	+/- 100F or 50C (20F)	Temperature Deviation Alarm Set Point - Set Point activates temperature alarm at that # +/-
(6)	600F or 315C (220F)	Standby Set Point - When Standby is Selected it will control to this number in Automatic
(7)	-1 to 27 (0)	Control Algorithm Adjustment, 0=Auto Select (1=Tip Tuning; 2=Man. Tuning). Manual Selections: -1=Faster Control (Tips), 10=Tip; 11-17=Tip with increasing lag, 20=Manifold, 21-27=Manifold with increasing lag
(8)	-1 to 2 (0)	T/C Pinch Detection Time, 0 Normal = 100% Output, 20F in 5 Min. -1 Faster (Tips), 1-2 Slower (Manifolds)
(9)	0 or 1 (0)	Slaved Power Up - Heat all zones to Set Point within 20F of one another, 0 - "Off" 1 - "On"
(10)	0 or 1 (0)	Degree F or C Selectable, 0 = Degree F, 1= Degree C
(11)	0 or 1 (0)	Type J or K Thermocouple Input, 0 = Type J, 1 = Type K
(12)	0 or 1 (0)	Host Computer Protocol, 0 = Gammaflux Protocol (Mold Doctor, etc.), 1 = Euromap 17 Protocol
(13)	0-99 (0)	Network Port Device Number – The address of the controller on the Euromap 17 Network.
(14)	0-3 (0)	Host Baud Rate – Communication Speed; 0=9600, 1=4800, 2=2400, 3=1200
(15)	- - -	Reserved for Future Use
(16)	- - -	Reserved for Future Use
(17)	000 - 999 (None)	Security Code Level 1 – You Must be in Level 2 to Change, Refresh procedure available, call the factory
(18)	000 - 999 (None)	Security Code Level 2 – You Must be in Level 2 to Change, Refresh procedure available, call the factory
(19)	0-999 (Custom)	Zone Finder – Activate Press 999, Hundreds show T/C inputs 1-3 Tiers, Tens/Ones show # of Output Modules
(20)	0 (0)	LED Test - Enter 0, Press Enter. Turns "On" all LED's for Troubleshooting
(21)	0-6 (0)	Error Status, Select Zone, View Error. 0=No Error, 1=No Communication, 2=Zone Not Allocated, 3=Output Controller Not Receiving Temperatures, 4=No Sync/Lost Phase, 5=Communication Error/Checksum, 6=Communication Error/Exceeded Limit
(22)	- - -	Output Controller Software Version Number (Display Only), Select Zone, Version Displayed
(23)	- - -	Output Controller Software Revision Number (Display Only), Select Zone, Revision Displayed
(24)	- - -	Temperature Module Software Version Number (Display Only), Select Zone, Version Displayed
(25)	- - -	Temperature Module Software Revision Number (Display Only), Select Zone, Revision Displayed
(26)	- - -	Operators Panel Software Version Number (Display Only), Select Zone, Version Displayed
(27)	- - -	Operators Panel Software Revision Number (Display Only), Select Zone, Revision Displayed
(28)	000 - 999 (Level 2)	Security Level Indicated, 0=Lockout, 1=Operator, 2=Supervisor. 0 - Enter, Drops one Level. Elevate One Security Level at a Time with your Customized Code. Then Press Enter.

Basic Troubleshooting

Alarm Area

Thermocouple Open – The Thermocouple Connection is Broken Somewhere, Follow General Troubleshooting

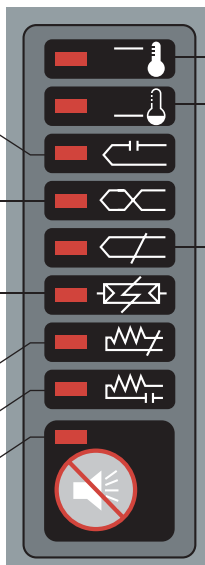
Thermocouple Reversed – The Thermocouple Connection is cross wired + to – at some connection point. Visually inspect each connection point, for Type J US Standard Red wire should connect to Red Wires, not Red to White.

