



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).

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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

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

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

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

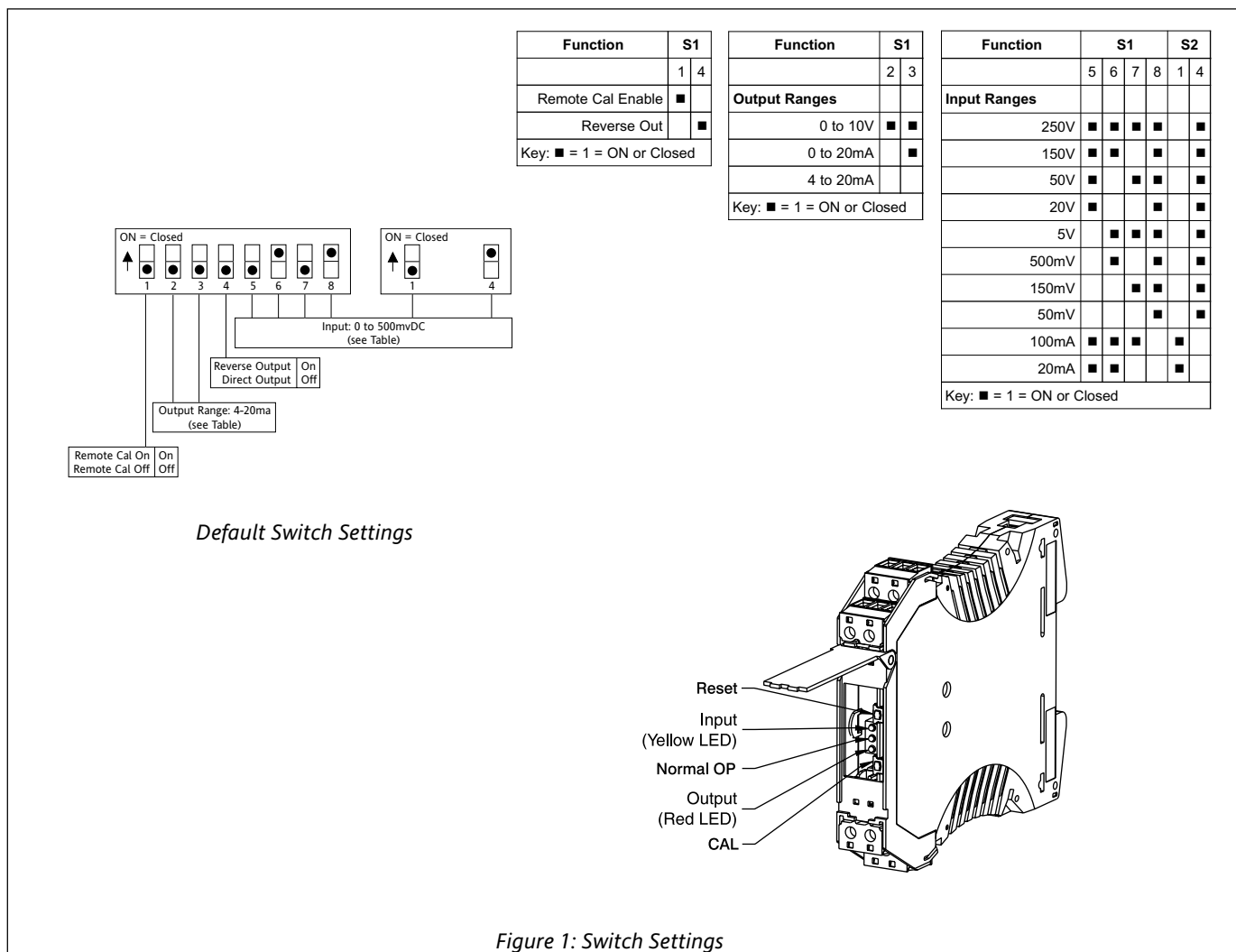
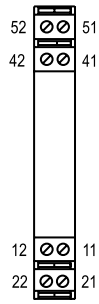
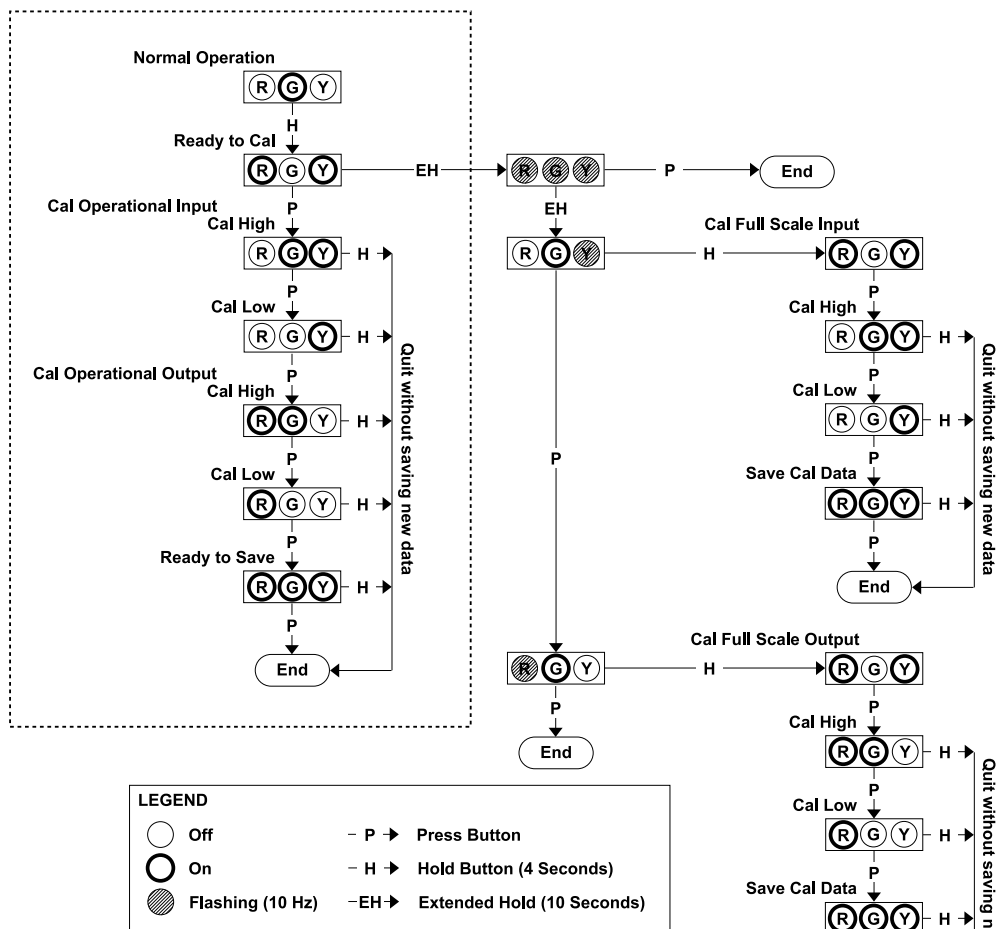


