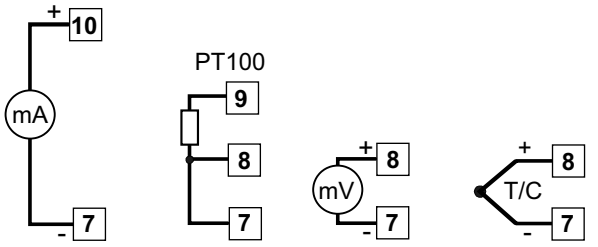
Electrical installation

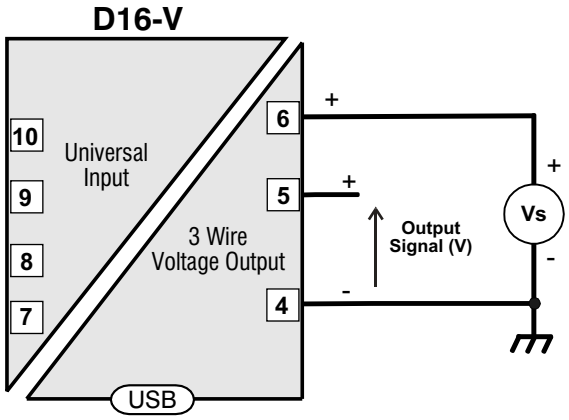
WARNING: Ensure that power to the instrument is switched off and signal wiring isolated from harzardous voltages before working on any electrical connection.

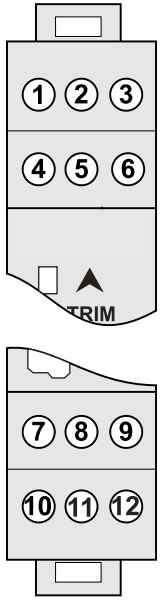


Universal Input Connection
For cable length less than three metres no screen or twisted pair is required. Thermocouple inputs must use the correct compensation cable. For PT100 inputs all three wires must be of equal length (resistance).
Use recommended types for cable lengths 3 to 30 metres.
NB Where screened cable is used, the screen must be connected at one end only.

Note 1
Twisted pair or screened cable.
Note 2
Screened cable.
Note 3
TC compensation cable.

Output Connection
Note 4
Maximum cable length 30 meters. Use twisted pair or screened cable for lengths greater than 3 metres.
Supply voltage 15 - 28V, Output 0 - 10V max.,
Output drive current 2mA





Location of terminals

STROUD INSTRUMENTS LTD,
36-40 Slad Road, Stroud Gloucestershire UK GL5 1QW
T. +44 (0) 1453 765433 **F.** +44 (0) 1453 764256
E. sales@sil.co.uk **www.Sil.co.uk**

Doc Ref UDD16-V Rev1

UNIVERSAL INPUT TRANSMITTER
Type D16-V (Voltage output)
User Guide

IMPORTANT - Please read this document before installing.

Every effort has been taken to ensure the accuracy of this document, however we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.

IMPORTANT - CE & SAFETY REQUIREMENTS

Product must be DIN rail mounted, inside a suitable enclosure providing environmental protection to IP65 or greater.

To maintain CE EMC requirements, input wires must be shorter than 30 metres

DC supply must be derived from a local supply and not a distribution system.

The product contains no serviceable parts, or internal adjustments, no attempt must be made to repair this product. Faulty units must be returned to supplier for repair.

This product must be installed by a qualified person. All electrical wiring must be carried out in accordance with the appropriate regulations for the place of installation.

Before attempting any electrical connection work, please ensure all supplies are switched off.

ABSOLUTE MAXIMUM OPERATING CONDITIONS:-

Supply Voltage: ± 30 V dc (Protected for over voltage and reverse connection)
Current with over voltage: ± 200 mA
Input Voltage: ± 5 V between any terminals
Input Current: ± 100 mA between terminals 7 & 10
Ambient: Temperature: -30 to 75 °C
Humidity: 10 to 95 % RH (Non condensing)

Product specification

Please refer to the product data sheet for full specification, available to download at www.sil.co.uk.

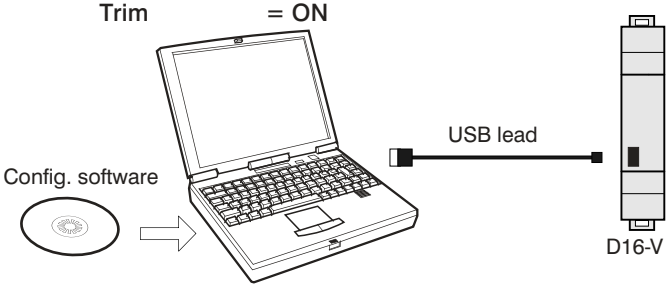
Receipt and unpacking

Please inspect the packaging and instrument thoroughly for any signs of transit damage. If the instrument has been damaged, please notify your supplier immediately.

