Lovato electric

ENERGY AND AUTOMATION

Order code	Rated current Ie	Auxiliary supply voltage	Qty per pkg	Wt
	[A]	[V]	n°	[kg]
Single-phase system. AC/DC minimum or maximum current control. Delayed trip. Auxiliary AC/DC power supply. Automatic or manual reset.				
PMA30 240	5 or 16A	24-240V AC/DC	1	0.121

General characteristics

- Current monitoring relay for AC/DC minimum or maximum current control; AC/DC multivoltage auxiliary power supply
- Direct connection up to 16A max or by current transformer (CT)
- Excellent tripping accuracy
- TRMS current measurements (True Root Mean Square)
- Resetting and inhibition input
- 1 relay output with 1 changeover contact (SPDT)
- Modular DIN 43880 housing, 2 module
- IEC protection degree: IP40 on front (only when placed in IP40 enclosure or control board); IP20 at terminals.

ADJUSTMENTS

"Set point"	Minimum or maximum current tripping threshold 5-100% Ie
"Hysteresis"	Minimum or maximum hysteresis threshold 1-50%
"Trip delay"	Tripping time 0.1-30s
"Inhibition time"	Tripping delay for external input or at power up 1-60s
"Ie"	Current scale selection: 5A or 16A
"Mode"	• Min or max function • Relay output normally energised or de-energised • Tripping memory (Latch) On or Off.

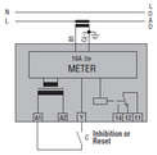
Certifications and compliance

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

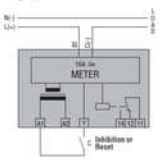
Current monitoring relay for 1-phase systems

PMA30

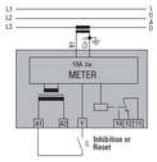
Single-phase connection by CT



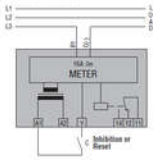
Single-phase direct connection



Three-phase connection by CT (1 phase control)

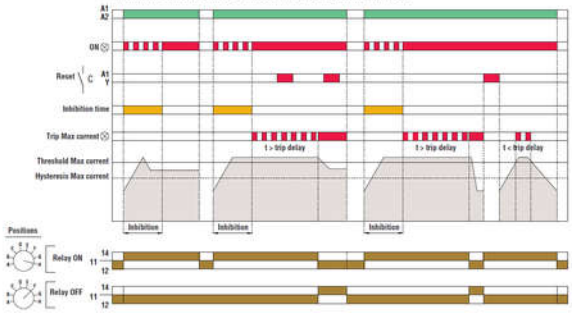


Three-phase direct connection (1 phase control)

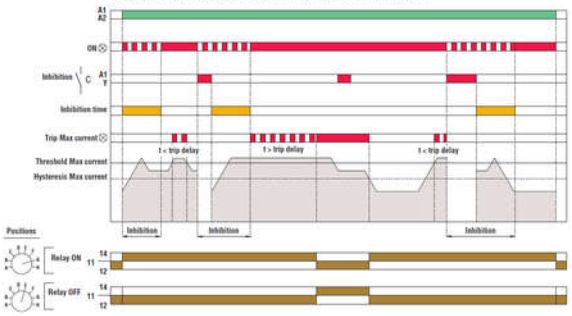


Operation			
Mode	Function	Relay output	Latch
A	Minimum current	OFF	OFF
B			ON
C		ON	OFF
D			ON
E	Maximum current	OFF	OFF
F			ON
G		ON	OFF
H			ON

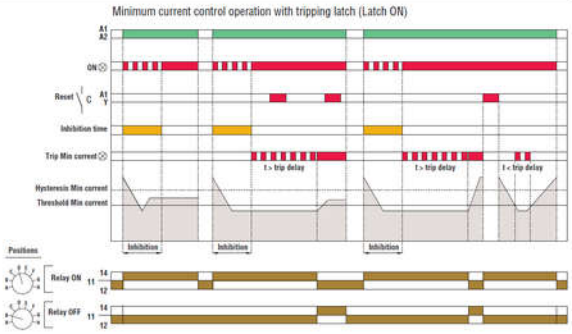
Maximum current control operation with tripping latch (Latch ON)



