



**GLC Non-Expandable**

# Hot Runner Temperature Control Systems

Global Hot Runner Control Solutions



**Gammaflux®**



# Hot Runner Controls with Unmatched Performance and Value



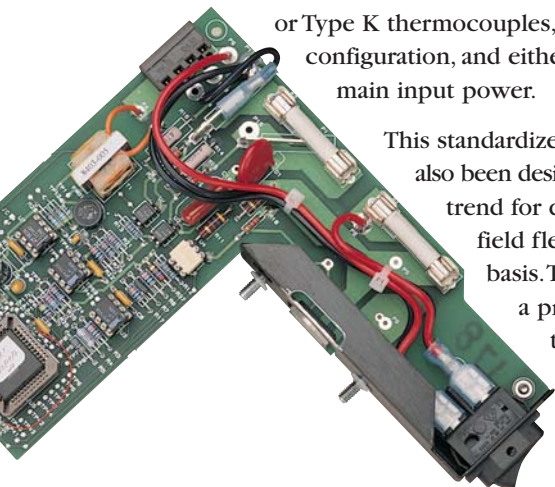
## An Advanced Hot Runner Temperature Controller for Global Markets

The new Gammaflux GLC Non-Expandable (NE) Hot Runner Temperature Control system is a compact, industry hardened and attractively styled controller based upon single zone integrity using microprocessor based temperature control modules. This new product is affordably priced yet features the same Gammaflux quality you have come to expect over the years.

The modular enclosure packaging of the GLC NE allows for a very small "footprint" of 18 3/4" width by 9" height by 15" depth (476 mm X 229 mm X 381 mm). Each compact enclosure can accommodate up to 6 microprocessor controller modules, each rated at 15 amperes. Each control module uses the Gammaflux proprietary PID<sup>2</sup> control algorithm. This algorithm is time tested and proven on hot runner systems around the world. Customer input during the design process has yielded a system with all options "built-in" and a system housing that is easy to install, configure in the field and access for routine service.

To meet the needs of international markets, the GLC NE accommodates field selection of Type J or Type K thermocouples, °F or °C temperature configuration, and either delta or wye style of main input power.

This standardized product package has also been designed to meet the growing trend for quick delivery and in field flexibility on a global basis. The GLC NE represents a product that is as close to an "off-the-shelf"



control system as is possible - but unlike other off-the-shelf systems, it can be easily customized to meet each molder's unique requirements.

## Designed for Ease of Use - Worldwide

Each 6 zone GLC NE controller includes a unique operator's interface featuring icons to identify the control functions, process values and alarm status, in a simple and easy to understand format. These icons allow for the application of the GLC NE on a global basis. All hot runner set up and mold performance and monitoring information is accomplished by using the operators interface panel located on the front of the enclosure. GLC NE users can even program in their temperature deviation alarm band to meet their specific process or material requirements. Control zone identification can be created in whatever format the user wants (alpha, numeric, etc.)



Eight mold status alarms for each zone are located on the operator's panel interface for quick and easy identification of any mold process disturbance. The alarm status center continuously monitors all thermocouples, heater

power and the mold temperatures. There is no scrolling required to access any of the alarm functions.

Also included on the operator's panel interface is a 6 zone "Quick Glance" LED array showing the performance of each zone. If all indicator segments in this section of the operator's panel are green, it is a quick and easy way for the operator to know immediately that the controller is operating within performance specifications. Any red segment is an indication that there is an upset to the process.





