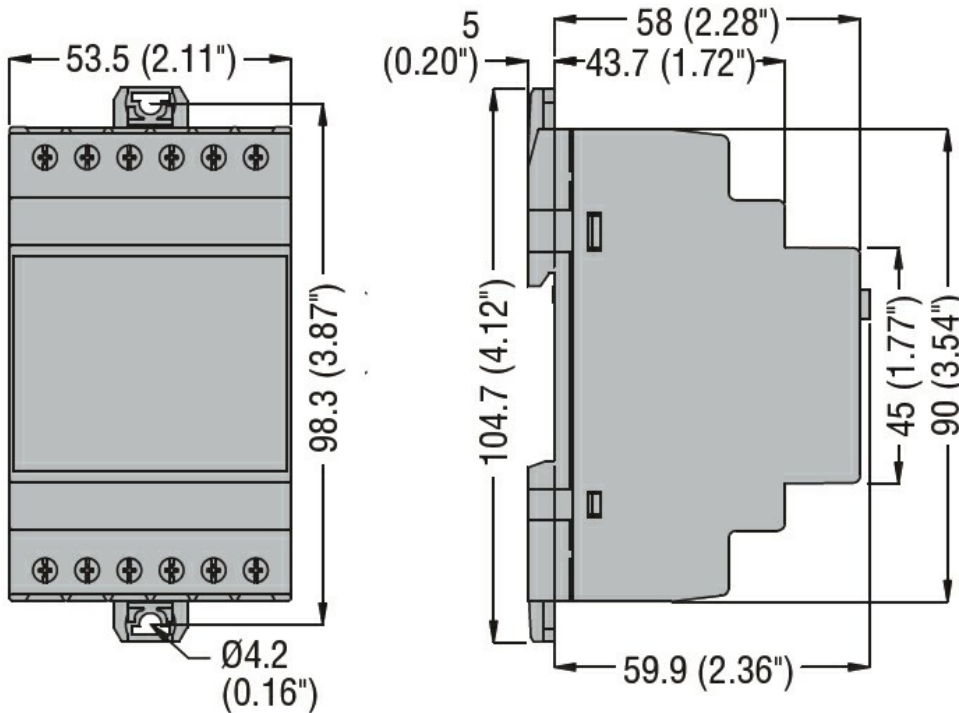




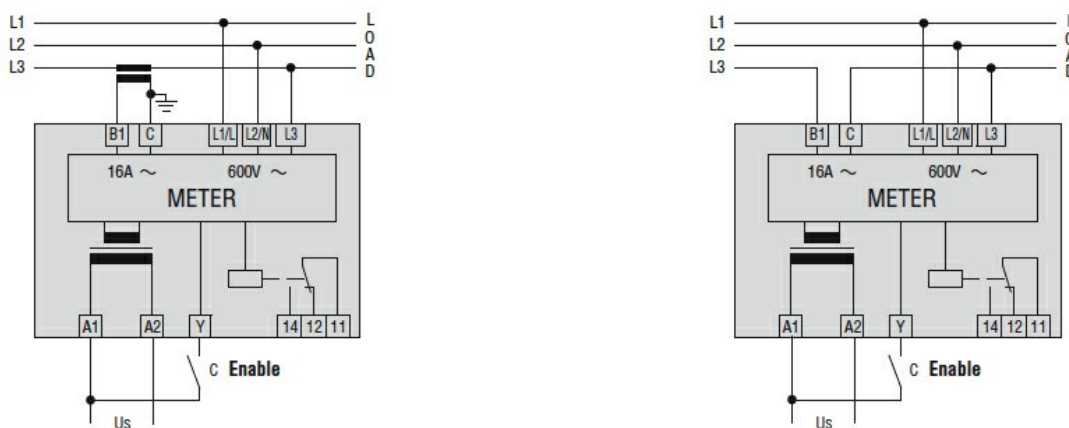
Product designation	Pump protection relays		
Product type designation	PMA50		
<b>General characteristics</b>			
Description	Pump protection relay (motor under-load and over-current control) monitoring for max AC current, min cos $\phi$ , phase loss and incorrect phase sequence		
Type of system	Single-phase and three-phase		
<b>Power supply</b>			
Auxiliary supply voltage $U_s$	200...240VAC		
Operating voltage range	0.85...1.1 $U_s$		
Rated frequency	Hz	50/60 $\pm$ 5%	
Power consumption Max	VA	4.5	
Power dissipation Max	W	2.3	
<b>Control circuit</b>			
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 cosp $\phi$ 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		%	$\pm$ 1 (with constant parameters)
Tripping time for phase loss		ms	60
<b>Voltage inputs</b>			

Measurement range	V	80...660VAC
Frequency range	Hz	50/60 ±5%
<b>Relay outputs</b>		
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
<b>Functions</b>		
Modular version		3U
Maximum AC current		Yes
Minimum cosφ for dry running pump protection		Yes
Phase loss		Yes
Incorrect phase sequence		Yes
<b>Indications</b>		
Indication		1 green LED for power on / Inhibition and 2 red LEDs for tripping
<b>Connections</b>		
Tightening torque for terminals	max max	Nm Ibin 0.8 7
Conductor cross section		
AWG/Kcmil	min Max	AWG 24 AWG 12
IEC	min Max	mm <sup>2</sup> 0.2 mm <sup>2</sup> 4
<b>Insulations</b>		
Rated insulation voltage Ui	V	600
Rated impulse withstand voltage Uimp	kV	6
Operating frequency withstand voltage	kV	2.5
<b>Ambient conditions</b>		
Temperature		
Operating temperature	min max	°C -20 °C +60
Storage temperature	min max	°C -30 °C +80
<b>Housing</b>		
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
<b>Dimensions [mm (in)]</b>		



**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

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ETIM classification

ETIM 8.0

EC001440 -  
Current  
monitoring relay