LUMEL

LP10
VOLTAGE PROTECTION RELAY

Applications:
Motor protection, Server rooms, Control system

Features:
- Compact size 17.5 mm.
- True RMS measurement.
- Under voltage protection.
- Over voltage protection.
- Phase unbalance protection.
- Phase failure protection.
- Phase incorrect sequence protection.
- Neutral failure protection.
- Adjustable Nominal voltage, Trip point, Trip time delay.
- Onsite selection of VLL / VLN value based tripping.
- Self powered.
- 1CO, 1CO+1CO relay configuration.
- LED indication for faults.
- Disabling of Over & Under Voltage fault on site is possible.

Parameter Settings:	
Nominal AC Voltage (Vn) (Variable)	3 Phase : L : 110-240 VLL / 63-138 VLN M : 381-388-415 VLL / 220-230-240 VLN H : 415-440-480 VLL / 240-254-277 VLN
	1 Phase : L : 58-63-110-120-127-138 VLN H : 220-230-240-254 VLN
Over Voltage Trip point	105-125% (Variable)
Under Voltage Trip point	75-95% (Variable)
Voltage Unbalance*	Trip point : 20% (Fixed)
Phase Failure	Trip point : 70 % (Fixed)
Hysteresis value	3% (Fixed) of Trip point
	3% (Fixed) of Vn for Unbalance
Trip delay	0-10 seconds variable for Undervoltage, Over voltage and Unbalance Instant tripping for Phase reversal, Neutral fail and Phase fail conditions
Reset Delay	1 second (Fixed)
Power On Delay	Approx. 3 seconds (Fixed)

* Setting is not applicable in 1 Phase model

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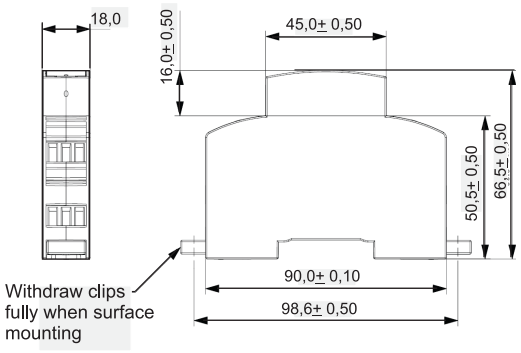
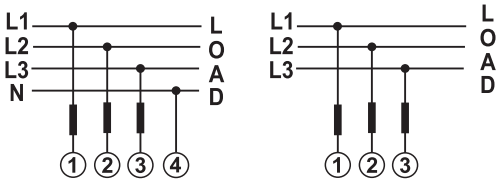
Dimensions Details:

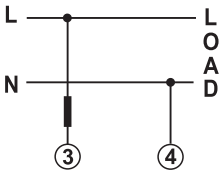


Electrical Connection:



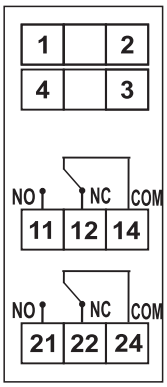
3 Phase 4 wire

3 Phase 3 wire



1 Phase 2 wire

Terminal Details:



Note- Relay Contacts shown are in power off condition

Technical Specifications:

Input Voltage	
Nominal Input Voltage (AC RMS) (Programmable on site)	3 Ph : L.V. : 110-240VLL (63-138VLN) : M.V. : 381-388-415VLL (220-230-240VLN) : H.V. : 415-440-480VLL (240-254-277VLN) 1 Ph : L.V. : 58-63-110-120-127-138VLN : H.V. : 220-230-240-254VLN
Max Continuous Input Voltage	127% of nominal value
Nominal Frequency	50 / 60 Hz
Input Voltage Burden Per Phase	< 2 VA approx.
Input Voltage Burden Three Phase	< 4 VA approx.
Operating Measuring Ranges	
Voltage Range	70...125% of nominal value
Operating reference condition	
Reference Condition	23°C +/- 2°C
Input waveform	Sinusoidal (distortion factor 0.005)
Input Frequency	50 / 60 Hz ± 2%
Accuracy	
Tripping Accuracy	± 3% of Nominal Value ± 0.8 sec for Trip delay
Response Time	Less than 200 msec
Applicable Standards	
Safety	IEC 61010-1-2010
IP for water & dust	IEC60529
Pollution degree:	2
Installation category:	CAT III
High Voltage Test	2.2 kV AC, 50Hz for 1 minute between all Electrical circuits.
Environmental	
Operating temperature	-10 to +55°C
Storage temperature	-25 to +70°C
Relative humidity	0...90% non condensing
Shock	15g in 3 planes
Vibration	10...55 Hz, 0.15mm amplitude
Enclosure	IP20 (front face only)
Relay Contacts	
Types of output	1CO, 1CO+1CO
Contact Ratings (Res. Load)	5A/250VAC/30VDC (resistive load)
Mechanical Endurance Electrical Endurance	1x10^7 OPS 1x10^5 OPS
Mechanical Attributes	
Weight	80 gm Approx.

LED Indication	Continuous ON	Blinking
P-ON	Power On	Incorrect Phase Sequence
UV/PF	Under Voltage	Phase Fail
OV	Over Voltage	—
UB/NF	Unbalanced Voltage	Neutral Fail

Ordering Code

Monitoring relay LP10	**X**	**X**	**X**	**X**	**X**	**X**	**0000000**
Type:							
Voltage protection relay	V						
System type:							
1-phase		1					
3-phase		3					
System voltage:							
58-138 V (L-N)			5				
220-254 V (L-N)			8				
110-240 V (L-L)			1				
415-480 V (L-L)			6				
381-415 V (L-L)			7				
System frequency:							
50/60 Hz				0			
Relay configuration:							
NC - normally closed					1		
NO - normally open					2		
Output:							
1 relay						1	
2 relays						2	
Version:							
standard							0000000

Order example:
The code **LP10 V370110000000** means the voltage protection relay for 3 phase network, nominal voltage 381-415 V (L-L), 50/60Hz, with 1 relay normally closed.