

Multi-channel power controller

A smart approach to fast, low-noise heater power regulation.



**ACTUAL
SIZE**

Advanced Industrial Automation



Phase angle	Zero cross	Standard SSR solutions	
~0	0	1s	5s 10s +
SCR	G3ZA + SSR	SSR	EM relay
High speed High resolution			Low speed Coarse resolution

Product positioning

The G3ZA is a multi-channel power controller that provides clever switching of up to eight solid state relays (SSRs). It is available in four versions - either with 4 channels (with heater burnout alarm) or 8 channels (without heater burnout alarm), and for high- or low-voltage power supplies.

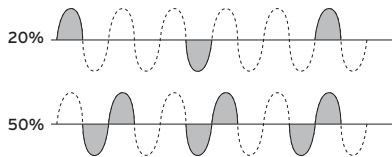
This multi-channel power controller is designed to improve performance of existing heater switching control components while reducing complexity and costs. Install the G3ZA beside a bank of SSRs and reap the benefits of reduced wiring and simplified programming control! The advantages of this

distributed control are immediately apparent. The small-sized unit can control up to eight SSRs with only a single RS-485 2-wire link to the PLC or PC. The manipulated variable control signal (output %) from the PLC is automatically converted into a PWM trigger signal within the G3ZA, so there is no need for an extra conversion unit or digital output cards.

The G3ZA is designed according to Omron's Smart Platform concept for easy integration of components and systems. PLC function blocks are available to significantly reduce ladder programming time.

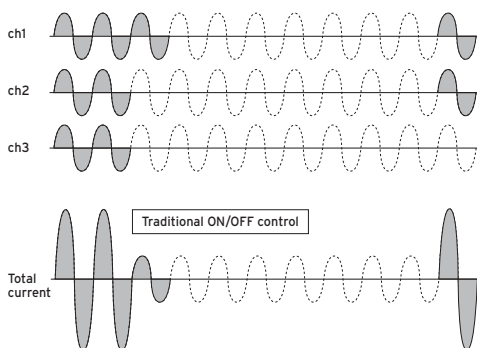
Optimum Cycle Control

The G3ZA uses Optimum Cycle Control to improve overall performance and provide more accurate temperature control. When used together with any zero-switching SSR (e.g. Omron's G3NA) the G3ZA achieves extremely low power noise levels that meet stringent EMC standards. Power factor is significantly improved and bulky filtering installations normally required for phase control are not needed. In addition, the G3ZA uses half-cycle switching and has a resolution of 10ms, making it ideal for applications where precise temperature control is crucial.



Offset control

By using an offset control algorithm for the various channels, the G3ZA reduces peak switching currents and enables the downsizing of ancillary units and cabling. At lower powers in a full production cycle (for example MV < 40%), the benefit becomes significant because the total current is distributed more evenly in time. The more heaters you use the greater the benefit!



Available product types

	Number of channels	Heater burnout detection	Load power supply
G3ZA-4H203-FLK-UTU	4	Yes	100 to 240 VAC
G3ZA-4H403-FLK-UTU			400 to 480 VAC
G3ZA-8A203-FLK-UTU	8	No	100 to 240 VAC
G3ZA-8A403-FLK-UTU			400 to 480 VAC

Monitoring and control

The G3ZA uses an RS-485 communications link to receive MV signals from a PLC or PC and to send back status information (like heater burnout detection). Because it only involves a two-wire link, the G3ZA can be located inside the power cabinet, and the cabinet can be placed close to the heater.

Typical applications for the G3ZA include:

Multi-zone electrical ovens

In roller hearth continuous furnaces, where temperatures reach 800°C, the G3ZA's stable, distributed switching is ideal during critical parts of the heating process.

Thermo-moulding

The G3ZA is suitable for the PET bottle pre-forming process where many heaters are needed along with lots of power and precise heating control to get the moulded product just right.

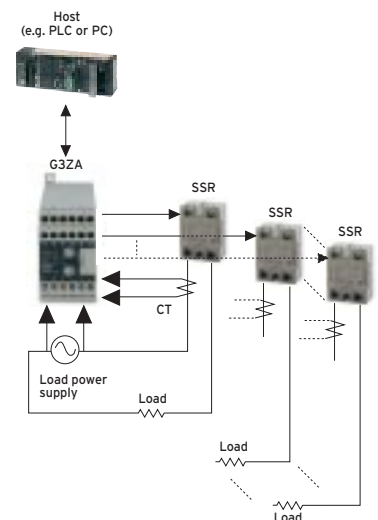
TV industry

The treatment and coating of glass windows, especially in the flat-panel display manufacturing process, requires fast, accurate heating and cooling. The G3ZA's ability to distribute power accurately and quickly makes it suitable for this application.



Features at a glance

- Compact size
- Capable of driving up to eight SSRs
- Connects to RS-485 Compoway-F network (ModBus in preparation)
- Better performance with standard SSRs
- Lower noise than with Phase Angle (SCR) control
- Lower peak current when using offset control



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