Open Fuse – Turn “Off” Main Disconnect, Remove top cover, locate zone module, Check both fuses.

Shorted Heater – The Heater is Shorted or Exceeds the Rating of the Controller, Follow General Troubleshooting

Open Heater – The Heater Connection is Broken Somewhere, Follow General Troubleshooting.

Clear Alarm – Turns Off External Light/Alarm



High Temperature – The Temperature of the zone selected exceeds the deviation band in Setup (+20° F Default)

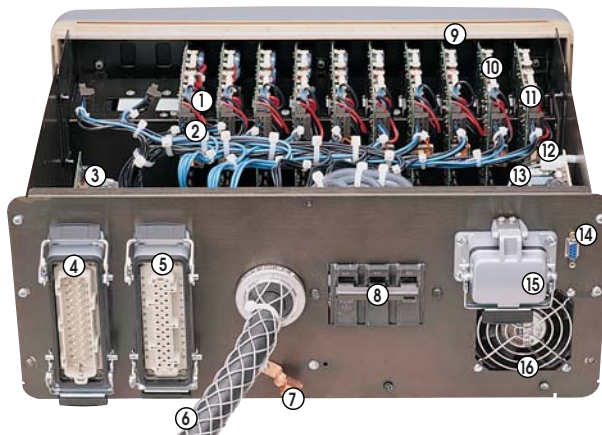
Low Temperature – The Temperature of the zone selected is below the deviation band in Setup (-20° F Default)

Thermocouple Pinched – The Thermocouple is pinched or the controller thinks the thermocouple is pinched. (Default: 100% output, must see +20° F in 5 Minutes), Selectable detection times in Advanced Setup. True Thermocouple Pinched – The Thermocouple is Sensing the Temperature Further away from the Heat Source than intended. Without alarm, Temperature reads low, controller applies power, runaway heat. False Thermocouple Pinched – The heater is too small to heat the zone or the T/C is located too far away. Replace heater, move the T/C or adjust Alarm.

General Troubleshooting – Turn “Off” Main Disconnect

- 1 Check Resistance from Pin to Pin, at the Mold. Thermocouple should read 3-5 ohms. Heater should read greater than 16 ohms. If there is no continuity (Open Line) = Broken Connection, Open Heater or Open Thermocouple.
- 2 Check Resistance from Pin to Ground, at the Mold. Heaters Only – No Continuity (Open Line) is Good. Some Resistance is bad (Shorted).
- 3 Reattach the Cable to the Mold, Detach the Cable from the Controller. Check Resistance from Pin to Pin. If there is no Continuity (Open Line) = Connection broken in the Cable Set or the connectors are not making contact.
- 4 Reattach the Cable to the Mold, Detach the cable from the Controller. Check Resistance from Pin to Ground. Heaters Only – If you see any resistance to ground, wires are shorted in the cable set or the connectors are shorting to Ground.
- 5 At this point if everything is fine, the problem is in the Controller. (1) Remove the top cover, (2) Check Fuses on top of the Output Module, (3) Swap bad output module into known good spot, Replace Cover, Test Zone – Same Problem = Bad Module. Problem not duplicated – return module to slot, Replace Cover, Access Setup Code #21, Explanation on Advanced Set Up Page.
- 6 If the Problem is not explained, or you need spare parts please call Gammaflux at +1-(703) 471-5050, +49-(0)-611-973430 or +81-(836) 54-4369.

- 1 Module Power Connector
- 2 Communications Bus (Below Power Connector)
- 3 Thermocouple Input Module
- 4 T/C Inputs (Zones 1-12)
- 5 Power Outputs (Zones 1-12)
- 6 Input Power Cable
- 7 Ground Lug
- 8 Main Disconnect



- 9 Output Switch (Operator Side)
- 10 Fuses
- 11 Output Module
- 12 Power Supply
- 13 CPU Board (Under Power Supply)
- 14 RS 232/RS 485 Communications
- 15 Resettable Alarm Output, Remote Standby, Control Inhibit
- 16 Fan