

Digital Voltage Monitoring Relay DVS-2000



features



- True RMS Measurement
- Over / Under Voltage Monitoring
- Phase Asymmetry Monitoring
- Phase Sequence Monitoring
- Phase Failure Monitoring
- Adjustable Over / Under Voltage Setting
- Adjustable Trip Delay
- Real Time Voltage & Fault Display
- LCD Backlit Display
- Selectable Auto / Manual Reset Function
- Adjustable Start-up / Reset Time Delay
- Auto-reset
- Din-railed Mount

technical data

Models	M415 (3P3W)	M240 (3P4W)
Measurement	True RMS Monitoring	
Rated voltage supply	AC 200~500 V / 50Hz	AC 125~300 V / 50Hz
U > setting value	OFF - 381~500 V	OFF - 221~300 V
U < setting value	260~379 V - OFF	150~219 V - OFF
Asymmetry setting	OFF - 5%~20%	
U > trip delay	0.1~20 sec	
U < trip delay	0.1~20 sec	
Asymmetry trip delay	0.1~20 sec	
Start-up delay	0.3~30 sec	
Reset delay	0.3~30 sec	
Voltage hysteresis	6 V	7 V
Asymmetry hysteresis	8 %	
Phase failure sensitivity	≤ 120 V	
Trip delay for phase failure	≤ 0.2 sec	
Voltage measurement error	± 1%	
Trip delay error	± 5%, +0.1 sec	
Max. power consumption	2 VA	
Rated insulation voltage	415 V	
Output contact	1C / O	
Current rating	8A / 250 V AC1	
Mechanical life	10 ⁶	
Electrical life	10 ⁵	
Protection degree	IP20	
Pollution degree	3	
Altitude	≤ 2000 m	
Operating temperature	- 20° ~ 55° C	
Relativity humidity	≤50% at 40° C (without condensation)	
Storage temp.	-30° C ~ +70° C	
Wire size	0.5 ~ 2.5 mm ²	
Torque	0.5 Nm	
Weight	~ 95 g	
Mounting	DIN Rail mount / TH35 Rail (EN60715)	
Standard of compliance	IEC 60947-5-1	

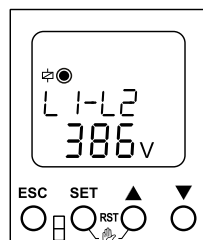
parameter setting

- Over voltage trip value setting**
OFF or 381 V ~ 500 V (3P3W)
OFF or 221 V ~ 300 V (3P4W)
- Over voltage trip delay setting**
0.1 ~ 20.0 sec
- Under voltage trip value setting**
260 ~ 379 V or OFF (3P3W)
150 ~ 219 V or OFF (3P4W)
- Under voltage trip delay setting**
0.1 ~ 20.0 sec
- Asymmetry trip value setting**
OFF or 5 ~ 20%
- Asymmetry trip delay setting**
0.1 ~ 20.0 sec
- Phase sequence setting**
ON or OFF
- Start-up delay setting**
0.3 ~ 30 sec
- Reset delay setting**
0.3 ~ 30 sec
- Auto-reset setting**
ON or OFF

default parameter setting

Models	M415 (3P3W)	M240 (3P4W)
Over voltage trip value	437 V	253 V
Over voltage trip delay	2 sec	
Under voltage trip value	323 V	187 V
Under voltage trip delay	2 sec	
Asymmetry trip value	8%	
Asymmetry trip delay	2 sec	
Phase sequence protective function	ON	
Start-up delay	0.3 sec	
Reset delay	0.3 sec	
Auto-reset	ON	

panel description



Display L1- L2 if work normally; display faults symbol when faults occurred.

