Electronic Interface Modules

G408-1000 Ultra SlimPak®

DC Input, Field Configurable Isolator, Bipolar Output

- field configurable via DIP switches for different input-output combinations
- eliminates ground loops and isolates to 1800Vdc between input, output and power
- field configurable input ranges 10mV to 100V, 1mA to 100mA
- field configurable output ranges -10 to +10V
  -5 to +5V
- ultra slim package 12.7mm
- 9 to 30Vdc powered
- CSA approved, UL recognized, CE marked

Weidmuller Ltd.
10 Spy Court
Markham, ON L3R 5H6
Tel: (905)475-1507
Fax: (905)475-5855

Weidmuller Ltd
821 Southlake Blvd.
Richmond, VA 23236 U.S.A.
Tel: (804)794-2877
Fax: (804)794-0252

ISO 9001 Registered

INPUT RANGES		SW1			
Voltage	Current	1	2	3	4
20mV	2mA			■	■
50mV	5mA		■		
100mV	10mA		■		■
200mV	20mA		■	■	
500mV	50mA		■	■	■
1V	100mA	■			
2V		■			■
5V		■		■	■
10V		■	■		
25V		■	■		■
50V		■	■	■	
100V		■	■	■	■

Table 1: G408-1000 input range selector - switch settings

Key: ■ ON

TYPE	SW1			
	5	6	7	8
UNIPOLAR	■			
REVERSE		■		
CURRENT				■
VOLTAGE			■	

Table 2: Input range and function settings

RANGE	SW1	
	9	10
-5V to 5V -10V to +10V		■

Table 3: Output range selector - switch settings

Description

The Ultra SlimPak G408-1000 is a DIN rail mount, DC input signal conditioner with 1800Vdc isolation between input, output and power. The field configurable input and output offers flexible, wide ranging capability for DC current and voltage signals.

The input of the G408-1000 Ultra SlimPak can be configured for any one of 12 voltage ranges from 10mV to 100V or 6 current ranges from 1mA to 100mA (see table 1). The output is linear to the input and can be set for -5V to +5V or -10 to +10V.

Wide ranging, precision zero and span pots allow 50% adjustability of offset and span turn-down within each of the 18 switch selectable ranges. For example, the 0-2mA input range could be turned down to 0-1mA and provide a full scale output signal (e.g. -10 to +10V), or turned down and offset to achieve a 1-2mA/-10 to +10V I/O combination.

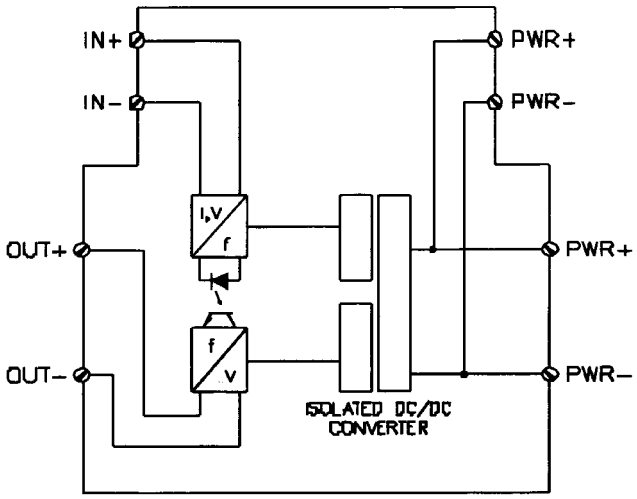
The G408-1000 also accepts bipolar inputs (e.g. 10V range set to bipolar = -10 to +10V) and offers selectable normal, or reverse operation (e.g. 4-20mA/+10 to -10V). The ASIC based I/O channel is optically isolated to 1800Vdc and is transformer isolated from the power supply.

Application

The Ultra SlimPak G408-1000 field configurable isolator is useful in eliminating ground loops, converting signal levels, and providing signal drive. The field configurable, wide ranging capability ensures maximum flexibility for most DC to DC applications, minimizing spare part requirements.

Diagnostic LEDs

The G408-1000 is equipped with a dual function LED signal monitor. The green, front mounted LED indicates both DC power and input signal status. Active DC power is indicated by an illuminated LED. If the input signal is more than 110% of the full scale range, the LED will flash at 8Hz. Below -10%, the flash rate is 4Hz.



Configuration

A major advantage of the G408-1000 is its wide ranging capability and ease of configuration. The G408 has 18 input range settings. Trim potentiometers allow 50% input zero and span adjustability within each of the 18 full scale input ranges. Unless otherwise specified, the factory presets the Model G408-1000 as follows:

Input Range: 4-20mA

Output Range: -10 to +10V

The DC power input accepts any source between 9 and 30V; typically a 12V or 24VDC source is used.

To minimize interference from electrical and magnetic fields, the use of shielded, twisted pair wires on the input and output is recommended.

WARNING **Do not attempt to change any switch settings with power applied. Severe damage will result!**

Refer to Tables 1 through 3 for the proper switch settings. Use the switches on SW1 to select the input type (voltage or current) and also to select the desired input range and function setting. Use SW2 to select the desired type of output.

