



WV468-2000

# ULTRA SLIMPAK® II WV468

## DC Powered AC Voltage/Current Input Isolating Signal Conditioner

High Accuracy Signal Conditioner with an  
Isolated DC Voltage or Current Output



- True RMS Output
- Lower Power Requirements with SmartPower
- Improved Accuracy
- Bussed Power with Plug-in Power Clips
- Removable Terminals for Easy Service

- RoHS Compliant
- Touch Cal for Best Stability and Accuracy
- DIP Switch Configuration
- Optional E-mail Notification of Alarms

### Description

The Ultra SlimPak II is an exciting new line of isolating signal conditioners from Action Instruments with greater accuracy and better stability than virtually any other signal conditioners on the market today. The Ultra SlimPak II features Smart Power, which eliminates wasted power for low loop resistance loads in the current output mode.

The WV468 has both voltage and current input ranges. Eight AC voltage input ranges (50mV, 150mV, 500mV, 5V, 20V, 50V, 150V & 250V) are DIP switch selectable. Each of these ranges has at least 95% zero and span adjustment. Two AC current input ranges (20mA and 100mA) are also available. Outputs include 0-10V, 0-20mA and 4-20mA. The WV468 also supports reverse output mode.

### Smart Power

The Ultra SlimPak II uses Smart Power to control its output supply. Smart Power automatically adjusts the the voltage to drive the output loop to the required current. A low impedance current loop will subsequently require less voltage than a loop with higher impedance. Previous designs provided only a single supply at the highest voltage required to drive the highest impedance load. Using Smart Power results in power savings and reduces the operating temperature of the signal conditioner.

### Enhanced LED Diagnostics

Other than when executing the pushbutton calibration routine, the LEDs blink under the following conditions:

#### GREEN:

Flashes at 2Hz when the input is under range.  
Flashes at 8Hz when the input is over range.

#### RED:

Flashes at 2Hz when the output is under range.  
Flashes at 8Hz when the output is over range.

An Under Range condition exists when the signal is lower than the operational low value minus 6.25% of the operational span. An Over Range condition exists when the signal is higher than the operational high value plus 6.25% of the operational span.

A voltage output short circuit may cause an under range condition (RED blinking at 2Hz rate). A current output open circuit may cause an over range condition (RED blinking at an 8Hz rate).

There could be two or more LEDs blinking at the same time, which means the module has more than one error condition. Only when all error conditions have been removed, will the LEDs be back to normal (Green ON, Red and Yellow Off).

## Configuring Modules

Unless otherwise specified, the factory presets the Model WV468 as follows:

Input: mVAC  
 Range: 0-500mV  
 Output: DC Current  
 Range: 4-20mA  
 Reverse Out: Off  
 Remote Cal: Off

1. For other ranges, refer to the SWITCH SETTINGS table. Reconfigure switches S1 and S2 for the desired input type and range.
2. Set position 1 of S1 to ON if a WVC16 will be utilized and remote calibration capability is desired.
3. Set position 2 and 3 of S1 for the desired output type.
4. Set position 4 of S1 to ON for reverse output operation.
5. Set positions 5-8 of S1 and positions 1 & 4 of S2 for the desired input range.

It is also possible to remotely select the setpoints using an Ethernet connection and the optional WVC16 WebView Communications Interface module.

## Calibration

See the calibration flowchart in Figure 3. The complete calibration procedure is contained in the Installation & Calibration Instructions document, which is available on our website ([www.actionio.com](http://www.actionio.com)). You can also obtain it by telephoning Action technical support (703-669-1318).

Note that Custom Calibration (option C620) is available from the factory (settings **MUST** be within the units specifications). For a C620, specify the following:

- a) Input Type, Range and Units.
- b) Output Type, Range and Units.
- c) Reverse Output (ON/OFF).

