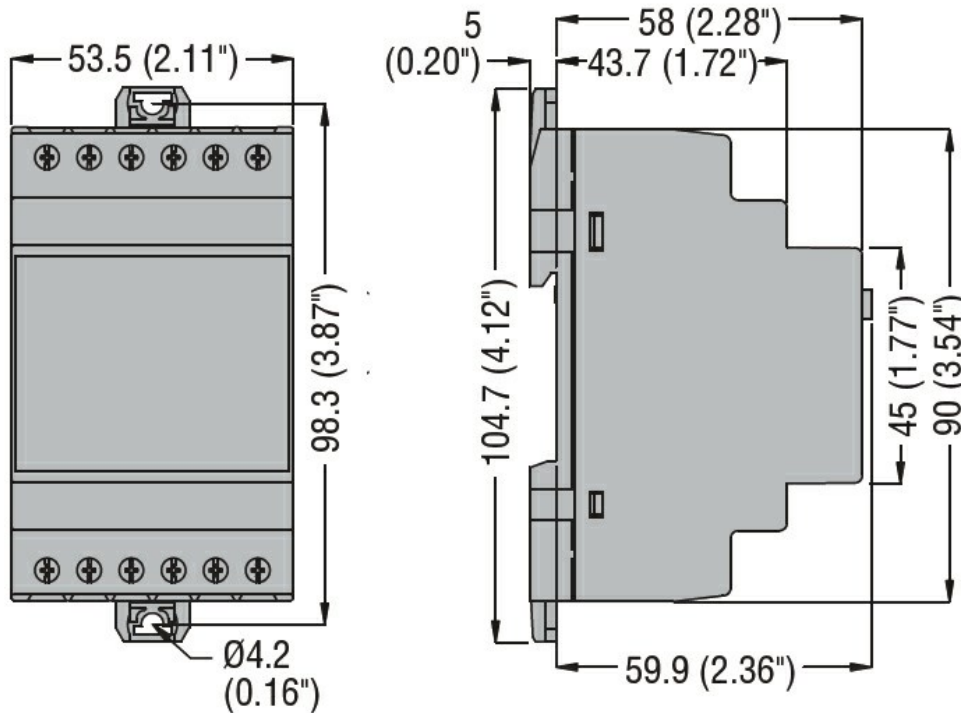




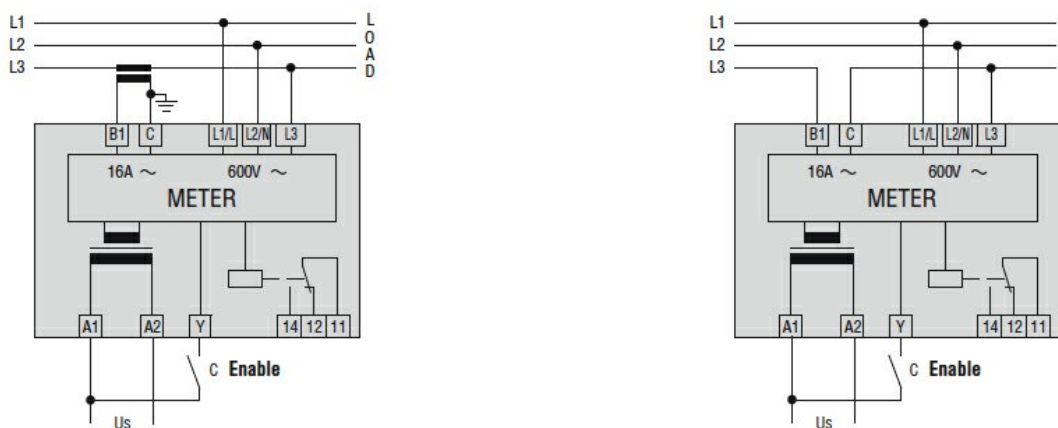
Product designation			Pump protection relays
Product type designation			PMA50
General characteristics			
Description			Pump protection relay (motor under-load and over-current control) monitoring for max AC current, min cosφ, phase loss and incorrect phase sequence
Type of system			Single-phase and three-phase
Power supply			
Auxiliary supply voltage Us			200...240VAC
Operating voltage range			0.85...1.1 Us
Rated frequency		Hz	50/60 ±5%
Power consumption Max		VA	4.5
Power dissipation Max		W	2.3
Control circuit			
Rated current (Ie)		A	5 or 16
Overload capacity			5Ie for 1s - 160A for 10ms - Constant 16A
Connection			Direct or by current transformer
Current set-point (% Ie)			
	Max	%	10...100
Minimum cosφ 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 cosφ
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 lbin 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