

TECHNICAL SPECIFICATION:



Part No.:		VM500-10-23			
Function		Phase, Neutral and Voltage Control			
Supply Voltage (☞)		415 Vac; 3-Phase 4-Wire			
Frequency		47 to 53 Hz			
Power Consumption		10 VA (max.)			
Trip Levels	Under Voltage	55% to 95% of supply			
	Over Voltage	105% to 125% of supply			
	Asymmetry	94 V ± 4 V Ph-Ph.			
	Hysteresis	7 V ± 2 V			
Setting Accuracy		± 5% of full scale			
Time Delay	On Delay	5 s ±1 s (fixed)			
	Trip time for: Phase failure Phase to phase Imbalance Under voltage Over voltage	5 s ± 1 s (fixed)			
	Trip time for neutral failure	500 ms to 1 s			
	Product relay will not turn on if the phase sequence is reversed during power up. If the phase sequence is reversed during running condition the product will remain healthy.				
LED Indications on front plate	Respective fault condition will be indicated by LED immediately & relay will be tripped after specified trip time only.				
		Green	UV	OV	Blink: ASY, ON: REV
	Power ON	ON	OFF	OFF	OFF
	Phase reverse	ON	OFF	OFF	ON
	Asymmetry	ON	OFF	OFF	BLINK
	UV	ON	ON	OFF	OFF
	OV	ON	OFF	ON	OFF
	Phase Fail *	BLINK	ON	OFF	BLINK
	Neutral Fail	ON	BLINK	BLINK	BLINK
*Phase fail indications when I/P voltages are below UV set point and below asymmetry					
Relay Output	Contact Arrangement	2 C/O			
	Contact Rating	5 A (Res.) at 240 Vac			
	Contact Material	Ag Alloy			
Utilization Category AC-15		Rated Voltage (Ue): 230 V / 125 V; Rated Current (Ie):1.3 A / 2.5 A			
Utilization Category DC-13		Rated Voltage (Ue): 250V / 120V / 24V; Rated Current (Ie): 0.1A /0.22A /2A			
Mechanical Life Expectancy		1 x 10 ⁷ Operations			
Electrical Life Expectancy		1 x 10 ⁵ Operations			
Operating Temperature		-10 °C to +60 °C			
Storage Temperature		-10 °C to +70 °C			
Humidity (Non-Condensing)		95% RH (without condensation)			
Max. Operating Altitude		2000 m			
Degree of Protection		IP20 for Terminals; IP30 for Housing			
Pollution Degree		2			
Housing		Flame Retardant UL 94-V0			
Mounting		Base / DIN-rail (35 mm symmetrical)			
Dimensions in mm (L X W X H)		90 X 36 X 60			
Weight (Unpacked)		120 g Approx.			
Certifications		CE, RoHS			

VOLTAGE MONITORING RELAY SERIES VM500 3-Phase 4-Wire

Part No.: VM500-10-23



Terminal Details:

 Ø3.5 mm	0.54 N.m (5 Lb.in) Terminal screw - M2.6
	1 x 0.2...3.3 mm ² Solid Wire
AWG	1 x 24 to 12

Note:

The technical information provided in this document is accurate at the time of publication. Product innovation being a continuous process, we reserve the right to alter specifications without any prior notice.

Caution!

Kindly set the potentiometers knob pointers for UV and OV settings correctly on the marking lines on front plate. Do not set the pot knob pointers between the markings. This is to ensure the correct tripping voltage values with respect to the set value.

VOLTAGE MONITORING RELAY SERIES VM500 3-Phase 4-Wire

MAIN FEATURES:

Part No.: VM500-10-23

Ref. Voltage - 415 Vac Phase to Phase

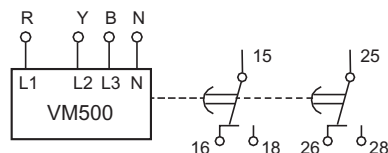
- Monitors own supply.
- Phase loss (failure) detection.
- Neutral loss detection.
- Phase reverse detection.
- Phase asymmetry.
- Adjustable Over-voltage and Under-voltage trip level.
- Fixed operate time and release time delay.
- 2 C/O relay output (5 A, resistive).
- DIN-rail and base mounting.
- LED indication for all failure conditions.
- Automatic recovery on fault removal.

FUNCTION DESCRIPTION:

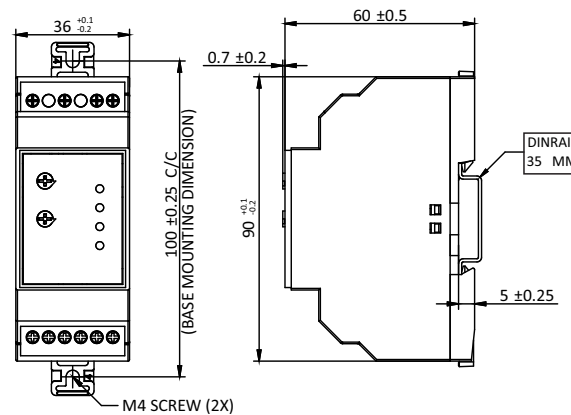
- Output relay will energize after operate time if the following conditions are satisfied:
 - 1.All phases are present and phase voltages are within the over and under-voltage trip levels set on the device.
 - 2.Neutral is present.
 - 3.Phase sequence is correct.
 - 4.Phase to phase asymmetry is less than value mentioned in technical specification.
- Relay will trip after the release time if any of the above conditions fail.
- In case of a balanced load condition, if neutral is open, virtual neutral is formed at the star point, hence the product will not trip and remain healthy.

Connection Details:

FOR THREE-PHASE FOUR-WIRE APPLICATION

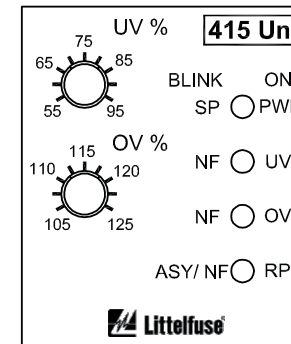


OVERALL & MOUNTING DIMENSIONS (in mm)



FRONT FACIA:

VM500-10-23



CERTIFICATION:

Product Standard: IEC 60255-1		
EMI/EMC:		
Harmonic Current Emission	IEC 61000-3-2	Class A
ESD	IEC 61000-4-2	Level II
Radiated Susceptibility	IEC 61000-4-3	Level III
Electrical Fast Transients	IEC 61000-4-4	Level IV
Surge	IEC 61000-4-5	Level IV
Conducted Susceptibility	IEC 61000-4-6	Level III
Voltage Dips and Interruptions (AC)	IEC 61000-4-11	
Conducted Emission	CISPR 14-1	Class A
Radiated Emission	CISPR 14-1	Class A
Safety:		
Test Voltage Between I/P & O/P	IEC 60947-5-1	2 kV
Impulse Voltage Between I/P & O/P	IEC 60947-5-1	Level IV
Single Fault	IEC 61010-1	
Insulation Resistance	UL 508	>50 kΩ
Leakage Current	UL 508	<3.5 mA
Environmental:		
Cold Heat	IEC 60068-2-1	
Dry Heat	IEC 60068-2-2	
Vibration	IEC 60068-2-6	5 g
Repetitive Shock	IEC 60068-2-27	45 g, 6 ms
Non-repetitive Shock	IEC 60068-2-27	30 g, 15 ms