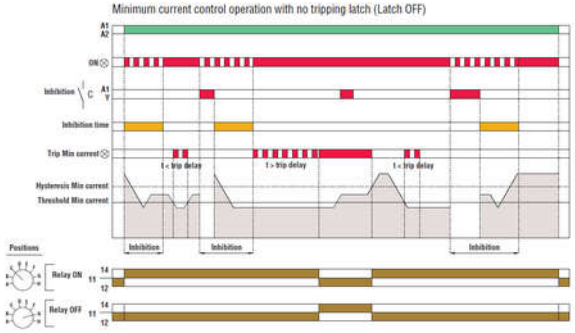
Maximum current control operation with no tripping latch (Latch OFF)

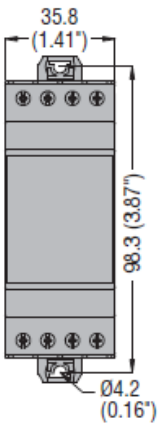


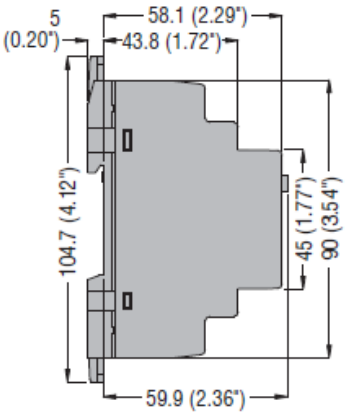
Minimum current control operation with tripping latch (Latch ON)



Minimum current control operation with no tripping latch (Latch OFF)







Lovato electric

ENERGY AND AUTOMATION

TYPE		PMA20	PMA30	PMA40	
DESCRIPTION					
		Single-phase maximum current monitoring AC/DC multiscale	Single-phase minimum or maximum current monitoring AC/DC multiscale	Single-phase minimum and maximum current monitoring AC/DC multiscale	
CONTROL CIRCUIT					
Rated current to be monitored Ie		5 or 16A		0.02 - 0.05 - 0.25 - 1 - 5 - 16A	
Rated frequency		50/60Hz ±5%			
Overload capacity		5 Ie for 1s 160A for 10ms Constant 16A		50mA - 1A inputs: 5 Ie for 1s 10Ie for 10ms Constant 2Ie	16A input: 5 Ie for 1s 160A for 10ms Constant 16A
Connection		Direct or by current transformer			
Adjustment	Tripping values	5-100% f.s.			
	Tripping time	0.1-30s			
	Inhibition time	1-60s			
	Resetting hysteresis	1-50%		3% fixed	
Resetting		Automatic / Manual			
External input		Resetting / Inhibition		—	
Repeat accuracy		±1% with constant parameters			
AUXILIARY SUPPLY					
Auxiliary supply voltage Us		24-240VAC/DC			
Operating range		0.85-1.1 Us			
Rated frequency		50/60Hz ±5%			
Power consumption (maximum)		3.2VA		7VA	
Power dissipation (maximum)		1.6W		1.7W	
RELAY OUTPUTS					
Number of relays		1		2	
Relay state		Normally energised / de-energised (selectable)			
Contact arrangement		1 changeover contact SPDT each			
Rated operational voltage		250VAC			
Maximum switching voltage		400VAC			
IEC 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/inhibition 1 red LED for tripping		1 green LED for power on/inhibition 2 red LEDs for max/min tripping	
CONNECTIONS					
Tightening torque maximum		0.8Nm (7lbin; 7-9lbin per UL/CSA)			
Conductor section min-max		0.2-4.0mm^2 (24-12AWG; 18-12 AWG per UL/CSA)			
INSULATION (input-output)					
IEC rated insulation voltage Ui		415V			
IEC rated impulse withstand voltage Uimp		4kV			
IEC power frequency withstand voltage		2.5kV			
AMBIENT CONDITIONS					
Operating temperature		–20...+60°C			
Storage temperature		–30...+80°C			
HOUSING					
Material		Self-extinguishing polyamide			