Figure 1: Switch Settings



| 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



NOTE:
 To reload factory calibration data, hold down the button while the unit powers up. The green LED will flash 10 times and then the red LED will begin to flash. Release the button once the red LED begins flashing and the factory calibration data will be reloaded.

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: ± 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° to 60° C (32 to 140° F)

Storage: -20° to 85° C (-4 to 185° 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 2004/108/EC and Low Voltage directive 2006/95/EC (Input < 75VDC, only).

RoHS Compliant

Ordering Information

Specify:

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

Accessories

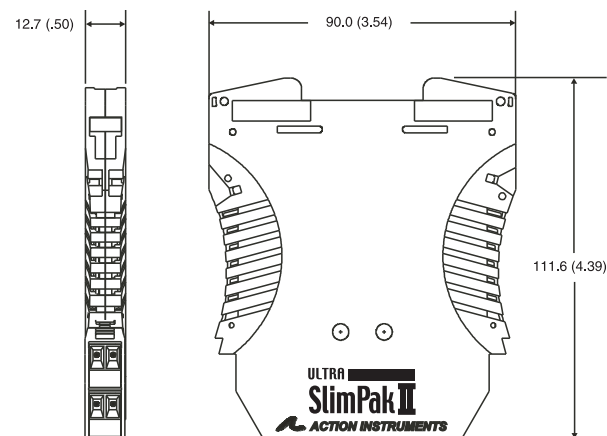
All WV Series modules will mount on standard TS35 (model MD03) DIN rail. In addition, the following accessories are available:

| | |
|--------------|--------------------------------|
| WVC16 | Communications Interface |
| MD03 | TS35 x 7.5 DIN Rail (2 meters) |
| WV905 | 24VDC Power Supply (0.5 Amp) |
| H910 | 24VDC Power Supply (1 Amp) |
| H915 | 24VDC Power Supply (2.3 Amp) |
| MB03 | End Bracket for MD03 |
| C650 | Utility software for WVC16 |

Note that detailed installation instructions are available on our website.

Dimensions

Dimensions are in millimeters (inches)



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