



HS-540 Isolating Signal Converter

1. **Description.** The HS-540 is an isolating signal converter capable of accepting a range of inputs, including a standard 4-20mA and voltage signals. The unit produces a high level DC output of either voltage or current. Full 3 port isolation is standard on the product range. The HS-540 can be factory configured to accept a current or voltage input and provides a current or voltage output. The input and output of the unit can also be reconfigured using the built in switches together with the zero and span adjustment potentiometers. The unit is powered from 24VDC nominal.

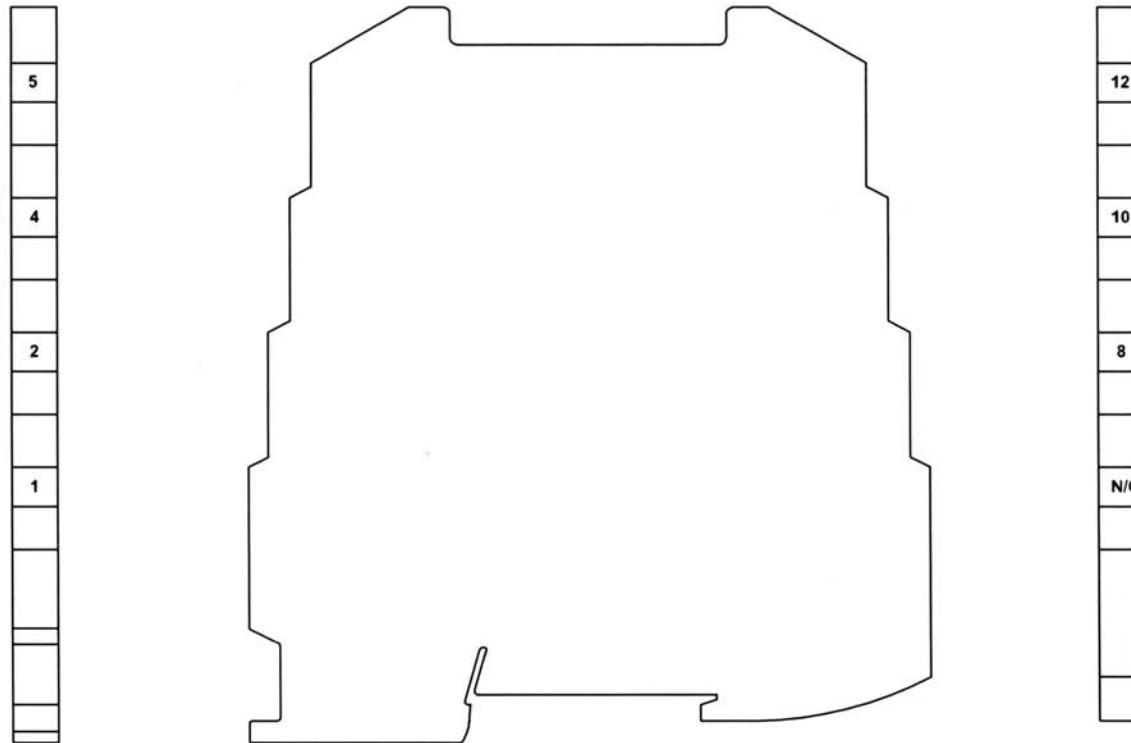
2. Terminal Connections

| | | |
|----|---|---------------------------------|
| 1 | - | Power Supply 0V |
| 2 | - | Power Supply +24V |
| 4 | - | Input -ve (voltage or current) |
| 5 | - | Input +ve (voltage or current) |
| 10 | - | Output -ve (voltage or current) |
| 12 | - | Output +ve (voltage or current) |

3. Specification

| Parameter | Min | Typical | Max | Comments |
|-------------------------|--|---------------|------------------------------------|--|
| Supply Voltage | 18V | 24V | 30V | 22Vdc required to drive 500 Ohms |
| Supply Current (mA) | | 25 | 30 | Based on 24VDC supply into 500Ohms |
| Input Impedance (V) | | 500k Ω | | |
| Input Impedance (mA) | | 5 Ω | 10 Ω | Dependant on range |
| Volt Drop (mA Input) | | 0.1 | 0.15 | At 20mA Input |
| Output Linearity Error | | $\pm 0.03\%$ | $\pm 0.1\%$ | |
| Temperature Coefficient | | | $\pm 100\text{ppm}/^\circ\text{C}$ | |
| Load Resistance Error | | | $\pm 5\text{ppm}/\Omega$ | $0 < R_L < 500\Omega$ |
| Time Constant (10-90%) | | 25mS | 30mS | Faster response available upon request |
| Operating Ambient | 0 $^\circ\text{C}$ | | 55 $^\circ\text{C}$ | |
| Relative Humidity | 0% | | 90% | |
| Isolation Voltage | 1kV | | | |
| Surge Voltage | 2.5kV for 50 μS | | | Transient of 10kV/ μS |
| Notes | <p>Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur.</p> <p>Accuracy figures based on 24VDC supply, 4-20mA output with 250Ω load and 20$^\circ\text{C}$ ambient.</p> <p>Device is protected against reverse polarity connection. External 100mA fuse required. The HS-540 does not provide safety isolation when the input is connected to the mains.</p> | | | |

HS-540 Series Connection Details



Connection Details

- Pin 1 Power Supply -ve (0 Volts)
- Pin 2 Power Supply +ve (+24 Volts)
- Pin 4 Input - (Voltage or Current)
- Pin 5 Input + (Voltage or Current)
- Pin 10 Output - (Voltage or Current)
- Pin 12 Output + (Voltage or Current)

Isolating Signal Converters can accept a range of inputs including 4-20mA and voltage signals, the unit produces a DC output of either voltage or current, See data sheet for output and inputs.

| | | | | | | | | | |
|--------|---------|----------|--------|---------|--|---|--|---|-------------------|
| Rev No | DRF No | Date Drg | Drg By | Appd By | Material: N/A |  Hansford Sensors Ltd Artisan, Hillbottom Rd Sand Industrial Estate High Wycombe Bucks HP12 4HJ |  Do Not Scale | Description: HS-540 Connection Details | |
| A | Release | 28/01/11 | MJS | CMH | Tolerances Unless Stated 0 or 0.0 ±0.5 00.0 ±0.15 Angle ±5° | | | All Dimensions in mm Unless Otherwise Stated | Drawing No: CD023 |
| | | | | | 1.6/ Finish All Over Threads g6 H6 | If In Doubt - Ask! | Scale: 1 : 1 | Form Number: QF024 Issue 1 | |
| | | | | | | | Sheet: 1 of 1 | | |