INSTALLATION INSTRUCTIONS FOR VSP D1

INTRODUCTION :

Thank you for selecting & purchasing MINILEC make phase failure relay **VSP D1**.The following installation instructions would guide you in installing your **VSP D1** and making best use of it.

VSP D1 is a phase failure relay operating on negative sequence voltage sensing principle. It offers protection against

* Unbalanced voltage condition.
* Phase failure condition.
* Phase sequence reversal condition.

Your **VSP D1** is an auxiliary relay and it should be used along with the motor starter only. The effective working of the electromagnetic motor starter. Before installing your **VSP D1** Check whether the motor starter is operating perfectly by starting the motor with the “START” push button and switching it off by “OFF” push button. If the motor does not “START” or “STOP” on respective operations, the starter needs to be serviced. Do not install your **VSP D1** with faulty motor starter.

TRIP SETTING, TRIP DELAY AND RESETTING :

The **VSP D1** is factory set to trip the starter for unbalance voltage between any two phases of 40V 6V (fixed).

The trip time delay is between 2 to 5 secs. The **VSP D1** relay resets automaticaly when the unbalance voltage is reduced to less than 20V between all phases.

MOUNTING :

Your **VSP D1** can be Rail Mounted or Panel Mounted.(See fig. 4A & 4B for mounting it on RAIL and releasing it from RAIL respectively). It is suitable for 35mm RAIL (for panel mounting and drilling details see fig.2).

CAUTION :

1) Ensure that your **VSP D1** is -

* Not installed near any heat sources like burner, sunlight, electric arc etc.
* Not subjected to abnormal vibrations.
* Installed as near to the starter as possible.

2) 3 sensing (L1,L2,L3) is normaly taken from outgoing terminals of motor starter. But in following conditions, sensing should be taken from incoming side of motor starter, .

* Fully automatic reset starter.
* Multi speed motor starter.
* Reversible starters.
* When any other auto resetting type control switch is used in series with no volt coil of the starter.

ELECTRICAL CONNECTIONS OF VSP D1:

See Fig.1 for Electrical connection details of **VSP D1.**

See Fig.3 for installation of **VSP D1** in the power and control wiring diagram.

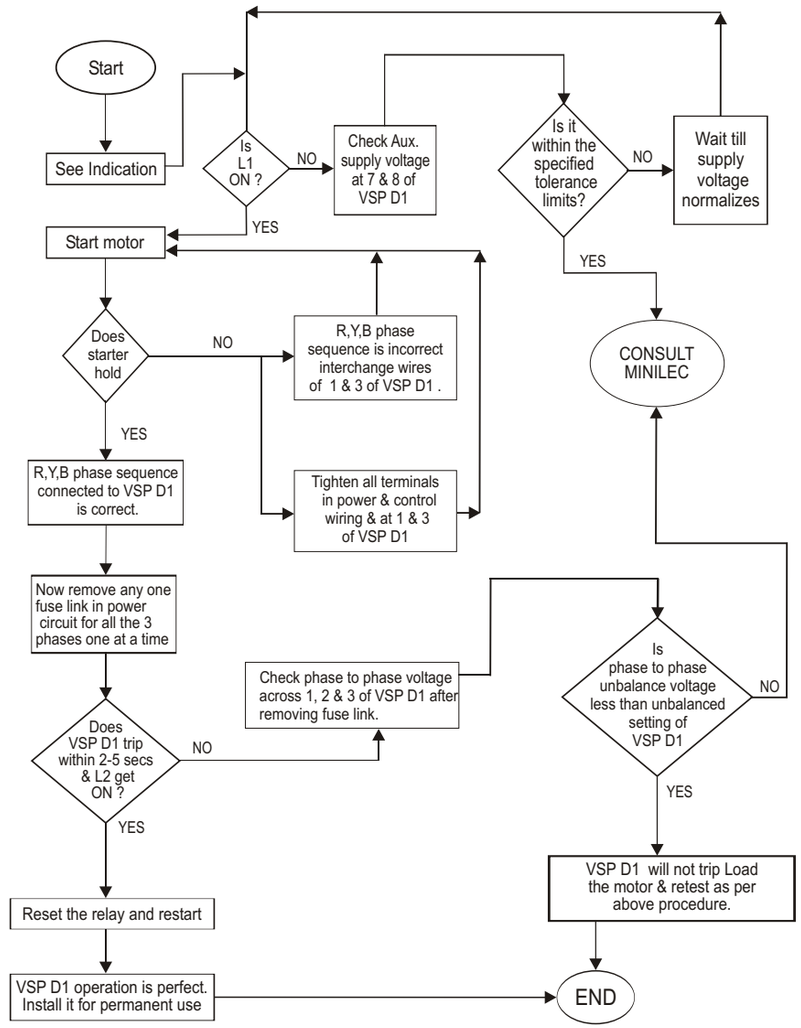
Auxiliary supply voltage should be as marked on the front cover plate of **VSP D1.**

