



PROK DEVICES PRIVATE LIMITED

B-80, 2nd & 3rd Floor, KSSIDC Industrial estate, 4th Main Road,
6th Block, Rajaji Nagar, Bengaluru -560010

Ph no: 080-41480777, 080-41157700, Email: enquiry@prokdvs.com,
www.prokdvs.com, www.prokdvs.in

VOLTAGE MONITORING DEVICE – VOLT PRO

INTRODUCTION

Prok Dv's make voltage sensing devices for protection against Under Voltage, Over Voltage, Phase Failure, Phase reversal and Unbalance Voltages.

Prok Dv's make voltage sensing devices are available in six models, i.e. VD-02,VD-03,VD-04,VD-05, VD-06,VD-07 for various applications. They are provided with fixed or variable voltage settings, auto reset, definite time delay fixed or variable setting.

Description:

In motors operating at low loads, failure of any one phase causes over voltage, which may cause rupture of insulations, leading to motor burn out. Low voltage will cause synchronous motors to come out of synchronism at 75% of rated voltage. Induction motors may stop if voltage falls below 70%. Over voltage may occur due to defective voltage regulator, over speeding caused by sudden drop in load on account of this, di-electric property deteriorates. In single phase supply, low voltage may cause overload of supply cable and thermal damage to insulation of windings.

Features:

- ❖ Solid state circuitry
- ❖ Negative phase sequence voltage detection
- ❖ Definite fixed or variable time delay
- ❖ Low power consumption
- ❖ Auto reset
- ❖ Fail safe system
- ❖ LED indication for healthy and fault indication
- ❖ DIN rail mounting

Applications:

- ❖ Protection of synchronous and induction motors of any HP ratings.
- ❖ Protection of generators, AMF switchboards
- ❖ Transformer feeder panel
- ❖ Distribution boards
- ❖ Voltage regulators
- ❖ Protection for UPS and single phase applications

SPECIFICATIONS:

Specifications:

Parameters	VD-02	VD-03
System voltage	415VAC \pm 20%,50Hz.	415VAC 20%,50Hz.
Sensing Aux. Voltage(Un):	110V/230V/415VAC \pm 20%,50Hz	110V/230V/415VAC 20%,50Hz
Contacts & rating:	2 C/O contacts,6A/230VAC/28VDC	2 C/O contacts,6A/230VAC/28VDC
Trip Voltage settings:		
a) Under voltage:	80% - 95% of Un, in steps of 3%	80% - 95% of Un, in steps of 3%
b) Over voltage:	105% - 120% of Un, in steps of 3%	105% - 120% of Un, in steps of 3%
c) Phase to phase unbalance:	50V fixed.	50V fixed.
Reset gap (Max):		
a) under /over voltage:	15V \pm 5V	15V 5V
b) unbalance voltage:	5-10V	5-10V
Trip time delay:		
a) phase fail:	2-4Sec fixed.	2-4Sec fixed.
b) under/over voltage:	100msec fixed.	0-15 sec variable in steps of 3sec.
Resetting mode:	Auto	Auto
Indication:		
a) Green LED:	System healthy	System healthy
b) Red LED :	1). Phase fail/phase reversal/ phase unbalance 2). Under voltage trip indication 3). Over voltage trip indication	1). Phase fail/phase reversal/ phase unbalance 2). Under voltage trip indication 3). Over voltage trip indication
Mounting:	Din rail mounting	Din rail mounting
Power consumption:	<4VA	<4VA
Insulation:	2KV, 50Hz for 1min	2KV, 50Hz for 1min

Specifications:

