

INSTALLATION INSTRUCTION MANUAL UNDER / OVER VOLTAGE CUTOUT



PHASE FAILURE & VOLTAGE MONITORING RELAY

ALV D2 / VMR D2



ALV D2 / VMR D2 offers protection against -

- * Unbalanced voltage condition.
- * Phase failure condition.(For ALV D2 only).
- * Phase sequence reversal condition.
- * Under voltage condition.
- * Over voltage condition.

MOUNTING

ALV D2/VMR D2 can be Rail mounted or panel mounted

TRIP SETTING, TRIP DELAY AND RESETTING

ALV D2 / VMR D2 is factory set to trip the starter as per following values.

CAUTION

1. **VMR D2 is voltage monitoring relay. Do not use VMR D2 for motor protection & use only for mains monitoring purpose**
2. **Ensure that ALV D2/VMR D2 is -**
 - * Not installed near any heat sources like burner, sunlight, electric arc etc.
 - * Not subjected to abnormal vibrations.
 - * Installed as near to starter as possible.
 - * Not subjected to direct heat, sunlight, rain, stormy wind and dust.
3. Working of the products is affected by frequency variations and Harmonic distortion in applications, like Genset Supply or UPS Supply. Care should be taken to ensure that net resultant unbalance Supply is not beyond the unbalance trip limits of your unit.

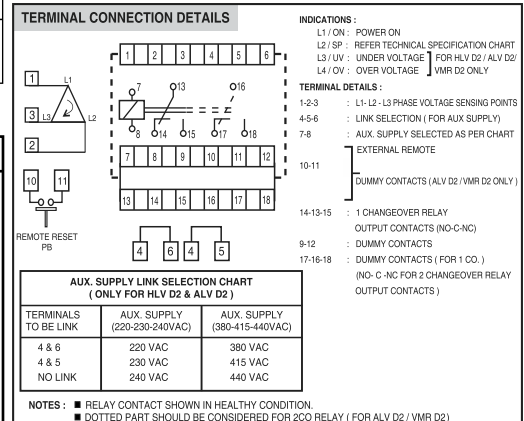
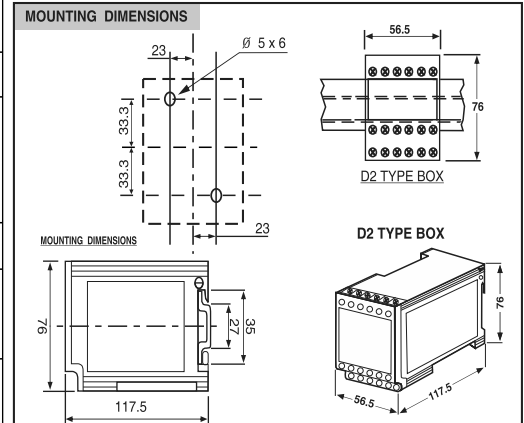
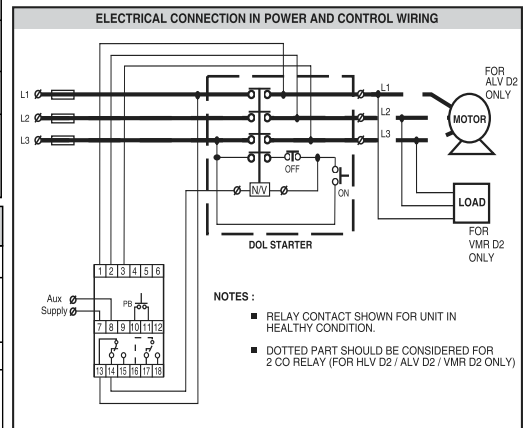
	Unbalance voltage between any two phases	Under voltage	Over voltage
Cut off at	40V/6V (For ALV D2) 94V K 6V VMR D2	Site selectable between 80 % - 95% of Aux.supply	Site selectable between 105 % - 120% of Aux. supply
Trip time delay	3.5 sec. K 1.5 sec	Less than 2 sec.	Less than 2 sec.
Auto reset gap applicable to ALV D2 / VMR D2	Less than 20V unbalance between all three phases (For ALV D2 only) Less than 74V unbalance between all three phases (For VMR D2 only)	Set value plus 3% K 1% of Aux. supply	Set value less 3% K 1% of Aux. supply

TECHNICAL SPECIFICATIONS

SR. NO.	PARAMETER	ALV D2	VMR D2	COMMON
1.	Aux.Supply Voltage	110 VAC (Fixed) 220-230-240VAC (Link selectable) 380-415-440VAC(Link selectable)±20%	110/220/230/240 380/415/440VAC ± 20%	1. System Supply Voltage : 220/230/240/380/415/ 440VAC ± 20%
2.	Output Relay Contacts	1 CO / (2 CO)	1 CO / (2 CO)	2. Frequency : 50 / (60) Hz ± 3%
3.	Trip Setting (Volts) * Phase to Phase Unbalance * Under Voltage * Over Voltage	40V ± 6V 80% to 95% (variable) of Aux. Supply (± 2% of the Set value). 105% to 120% (variable) of Aux. Supply (± 2% of the set value).	94V ± 6V 80% to 95% (variable) of Aux.Supply (± 2% of the set value.) 105% to 120%(variable) of Aux. Supply (± 2% of the set value).	3. Power Consumption : 3 VA max.
4.	Set Accuracy	± 2% of the set value	± 2% of the set value	4. Output Contact Rating : 5 Amp, 240 VAC [resistive]
5.	Trip Time Delay * Phase Failure * Phase Reversal / Phase To Phase Unbalance * Under Voltage * Over Voltage	3.5 sec. ± 1.5 sec. 3.5 sec. ± 1.5 sec.	3.5 sec. ± 1.5 sec. 3.5 sec. ± 1.5 sec.	5. Operating Condition : * Humidity : upto 95 % RH * Temperature : -5°C to 60°C
6.	Resetting	Less than 2 sec. Less than 2 sec.	Less than 2 sec. Less than 2 sec.	6. Life Expectancy : 0.5x10 ⁶ operations at 100% rating
7.	Reset Gap * For unbalance * For Under & Over Voltage	Auto 10V to 18V 3% ± 1% of Aux.supply	Auto 10V to 18V 3% ± 1% of Aux.supply	7. Enclosure : ABS
8.	Indications Green Red	ON : Power on SP : Single Phasing Trip	ON : Power on SP : Phase Reversal / Phase to Phase Unbalance	8. Unit Weight (gms) : 400 9. Dimensions [mm] : Overall : 76x56.5x117.5 Mounting : 67x46
	Red Red	UV : Under Voltage OV : Over Voltage	UV : Under Voltage OV : Over Voltage	10. Mounting : 35 mm Rail mounting & Panel mounting

COMPLIANCE TO STANDARDS

TEST	IEC STD.	TEST	IEC STD.
1. EFT Test of Auxiliary Supply	61000-4-4	8. H.V. Test (Dielectric Test)	60255-5
2. EFT Test of System Supply	61000-4-4	9. H.V. Test (Dielectric Test)	60255-5
3. Surge Test of Auxiliary Supply	61000-4-5	10. Insulation Resistance Test	60255-5
4. Surge Test of System Supply	61000-4-4	11. Dry Heat Test	160068-2-2
5. Voltage Interruption, Variation & Dip Test	61000-4-11	12. Damp Heat test (Steady State)	60068-2-30
6. ESD Test (Contact Discharge)	61000-4-2	13. Damp Heat test (cyclic test)	60068-2-78
7. ESD Teast (Air Discharge)	61000-4-2		



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