



**ACTION
INSTRUMENTS**

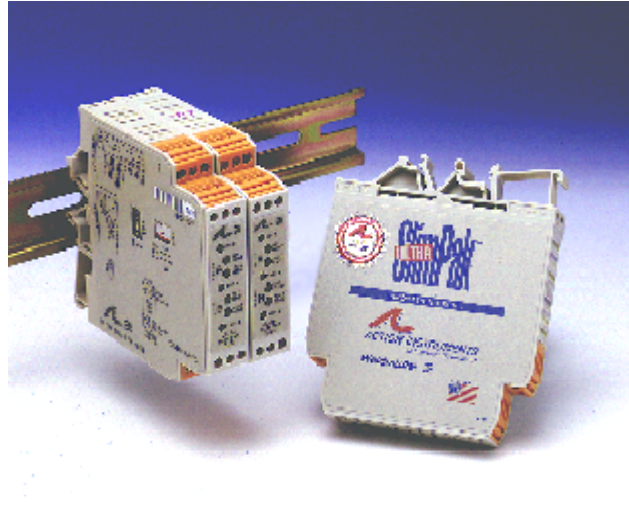
*Protecting the
Integrity of
Industrial
Process Signals*

ULTRA SLIMPAK® G108 MODEL



Benefits

- Easy Field Configurable Input Ranges
- Adjustable Setpoints Programmable HI or LO and Failsafe or Non-Failsafe
- Ultra Slim 17.7mm Housing Mounts on DIN Rail for High Density Installations
- LED Trip and Input Indicators
- 24VDC Transducer Excitation
- Flexible Power Supply Accepts 9 to 30 VDC
- ASIC Technology for High Reliability
- Lifetime Warranty



DC Input, Field Configurable Limit Alarm

Provides Relay Contact Closure(s) at a Preset DC Input Level

DESCRIPTION

The Ultra SlimPak G108 is a DIN rail mount, DC voltage or current input limit alarm with dual setpoints and two contact closure outputs. The field configurable input and alarm functions offer flexible setpoint capability. Input voltage spans from 10mV to 200V and input current spans from 1mA to 100mA can be field configured. Bipolar inputs are also accepted.

The G108 is configurable as a single or dual setpoint alarm, with HI or LO trips and failsafe or non-failsafe operation. Also included are adjustable deadbands (0.25 to 5% of full scale input) for each setpoint, a 24VDC voltage source (isolated from line power) for transducer excitation, and a flexible DC power supply which accepts any voltage between 9 and 30VDC.

DIAGNOSTIC LEDs

The G108 is equipped with three front panel LEDs. The green LED is a dual function LED labeled INPUT. This LED indicates line power and input signal status. Active DC power is indicated by an illuminated LED. If this LED is off, check DC power and wiring connection. If the input signal is more than 110% of the full scale range, the LED will flash at 8 Hz. Below 0%, the flash rate is 4 Hz.

Two red LEDs indicate the relay state for each setpoint. An illuminated red LED indicates the tripped condition.

OUTPUT

The G108 is equipped with two SPDT (form C) relays, rated at 120VAC or 28VDC at 5 amperes. Each of these relays is independently controlled by the field configurable setpoint and deadband.

SPECIFICATIONS

Inputs	Voltage Input	Range: 10mV to $\pm 200V$ Impedance: $>100K\Omega$ Overvoltage: 200V rms, max.
	Current Input	Range: 1mA to $\pm 100mA$ Impedance: 20Ω , typical Overcurrent: 170mA rms, max. Overvoltage: 60VDC (protected by self-resetting fuse)
	Common Mode (Input to Ground):	1800VDC, max.
	LED Indicators	Input Range (Green) >110% input: 8Hz flash <0% input: 4Hz flash
	Setpoint (Red)	Tripped: Solid red Safe: Off
Limit Differentials (Deadbands)	>50mV/5mA: 0.25% to 5% of span	
	<50mV/5mA: 1% to 5% of span	
Response Time	Dynamic Deadband: Relay status will change when proper setpoint/process condition exists for 100msec. Normal Mode (analog filtering): <250mSec, (10-90%)	
Setpoints	Effectivity: Setpoints are adjustable over 100% of the selected input span.	
	Repeatability (constant temp.):	>50mV/5mA: 0.1% of full scale <50mV/5mA: 0.2% of full scale
	Stability	Temperature: $\pm 0.05\%$ of full scale/ $^{\circ}C$, max.
Excitation Voltage	24VDC, 20mA, maximum	
Common Mode		

