

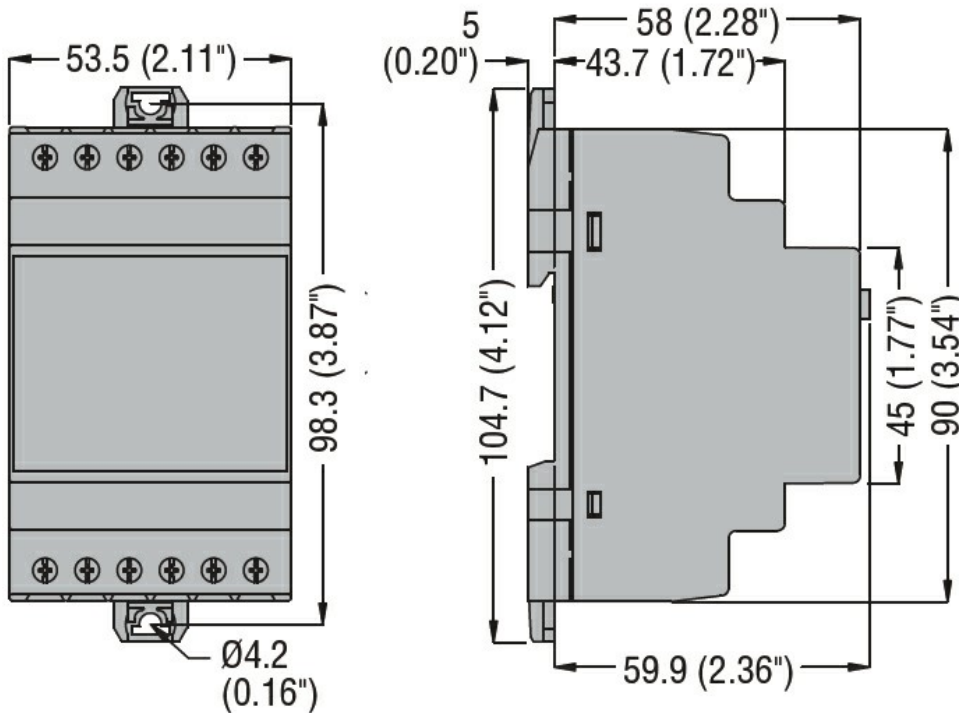


Product designation	Pump protection relays		
Product type designation	PMA50		
General characteristics			
Description	Pump protection relay (motor under-load and over-current control) monitoring for max AC current, min cosφ, phase loss and incorrect phase sequence		
Type of system	Single-phase and three-phase		
Power supply			
Auxiliary supply voltage U_s	440...480VAC		
Operating voltage range	0.85...1.1 U_s		
Rated frequency	Hz	50/60 ±5%	
Power consumption Max	VA	4.5	
Power dissipation Max	W	2.3	
Control circuit			
Rated current (I_e)	A	5 or 16	
Overload capacity	5 I_e for 1s - 160A for 10ms - Constant 16A		
Connection	Direct or by current transformer		
Current set-point (% I_e)	Max	%	10...100
Minimum $\cos\phi$ set-point			0.1...0.99
Tripping delay		s	0.1...10
Automatic resetting delay		min	OFF...100
Resetting hysteresis		%	3% for overcurrent, 0.03 for $\cos\phi$
Inhibition time		s	1...60
Type of reset	Automatic or manual		
External input	Consent input for running/resetting		
Repeat accuracy		%	±1 (with constant parameters)
Tripping time for phase loss		ms	60
Voltage inputs			

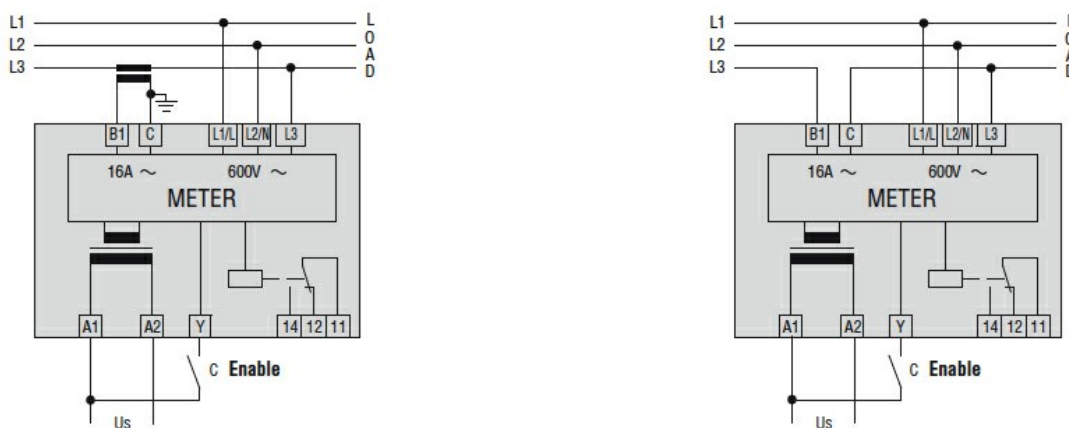
Measurement range	V	80...660VAC	
Frequency range	Hz	50/60 ±5%	
Relay outputs			
Number of relays	Nr.	1	
Relay state		Normally energised De-energises at tripping	
Contact arrangement		1 changeover SPDT each	
Rated operational voltage AC (IEC)	VAC	250	
Maximum switching voltage	VAC	400	
IEC Conventional free air thermal current Ith	A	8	
UL/CSA and IEC/EN 60947-5-1 designation		B300	
Electrical life (with rated load)	cycles	100000	
Mechanical life	cycles	30000000	
Functions			
Modular version		3U	
Maximum AC current		Yes	
Minimum cosφ for dry running pump protection		Yes	
Phase loss		Yes	
Incorrect phase sequence		Yes	
Indications			
Indication		1 green LED for power on / Inhibition and 2 red LEDs for tripping	
Connections			
Tightening torque for terminals	max max	Nm Ibin	0.8 7
Conductor cross section			
AWG/Kcmil	min Max	AWG AWG	24 12
IEC	min Max	mm ² mm ²	0.2 4
Insulations			
Rated insulation voltage Ui	V	600	
Rated impulse withstand voltage Uimp	kV	6	
Operating frequency withstand voltage	kV	2.5	
Ambient conditions			
Temperature			
Operating temperature	min max	°C °C	-20 +60
Storage temperature	min max	°C °C	-30 +80
Housing			
Execution (n° of modules)			3

Material	Self-extinguishing polyamide	
Mounting	Modular DIN 43880 housing	
IEC degree of protection	IP40 on front; IP20 at terminals	
Dimensions (W x H x D)	mm	53.5 x 104.7 x 64.9
Weight	g	251

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

CSA C22.2 n° 14

IEC/EN 60255-5

IEC/EN 61000-6-2

IEC/EN 61000-6-3

UL 508

Certificates

cULus
EAC

ETIM classification

ETIM 8.0

EC001440 -
Current
monitoring relay