



TWO WIRE TRANSMITTER TYPE 114-1

FUNCTION

The 114-1 Two Wire Transmitter provides an output current sink in proportion to a 3-wire potentiometer setting.

APPLICATIONS

The output of the two wire transmitter can be used in many applications where a 4-20mA loop signal is required from a 3-wire potentiometer. The output could be used to drive a digital panel meter for direct display of the monitored variable, provide a level alarm via a trip amplifier or the signal used for control applications.

DESCRIPTION

The 114-1 uses the standing 4mA zero signal to power its circuitry. The unit provides a stable voltage to apply across the input potentiometer. The wiper of the potentiometer then provides the the input to the 114-1 with a voltage proportional to its position. This input voltage is amplified to produce an output current of 0-16mA. When added to the standing 4mA zero current, this allows the output to sink 4-20mA in proportion to the potentiometer position.

An internally mounted LED indicator is provided for commissioning purposes. This will illuminate when current is flowing around the loop and indicate that the unit is correctly installed and functioning.

The electronics are encapsulated to keep out moisture.

INSTALLATION

Four 4.2 mm mounting holes are provided (see the diagram overleaf). To gain access to the fixing positions, release the four retaining screws to open the cover. Two M16 glands are provided for cable entries.



Features

- * *IP65 Enclosure*
- * *Encapsulated Electronics*
- * *Protected Against Supply Surges*
- * *Low Cost*

Information Required When Ordering

- Input potentiometer value if other than 5 k ohms

SPECIFICATION

INPUT POTENTIOMETER VALUE

500 ohm to 10 k ohm.
standard value - 5 k ohm.

OUTPUT CURRENT

4 – 20 mA

LOOP RESISTANCE

Maximum = $(V_{\text{supply}} - 12) \times 50$ ohms

LINE RESISTANCE /

LOAD RESISTANCE EFFECT

0.01% / 100 ohm change

SUPPLY VOLTAGE RANGE

12 – 50 Volts DC
Supply reversal protected

FUSE

100mA quick blow

SUPPLY VOLTAGE REGULATION

0.01% / Volt

LINEARITY ERROR

$\pm 0.1\%$ FSD

TEMPERATURE COEFFICIENTS

Span: $\leq 0.02\%$ / °C

Zero: $\leq 0.02\%$ / °C

TEMPERATURE RANGE

Operating and Storage: -20°C to $+60^{\circ}\text{C}$

ENCLOSURE DETAILS

Protection: to IP65

Material: ABS

Colour: Light Grey

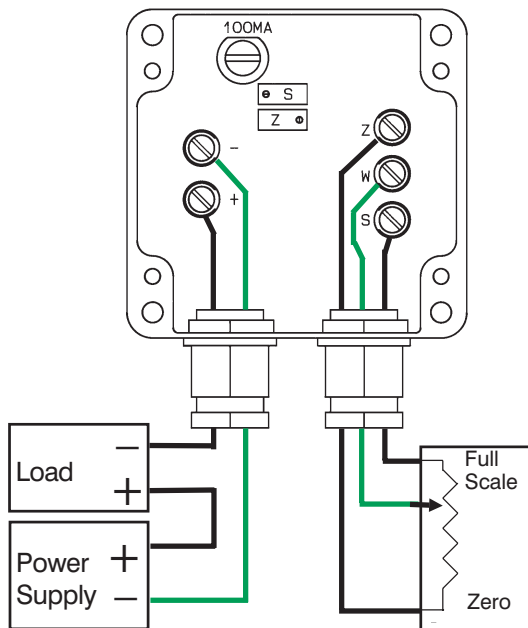
CABLE ENTRIES

2 off M16 Glands

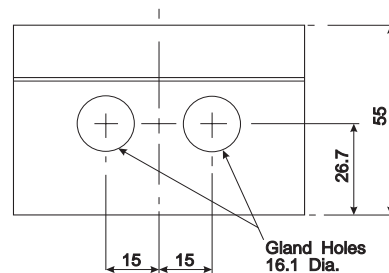
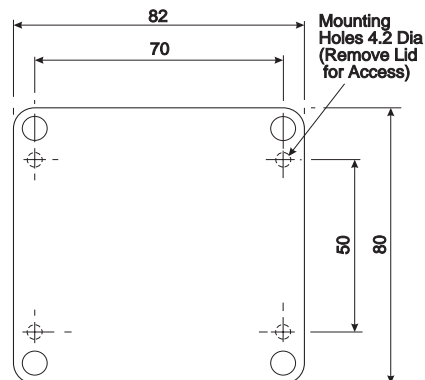
ON-SITE CALIBRATION

- i) Release 4 screws and open the access cover.
- ii) Connect the unit as shown. If the LED indicator fails to illuminate when the system is powered up, recheck your connections.
- iii) Set the resistance source to its zero setting and adjust the ZERO (Z) trimmer for 4mA output.
- iv) Set the resistance source to full scale and adjust the SPAN (S) trimmer for 20mA output.
- v) Re-check zero and repeat steps (i) and (ii) as necessary.

Terminations



Dimensions and Mounting Details



Dimensions
in mm

Continuous development may necessitate changes in these details without notice

SIL

STROUD INSTRUMENTS LTD.

36-40 Slad Road, Stroud, Glos. GL5 1QW, England
Telephone: +44 (0)1453 765433 Fax No: +44 (0)1453 764256
www.sil.co.uk