Operating voltage value

Symbol legend

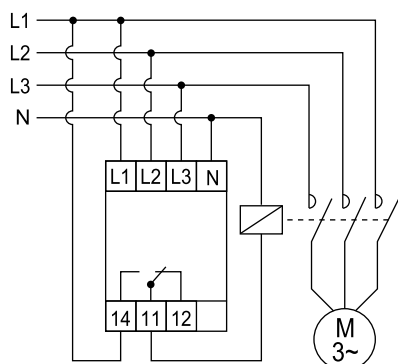
	Relay ON		Over voltage
	Relay OFF		Under voltage
SET	Parameters setting		Asymmetry
Error	Fault		Phase sequence
start	Start-up delay		Phase failure

Keys

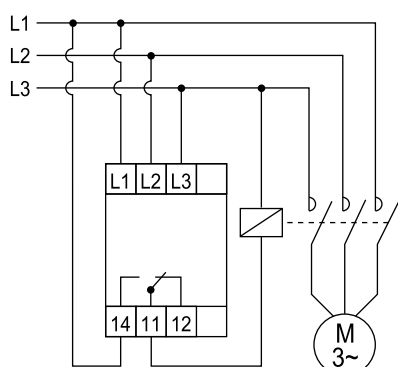
ESC	Exit configuration menu Back to last menu	SET	Enter configuration menu Confirm settings
	Select menu Digit (+)		Select menu Digit (-)
SET	Manual reset		

wiring diagram

3 phase 4 wire (Power Supply line: L3, N)



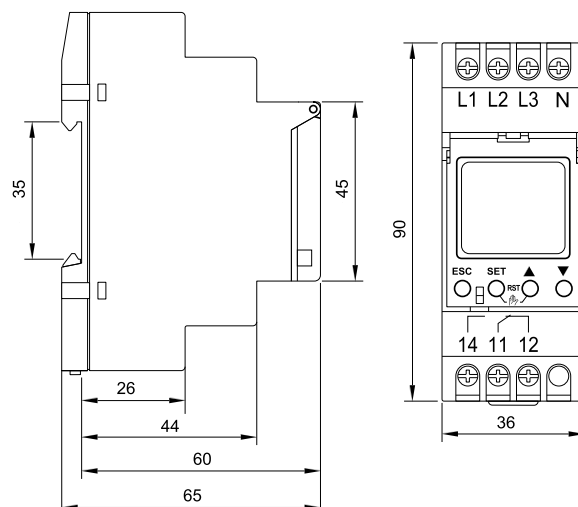
3 phase 3 wire (Power Supply line: L1, L2, L3)



ordering information

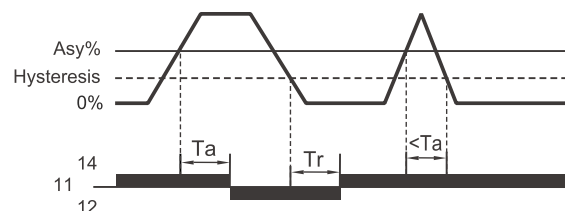
Model	Description
DVS-2000-M240	AC 125V ~ AC 300V (3 phase 4 wire)
DVS-2000-M415	AC 200V ~ AC 500V (3 phase 3 wire)

casing dimension

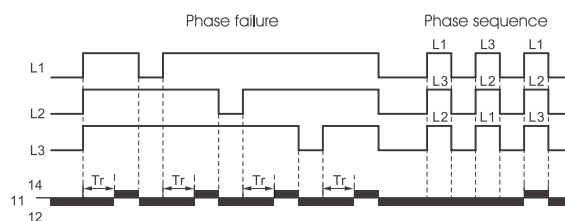


function diagram

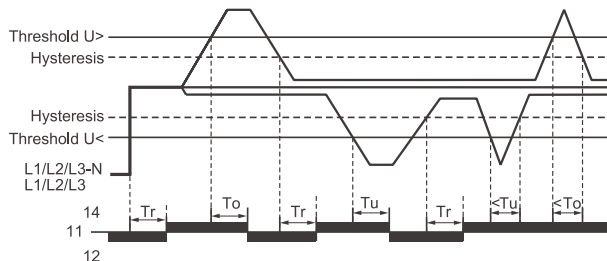
Phase asymmetry monitoring



Phase failure and phase sequence monitoring



Over voltage and under voltage monitoring



Ta: Asymmetry trip delay
To: Over voltage trip delay
Tr : Start-up / Reset delay
Tu: Under voltage trip delay