UNIVERSAL INPUT TRANSMITTER
Type D16-C (2-wire 4-20mA output)

- **QuickCal rapid calibration from sensor feature**
- **Simple configuration via USB port**
- **Universal input: PT100, thermocouple, mV, mA**
- **Isolated input**
- **4 - 20 mA two wire current sink output**
- **10 Year warranty**

The D16-C will accept most common process and temperature sensor inputs and provide a standard two wire 4-20 mA current sink output signal. The unit is very easy to configure using PC software. The input range may also be set by sampling the sensor input. Ranging can be configured for reversing signals e.g. 4-20mA input giving 20-4mA output. All temperature ranges are linear to temperature.

Easy configuration

A USB interface is provided for easy and rapid configuration. Simply connecting the D16-C to a PC via a standard USB cable is all that is required – none of the inconvenience of wiring to an external power source.

Using the free configuration software, your PC will download and display the existing configuration data from the unit and guide you through any changes you wish to make.

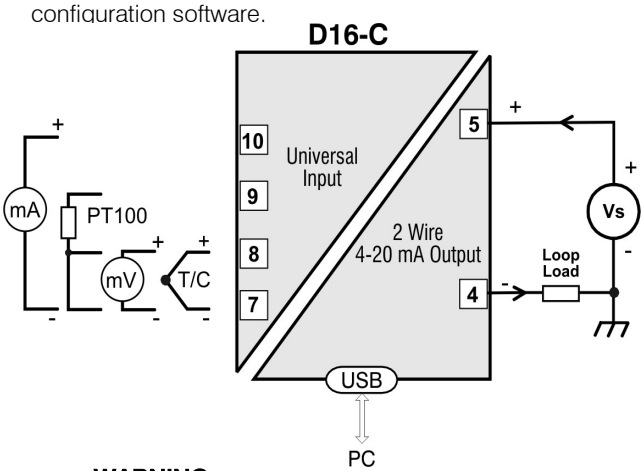
A 'range' LED indicates out of range during normal operation and stages during configuration. The following parameters are configurable :-

Input type: PT 100; Thermocouple (types K, J, E, N, T, R and S); mV; mA
Low range: input required for 4mA output
High range: input required for 20mA output
Units: deg F, deg C, mV, mA
Burnout: up scale/ down scale for T/C inputs
QuickCal: (Trim) enable or lockout

QuickCal calibration

This feature employs two 'trim' push buttons to calibrate the range of the unit by sampling the input signal. With the input signal at the required full scale value pressing the Span ⮝ button configures the D16-C to give 20mA output for that input. With the input at the required lowest value, pressing the Offset ⮟ button configures the output to give 4mA for that input.

The 'trim' buttons may be locked out using the configuration software.



WARNING: These connection details are provided for pre-sales information only. Installation must be carried out in accordance with the D16-C User Guide.

SPECIFICATION

INPUTS

INPUT	RANGE	ACCURACY (Note 1)	STABILITY	O/C	CJ (Note 3)	Sensor excitation (Note 4)	INPUT IMPEDANCE
TC type K	(-200 to 1370) °C	0.1 % of FSR ±0.5 °C (type T 0.2 % FSR. ± 0.5 °C)	± 0.01 % of FSR	Yes	Yes	-	1 MΩ **(Note 5)**
TC type J	(-100 to 1200) °C						
TC type E	(-100 to 1000) °C						
TC type N	(-180 to 1300) °C						
TC type T	(-100 to 400) °C						
TC type R	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR **(Note 2)**					
TC type S	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR **(Note 2)**					
mV	(-40 to 75) mV	± 0.04 mV			-		
PT100	(-200 to 850) °C	± 0.1 °C / ±0.05 % of rdg	± 0.005 % of FSR		-	<450 uA	-
mA	(-10 to 25) mA	± 0.008 mA	± 0.01 % of FSR	-	-	-	2.7 R **(Note 6)**

Key Rdg = Reading ; FSR = Full Scale Range ; O/C = programmable open circuit sensor detect;
CJ = Cold junction compensation

Notes

1. Accuracy for PT100 and TC do not include sensor and cold junction errors.
2. Only over the range 800 to 1600 °C
3. Cold junction range -20 to 70 °C, Accuracy ± 0.5 °C , Tracking ± 0.05 °C
4. PT100 input Maximum lead resistance 20 R, Lead effect 0.015 °C / Ω.
5. Impedance – not including 0.2 uA open circuit detect bias current effect.
6. Maximum current over load ± 100 mA.

OUTPUT

Type	Two wire current sink; signal range 4 to 20 mA; full range 3.8 to 24 mA
Supply	11 to 30 Vdc , 24 V nominal giving max loop load of 600 R @ 24 V *(max. load = (Vs-11) /0.021)*
Response time	< 500 ms to reach 95 % of final value ; Start up time < 3 s
Calibration Accuracy	± 5 uA
Loop Effects	Loop ripple 0.03 % of FSR; Supply sensitivity 0.05 uA / °C ; supply ripple rejection < ± 5 uA error @ 1 V rms 50 Hz ripple
Protection	Reverse connection and over-voltage protection. Max. over voltage current 100 mA.

GENERAL

Isolation	Input to output tested at 500 V dc.
Ambient	Temperature: Operating -20 to 70°C, Storage -40 to 85°C; Humidity: 10 to 95% RH non condensing.
Approvals	CE tested to BS EN 61326

DIMENSIONS 90 (H) x 17.5 (W) x 56.4 (D)

MECHANICAL

Weight	55g
Material	Polymide 6.6, self-extinguishing, grey
Terminals	Screw terminals, capacity 2.5mm max
Mounting	Fits DIN rail to EN50022

ORDERING INFORMATION

Quote type number D16-C

If pre-configuration is required:

1. Input type
2. Input value for 4mA output
3. Input value for 20mA output
4. Units
5. Burnout
6. QuickCal enable/disable

Accessories

USB cable
Configuration software

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