

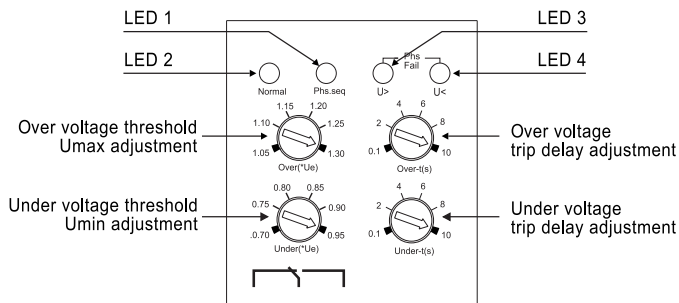
## FEATURES

**True RMS Measurement**  
**Over Voltage Monitoring**  
**Under Voltage Monitoring**  
**Phase Asymmetry Monitoring**  
**Phase Failure Monitoring**  
**Phase Sequence Monitoring**  
**Trip LED Indicator**  
**Adjustable Over / Under Voltage Settings**  
**Adjustable Trip Delay**  
**Auto-reset**  
**Din-railed Mount**

## TECHNICAL DATA

Models	M380/415 (3P3W)	M220/240 (3P4W)
Measurement	True RMS Monitoring	
Rated voltage supply (Ue)	AC 380 V, 415 V	AC 220 V, 240 V
Rated frequency	50 / 60 Hz	
U > setting value	(1.05 ~ 1.30) x Ue	
U < setting value	(0.70 ~ 0.95) x Ue	
Asymmetry threshold	10%	
U > trip delay	0.1~10 sec	
U < trip delay	0.1~10 sec	
Voltage hysteresis	6 V	7 V
Asymmetry hysteresis	8 %	
Phase failure sensitivity	≤ 0.5 *Ue	
Trip delay for incorrect phase sequence & phase failure	≤ 1.0 sec	
Voltage measurement error	± 1%	
Trip delay error	± 10% ; +0.1 sec	
Knob setting error	± 1% x scale value	
Max. power consumption	2 VA	
Rated insulation voltage	420 V	
Rated fuse rating	RT36-00 (5A)	
Output contact	1C / O	
Mechanical life	10 <sup>6</sup>	
Electrical life	10 <sup>5</sup>	
Conventional thermal current	5A	
Usage category	AC-15	
Contact capacity (Ie)	0.95A	1.5A
Protection degree	IP20	
Pollution degree	3	
Altitude	≤ 2000m	
Operating temperature	-5° ~ +40° C	
Relativity humidity	≤50% at 40° C (without condensation)	
Storage temperature	-20° C ~ +50° C	
Wire size	0.5 ~ 2.5 mm <sup>2</sup>	
Torque	0.5Nm	
Weight	~ 190 g	
Mounting	DIN Rail mount / TH35 Rail (EN60715)	
Standard of Compliance	IEC 60947-5-1	

## PANEL DESCRIPTION



**LED 1:** Indication for incorrect phase sequence  
**LED 2:** Indication for normal state (no faults)  
**LED 3:** Indication for over voltage fault  
**LED 4:** Indication for under voltage fault  
**LED 3 & 4 (flash):** Indication for asymmetry  
**LED 3 & 4 (lit):** Indication for phase failure (Phs.Fail)

# Voltage Monitoring Relay

# DVS-1000

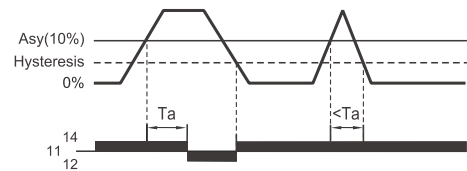


## OPERATION INSTRUCTION

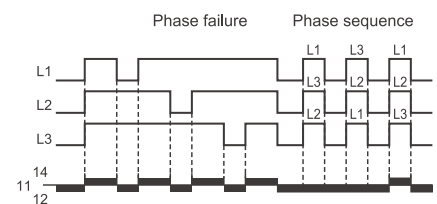
1. Set threshold value and trip delay as required by adjusting knobs.
2. When fault is detected, the output relay will be energize and open based on the trip delay time.
3. Phase failure protection function will be activated when measured voltage value  $\leq 0.5 \cdot U_e$ .
4. The relay trips instantly when measured voltage value  $\geq 1.5 \cdot U_e$ .

## FUNCTION DIAGRAMS

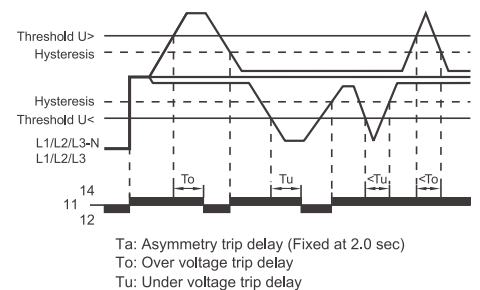
### ● Phase asymmetry monitoring



### ● Phase failure and sequence monitoring

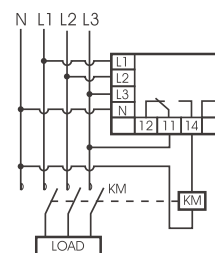


### ● Over voltage and Under voltage monitoring

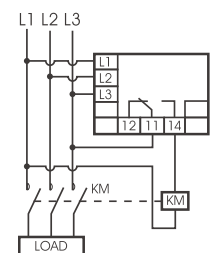


## WIRING DIAGRAMS

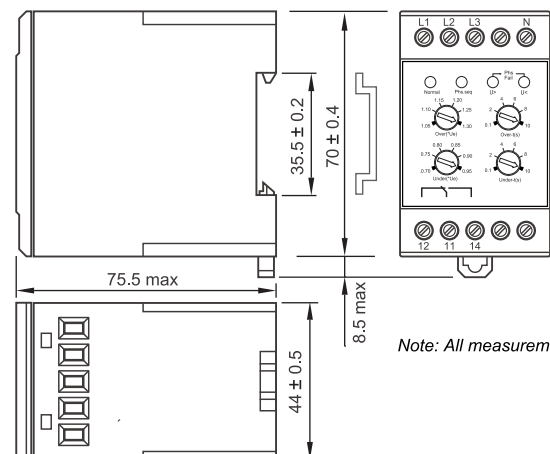
3 phase 4 wire (Power supply line: L1, N)



3 phase 3 wire (Power supply line: L1, L2, L3)



## CASING DIMENSIONS



Note: All measurement in mm.