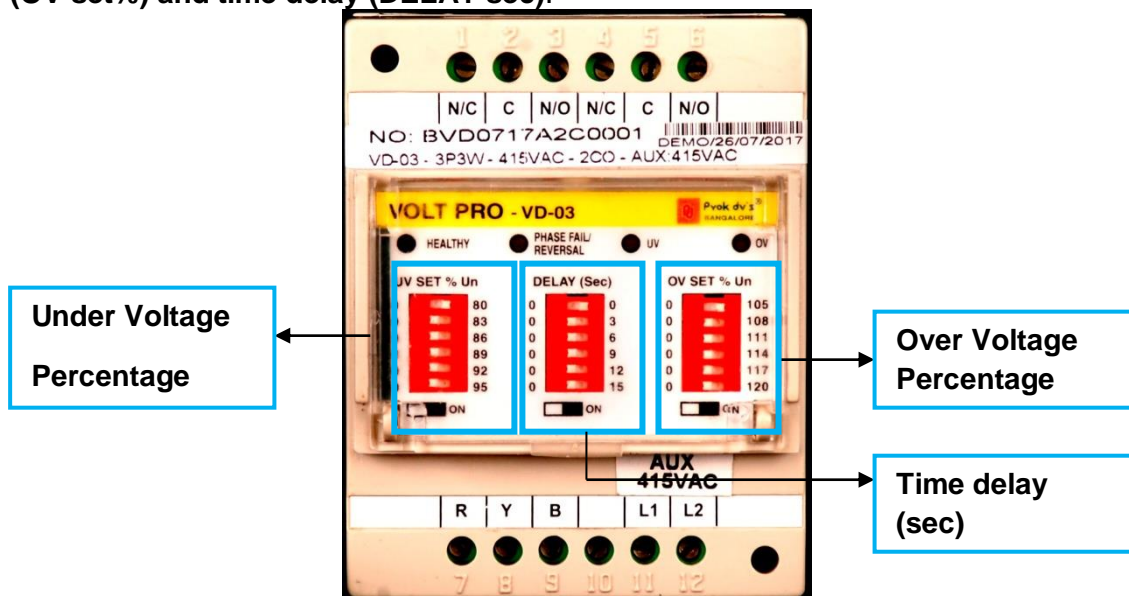
Parameters	VD-04	VD-05
System voltage	—	415VAC \pm 20%,50Hz.
Sensing Aux. Voltage(Un):	230VAC \pm 20%,50Hz	110V/230V/415VAC \pm 20%,50Hz
Contacts & rating:	2 C/O contacts,6A/230VAC/28VDC	2 C/O contacts,6A/230VAC/28VDC
Trip Voltage settings:		
a) Under voltage:	160V-210V, variable in steps of 10V	80% - 95% of Un, in steps of 3%
b) Over voltage:	240V-290V, variable in steps of 10V	—
c) Phase to phase unbalance:	—	50V fixed.
Reset gap (Max):		
a) under /over voltage:	07V \pm 3V	15V \pm 5V
b) unbalance voltage:	—	5-10V
Trip time delay:		
a) phase fail:	—	2-4Sec fixed.
b) under/over voltage:	100msec fixed.	0-15 sec variable in steps of 3sec.
Resetting mode:	Auto	Auto
Indication:		
a) Green LED:	System healthy	System healthy
b) Red LED :	1). Under voltage trip indication 2). Over voltage trip indication	1). Phase fail/phase reversal/ phase unbalance 2). Under voltage trip indication
Mounting:	Din rail mounting	Din rail mounting
Power consumption:	<4VA	<4VA
Insulation:	2KV, 50Hz for 1min	2KV, 50Hz for 1min

Specifications:

