



G468-0001



# ULTRA SLIMPAK®

## G468-0001

### AC Input Field Configurable Isolator

Provides an Isolated DC Output  
in Proportion to an AC Input



- Field Configurable Input Ranges: 50mV to 250VAC, 5mA to 5A AC
- Eliminates Ground Loops
- Field Configurable Outputs: 0-5V, 0-10V, 0-1mA, 0-20-mA and 4-20mA
- Ultra Slim Housing for High Density Installations
- Flexible Power Supply Accepts 9 to 30 VDC
- ASIC Technology for Enhanced Reliability
- RoHS Compliant

#### Description

The G468 is a DIN rail mount, AC input signal conditioner with 1800VDC isolation between input, output and power. The field configurable input and output offers flexible, wide ranging capability for scaling, converting or buffering AC inputs ranging from 5mA to 100mA or 50mV to 250V.

For AC current measurements above 100mA, use the model C006 shunt resistor (0.1 Ohm, 5Watt). This resistor must be wired in series with the current source, with the G468 configured to measure the voltage generated across the resistor (see Figure 3 for an example).

The DC output of the G468 is proportional to the average of the fully-rectified AC input signal, and is calibrated for sine waves between 40-400Hz.

#### Application

The G468 is useful in applications requiring an isolated, conditioned DC output from an AC signal. Typical applications include energy management, load shedding, motor current/load monitoring, locked rotor detection, isolation and data acquisition. The output of the G468 can drive a digital meter for direct display or it can interface with alarm or control devices, including PLCs and computers.

#### Diagnostic LED

The G468 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

The G468 has 15 input range switch settings. Trim potentiometers allow 50% input zero and span adjustability within each of the 15 fullscale, input ranges.

Since the unit has 50% adjustability, it can be ranged so that any 100 volt input span can create the full output (e.g., 25 to 125Vac = full output).

Unless otherwise specified, the factory presets the Model G468 as follows:

Input Range: 0-500mVAC  
Output: 4-20mA

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

Refer to Tables 1 through 3 for the proper switch settings. With power disconnected, use the switches (9 & 10) on SW1 to select the input type (voltage or current), on SW2 to select the desired output ranges, and (1-8) on SW1 to select the desired input range.

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

## Calibration

1. After configuring the DIP switches, connect the input to a calibrated AC source. Connect the output to the device (or a load approximately equivalent to the device) and apply power. Refer to the Terminal Wiring Diagram (Figure 2).

*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 and adjust the zero potentiometer for the desired minimum output.

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

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

Table 1: G468 Input Ranges

| Ranges     |         | Selector SW1 |   |   |   |   |   |   |   |   |    |
|------------|---------|--------------|---|---|---|---|---|---|---|---|----|
| Voltage    | Current | 1            | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 100mV      | 10mA    |              |   |   | ■ |   |   |   | ■ |   |    |
| 200mV      | 20mA    |              |   |   | ■ |   | ■ |   | ■ |   |    |
| 500mV      | 50mA    |              |   | ■ |   | ■ |   |   | ■ |   |    |
| 1V         | 100mA   |              |   | ■ | ■ |   |   |   | ■ |   |    |
| 2V         |         |              |   | ■ | ■ |   | ■ |   | ■ |   |    |
| 5V         |         | ■            |   | ■ |   | ■ | ■ |   |   |   |    |
| 10V        |         | ■            |   | ■ | ■ |   |   |   |   |   |    |
| 20V        |         | ■            |   | ■ | ■ |   | ■ |   |   |   |    |
| 50V        |         |              | ■ | ■ |   | ■ | ■ |   |   |   |    |
| 100V       |         |              | ■ | ■ | ■ |   |   |   |   |   |    |
| 200V       |         |              | ■ | ■ | ■ |   | ■ |   |   |   |    |
| 250V       |         |              |   | ■ | ■ |   | ■ | ■ |   |   |    |
| Input Type |         |              |   |   |   |   |   |   |   |   |    |
| Current    |         |              |   |   |   |   |   |   |   |   | ■  |
| Voltage    |         |              |   |   |   |   |   |   |   | ■ |    |

Key: ■ = 1 = ON or Closed

Table 2: G468 Output Ranges

| Output    | SW2 |   |   |   |   |   |   |   |
|-----------|-----|---|---|---|---|---|---|---|
|           | 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 0 to +5V  | ■   | ■ | ■ | ■ |   |   |   |   |
| 0 to +10V | ■   |   | ■ | ■ |   |   |   |   |
| 0 to 1mA  |     | ■ | ■ | ■ |   |   |   |   |
| 4 to 20mA |     |   |   |   |   | ■ | ■ | ■ |
| 0 to 20mA | ■   | ■ |   |   |   | ■ | ■ | ■ |

