

## Programmable Isolating Signal Converter MicroDIN

Function: Isolating signal converter which will convert a range of process signals into standard transmission voltage or current signals. The MicroDIN is a microprocessor based signal converter that can carry out: signal conversion; thermocouple linearisation; special functions, such as Square Root Extraction, etc. Both the input and the output stages of the instruments are powered from separate secondaries of the transformer thus maintaining 3 port isolation. The MicroDIN is programmable with the programming function resident in memory. To programme the MicroDIN you need to connect it to a terminal/PC via a Lee-Dickens MicroLEAD. The MicroLEAD is a TTL to RS232 converter and comes with a software package that will make your PC emulate a terminal. With the Lee-Dickens MicroLEAD you can programme the input and output type and range and the function required.

### SPECIFICATIONS

#### INPUTS:

##### DC Current

Between -100mA and +100mA  
Minimum input span 0.5mA  
Input can be offset from 0mA  
Input impedance 10 ohms

##### DC Voltage

Between -100V and +100V  
Minimum voltage span 1V  
Input Impedance > 100K ohms

##### DC m Volts

Range between -1V and +1V  
Minimum voltage span 4mV  
Input Impedance > 1M ohm

##### 2 Wire Slidewire Resistance

Between 0 and 10K ohms  
Minimum span 100 ohms

##### 3 Wire Potentiometers

Between 0 and 10K ohms  
Minimum span 100 ohms

#### Resistance Thermometers (RTDs, PT100s)

2 or 3 wire, 100 ohms at 0°C.  
Temperature ranges between -200 and +1000°C.  
Minimum temperature span 10°C

#### Thermocouples (Linearised)

Type B, E, J, K, N, R, S & T  
Automatic Cold Junction Compensation: On or Off  
Burnout Protection: Upscale, Downscale or Off.

Type	Range	MinTempChange
B	600to1800°C	400°C
E	-260to1000°C	65°C
J	-200to1200°C	80°C
K	-260to1370°C	100°C
N	0to1300°C	150°C
R	50to1760°C	400°C
S	80to1760°C	400°C
T	-260to 400°C	100°C

#### SPECIAL FUNCTIONS:

Square Root Extraction  
Square Law  
3/2 Rectangular Weir  
5/2 V-Notch Weir  
Straight Line Approximation  
Enter up to 99 points on X-Y curve

#### OUTPUTS:

##### DC Current

Between 0 and 20mA  
Minimum span 1mA  
20mA into 10 to 1000 ohms  
10mA into 10 to 2000 ohms

##### DC Voltage

Between 0 and 10 Volts  
into 1K ohms minimum  
Minimum span 1 Volt

##### Input/Output/Supply Isolation

600 Volts > 20M ohms

#### SUPPLY:

##### Power Supply Voltage

User selectable  
115 Volt AC  $\pm 15\%$  50/60 Hz  
230 Volt AC  $\pm 15\%$  50/60 Hz  
or 18 to 30 Volt DC with converter to maintain signal to power supply isolation.

##### Power Required

3VA Maximum

##### Pilot Light

Red LED shows Power ON

#### GENERAL:

##### Linearity Error

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

##### 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  $+60^\circ\text{C}$

##### Operating Humidity Range

0 to 95% RH non-condensing

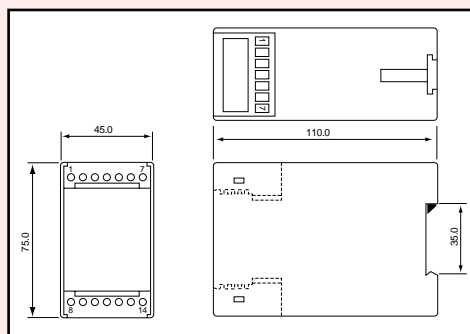
##### Storage Humidity Range

0 to 95% RH non-condensing

##### Weight

MicroDIN 310 gms  
MicroLEAD 65 gms

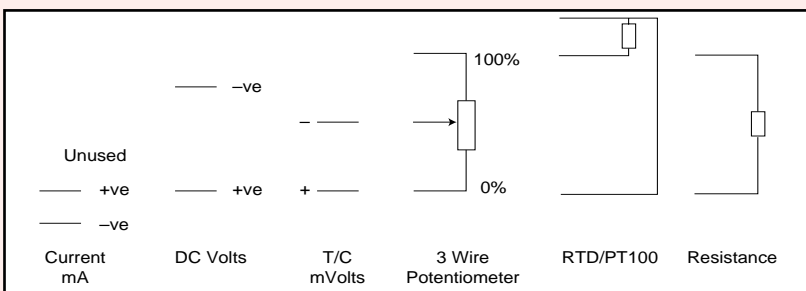
### MECHANICAL DETAILS



### TERMINATION DETAILS

#### Terminal

1  
2  
3  
4  
5  
6  
7



#### Terminal

8 Output -ve  
9 Output +ve  
10 Unused

#### Terminal

11 Unused  
12 230 Volt  $\pm 15\%$  50/60 Hz  
13 115 Volt  $\pm 15\%$  50/60 Hz  
14 Neutral  
24 Volt DC +ve  
24 Volt DC -ve

### ORDERING DETAILS

- Give identification code, i.e. MicroDIN
- Give power supply voltage, i.e. 240 Volt 60 Hz
- Give details of input signal, i.e. Input type (as listed above) and range.  
If thermocouple input please specify Upscale or Downscale Burnout protection
- Give details of output required, both type and range, i.e. 4 to 20mA
- If programming yourself then please just specify items (a) and (b), and, if programming for the first time, please specify a MicroLEAD.