

P766 Signal Isolator

Description

The P766 range of DIN-rail mounting Signal Isolators provides a compact device suitable for many industrial applications. The design is suitable for both signal isolation and signal conversion with a vast range of possible inputs and outputs available as standard.

The P766 Isolator will operate with voltage, current, resistance, RTD or thermocouple input signals and will in turn produce output signals of either voltage or current.

Standard units have an output of 0-10V or 4-20mA which is user selectable between the two. The AC supply version is selectable between 110 and 230VAC.

The units can also be used to provide an output signal proportional to mechanical position when the mechanical device is connected to a suitable potentiometer to give a variation of resistance with position.

Both span and zero adjustments are available from the front panel to allow final adjustment on site. A green LED on the front indicates 'power on'.

Connection Details

1	Not connected
2	Not connected
3	Not connected
4	Live (+ve)
5	Neutral (-ve)
6	reserved
7	+ve signal in
8	RTD Feed
9	-ve signal in
10	+ve signal out
11	Not connected
12	-ve signal out

Installation

The P766 Signal Isolator can be mounted directly on to a DIN-rail.

The AC powered unit should be fused externally using a 250mA Fuse. The DC version is fused internally with a 375mA delay fuse.

Cables connected to the P766 should be kept separate from high voltage or high current carrying cables.

RTD Connection

When using a 2 wire RTD terminals 7 & 8 must be linked together.

If using a standard 3 wire RTD manufactured to BS1904 or DIN43760 then connect one of the red leads to RTD Feed (terminal 8), the other red lead to the +ve Signal in (terminal 7) and the white lead to -ve Signal in (terminal 9).

Potentiometer Connection

If the input is from a slide wire potentiometer or other transducer whose resistance varies, then connect the wiper to +ve signal in (terminal 7), the maximum end of the potentiometer to RTD feed (terminal 8) and the minimum end of the potentiometer to -ve signal in (terminal 9).

Specification

INPUTS

DC Ranges

VOLTAGE	CURRENT
0-100mV	0-1mA
0-1V	0-10mA
1-5V	4-20mA
0-10V	0-100mA
0-100V	

Temperature Ranges

Platinum RTD (Pt100), Resistance thermometer 100Ω at 0°C (DIN43760 and BS1904) 2 or 3 wire.

0-100°C
0-150°C
0-200°C

Thermocouples

Type J to BS4937 part 3
Type K to BS4937 part 4
Type T to BS4937 part 5
Automatic cold junction compensation
0-200°C
0-250°C
0-500°C
0-1000°C

Resistance Ranges

Potentiometer input 1K, 2K and 5K.

OUTPUTS

Standard output, selectable between 0-10V and 4-20mA. Other outputs are available.

0-100mV
0-1V
1-5V
0-10V

Maximum load 20mA

0-10mA
0-20mA
4-20mA
Into a maximum load of 570Ω (mains version) or 1K2Ω (DC version)

SUPPLY

AC Version

110VAC ±10% 50/60Hz or
230VAC ±10% 50/60Hz
As indicated on the product label
Power consumption 2VA

DC Version

Nominally 24VDC (19-28VDC) at approx. 80mA.

GENERAL

Adjustment

Both "span" & "zero" adjustments provided with 15 turn potentiometer giving an adjustment range of approximately ±10% of full scale.

Linearity Error

Better than 0.1% of full scale

Temperature Coefficient

±0.02%/°C of full scale

Environment

Operating temperature 0 to 50°C
Storage temperature -20 to +80°C
Humidity 0-95% RH, non-condensing
Protection IP40.

Isolation

The input and output are isolated from each other and are both isolated from the power supply. Maximum isolation 1000VAC or 1500VDC.

EMC Compliance

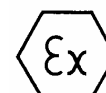
Immunity to BS EN50082-2:1995
Emissions to BS EN50081-2:1994
LVD to BS EN61010-1:1993

Input Impedance

Voltage input		100kΩ/V
Current i/p	0-1mA	100Ω
	0-10mA	10Ω
	4-20mA	5Ω
	0-100mA	1Ω
	0-1Amp	0.1Ω

Manufacturers of

Alarm Annunciators and Systems | Sequential Event
Recorders | Display Facias | Hazardous Area Interface,
Alarm and Display Products | Signal Conditioning &
Trip Amplifiers | Process Instrumentation



Setting Up

AC Voltage Selector

WARNING: To avoid operator injury and damage to the unit, always isolate from the incoming supply.

The AC version of the Signal Isolator has jumper links to select between 110V and 230VAC. Remove the PCB from the enclosure by levering the retaining clips and sliding the front section forward. Move the two links so that both correspond to the required voltage as shown on the PCB and in Figure 1. Ensure the new AC supply voltage is marked on the product label

Output Selection

The output on a standard unit can be changed from 4-20mA to 0-10V and vice versa. Simply remove the PCB from the enclosure. LK3 and LK4 are used to change the output as shown in Figure 1. The positions marked "I" denotes current output and the position marked "V" denotes voltage output.