Key: ■ = 1 = ON or Closed

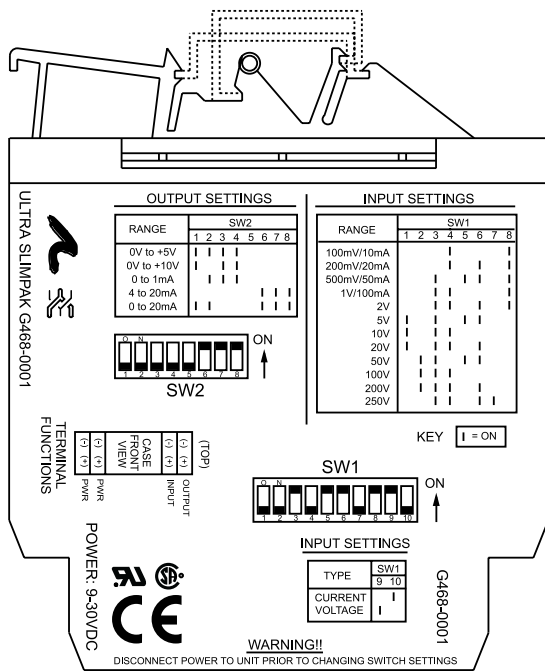


Figure 1: G468 Factory Cal: 0-500mVAC, 4-20mA

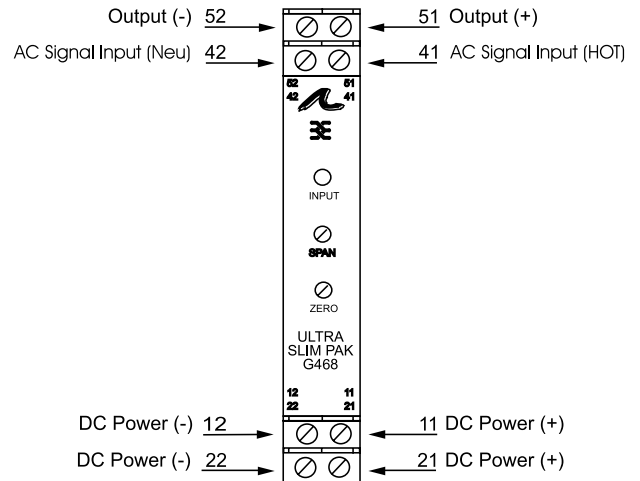


Figure 2: Wiring Diagram for G468

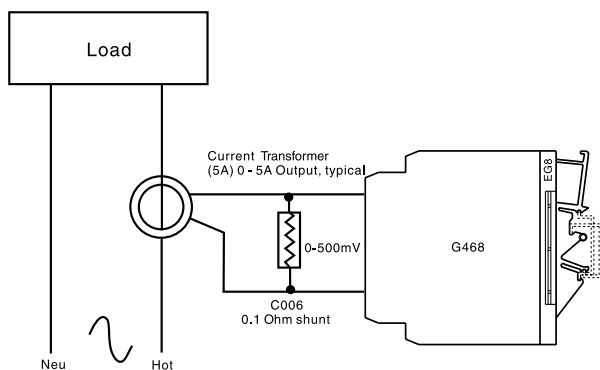
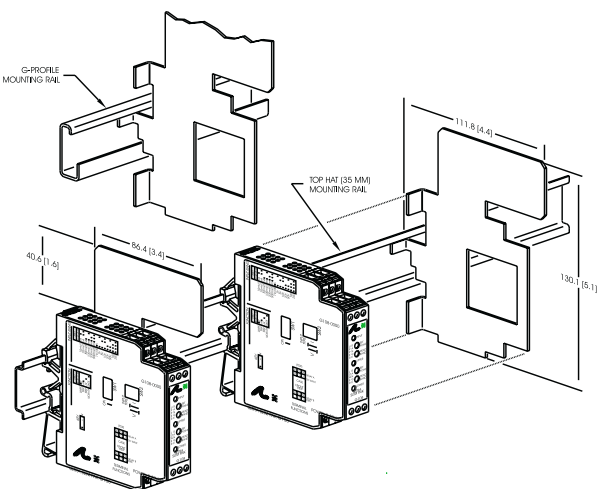


Figure 3: A Typical Application - Load Monitoring Using a Current Transformer and the G468



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

Figure 4: Mounting Multiple Modules

## Specifications

### Inputs:

#### Voltage:

Ranges: 100mV to 250VAC  
Impedance: >100K Ohms  
Overvoltage: 300VAC

#### Current:

Ranges: 10mA to 100mA AC  
Impedance: 20 Ohms, typical  
Overcurrent: 200mAAC  
Overvoltage: 60V peak

#### Frequency Range:

DC or 40 to 400Hz AC, factory calibrated at 60Hz

#### Common Mode (Input to Ground):

1800VDC, max.

