

Multiplexed Output Isolating Signal Converter SEL300

Function: Isolating signal converter which will convert a range of process signals into a relay selectable transmission voltage signal. This signal is only put onto the output terminals when a relay, which is in series with the output, is externally selected. Both the input and the output stages of the instrument are powered from separate secondaries of the DC/DC converter thus maintaining 3 port isolation. Options on the SEL300 include a true 4 wire RTD converter, a Subtractor and an Adder or Averager. In the last three cases the inputs are restricted to mA or Voltage and the SEL300 can only accept two inputs.

Application: The SEL300 is designed for multiplexing a number of varying analogue signals into PLCs and processor based data gathering devices.

SPECIFICATIONS

Please note that the following are typical ranges. We also manufacture instruments to cater for other ranges, within limitations detailed below. All instruments come with span and zero potentiometers for fine tuning on site.

INPUTS:

DC Current

0 to 1mA into 100 ohms
0 to 10mA into 10 ohms
4 to 20mA into 10 ohms
Other current inputs as required
Minimum current 10µA
Maximum current 100mA

DC Voltage

Between -250 and +250 Volts DC
Minimum voltage span 5mV
Maximum voltage span 500V

Input Impedance

1M ohm or greater

Resistance (2 wire)

Between 0 and 20K ohms
Minimum span 5 ohms
Maximum span 20K ohms

Potentiometers (3 wire)

Between 0 and 10K ohms
Minimum span 10 ohms
Maximum span 10K ohms

Resistance Thermometers (RTDs, PT100s)

2 or 3 wire
100 or 130 ohms at 0°C
Minimum temperature span 10°C
Maximum temperature span 600°C
Input is linearised

True 4 Wire RTD

Minimum temperature span 10°C
Maximum temperature span 600°C

Thermocouples

Type B, E, J, K, N, R, S & T
Temperatures covered:
Type Range Min Temp Change
B 600 to 1800°C 400°C
E -260 to 1000°C 65°C
J -200 to 1200°C 80°C
K -260 to 1370°C 100°C
N 0 to 1300°C 150°C
R 50 to 1760°C 400°C
S 80 to 1760°C 400°C
T -260 to 400°C 100°C
Automatic cold junction compensation
Open circuit thermocouple monitoring upscale or downscale drive

OUTPUTS:

Selection

The output is selected by the application of either:

- 1) Volt Free Contact, or
- 2) Open Collector:
current sink 1mA
30 Volt DC max

Settling Time

10mS maximum

DC Voltage

0 to 1 Volt DC into 100 ohms min
0 to 10 Volt DC into 1K ohm min
1 to 5 Volt DC into 500 ohms min
Other ranges as required
Minimum span 1 Volt DC
Maximum span 10 Volt DC

Input/Output/Supply Isolation

600 Volts > 20M ohms

Fault Indication

Normally configured - output falls to zero under fault or overrange conditions

SUPPLY:

Power Supply Voltage

18 to 30 Volt AC or DC, or
10 to 15 Volt AC or DC
with converter to maintain signal to power supply isolation

Power Required

1.5 Watts Maximum

Pilot Light

Red LED shows Power ON
Green LED - output is selected

GENERAL:

Linearity Error

Proportional to input $\pm 0.1\%$ of span

Response Time

200mSecs (approx) 0 to 65%

Temperature Coefficient

$\pm 0.1\%$ of span/ $\Delta 10^\circ\text{C}$

Operating Temperature Range

0 to $+50^\circ\text{C}$

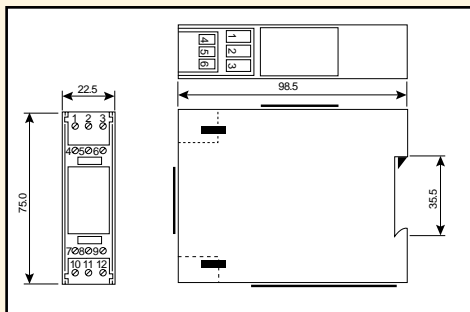
Storage Temperature Range

-20 to $+60^\circ\text{C}$

Weight

115 gms

MECHANICAL DETAILS



TERMINATION DETAILS

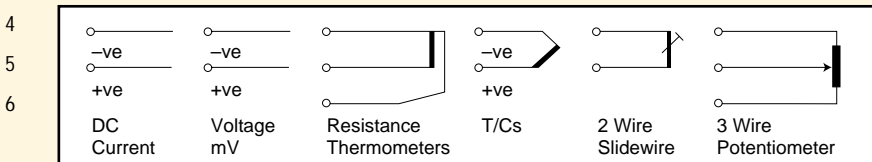
Terminal

- 1 Power Supply -ve
- 2 Power Supply +ve
- 3 Power Supply Screen

Terminal

- 7 Output/Output Select -ve
- 8 Output +ve
- 9 Output Select +ve
- 10 Unused
- 11 Unused
- 12 Unused

Inputs



ORDERING DETAILS

- (a) Give identification code, i.e. SEL300
- (b) Give power supply voltage, 12 or 24 Volt AC or DC
- (c) Give details of input signal, i.e. input type (as listed above) and range. If thermocouple input please specify upscale or downscale drive for open circuit protection

- (d) Give details of output required, both type and range, i.e. 0 to 10 Volts
- (e) Give all details of output select signal, i.e. Volt Free Contact