Rejection	DC to 60Hz: 120dB	
Isolation	1800VDC between contacts, input and power	
EMC Compliance (CEMark)	Emmissions: EN50081-1	
	Immunity: EN50082-2	
	Safety: EN50178	
Humidity (Non-Condensing)	Operating: 15 to 95% (@45 $^{\circ}C$) Soak: 90% for 24hours (@65 $^{\circ}C$)	
Temperature Range	Operating: 0 to 55 $^{\circ}C$ (32 to 131 $^{\circ}F$) Storage: -25 to 70 $^{\circ}C$ (-13 to 158 $^{\circ}F$)	
	Power	Consumption: 1.5W typical, 2.5W max. Supply Range: 9 to 30VDC, inverter isolated
Relay Contacts	2 SPDT (2 form C) Relays	
	1 Relay per setpoint	
	Current Rating (resistive)	120VAC: 5A 240VAC: 2A 28VDC: 5A
	Material: Gold flash over silver alloy	
	Electrical Life: 10^9 operations at rated load <i>Note: External relay contact protection is required for use with inductive loads (see Figures 2 & 3).</i> Mechanical Life: 10^7 operations	
Wire Terminations	Screw terminations for 12-22 AWG	
Weight	0.56lbs.	
Agency Approvals	CSA certified per standard C22.2, No. 0-M91 and 142-M1987 (File No. LR42272) UL recognized per standard UL508 (File No. E99775) CE Conformance per EMC directive 89/336/EEC and Low Voltage 73/23/EEC (Input $\leq 75VDC$, only).	

RELAY PROTECTION AND EMI SUPPRESSION

When switching inductive loads, maximum relay life and transient EMI suppression is achieved using external protection (see Figures 2 and 3). Place all protection devices directly across the load and minimize all lead lengths. For AC inductive loads, place a properly-rated MOV across the load in parallel with a series RC snubber. Use a 0.01 to 0.1 μF pulse film capacitor (foil polypropylene recommended) of sufficient voltage, and a 47 Ω , 1/2W carbon resistor. For DC inductive loads, place a diode across the load (PRV > DC supply, 1N4006 recommended) with (+) to cathode and (-) to anode (the RC snubber is an optional enhancement).

FACTORY ASSISTANCE:

For additional information on calibration, operation and installation please contact Action's Technical Services Group. Call toll free:

