Lovato electric

ENERGY AND AUTOMATION

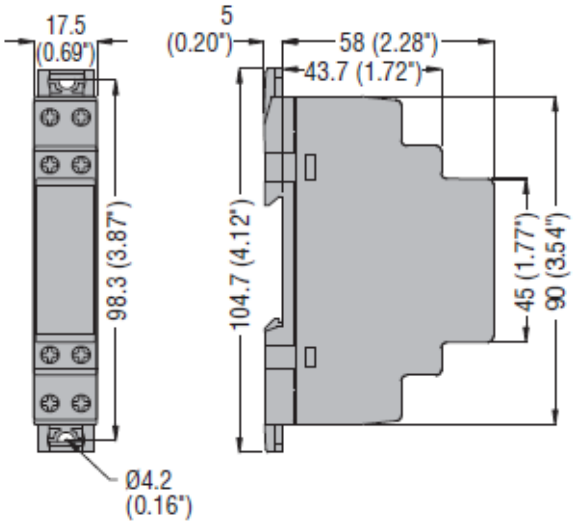
Order code	Rated voltage to control Ue (phase to phase)	Qty per pkg	Wt
	[V] 50/60Hz	n°	[kg]
Three-phase system, without neutral. Phase loss and incorrect phase sequence. Instantaneous trip.			
PMV10 A440	208-480VAC	1	0.050
PMV20 A240	100-240VAC	1	0.120
PMV20 A575	208-575VAC	1	0.120
PMV20 A600	380-600VAC	1	0.120

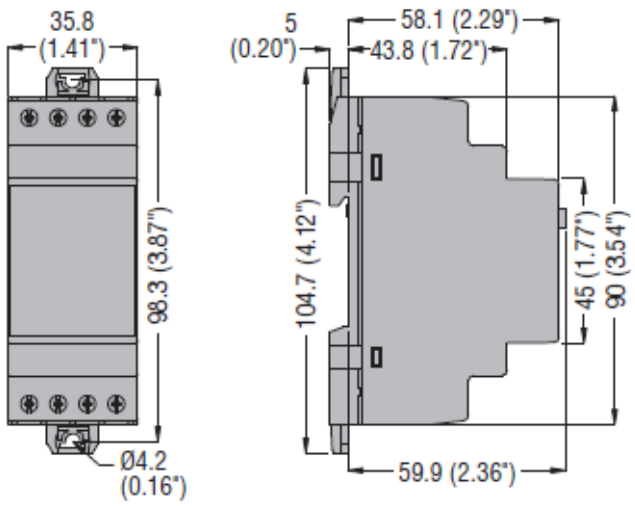
General characteristicz

- Voltage monitoring relay, self powered, for phase loss and incorrect phase sequece
- Phase loss detection if one of the voltages is <70% rated value
- Phase loss tripping time: 60ms
- 1 relay output with 1 changeover contact (SPDT)
- Modular DIN 43880 housing: 1 module for PMV10; 2 module for PMV20
- IEC protection degree: IP40 on front (only when placed in IP40 enclosure or control board); IP20 at terminals.

Certifications and compliance

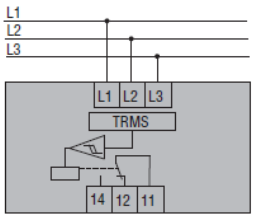
Certifications obtained: EAC; UL Listed, for USA and Canada (cULus - File E93601) as Auxiliary Devices. Compliant with standards: IEC/EN 60255-5, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL 508, CSA C22.2 n° 14.