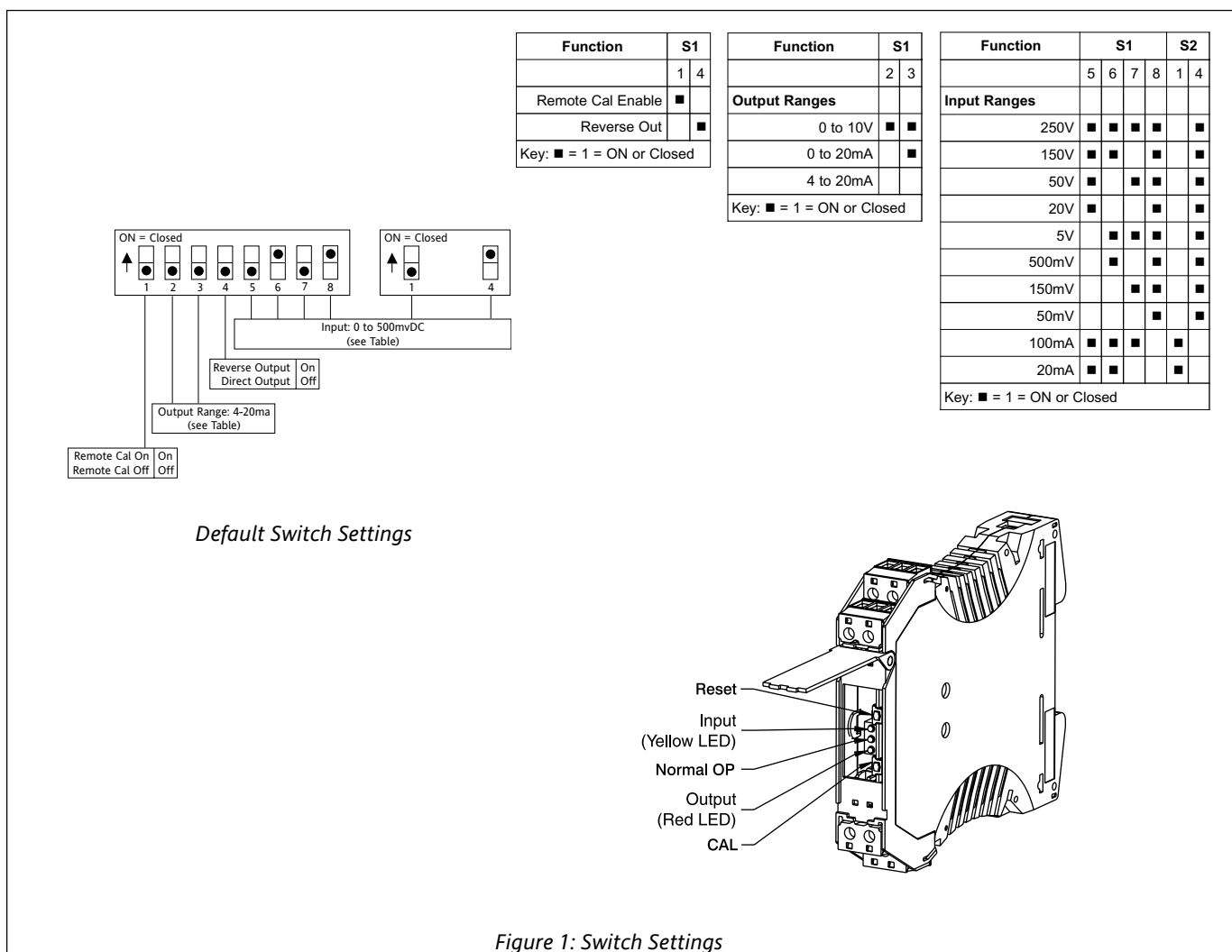
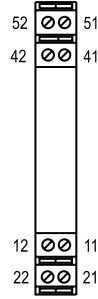


Figure 1: Switch Settings



Pin	Description
11	DC Power (+)
12	DC Power (-)
21	DC Power (+)
22	DC Power (-)
41	AC Input (hot)
42	AC Input (neutral)
51	Output (+)
52	Output Common