800-767-5726

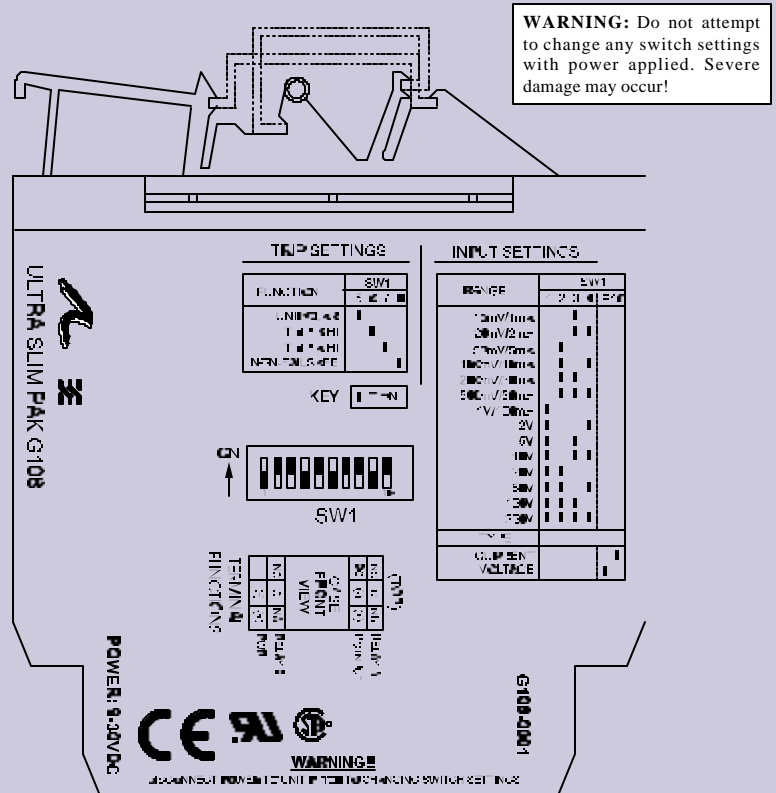


Figure 5: G108 Factory Calibration; 0-20mA, A-HI/B-LO, Non-Failsafe

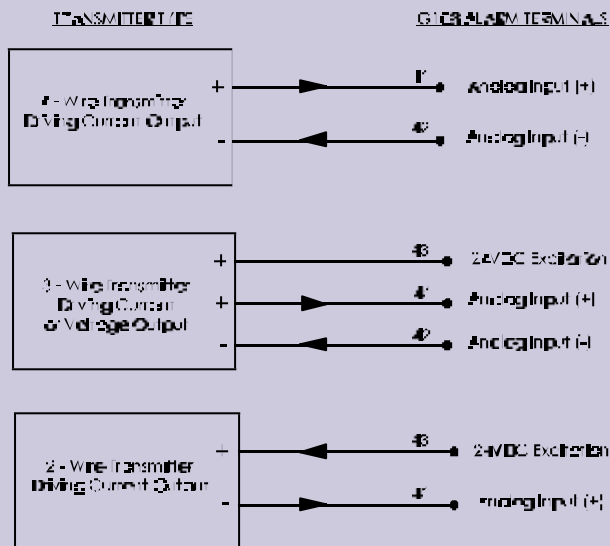


Figure 6: Typical connections of voltage or current inputs for G108

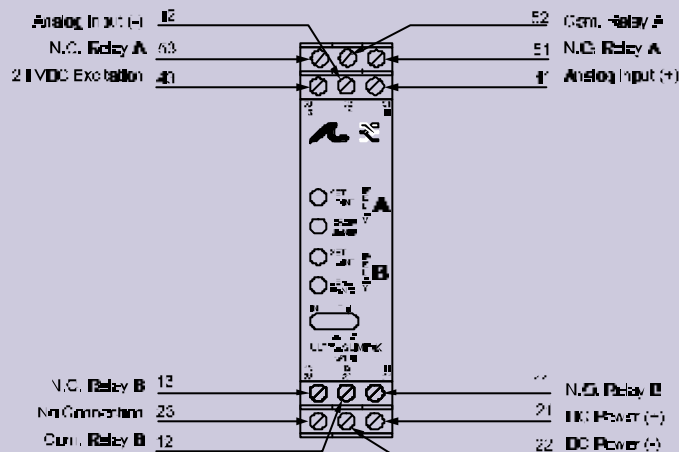
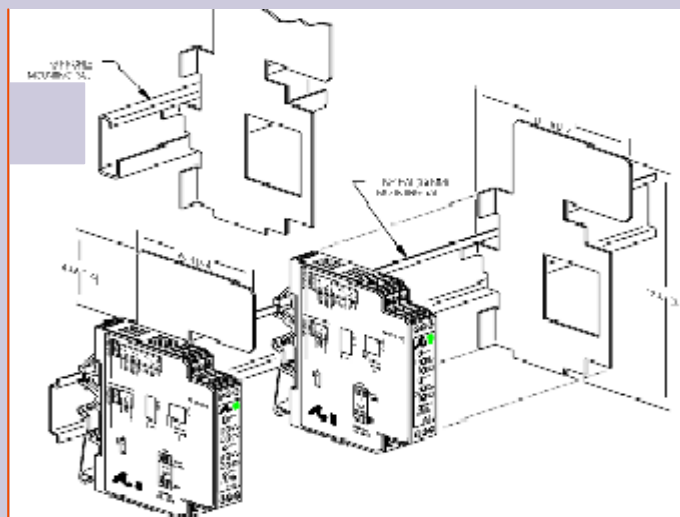
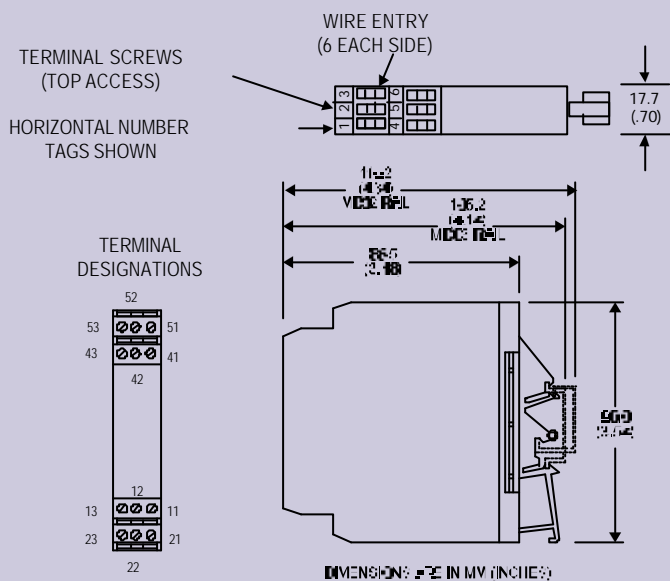


Figure 7: Terminal Wiring Diagram for G108

DIMENSIONS



Note: All SlimPak modules are designed and tested to operate in ambient temperatures from 0 to 55°C, when mounted on a horizontal DIN rail. When five or more modules are mounted on a vertical rail, circulating air or model HS01 Heat Sink is recommended. Please refer to HS01 Technical Bulletin (#721-0549-00) or contact factory for assistance.

MODELS & ACCESSORIES

Accessories

All SlimPak "G" series modules will mount on standard TS32 (model MD02) or TS35 (model MD03) DIN rail. In addition, the following accessories are available:

HS01	Heatsink (vertical rail applications)
MD03	TS35 x 7.5 DIN rail
G905	24VDC Power Supply (0.5A)
H910	24VDC Power Supply (1Amp)
H915	24VDC Power Supply (1.5 Amp)

MB03	End Bracket for MD03
C664	I/O Descriptive Tags
C006	Shunt Resistor (0.1Ω, 5A max.)

Ordering Information

Specify:

1. Model: **G108-0001**
2. Accessories: (see Accessories)
3. Optional Custom Factory Calibration; specify **C620** with desired input and output range.

Pin Connections

11	N.O. Relay B
12	Com. Relay B
13	N.C. Relay B
21	DC Power (+)
22	DC Power (-)
23	No Connection
41	Analog Input (+)
42	Analog Input (-)
43	(+) 24VDC Excitation
51	N.O. Relay A
52	Com. Relay A
53	N.C. Relay A