# 5KV Isolator v2 HVI237

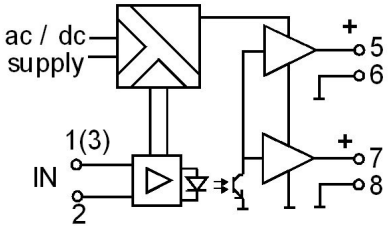
## DESCRIPTION


The HVI237 is an isolating converter providing true 3-way galvanic isolation up to 5kV rms. The HVI237 produces two unipolar output signals from one input signal (no isolation between outputs). The high input output isolation makes the unit suitable for monitoring DC power supplies used in transport and mining machinery. Final calibration is trimmed using the front accessible zero and span 15-turn trim adjustments. Maximum current drive is 20mA and maximum voltage drive is 16V. All units are fitted with a 500mS filter that can be changed on request. The unit is powered from a wide range auxiliary supply (10-60Vdc/16-48Vac or 80–300Vdc/80-280Vac) through a removable side plug in connector.

## General Specifications

| | |
|---|---|
| Maximum Size: | 23.5W x 71.5H x 109D (mm). |
| Mounting: | Clip for 35mm DIN-Rail. |
| Housing material: | ABS. |
| Input / output termination: | Top mounted screw terminals. |
| Power termination: | 2-way pluggable screw terminals |
| Protection class: | IP40 (IP55 Enclosure Opt). |
| Weight: | 0.120 kg. |
| Protection class: | IP40. |
| Calibration accuracy: | <0.2%. |
| Front 'SPAN' adjust: | ±25% typical. |
| Front 'ZERO' adjust: | +20/ -10% typical. |
| Linearity: | <0.1%. |
| Long term drift: | <0.1%. |
| Temperature effect: | Typically 0.025% of span per °C. |
| Operating temperature: | -10...+60°C. |
| Current input impedance: | Current 51 Ω (20mA) |
| Voltage input impedance: | 100kΩ/V, 100k minimum (< 100V)<br>10MΩ (> 100V) |
| Outputs 1 and 2 drive: | 10mA into 0 – 1.6k Ω<br>20mA into 0 – 800 Ω |
| Bipolar output: | Output 2 only can be bipolar up to +/-10V maximum or 10mA drive. There is a series 100 Ω output resistor to protect the chip. It is necessary to trim the span pot to compensate for the voltage loss if the load impedance is less than 10KΩ. Output 1 is normally not used if output 2 is bipolar. |
| Overload conditions: | $\text{Span} \leqslant 10\text{Vdc} \times 20$<br>$\text{Span} \leqslant 1000\text{Vdc} \times 3$<br>$\text{Span}\ 20\text{mA} \times 20$<br>$\text{Span}\ 100\text{mA} \times 3$<br>$\text{Span}\ \text{Vac} \times 3$<br>$\text{Span}\ \text{Iac} \times 3\,(5\,\text{sec})$ |
| Response time: | 500ms (250µs to 5s optional) |
| Input//output isolation: | 5kV rms. |
| Supply//Input/output isolation: | 4kV rms. |
| Electromagnetic compatibility: | Complies with AS/NZS 4251.1 (EN 50081.1) |

**Block Diagram**




For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

## TYPE NO. DESIGNATION

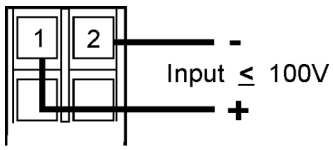
**HVI237 - X X X X X**

**Power Supply:**

1 = 10-60Vdc / 16-48Vac 50/60Hz
2 = 80–300Vdc / 80-280Vac 50/60Hz

**Input:**

1 = mA up to 100mAdc (4-20mA default)




2 = Vdc +/- 50mV to 100Vdc

*) 3 = mV link select
select range from
+/-100mV, 100mV, +/-250mV, 0-250mV

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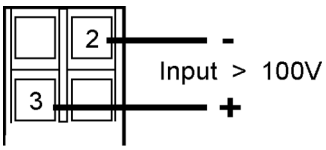
4 = High dc voltage specify range 100V to 2000V




*) 6 = 1000Vdc (1000V specified on top label)

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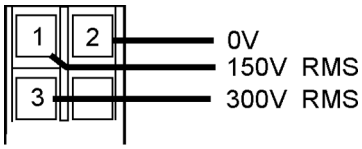
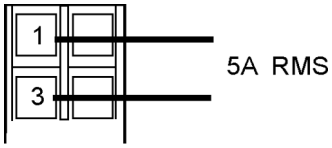
*) 7 = 150/300V true rms



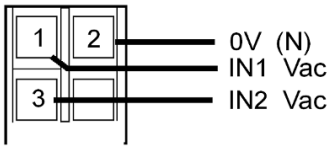

*) 8 = 0-5A true rms




! 9 = Input other is **discontinued**. One of the other input options will cover your application.
If ordering replacement product we can include your original part number in the calibration detail..

*) A = Vac true rms specify range input on terminals 1 and 2

*) B = Two Input Vac selector (1% linearity).
IN1 Cal= specify (60Vmin up to 300Vac )
IN2 Cal= specify (60Vmin up to 300Vac )




**: Options**

0 = None.
*) 1 = Customised response time (Specify 250µs to 5s).
*) 4 = 24V aux on terminal 4 to power field sensor.
*) 9 = Other.

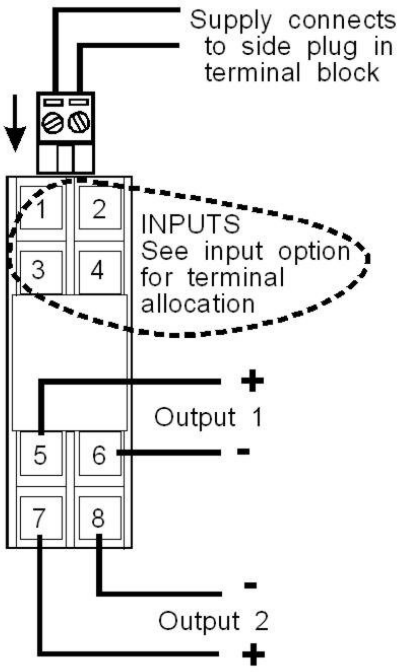
**: Output 2**

1 = 4-20mA (source).
2 = 0-10V (source).
3 = 4-20mA (loop powered signal)
*) 9 = Other specify
*) A = 0 – 60Vdc SPL0961 with 70Vdc external supply between T5 & T6
*) B = Bipolar -/+ 10V max.

**: Output 1**

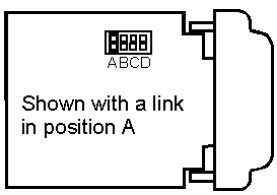
1 = 4-20mA (source).
2 = 0-10V (source).
3 = 4-20mA (loop powered signal)
*) 9 = Other specify
A = None (use with output 2 bipolar)

**Connection**




## Input Option 3, mV Link Select

| Input | A | B | C | D |
|---|---|---|---|---|
| 0-250mV | X | | | |
| 0-100mV | X | X | X | |
| +/-250mV | | X | | X |
| +/-100mV | X | | X | X |




*) = Price Extra..