**ENERGY AND AUTOMATION** 

# CURRENT MONITORING RELAY FOR SINGLE-PHASE SYSTEM, AC/DC MAXIMUM CURRENT CONTROL, 5A OR 16A

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Product designation			Current monitoring relays
Product type designation			PMA20
General characteristics			10/20
Description			AC/DC maximum current monitoring relay
Type of system			Single-phase
Power supply			
Auxiliary supply voltage Us			24240VAC/DC
Operating voltage range			0.851.1 Us
Rated frequency		Hz	50/60 ±5%
Power consumption Max		VA	3.2
Power dissipation Max		W	1.6
Control circut			
Rated current (le)		Α	5 or 16
Overload capacity			5le for 1s - 160A for 10ms - Constant 16A
Connection			Direct or by current transformer
Current set-point (% le)			
Current set-point (76 te)			
Current Set-point (76 te)	Max	%	5100
Tripping delay	Max	% s	5100 0.130
	Max		
Tripping delay Resetting time Resetting hysteresis	Max	S	0.130
Tripping delay Resetting time	Max	s s	0.130 0.130
Tripping delay Resetting time Resetting hysteresis	Max	s s %	0.130 0.130 150 160 Automatic or manual
Tripping delay Resetting time Resetting hysteresis Inhibition time	Max	s s %	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset External input Repeat accuracy	Max	s s %	0.130 0.130 150 160 Automatic or manual Resetting /
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset  External input  Repeat accuracy  Relay outputs	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset External input Repeat accuracy	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset  External input  Repeat accuracy  Relay outputs	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)  1 Normally energised / Deenergised (selectable)
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset  External input  Repeat accuracy  Relay outputs Number of relays	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)  1 Normally energised / Deenergised
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset  External input  Repeat accuracy  Relay outputs Number of relays  Relay state	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)  1 Normally energised / Deenergised (selectable) 1 changeover
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset  External input Repeat accuracy Relay outputs Number of relays  Relay state  Contact arrangement Rated operational voltage AC (IEC) Maximum switching voltage	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)  1 Normally energised / Deenergised (selectable) 1 changeover SPDT
Tripping delay Resetting time Resetting hysteresis Inhibition time Type of reset  External input Repeat accuracy Relay outputs Number of relays  Relay state  Contact arrangement Rated operational voltage AC (IEC)	Max	s s % s	0.130 0.130 150 160 Automatic or manual Resetting / Inhibition ±1 (with constant parameters)  1 Normally energised / Deenergised (selectable) 1 changeover SPDT 250