Configuration

Unless otherwise pre-configured to order, the D16-V is supplied set to the following factory defaults:

Input type	**= P**
Units	**= °C**
High Range	**= 100**
Low Range	**= 0**
Burnout	**= Upscale**
Output range	**= 0 - 10V**
Trim	**= ON**



Connect the D16-V to a PC via a standard USB cable. The unit does not need to be wired to a power supply during configuration, it is powered by the USB port on your computer.

IMPORTANT The D16-V can be configured whilst connected and powered, but a portable battery powered computer must be used to avoid the effects of ground loops.

The configuration software (*download from www.sil.co.uk*) will download the existing configuration data from the D16-V and guide you through any changes you wish to make. Software installation instructions are provided in the software ZIP file. The following parameters are configurable :-

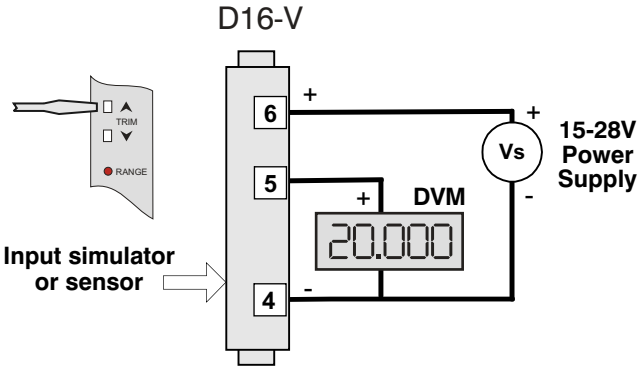
Input type: PT 100
Thermocouple types K, J, E, N, T, R, S
mV
mA
Low range: input required for 4mA output (offset)
High range: input required for 20mA output (span)
Units: °F, °C, mV, mA
Burnout: direction of output current on sensor burnout (U - upscale, D - downscale)
Output range: 0-10V, 2-10V, 0-5V, 1-5V, 0-1V
Trim: enable (T) or lockout (-)

User trim

The User Trim function allows manual adjustment of the output signal, this is useful for minor calibration adjustment or trimming out any sensor error; ± 5% of range adjustment is available at both offset and span. Raise▲ and Lower▼ buttons, provided on the front panel, are accessed using a 3mm flat blade screw driver. Insert the screw driver into the appropriate slot to operate the button. The button has a click action.

Procedure

1. Connect transmitter to a suitable input simulator or sensor. Connect the output to a 24V dc supply and monitor the output with a digital voltmeter. Turn supply on, set input to either the offset or span required calibration point.
2. The Trim Mode is entered by pressing the Raise button for greater than three seconds.
   The transmitter automatically detects the appropriate trim mode (offset or span) depending on the output signal voltage. Offset Trim Mode is entered when the output voltage is within ±0.1V of the offset voltage and Span Trim Mode when the output voltage is within 50% - 100% of the output signal full-scale. No trim action is enabled at any other output range.
   When the trim mode is open, the range LED will flash as follows:-
   - slow on/off indicates Offset Trim mode
   - fast on/off indicates Span Trim mode
   - off indicates out of trim range
   - on indicates input signal out of range
3. Trim the output signal by pressing either the raise or lower button as appropriate, single click to step advance , or press continuously to auto advance.
4. Once trim is complete allow 30 seconds with no button press, the transmitter will time out and return to normal operation.



Reversing signal calibration

The unit can be set for reversing signals e.g. 4-20mA in, 10-2V .

Example

Calibration required: 4-20mA in, 10-2V out

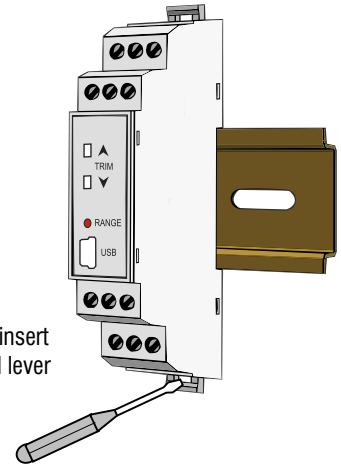
Using software: Set Low Range to 10.0V,
Set High Range to 2.0V

Mechanical installation

Dimensions: 90 (H) x 17.5 (W) x 56.4 (D)
For mounting on DIN rail to EN50022

This unit must be mounted inside a suitable enclosure providing environmental protection to IP65 or greater.

NB Maximum operating temperature range -20°C to +70°C, 10 to 95% RH non-condensing.



To fit or release module, insert screw driver into slot and lever latch away from body