#### Zero and Span Range:

Zero Turn-Up: 50% of full scale range  
Span Turn-Down: 50% of full scale range

### Output:

#### Voltage:

Output: 0-5V, 0-10V  
Source Impedance: <10 Ohms  
Drive: 10mA, max. (1K Ohms, min. @ 10V)

#### Current:

Output: 0-1mA, 0-20mA, 4-20mA  
Source Impedance: >100K Ohms  
Compliance:  
0-1mA; 7.5V, max. (7.5K Ohms, max.)  
0-20mA; 12V, max. (600 Ohms, max.)  
4-20mA; 12V, max. (600 Ohms, max.)

### LED Indicator (green):

8Hz flash when input is 110% of full scale range  
4Hz flash when input is 10% below full scale range

### Accuracy (Including Linearity, Hysteresis):

$\pm 0.1\%$  of span, typical  
 $\pm 0.5\%$  of span, maximum

### Stability:

$\pm 0.025\%/^{\circ}\text{C}$  of selected input span, typical.

### Response Time (10 to 90%):

250mSec., typical.

### Common Mode Rejection:

DC to 60Hz: 120dB

### Isolation:

1800VDC between input, output & power.

### EMC Compliance (CE Mark):

Emmissions: EN50081-1  
Immunity: EN50082-2  
Safety: EN50178

### Humidity (Non-Condensing):

Operating: 15 to 95% @ 45°C  
Soak: 90% for 24 hours @ 65°C

### Temperature Range:

Operating: 0 to 55°C (32 to 131°F)  
Storage: -25 to 70°C (-13 to 158°F)

### Power:

Consumption: 1.5W typical, 2.5W max.  
Range: 9 to 30VDC

### Wire Terminations:

Screw terminals for 12-22 AWG

### Weight:

0.48 lbs.

### Agency Approvals:

UL recognized per standard UL508  
(File No.E99775).  
CE Compliance per EMC directive 89/336/EEC  
and Low Voltage 73/23/EEC.  
RoHS Compliant

## Ordering Information

### Models & Accessories

#### Specify:

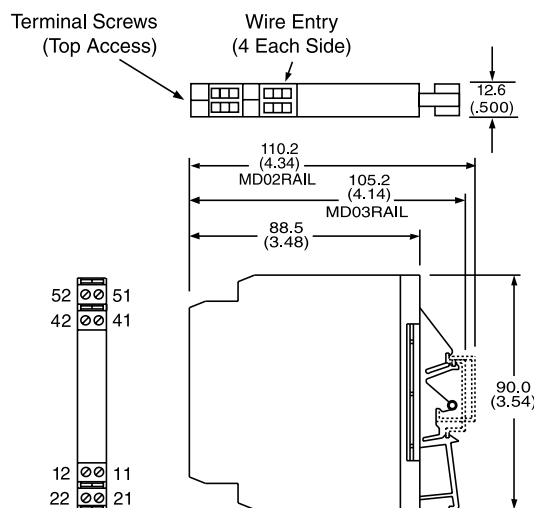
1. Model: **G468-0001**
2. Accessories: (see Accessories)
3. Optional Custom Factory Calibration; specify **C620** with desired input and output ranges.

### Accessories

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

|              |                              |
|--------------|------------------------------|
| <b>HS01</b>  | Heat Sink                    |
| <b>MD03</b>  | TS35 x 7.5 DIN rail          |
| <b>WV905</b> | 24VDC Power Supply (0.5 Amp) |
| <b>H910</b>  | 24VDC Power Supply (1 Amp)   |
| <b>H915</b>  | 24VDC Power Supply (2.3 Amp) |
| <b>MB03</b>  | End Bracket for MD03         |
| <b>C664</b>  | I/O Descriptive Tags         |

## Dimensions



Dimensions are in mm (inches)



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www.itm.com

information@itm.com