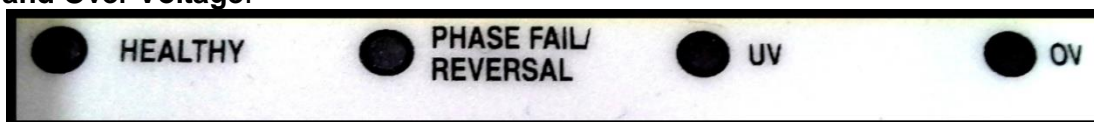
Parameters	VD-06	VD-07
System voltage	415VAC ±20%, 50Hz.	415VAC ±20%, 50Hz.
Sensing Aux. Voltage(Un):	110V/230V/415VAC ±20%, 50Hz	110V/230V/415VAC ±20%, 50Hz
Contacts & rating:	2 C/O contacts, 6A/230VAC/28VDC	2 C/O contacts, 6A/230VAC/28VDC
Trip Voltage settings:		Fixed under voltage <90% of Un
a) Under voltage:	_____	
b) Over voltage:	105% - 120% of Un, in steps of 3%	
c) Phase to phase unbalance:	50V fixed.	50V fixed. _____
Reset gap (Max):		
a) under /over voltage:	15V ±5V	15V ±5V
b) unbalance voltage:	5-10V	5-10V
Trip time delay:		
a) phase fail:	2-4Sec fixed.	2-4Sec fixed.
b) under/over voltage:	0-15 sec variable in steps of 3sec.	0-15 sec variable in steps of 3sec.
Resetting mode:	Auto	Auto
Indication:		
a) Green LED:	System healthy	System healthy
b) Red LED :	1). Phase fail/phase reversal/ phase unbalance 2). Over voltage trip indication	1). Phase fail/phase reversal/ phase unbalance 2). Under voltage trip indication
Mounting:	Din rail mounting	Din rail mounting
Power consumption:	<4VA	<4VA
Insulation:	2KV, 50Hz for 1min	2KV, 50Hz for 1min

SETTING PROCEDURE:

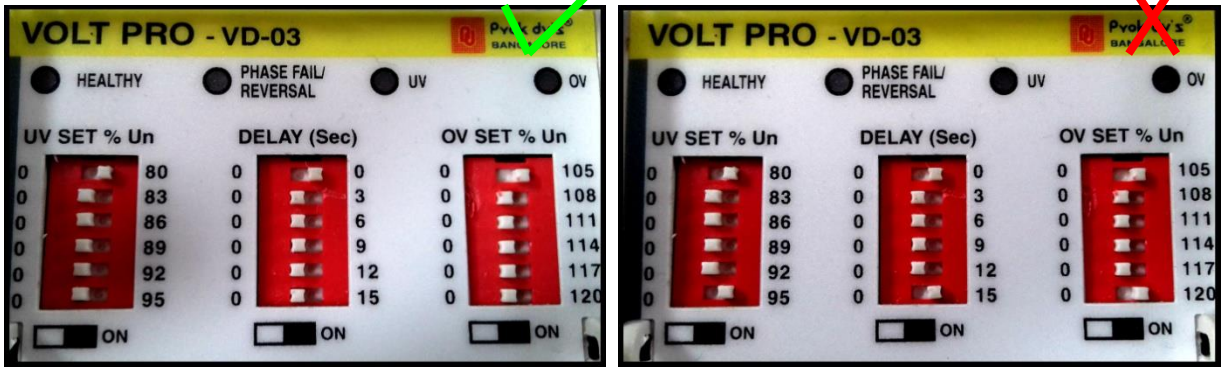
- ❖ The VOLT PRO Relay has three settings- under voltage (UV set %), over voltage (OV set%) and time delay (DELAY sec).