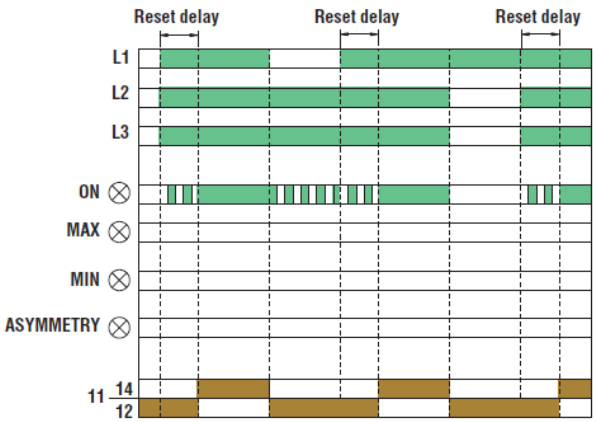


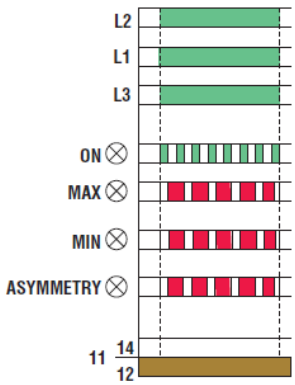
Voltage monitoring relays for 3-phase systems without neutral

PMV10 - PMV20 - PMV30 - PMV40
PMV50 - PMV60 - PMV70



Phase loss and incorrect phase sequence (PMV10-PMV20-PMV30-PMV40-PMV50-PMV60- MV70)





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ENERGY AND AUTOMATION

TYPE						
	Single phase	**PMV55**	—	—	—	—
	Three phase	—	**PMV10**	**PMV20**	**PMV30**	**PMV40**
	Three phase with/without neutral	—	—	—	—	—

DESCRIPTION					
	Mimum and maximum AC voltage	Phase loss and incorrect phase sequence		Minimum AC voltage, phase loss and incorrect phase sequence	Asymmetry, phase loss and incorrect phase sequence
CONTROL CIRCUIT					
Rated voltage to control (Ue)	208-240VAC	208-480VAC	100-240VAC	208-240VAC	
	380-440VAC		208-575VAC	380-575VAC	
			380-600VAC	600VAC	
Maximum voltage set-point	105-115% Ue	—	—	—	—
Minimum voltage set-point	80-95% Ue	—	—	80-95% Ue	—
Asymmetry set-point	—	—	—	—	5-15%Ue
Minimum and maximum frequency set-point	—	—	—	—	—
Tripping time	0.1-20s	60ms		0.1-20s	
Resetting time	0.1-20s (0.5s at power up)	0.5s		0.1-20s (0.5s at power up)	
Resetting hysteresis	3%	5%		3%	
Instantaneous tripping for Ue	<70% Ue configured	Umin<70% Umax		<70% Ue configured	<70% minimum Ue
Repeat accuracy	< ±0-1%	< ±1%		< ±0.1%	< ±0.1%
POWER SUPPLY					
Auxiliary voltage (Us)	Self powered				
Operating range	0.7-1.2Ue	0.85-1.1Ue		0.7-1.2Ue	
Frequency	50/60Hz ±5%				
Power consumption (maximum)	10VA (208-240VAC)❶ 17VA (380-440VAC)❶	20VA❶	28VA❶	11VA (208-240VAC)❶ 30VA (380-575VAC)❶ 19VA (600VAC)❶	
Power dissipation (maximum)	1.5W	2.2W	2.5W		
RELAY OUTPUTS					
Number of relays	1				
Relay state	Normally enegised De-energises at tripping				
Contact arrangement	1 changeover SPDT				
Rated operational voltage	250VAC				
Maximum switching voltage	400VAC				
Conventional free-air thermal current (Ith)	8A				
UL/CSA and IEC/EN 60947-5-1 designation	B300				
Electrical life (with rated load)	10^5 cycles				
Mechanical life	$30x10^6$ cycles				
Indications	1 green LED for power on and tripping 2 red LEDs for tripping	1 green LED for power on and tripping		1 green LED for power on and tripping 1 red LED for tripping	
CONNECTIONS					
Terminal tightening torque (maximum)	0.8Nm (7lbin; 7-9lbin per UL/CSA)				
Conductor section min-max	0.2-4.0mm² (24-12AWG; 18-12 AWG per UL/CSA)				
INSULTION (input-output)					
IEC rated insulation voltage Ui	440VAC	480VAC	600VAC		
IEC rated impulse withstand voltage Uimp	6kV				
IEC power frequency withstand voltage	4kV				
AMBIENT CONDITIONS					
Operating temperature	–20...+60°C				
Storage temperature	–30...+80°C				
HOUSING					
Material	Self-extinguishing polyamide				

❶ Power consumption (maximum) at 50Hz.