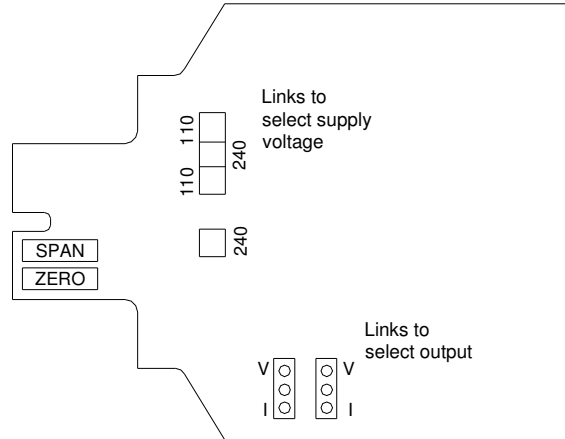


Figure 1

Warning: Always remove power from the unit before moving the output jumper links. Failure to do so may result in damage to the unit

Fuse Replacement

The AC version should be fused externally using a 250mA T delay fuse. The DC version is internally fused. If this fuse blows, it should be replaced with a 375mA T delay 20x5mm fuse. (Figure 2)

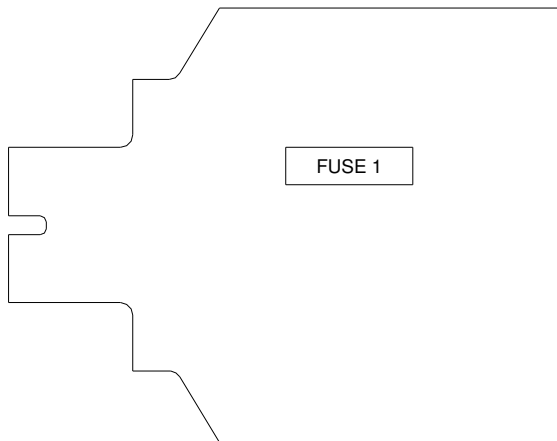


Figure 2

Operating Instructions

All P766 Signal Isolators are factory set for the particular input signal required. If the unit needs to be configured for a different input signal then it must be returned to the factory for recalibration. The output on standard units is user selectable between 4-20mA and 0-10VDC (see Setting Up Instructions)

All units are despatched fully tested and calibrated to specification, using equipment traceable to national standards. Should it be necessary to make minor adjustments to either the zero or span of the output signal, this can be done by means of the user accessible potentiometers positioned behind the front panel (Figure 3). Each potentiometer will permit an adjustment of approximately $\pm 10\%$ of span.

Outline Drawing

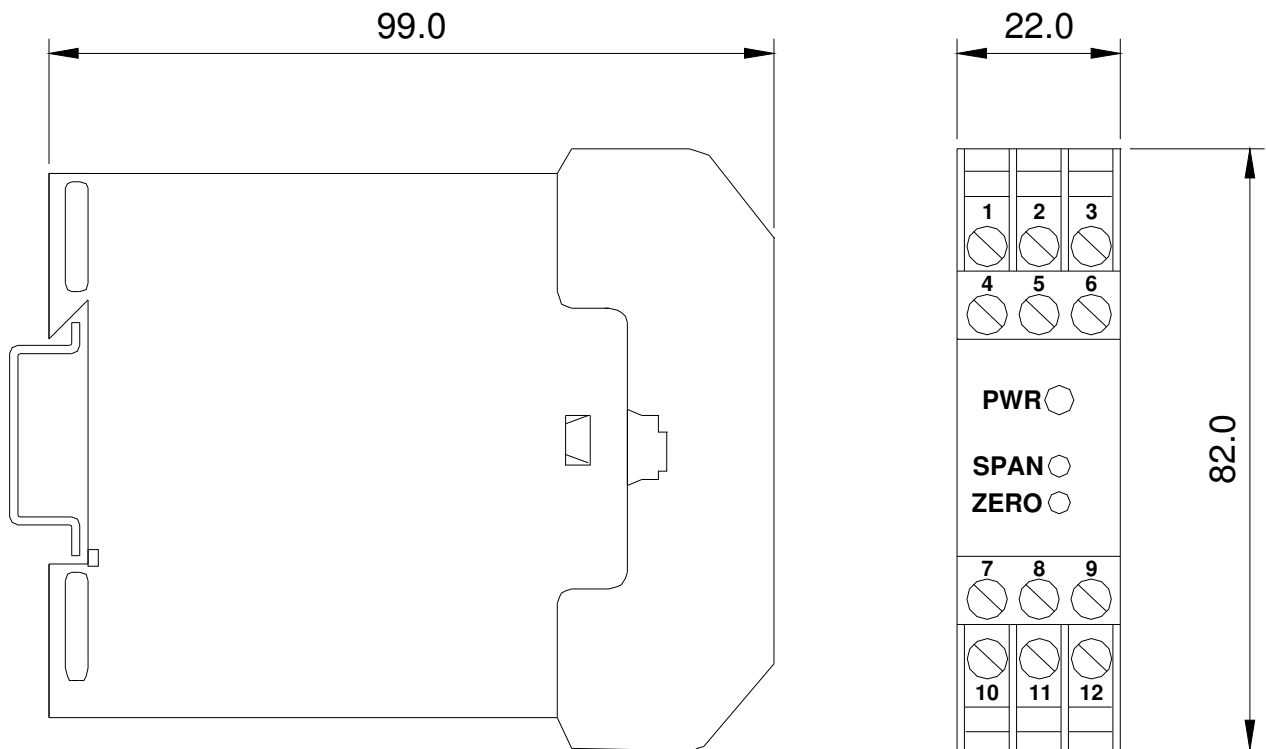


Figure 3

Due to our policy of continuous product development, we reserve the right to amend these specifications without notice.