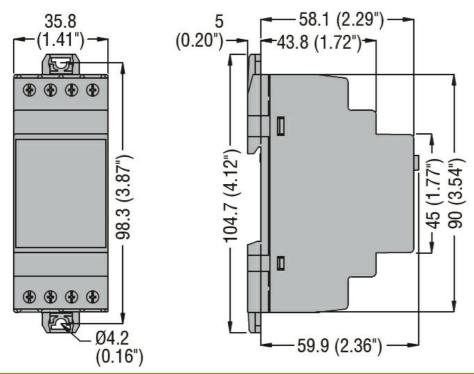


# CURRENT MONITORING RELAY FOR SINGLE-PHASE SYSTEM, AC/DC MAXIMUM CURRENT CONTROL, 5A OR 16A

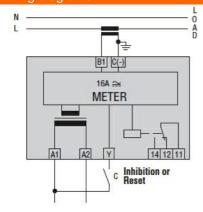
Mechanical life	Electrical life (with rate	d load)		cycles	100000
Modular version         2U           Maximum AC/DC current         No           Minimum or maximum AC/DC current         No           Indications         1 green LED for power on / inhibition and 1 red LED for tripping           Connections         max         Nm         0.8           Tightening torque for terminals         max         Nm         0.8           ECONDUCTOR OF SECTION AND ADDITIONS ADDITIONS AND ADDITIONS AND ADDITIONS ADDITIONS AND ADDITIONS ADDITIONS AND ADDITIONS ADDITI		·		cycles	30000000
Maximum AC/DC current         Yes           Minimum or maximum AC/DC current         No           Indications         I green LED for power on / inhibition and 1 red LED for power on / inhibition and 1 red LED for tripping           Connections         max         Nm         0.8 max         lbin         7           Conductor cross section         min         AWG         24 max         lbin         7           Conductor cross section         min         AWG         24 max         lbin         7           Conductor cross section         min         min         AWG         24 max         lbin         7         lbin         1         lbin         lbin         lbin         lbin         lbin         lbin         lbin         lbin	Functions				
Minimum or maximum AC/DC current         No           Minimum and maximum AC/DC current Indications         Indications           Indication         I green LED for power on / inhibition and 1 red LED for tripping           Connections         max   Nm   0.8 max   1bin   7           Conductor cross section         max   Nm   0.8 max   1bin   7           Conductor cross section         min   AWG   24 max   AWG   12           IEC         min   mm²   0.2 max   AWG   12           IEC         min   mm²   0.2 max   AWG   12           Rated insulation voltage Ui         V   415           Rated insulation voltage Uimp         kV   4           Operating frequency withstand voltage Uimp         kV   4           Operating frequency withstand voltage Wimp         kV   4           Operating temperature         min   °C   -20 max   °C   +60           Storage temperature         min   °C   -30 max   °C   +60           Housing         Execution (n° of modules)         2           Material         Self-extinguishing polyamide           Mounting         43880 housing           IEC degree of protection         IP40 on front;	Modular version				2U
Minimum and maximum AC/DC current   Indications	Maximum AC/DC curre	ent			Yes
Indication	Minimum or maximum	AC/DC current			No
Indication   Ind	Minimum and maximur	m AC/DC current			No
Indication   Ind	Indications				
Tightening torque for terminals           max         Nm         0.8           Conductor cross section           AWG/Kcmil           min         AWG         24           Max         AWG         24           Max         AWG         12           IEC           IEC           Rated insulation voltage Uim         V         415           Rated insulation voltage Uimp         kV         4           Operating frequency withstand voltage         kV         4           Ambient conditions           Temperature         Temperature           Operating temperature         min         °C         -20           Max         °C         -30         -30           Execution (n° of modules)         Z         Self-extinguishing polyamide           Mounting         Modular DIN 43880 housing         43880 housing           IEC degree of protection         IP40 on front; IP20 at terminals           Dimensions (W x H x D)         m         35.8 x 104.7 x 64.9           Weight         g         121					power on / inhibition and 1 red LED for
Max					
Conductor cross section	lightening torque for te	erminals			
Conductor cross section           AWG/Kcmil           Max         AWG         24           Max         AWG         12           IEC           Insulations           Rated insulation voltage Ui         V         415           Rated impulse withstand voltage Uimp         kV         4           Operating frequency withstand voltage         kV         2.5           Ambient conditions         Temperature         min         °C         -20           Temperature         min         °C         -20           Storage temperature         min         °C         -30           Housing         Execution (n° of modules)         2         Self-extinguishing polyamide           Material         Modular DIN         Modular DIN           Mounting         IP40 on front; IP20 at terminals           Dimensions (W x H x D)         mm         35.8 x 104.7 x 64.9           Weight         g         121					
AWG/Kcmil   Min   AWG   24   Max   AWG   12     IEC     Min   Mi	0		max	IDIN	
Max   AWG   24   AWG   12   AWG   AWG   12   AWG   AWG	Conductor cross section				
Nax   AWG   12		AWG/KCMII	min	A1A/C	24
IEC					
Insulations         mm² bm² bm² bm² bm² bm² bm² bm² bm² bm²		IFC	IVICA	AVVO	12
Max         mm²         4           Insulations         Rated insulation voltage Ui         V         415           Rated impulse withstand voltage Uimp         kV         4           Operating frequency withstand voltage         kV         2.5           Ambient conditions         Temperature         min         °C         -20           Temperature         min         °C         -20           Max         °C         +60           Storage temperature         min         °C         -30           Mounting         °C         -30           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         35.8 x 104.7 x 64.9           Weight         g         121			min	mm²	0.2
Insulations           Rated insulation voltage Uimp         V 415           Coperating frequency withstand voltage         kV 2.5           Ambient conditions         Temperature           Execution (n° of modules)         min °C -20 max °C +60           Storage temperature         min °C -30 max °C +80           Housing         Execution (n° of modules)         2           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         35.8 x 104.7 x 64.9           Weight         g 121					
