

Net Database R
Date: 10/2/97
By: Engineering Dept

IM-0538 Rev. B
Date: October 2, 1997
By: Engineering Dept



INSTRUCTION MANUAL EC-10656 - LOSS OF SIGNAL

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I. Description

The EC-10656, loss of signal monitor, checks an input signal, and compares it with an adjustable trip point. The output of the EC-10656 is a relay with SPDT contacts (low voltage).

The EC-10656 is used to monitor an input, and if a low or complete loss of signal exists, the output contacts switch. The popular application of this board is for regaining some control over a critical process when a faulty input signal exists. The relay output can be used to switch in a "pseudo" signal. A current loop shunt resistor can be installed directly to the board to monitor a 4 to 20mA loop. An LED indicates the presence of the command signal.

II. Specifications

Maximum input signal range (terminals 1 & 2 with respect +15 Vdc to terminal 3):

Threshold adjustment range: + 14Vdc

Hysteresis: 100mV

Input impedance: 100K (terminals 1 or 2 to 3)

Power requirements: +15 Vdc & common,
@20mA max (+5%)

Output type: Dry contacts, SPDT

Contact rating (max): 28 Vdc, 3 watts (resistive)

Temperature range: 0 to 55° C (32 to 155° F)

Size (inches): 3.25 x 3.25 x .75 (ht.)

Mounting Dimension (inches): 2.75 x 2.75

(supplied w/ .75 inch spacers & #8-32 screws)

III. Loss of Signal Adjustment

With the power applied to terminals 4 (+15), 5 (-15) and 3 (common); and power applied to input terminal 1(pos) and 2 (neg), adjust the input signal to just under the minimum. Adjust the trim potentiometer on the EC-10656 so that the relay trips at this point (indicated by the LED). The LED will be on when a command signal is present, and will be off when the command signal is below the trim pot set point.

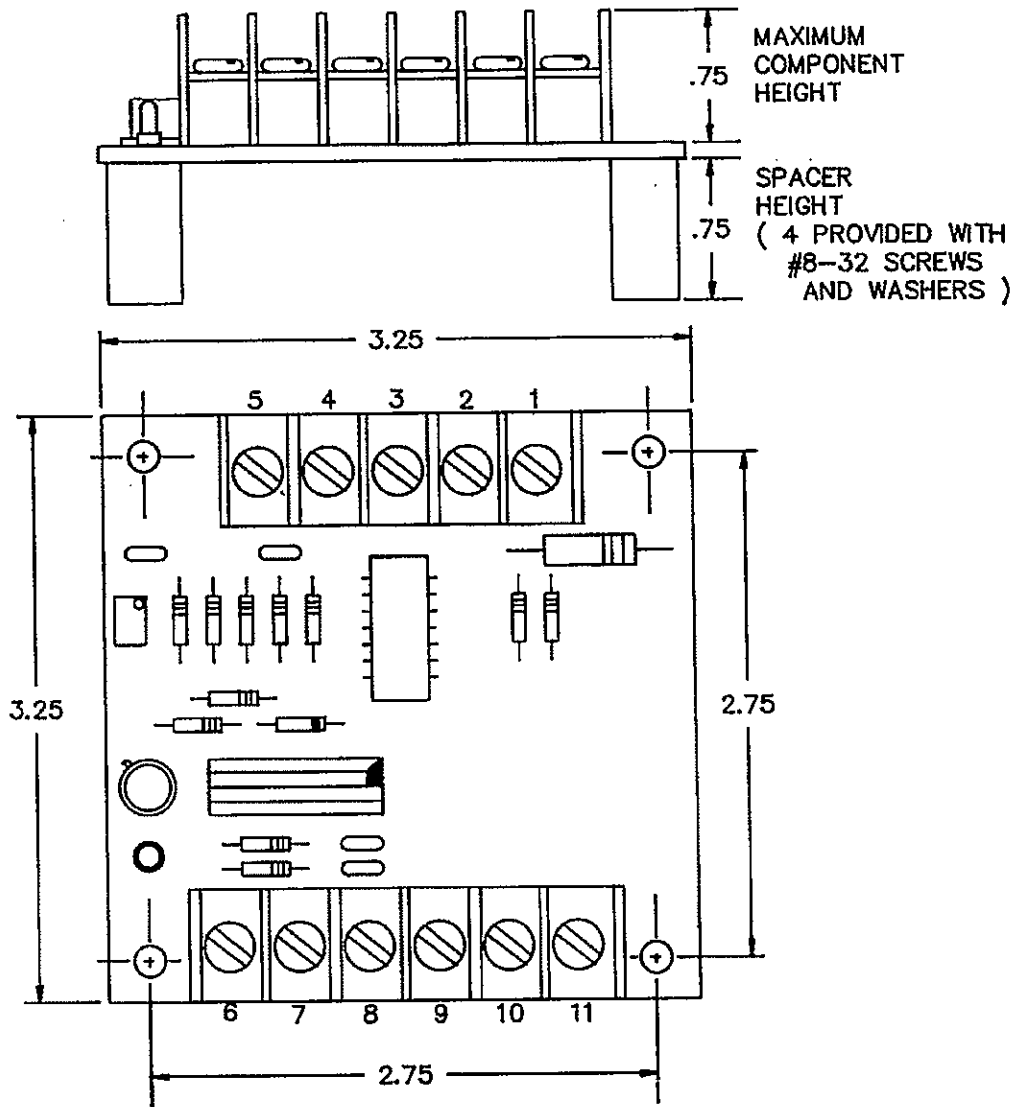
Example: For a 4 to 20mA input signal and a 680 ohm shunt resistor, set input signal to approximately 3.9mA. The led should turn off at 3.9mA and turn on at 4mA.

