

SIL

2 WIRE TRIP-AMPLIFIER

TYPE 107-2/2W

FUNCTION

This module is a 2 wire signal powered, single point trip-amplifier, which can be used as a high or low alarm, or as an on-off controller.

DESCRIPTION

The unit derives all its power from the input signal. It uses a bi-stable relay in the output, so that the relay needs only to be energised to change it from one state to the other.

The basic function consists of a high gain differential amplifier, which compares the input signal with a fixed reference set by a dial on the front panel of the unit. The output of this amplifier drives the relay. As an option, the unit can be supplied without the front knob and dial. For this type, the set point is adjusted by a slotted potentiometer accessible when the unit has been unplugged from its terminal base.

The amplifier is provided with a small amount of hysteresis or dead-band. This prevents the relay from chattering when the input signal varies by small amounts around the trip-point. The dead-band is set during manufacture at $\pm 1\%$ of span. On site adjustments may be made by removing the unit from its box and adjusting the preset potentiometer. This control will vary the hysteresis from zero to the stated maximum percentage of span.

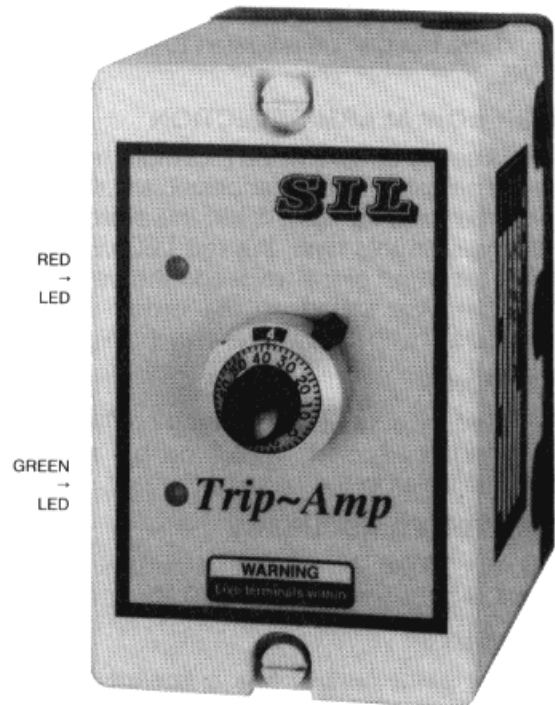
Two light emitting diodes show through the front panel, one red and one green. These may be programmed so that the red one is on in the alarm condition. (See high low alarm selection).

The green LED is on in the opposite state to the red led.

INSTALLATION

The terminal base is designed to be mounted on any flat surface. Grommets are provided on three sides of the base. There are knock-outs in the mounting surface of the base.

A clip can be supplied to enable mounting on a DIN rail.



No Power Supply needed

REMOVAL OF PRINTED CIRCUIT ASSEMBLY

Undo the two front screws and remove the cover assembly from the terminal base. Using only the hands, gently pull the short sides of the case apart, and shake the complete assembly out of the cover. Care must be taken not to pull the wires which will still be attached to the cover of the standard model.

SPECIFICATION:

INPUTS

4–20mA (Standard)
10–50mA (option)

OUTPUTS

Relay with one N/C and one N/O contact rated 5A. @ 250V AC resistive, or 2.5A @ 24V DC resistive.

HYSTERESIS

This is set during calibration at $\pm 1\%$ of span as standard, but can be adjusted to a maximum of $\pm 5\%$.

HIGH-LOW ALARM SELECTION

This is set by operating the P.C. mounted switch on the amplifier board, (accessible with the unit removed from its box). Slide the switch up for high type. In this type, the red LED will go on, when the input signal exceeds the set point. If not otherwise stated on the order, units are dispatched with the switch set in the high mode.

SET POINT

Selected by a self-holding knob on the front of the module, scaled 0–100, or by a slotted potentiometer in the base of the unit.

CALIBRATED ACCURACY

Set at 100% to be within $\pm 0.2\%$ typical. Repeatability error less than 0.2% span.

LINEARITY

The set point control has a linearity error of $\leq \pm 1\%$.

TEMPERATURE COEFFICIENTS

Zero: $\pm 0.02\%$ span/ $^{\circ}\text{C}$.
Span: $\pm 0.02\%$ span/ $^{\circ}\text{C}$.

Terminals rated at 10 Amps

Cover:

Polystyrol moulding

Base:

Phenolic moulding

All dimensions are in millimetres

PROTECTION TO IP40

TEMPERATURE RANGE

Operating: -10°C to $+60^{\circ}\text{C}$.
Storage: -20°C to $+70^{\circ}\text{C}$.

POWER SUPPLY

None required, power is derived from the input signal. The unit drops approximately 6 volts across its input terminals.

ISOLATION

500V RMS, input to output.

INTERFERENCE REJECTION

Filtering is incorporated to suppress the effects of R.F. and other industrial noise.





SERIES MODE AC REJECTION

Sufficient filtering is incorporated such that a $\pm 1\%$ hysteresis setting allows 50/60 Hz., series mode signals with ptp amplitude equal to 25% full scale to be rejected.

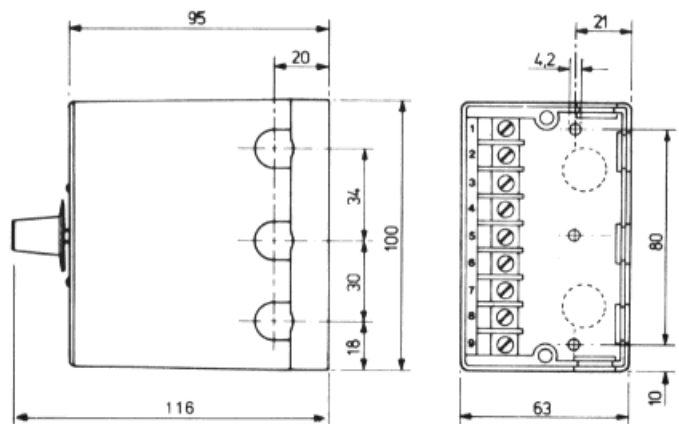
WEIGHT

Approximately 300g.

CONNECTIONS

- 1.
2. 
3. 
4. 
5. 
- 6.
7. +ve input.
8. -ve input.
- 9.

Contacts are shown with the input signal lower than the set point.



WARNING THIS UNIT MAY HAVE HIGH VOLTAGES ON ITS TERMINALS AND ALL INPUTS TO IT MUST BE ISOLATED FROM DANGEROUS VOLTAGES BEFORE THE FRONT COVER IS REMOVED. BARE TERMINALS WILL BE EXPOSED.

Continuous development may necessitate changes in these details without notice.



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