# Product Comparison – GLC Non-Expandable vs. GLC International

## GLC Non-Expandable



Recommended for 4 – 6 Zones

## GLC International



Recommended for 7 – 12 Zones

Core Description	GLC Non-Expandable	GLC International
Maximum zones	6	36
2 year warranty	X	X
Modular design	X	X
Automatic/manual control	X	X
Adaptive PID <sup>2</sup> control algorithm	X	X
Algorithm is executed 20 times per second	X	X
Extended tuning ranges (fast/slow)	X	X
Phase angle firing	X	X
Wet heater bakeout	X	X
T/C resolution 0.2 degrees F over full scale	X	X
Zone on/off	X	X
Delta/wye convertible option	X	X
Degree F/C (field selectable)	X	X
Thermocouple J/K (field selectable)	X	X

Actual Values	GLC Non-Expandable	GLC International
Actual temperature	X	X
% output	X	X
Deviation from set point	X	X
Amps	X	X

Alarms	GLC Non-Expandable	GLC International
High temperature (adjustable)	X	X
Low temperature (adjustable)	X	X
Thermocouple pinched (adjustable time)	X	X
Thermocouple open (remembered % output)	X	X
Thermocouple reversed	X	X
Open fuse	X	X
Shorted heater	X	X
Open heater	X	X

Operational Features	GLC Non-Expandable	GLC International
Menu Storage	4	4
Instant Grouping	X	X
Boost (selectable time/amount)	X	X
Trim	X	X
Slaved power up (enable/disable)	X	X
Automatic set point limit	X	X
Security levels	X	X
On power up “on” or “off”	X	X

Software Features (\ = laptop/PC required)	GLC Non-Expandable	GLC International
Gammavision (SPC data/graphing)		\
Mold Doctor (advanced troubleshooting)		\
Field Calibrator		\
Networking		X

Cable Connections on Enclosure (\ = some limitations apply)	GLC Non-Expandable	GLC International
HBE 16/24/48 or DME standard	X	X
PowerTECH modular connector		\
Custom Connectors		\

Inputs (\ = manual activation only)	GLC Non-Expandable	GLC International
Standby (also manually activated)	\	X
Control inhibit (voltage to activate)		X

Outputs	GLC Non-Expandable	GLC International
Resettable alarm output		X
Non-resettable alarm output		X

Selectable by zone

Since 1966 GAMMAFLUX has been the premier manufacturer of temperature control systems for hot runner injection molders. In addition to producing the most advanced temperature control and tool fault detection systems in the marketplace, GAMMAFLUX technology is available in a variety of temperature controllers that can accommodate any budget.



## GLC Non-Expandable Specifications

### Performance Specifications

Thermocouple Calibration Accuracy:	0.2°F (0.1°C)
Control Accuracy:	± 1°F (± 0.5°C)
Power Response Time:	8.5 msec. or one half line cycle at 60 Hz
Process Sampling:	50 msec. or 20 times per second
Control Algorithm	Proprietary PID <sup>2</sup> with adaptive tuning
Degrees F or C:	Field Selectable
Operating Range:	0-932°F (0-500°C)
Output Voltage:	0-240 VAC, phase angle fired
Standby Temperature:	User Selectable (0-600°F, 0-315°C)

### Input Specifications

Thermocouple:	Type J standard; Type K selectable (grounded thermocouples only)
Cold Junction Compensation:	Internal to enclosure
External Resistance:	10 Meg. Ohms
Temp. Variation Due To T/C Length:	None

### Electrical

Input Voltage:	160-265 VAC Delta, 160-265 VAC Wye
Frequency:	47-53 Hz, 57-63 Hz
Ambient Temperature Range:	32-115°F (0-45°C)
Humidity Range:	10-95% non-condensing
Output Module Rating:	240V: 1 zone - 15 Amps/3600 Watts per zone (1 slot)

### Performance Standards

U.S., Canadian and International:	CE Mark I.E.C. 801-1, 801-2, 801-3, 801-4 *Safety UL-508, UL-873 and CSA
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\*Designed to meet

### Physical Specifications

	in inches	in millimeters
Width	18 <sup>3</sup> / <sub>4</sub>	476
Depth	15	381
Height	9	229

Specifications subject to change without notice

## User's Cards



Basic and Advanced User's Cards ease system operation and are available in a variety of languages.



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