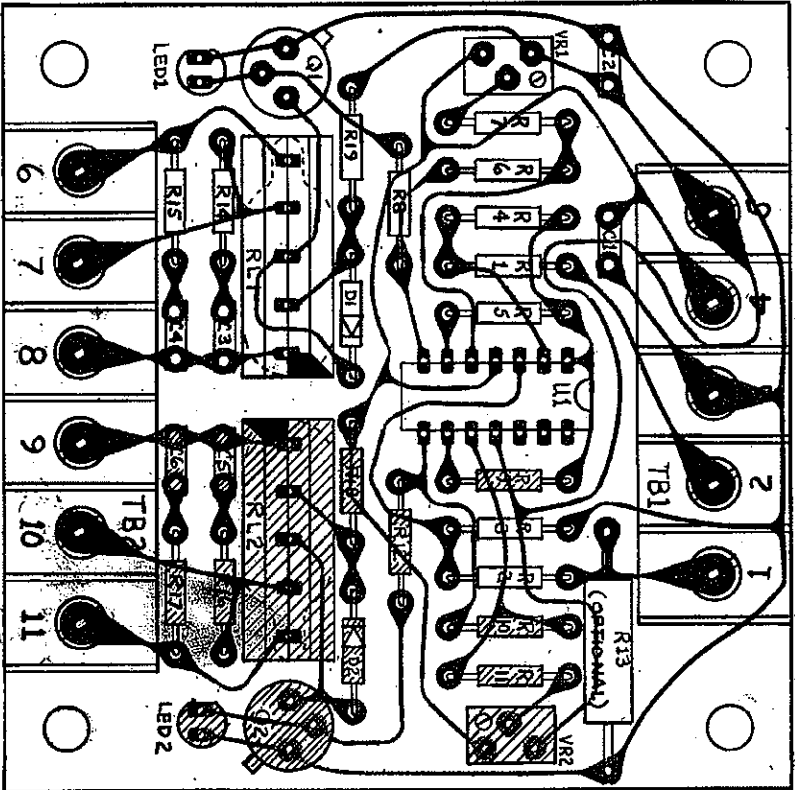
IV. Troubleshooting

Before trying to troubleshoot the EC-10656, verify that the wiring is correct and that all inputs are within specifications.

| <u>Problem</u> | <u>Procedure</u> |
|--|--|
| 1. Relay does not switch when led turns on (off) | 1. RL1 bad; Q 1 bad |
| 2. Relay and led do not change states | 2. VR1 bad; check voltage at U1-1. |
| 3. Relay chatters | 3. Load to high; check snubber network C3, R14; C4, R15) |
| 4. EC-10656 loads down | 4. Check U1, VR1 power source |

V. Reference Drawing





ASSEMBLY NOTES:

PARTS SHADED IN (R12, Q2, LED2, C5, C6, VR2, R9, R10, R11, R12, R16, R17, R18 & D2) ARE USED ON EC-10655, SIGNAL MONITORING BOARD (B/M 70-B-020144-001); BUT ARE OMITTED FOR EC-10656, LOSS OF SIGNAL BOARD (B/M 70-B-020144-002).

R13 (CURRENT SHUNT) IS OPTIONAL, DESIGNATED AS PER EDIT SHEET.

DOTTED OUTLINE FOR R11 & R12 REPRESENTS OLD STYLE PACKAGE.

70B-020144-1

| | | | | | |
|--|--|-----------------|--|----------------|--|
| TOLERANCES UNLESS OTHERWISE SPECIFIED XX ± 0.1 ANGULAR ± 1° | | SCALE - 2X | | DATE | |
| DRAWN G. FRIGGE | | DATE 5-31-84 | | DATE 6/1/84 | |
| APPROVED C. KORN | | DATE 5-31-84 | | DATE 6/1/84 | |
| DESCRIPTION ECR-BO17 REDRAWN | | DATE 5-31-84 | | DATE 6/1/84 | |
| REV D ECR 8523 | | DATE 5-31-84 | | DATE 6/1/84 | |
| C ECR-BO17 REDRAWN | | DATE 5-31-84 | | DATE 6/1/84 | |
| ADDED D1, D2, C3-C6, & R14-R19 | | DATE 5-31-84 | | DATE 6/1/84 | |
| DESCRIPTION | | DATE | | DATE | |
| REV | | DATE | | DATE | |

Jordan Controls, Inc.
DO NOT SCALE

TITLE --
R.C. BOARD ASSEMBLY

FOR --
EC-10655 / EC-10656

70 B 020144-1