Connect the auxiliary supply wires at 7 & 8. Connect R,Y,B phases at 1,2 and 3 respectively. The R,Y,B sensing should be taken from outgoing points of motor starter in case of Direct Online Starter. In case of star delta starters, it should be taken from outgoing terminals of main contactor. The output relay contacts 13 and 14 are to be connected in series with no-volt coil of the contactor.

TECHNICAL SPECIFICATIONS OF VSP D1

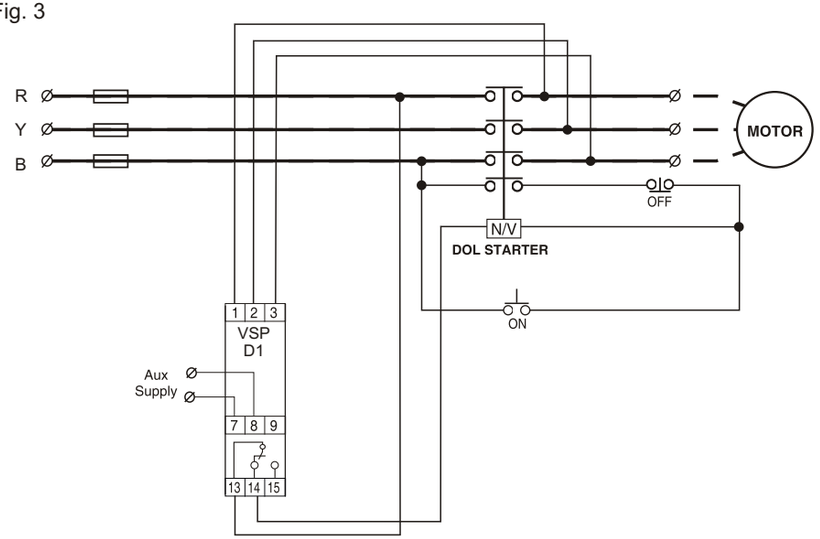
1. **SYSTEM SUPPLY VOLTAGE :**
   220 / 230 / 240 / 380 / 415 VAC 20 %
2. **AUX. SUPPLY VOLTAGE :**
   110 / 220 / 230 / 240 / 380 / 415 VAC 20%
3. **FREQUENCY :**
   50 / (60) Hz, 3%
4. **POWER CONSUMPTION :**
   3 VA (max.)
5. **OUTPUT RELAY CONTACT :**
   1 Changeover
6. **OUTPUT CONTACT RATING** (RESISTIVE) :
   5Amp., 240 VAC
7. **LIFE EXPECTANCY :**
   0.5 x 10^6 operations at 100% rating
8. **UNBALANCE TRIP SETTING :**
   40V 6V
9. **TRIP TIME DELAY :**
   3.5 Sec. 1.5 Sec.
10. **RESETTING :**
    Auto Reset
11. **RESET GAP :**
    10 - 18V
12. **INDICATIONS :**
    L1 : Green - Power ON
    L2 : Red - Trip
13. **ENCLOSURE :**
    ABS.
14. **DIMENSIONS (mm) :**
    Overall : 76 X 30.5 X 117.5
    Mounting : 68 center to center
15. **MOUNTING :**
    35 mm Rail Mounting & Panel Mounting
16. **WEIGHT (gms) :**
    320 (approx.)
17. **OPERATING CONDITIONS :**
    TEMPERETURE : -5^0C to + 60^0C
    HUMIDITY : Upto 95% Rh