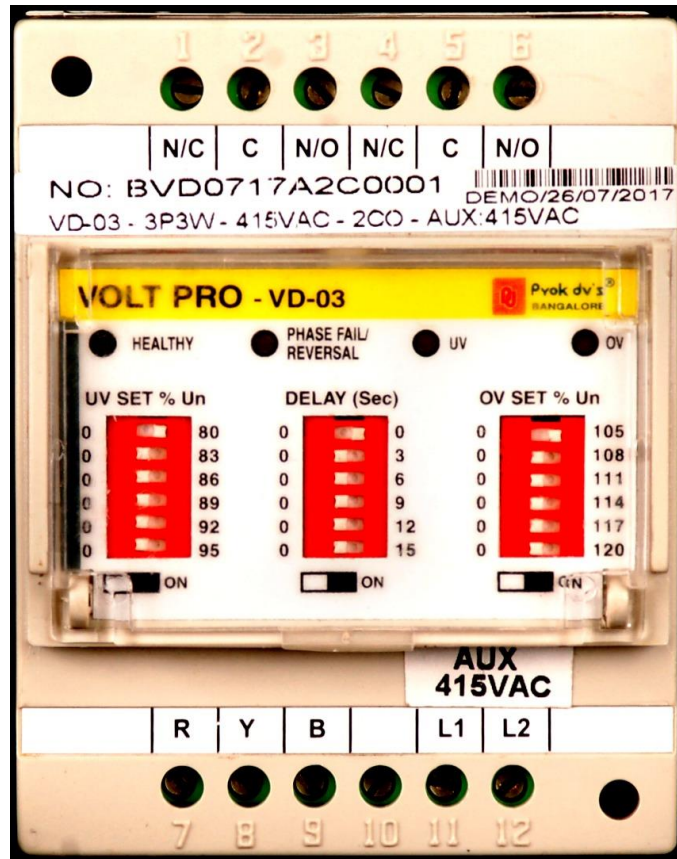
- ❖ The relay has four LED indications- Healthy, Phase Fail/Reversal, Under Voltage and Over Voltage.



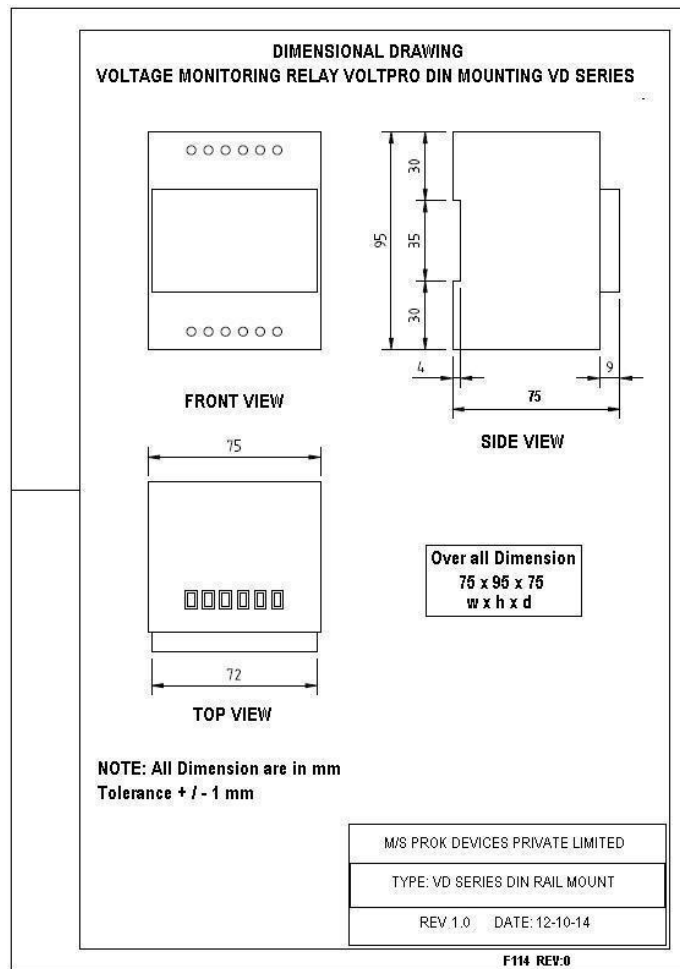
- ❖ The relay can be set by selecting any one dip switch in on position at a time as shown in the front fascia of the VOLT PRO relay.



FRONT FASCIA:



DIMENSIONAL DETAILS:



WIRING DIAGRAM

Wiring diagrams

