

TRIP COIL HEALTHY CIRCUIT



INTRODUCTION:

The solid state TRIP COIL HEALTHY CIRCUIT relay, developed by M/S INVENTA ELECTRO SYSTEMS for S2 DIV. CROMPTON GREAVES, Ambad is the most versatile component. It has three input terminals and Four output terminals. This circuit should be connected between the supply '+' point and supervisory point. Ground of positive supply is also needed. When there is a healthy condition, and supply is connected properly RED LED glows on. If the supply is reverse connected by mistake & coil is healthy, GREEN LED glows on indicating 'SUPPLY REVERSAL'. In such situation the circuit will not detect healthy condition. Two potential contact, one is NC (normally closed) and other is NO(Normally open) are provided, which are of 2A max. & 230 VAC rating. The catalog specifies different types along with the rating of input voltage and current. This TRIP COIL HEALTHY CIRCUIT has following advantages:

- BOX Size = 118 X 76 X 21 mm
- COIL HEALTHY indication
- SUPPLY REVERSAL INDICATION
- Two potential free contact (1 NC & 1 NO)
- Low current consumption maximum 20 mA
- LOW LEVEL OF WIRING & ITS REPLACIBILITY.

TECHNICAL SPECIFICATIONS [CATALOG]:

TYPE	INPUT Rated VOLTAGE	COLOR CODE
TCH 24 O 15	24 V dc	Yellow
TCH 30 O 10	30 V dc	Pink
TCH 48 O 7	48 V dc	Grey
TCH 110 O 5	110 V dc	Blue
TCH 220 O 2	220 V dc	Green

TESTS CONDUCTED :

On Sample of 30 VDC supply voltage (rated):

ROUTINE TEST:

- High voltage Isolation: 3KV
Between all terminals and body
- 1. Megger test [500 VDC]:
Between input and contact > 2 M Ohm

- Operating Range 60% --120% of rated Voltage range

TYPE TEST:

- Sample plan : above mentioned Sample
- Endurance Test : a) 250 operations at 60% (18 VDC)of rated operational Voltage for coil Healthy & Unhealthy status
b) 250 operations at 100% (30 VDC)of rated operational Voltage for coil Healthy & Unhealthy status
c) 250 operations at 120% (36VDC)of rated operational Voltage for coil Healthy & Unhealthy status
- HV Test : 5 KV bet body for 1 min & all terminals shorted ,
- Vibration test : 2mm amplitude / 50 Hz for 10 min s
- Humidity Test : tested at 95% RH for 8 Hrs

OPERATING :

The TRIP HEALTHY CIRCUIT , principally detects the coil resistance. In CLOSED condition the contact 52 a & coil continuity wrt ground is detected. Here contact/ coil / ground connections are all tested at a time , Detection is ALL THE TIME ON. Checking is dependent on the circuit.

In TRIP condition, the coil resistance / Ground continuity is detected through 52 b contact. Note that any discontinuity in ground will also not activate the coil.

The detector is isolated from coil is amplified to drive the relay ,

It must be noted that the relay having good contact capacity will need more Magnetic pulls, hence more current from amplifier,

The relay is chosen to accommodate the contact life with proper contact protections.

Reverse connection (green) & Trip Healthy (red) indications are given on device itself,

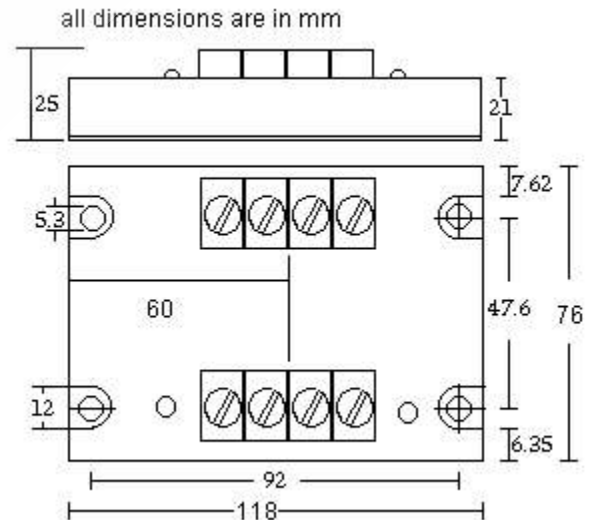
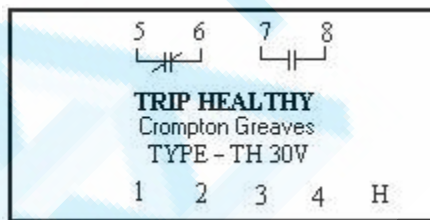
INSTALLATION :

1. Connect as per the connection diagram ,
2. Switch on the DC supply , if REVRESE indication glows check proper polariry between terminals 1 & 2. Interchange the connections to put off the lamp ,
3. If coil is OK then the RED led must glow, if it glows,
4. Connect the relay contacts as required &
5. The TH ckt is ready to operate.

UNIT CONTAINS:

- M4 X 20 screws : 4 Nos.
- M4 Nuts : 4 Nos.
- Connection Diagram : 1 No.
- Packed in a poly. Bag

**INVENTA ELECTRO SYSTEMS [NASIK] PVT. LTD
MECHANICAL DIMENSIONS:**



BLOCK DIAGRAM