TESTING PROCEDURE



ELECTRICAL CONNECTION IN POWER AND CONTROL WIRING

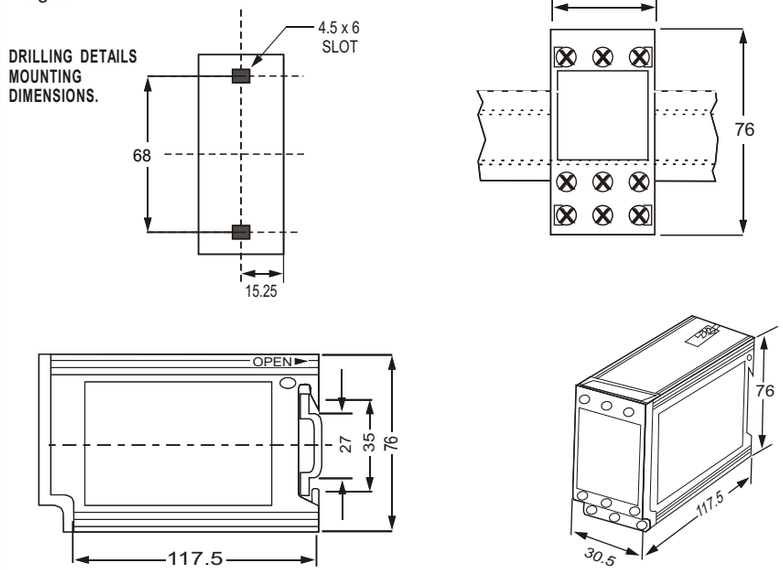
Fig. 3



NOTE : RELAY CONTACT SHOWN FOR UNIT IN HEALTHY CONDITION

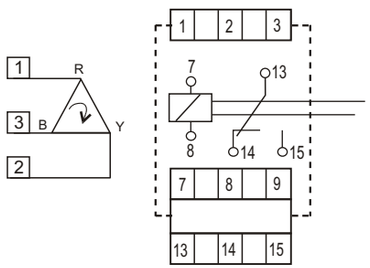
MOUNTING DIMENSIONS

Fig. 2



CONNECTION DIAGRAM

Fig. 1



INDICATIONS :
L1 : POWER ON
L2 : TRIP

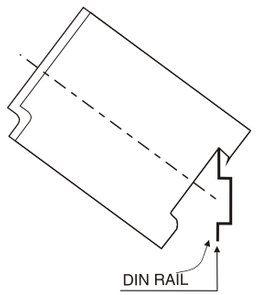
TERMINAL DETAILS :

1-2-3	:	R-Y- B PHASE VOLTAGE SENSING POINTS
7-8	:	AUXILIARY SUPPLY VOLTAGE AS MARKED ON THE UNIT
9	:	DUMMY CONTACTS
14-13-15	:	1 CHANGEOVER OUTPUT RELAY CONTACTS (NO - C - NC)

NOTES : RELAY CONTACT SHOWN IN HEALTHY CONDITION.

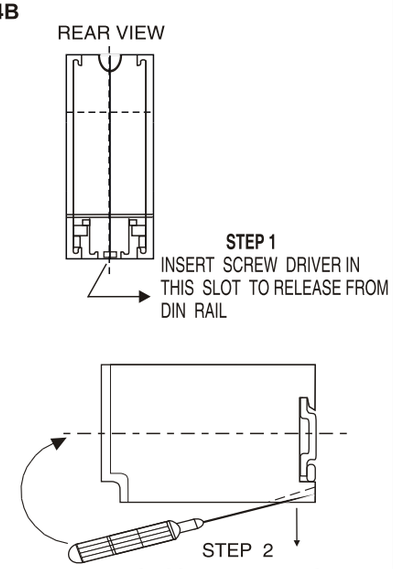
MOUNTING ON DIN RAIL

Fig. 4A



RELEASING FROM DIN RAIL

Fig. 4B



INSTALLATION INSTRUCTION MANUAL FOR PHASE FAILURE RELAY

VSP D1

WARRANTY
AGAINST
ALL MANUFACTURING DEFECTS
FOR 18 MONTHS
FROM DATE OF SUPPLY
OR 12 MONTHS FROM
INSTALLATION
WHICHEVER IS EARLIER

Manufactured by :

minilec®

S.NO. 1073/1-2-3,
AT POST : PIRANGOOT,
TAL : MULSHI, DIST. : PUNE (INDIA)
PIN : 412 111,

VERSION 03
(12/04/99)