Calibration

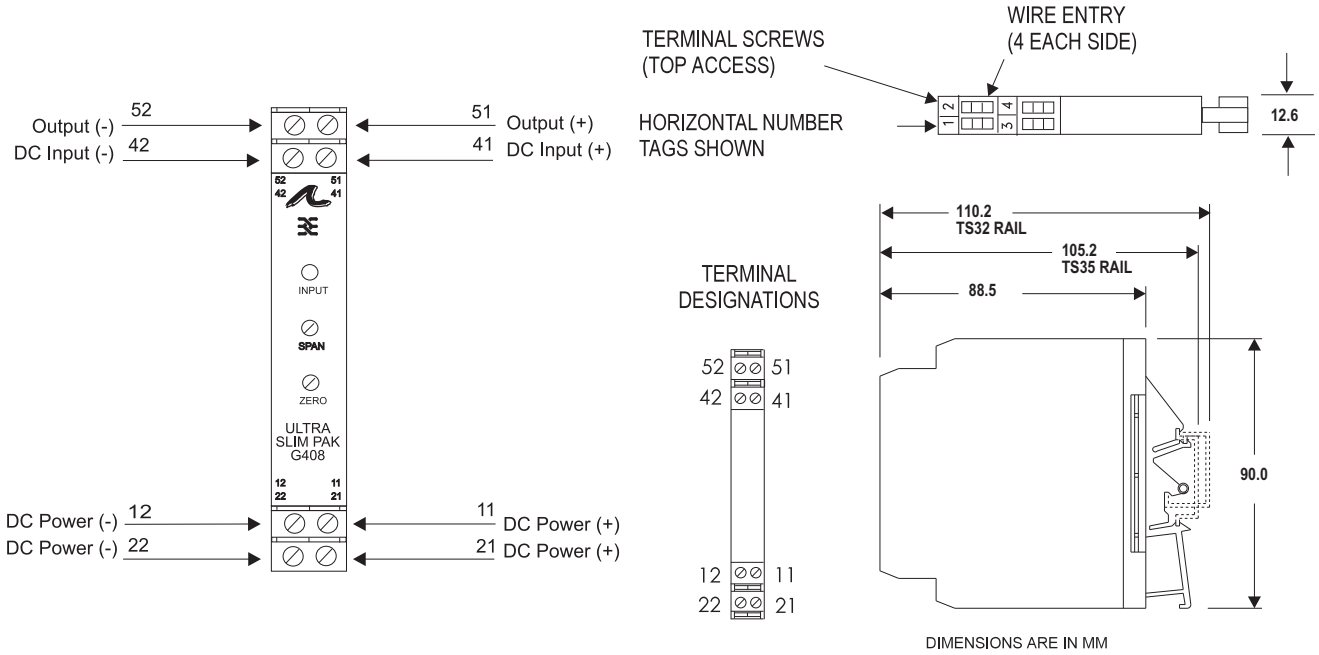
1. After configuring the dip switches, connect the input to a calibrated DC source. Connect the output to the actual device load (or a load approximately equivalent to the actual device load value) and apply power.

Note: To maximize thermal stability, final calibration should be performed in the operating installation, allowing approximately 1 to 2 hours for warm up and thermal equilibrium of the system.

2. Set the calibrator to the desired minimum input and adjust the zero potentiometer for the desired minimum output.

3. Set the calibrator to the desired maximum input and adjust the span potentiometer for the desired maximum output.

4. Repeat steps 2 and 3, as necessary, for best accuracy.



Rated data	
Input	DC current or voltage
Range	±1mA to ±100mA or ±10mVdc to ±100Vdc, DIP switch selectable
Impedance	20Ω for current, >100kΩ for voltage
Maximum ratings / type of protection	170mA, 60Vdc for current, 264Vrms for voltage
Field device excitation	
Other input specification	
Other input specification	
Output	DC current or voltage
Range	±5Vdc or ±10Vdc, DIP switch selectable
Load	>500Ω (-5 to +5V), >1000Ω (-10 to +10V)
Burnout level	
Zero / Span adjustment	0 to 50% of full scale input / 50 to 100% of full scale input
Protection	
Other output specification	
Other output specification	
Supply	DC voltage
Range	9 to 30Vdc, inverter isolated
Consumption	1.5W typ., 2.5W max. (200mA inrush at 9Vdc)
Other supply specification	
General	
Accuracy	±0.35% of full typ., 0.5% max (span <2mA or <20mA) or ±0.1% of full scale typ., 0.2% max. (span >2mA or >20mV)
Temperature coefficient (drift)	±0.025% of full scale/°C typical, ±0.05%/°C maximum
Transmission frequency	
Response time. 90% span	<200mS typical
Other general specification	Mean Time Before Failure: 60kHours
Status LED	input green (>110% of input: 8Hz, <-10% of input: 4Hz)
Isolation (# of ports)	1800V (3 port) between input, output and power
Operating / Storage temperature	0 to 55°C / -25 to 70°C
Housing (mounting)	EG8 (TS32 and TS35)
Dimensions (L x W x H)	90mm x 12.7mm x 112.7mm max.
Wire range (conductor size)	22-12AWG (0.5-4.0mm^2)
Insulation stripping length	7mm
Tightening torque	0.4-0.8Nm
Approvals	CSA (file LR-42272), UL (file E99775), CE marked (EMC dir. 89/336/EEC, LV dir. 73/23/EEC: Input <75Vdc only)
Ordering data	**Cat. No.**
Ultra SlimPak	**G408-1000** (factory calibration: 4-20mA In, -10 to +10V Out)
Heat sink (width)	**HS01-A** (1.6mm) (conditionally required depending on installation, see heat sink data)
Shunt resistor	**C006** (0.1Ω, 1%, 5W for use with external DC current source)
	Note: G408-100X where X is the revision level