Figure 2: Wiring Connections

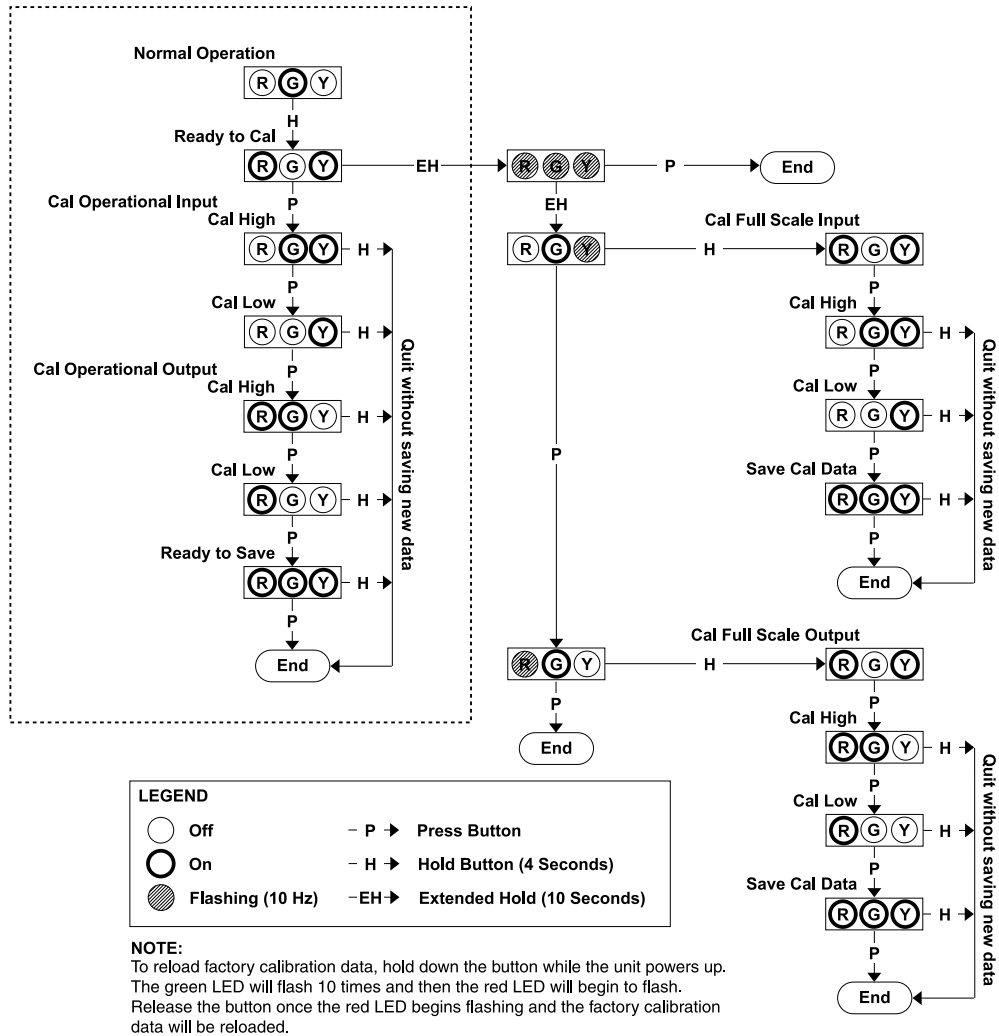


Figure 3: Calibration Flowchart

## Specifications

### Inputs:

#### Voltage Ranges:

50mV, 150mV, 500mV, 5V, 20V, 50V,  
150V, 250V @  $\pm 0.15\%$  of FS accuracy

**Impedance:** >100k ohms

**Over-voltage:** 275Vrms

#### Current Ranges:

20mA, 100mA @  $\pm 0.15\%$  of FS accuracy

**Impedance:** 10 ohms typical

**Over-current:** 200mA, protected by self-resetting fuse

**Over-voltage:** 60V

**Frequency Range:** 40 to 400Hz

**Linearity:**  $\pm 0.1\%$  of span, typical

### Input Ranges:

Pushbutton adjustable

Effective zero offset:  $\geq 95\%$

Effective span turndown:  $\geq 95\%$

**Turn-Up/Turn-Down:** 80% (90% to  $\pm 0.25\%$ )

**Output Ranges:** 0-10VDC; 0-20mA, 4-20mA

**Output Accuracy:**  $\pm 0.05\%$  of Full Scale

**Response Time:** 100mSec typical

**Stability:**  $\pm 100$ ppm of span/ $^{\circ}$ C

**Output Ripple:** 0.2% of span, or 5mVrms, whichever is greater

### Output Impedance:

Voltage Output: <10 ohms (source impedance)

Current Output: >100k ohms

**Common Mode Rejection:** 60Hz: >90dB; DC: >120dB

### Output Drive:

Voltage Output: 10mA, max

Current Output: 20V compliance @ 20mA (1k ohms max)

### Temperature Range:

Operating: 0 $^{\circ}$  to 60 $^{\circ}$ C (32 to 140 $^{\circ}$ F)

Storage: -20 $^{\circ}$  to 85 $^{\circ}$ C (-4 to 185 $^{\circ}$ F)

**Power:** 9 to 30VDC; 1W typical, 2W maximum

**Isolation, Input to Output to Power:** 1800VDC

**Host Module Interface:** IR Link

**Size:** DIN rail case – refer to Dimensions drawing

### Agency Approvals (EMC & Safety):

UL recognized per standard UL508

(File No.E99775)

CE Conformance per EMC directive 89/336/EEC and Low Voltage  
73/23/EEC (Input < 75VDC, only).

RoHS Compliant

Note that detailed installation instructions are available on our website.

## Ordering Information

Specify:

1. Model:  
**WV468-2000**
2. Optional Custom Factory Calibration(specify **C620**, see required settings under "Calibration, page 2).
3. Accessories.

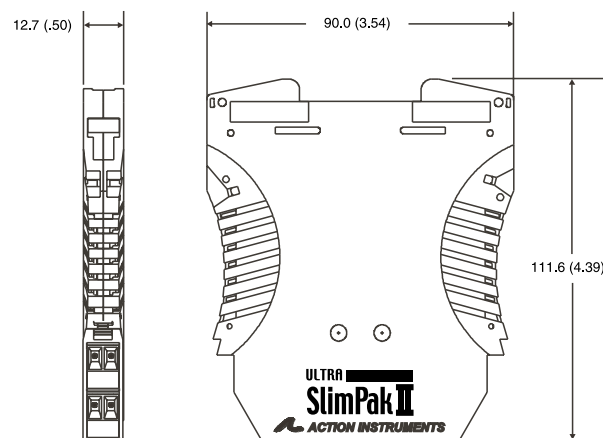
## Accessories

All WV Series modules will mount on standard TS35 (model MD03) DIN rail. In addition, the following accessories are available:

<b>WVC16</b>	Communications Interface
<b>MD03</b>	TS35 x 7.5 DIN Rail (2 meters)
<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>C650</b>	Utility software for WVC16

## Dimensions

Dimensions are in millimeters (inches)



invensys



Printed on recycled paper

## Factory Assistance

For additional information on calibration, operation and installation contact our Technical Services Group:

**703-669-1318**

[actionsupport@eurotherm.com](mailto:actionsupport@eurotherm.com)

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