Rated insulation voltage Uimp         V         415           Rated impulse withstand voltage Uimp         kV         4           Operating frequency withstand voltage         kV         2.5           Ambient conditions           Temperature           Min or C -20 max or C +60           Storage temperature           min or C -30 max or C +80           Housing           Execution (no of modules)         2           Material         Self-extinguishing polyamide           Modular DIN 43880 housing         43880 housing           IEC degree of protection         IP40 on front; IP20 at terminals           Dimensions (W x H x D)         mm 35.8 x 104.7 x 64.9           Weight         g 121	Insulations				
Rated impulse withstand voltage Uimp         kV         4           Operating frequency withstand voltage         kV         2.5           Ambient conditions         Temperature           Temperature         min °C -20 max °C +60           Storage temperature         min °C -30 max °C +80           Housing         Execution (n° of modules)         2           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 35.8 x 104.7 x 64.9           Weight         g 121	modiations				
Ambient conditions   Temperature   Operating temperature		e Ui		V	415
Operating temperature	Rated insulation voltag				
Operating temperature           min max         °C max         -20 max           Storage temperature         min or max         °C max         -30 max           Housing           Execution (n° of modules)         2           Material         Self-extinguishing polyamide polyamide           Mounting         Modular DIN 43880 housing           IEC degree of protection         IP40 on front; IP20 at terminals           Dimensions (W x H x D)         mm         35.8 x 104.7 x 64.9           Weight         g         121	Rated insulation voltag Rated impulse withstar	nd voltage Uimp		kV	4
Min   C   -20   max   °C   +60	Rated insulation voltag Rated impulse withstar Operating frequency w	nd voltage Uimp		kV	4
max         °C         +60           Storage temperature         min max         °C         -30 max         °C         +80           Housing         Execution (n° of modules)         2           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         35.8 x 104.7 x 64.9           Weight         g         121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions	nd voltage Uimp		kV	4
Storage temperature	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions	nd voltage Uimp ithstand voltage		kV kV	4
Housing         Execution (n° of modules)         2           Material         Self-extinguishing polyamide           Mounting         Modular DIN 43880 housing           IEC degree of protection         IP40 on front; IP20 at terminals IP20 at terminals           Dimensions (W x H x D)         mm 35.8 x 104.7 x 64.9           Weight         g 121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions	nd voltage Uimp ithstand voltage	min	kV kV °C	-20
Housing         Execution (n° of modules)         2           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         35.8 x 104.7 x 64.9           Weight         g         121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions	nd voltage Uimp ithstand voltage  Operating temperature		kV kV °C	-20
HousingExecution (n° of modules)2MaterialSelf-extinguishing polyamideMountingModular DIN 43880 housingIEC degree of protectionIP40 on front; IP20 at terminalsDimensions (W x H x D)mm35.8 x 104.7 x 64.9Weightg121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions	nd voltage Uimp ithstand voltage  Operating temperature	max	kV kV °C °C	-20 +60
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Mounting         Modular DIN 43880 housing           IEC degree of protection         IP40 on front; IP20 at terminals           Dimensions (W x H x D)         mm 35.8 x 104.7 x 64.9           Weight         g 121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions Temperature  Housing	ond voltage Uimp ithstand voltage  Operating temperature  Storage temperature	max min	kV kV °C °C	-20 +60 -30 +80
Mounting         43880 housing           IEC degree of protection         IP40 on front;           Dimensions (W x H x D)         mm         35.8 x 104.7 x 64.9           Weight         g         121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions Temperature  Housing	ond voltage Uimp ithstand voltage  Operating temperature  Storage temperature	max min	kV kV °C °C	-20 +60 -30 +80
Dimensions (W x H x D)   IP20 at terminals   35.8 x 104.7 x   64.9     64.9	Rated insulation voltage Rated impulse withstar Operating frequency we Ambient conditions Temperature  Housing Execution (n° of module)	ond voltage Uimp ithstand voltage  Operating temperature  Storage temperature	max min	kV kV °C °C	-20 +60 -30 +80 2 Self-extinguishing polyamide
Dimensions (W X H X D)         mm         64.9           Weight         g         121	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions Temperature  Housing Execution (n° of modul Material	ond voltage Uimp ithstand voltage  Operating temperature  Storage temperature	max min	kV kV °C °C	2 Self-extinguishing polyamide Modular DIN 43880 housing
· ·	Rated insulation voltage Rated impulse withstar Operating frequency we Ambient conditions Temperature  Housing Execution (n° of module Material Mounting	ond voltage Uimp ithstand voltage  Operating temperature  Storage temperature	max min	kV kV °C °C	2 Self-extinguishing polyamide Modular DIN 43880 housing IP40 on front;
	Rated insulation voltag Rated impulse withstar Operating frequency w Ambient conditions Temperature  Housing Execution (n° of modul Material  Mounting  IEC degree of protecti	Operating temperature  Storage temperature  les)	max min	°C °C °C °C	-20 +60 -30 +80 2 Self-extinguishing polyamide Modular DIN 43880 housing IP40 on front; IP20 at terminals 35.8 x 104.7 x
	Rated insulation voltage Rated impulse withstar Operating frequency we Ambient conditions Temperature  Housing Execution (n° of module Material Mounting  IEC degree of protectic Dimensions (W x H x E Weight	Operating temperature  Storage temperature  les)	max min	°C °C °C °C	2 Self-extinguishing polyamide Modular DIN 43880 housing IP40 on front; IP20 at terminals 35.8 x 104.7 x 64.9

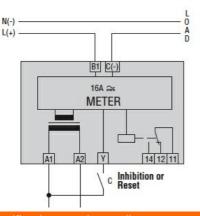






#### Wiring diagrams





### 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



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Certificates	
	cULus
	EAC
ETIM classification	

ETIM 8.0

EC001440 -Current monitoring relay