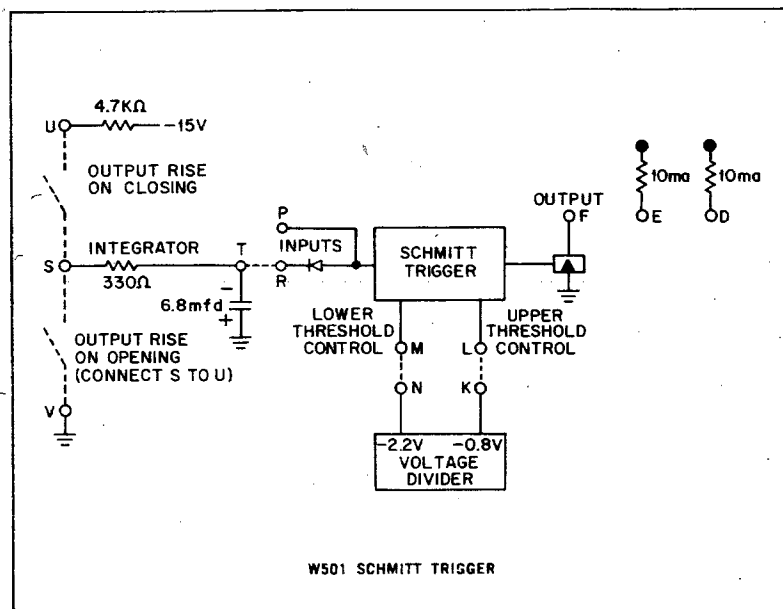


NEGATIVE INPUT CONVERTER AND SCHMITT TRIGGER TYPE W501

W
SERIES



The W501 contains a Schmitt trigger circuit which produces standard levels as a result of some outside activity such as the closure of a switch or relay. A ground level input produces a $-3v$ level output, and a negative level input produces a ground level output. Nominal switching thresholds of $-2.2v$ and $-0.8v$ are obtained by connecting terminal L to terminal K and terminal M to terminal N. The switching thresholds can be varied over the range of 0 to $-2.5v$ by applying external voltage levels to terminals M and L. Terminal M controls the lower level threshold, and terminal L controls the upper level threshold. The module also contains an integrating circuit to filter contact bounce when a switch or relay is used to generate the levels.

INPUTS: Diode — Any signal at pin R between $\pm 10v$ will not cause damage to the circuit. The input impedance is 7500 ohms to $+10v$ when the input is more negative than the lower threshold, and is an open circuit when the input is more positive than the upper threshold. The output will switch from $-3v$ to ground if the input voltage goes more negative

than the lower threshold after having been more positive than the upper threshold. The output switches from ground to $-3v$ if the input voltage goes more positive than the upper threshold after having been more negative than the lower threshold. Upper and lower thresholds must be at least $\frac{1}{2}v$ apart. The 2 ma clamped load at pin D cannot be used to bring this input to $-3v$ since it sinks insufficient current.

Direct: — Pin P provides a bypass of the diode connected at pin R. This node input can be used with R001 diodes to form a NANDed input to the W501 as shown in Fig. 1 below. In addition, this input can be used to obtain an integrated input when many contacts or switches are connected as shown in Fig. 2 below. This latter scheme gives an output rise when contacts close.

Integrating — The input to the integrating circuit is a switch or relay contact. To obtain output rise when contacts close connect contacts between pin S and U and connect pins R and T. To obtain output rise when contacts open, connect contacts between pin S and ground, connect pin V to pin S, and connect pin R to pin T.

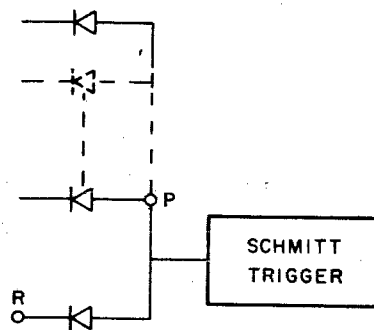


Figure 1. NANDed Input

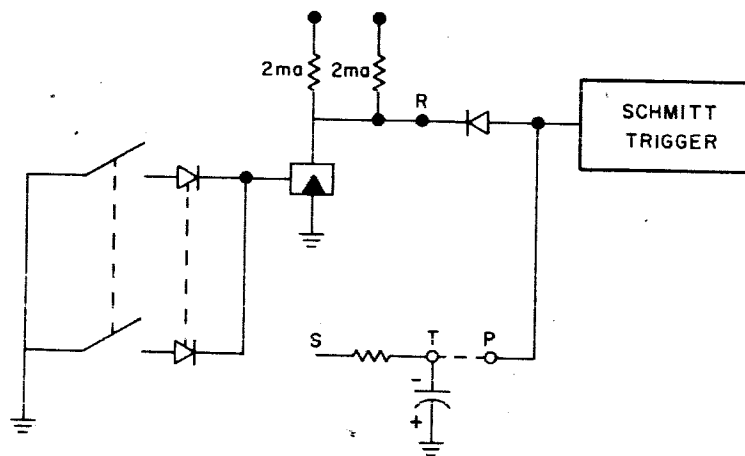


Figure 2. Integrated Input