

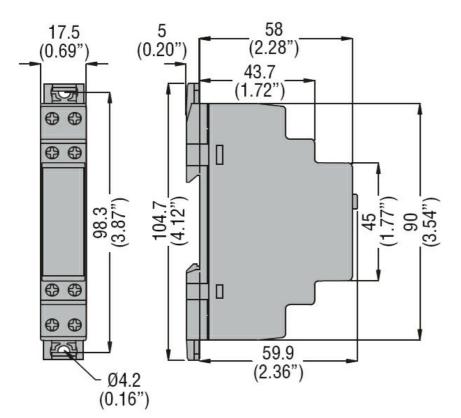
Product designation Product type designation Number of DIN modules General characteristics Description			Time relay TMST 1 Time relay for star-delta starting, multiscale
Function			Star-delta
Supply circuit			
Rated auxiliary supply voltage Us			
AC	min	VAC	200
	min Max	VAC VAC	380 440
Rated frequency	IVIAA	Hz	50/60
Operating voltage range		112	0.851.1 Us
		14/	19VA/1.7W
Maximum power consumption / dissipation		W	(380440VAC)
Immunity time for microbreakings		ms	≤30
Timing circuit			
			Multiscale
Time setting range			0.11s / 110s / 660s /
Time setting range		%	0.11s / 110s /
		% %	0.11s / 110s / 660s / 110min
Setting accuracy Repeat accuracy			0.11s / 110s / 660s / 110min <±9
Setting accuracy		%	0.11s / 110s / 660s / 110min <±9 <±0.5
Setting accuracy Repeat accuracy Influence of voltage variation		% %	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1
Setting accuracy Repeat accuracy Influence of voltage variation Influence of temperature variation	During timing	% %	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100
Setting accuracy Repeat accuracy Influence of voltage variation Influence of temperature variation Resetting time	During timing Elapsed time	% % %	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2
Setting accuracy Repeat accuracy Influence of voltage variation Influence of temperature variation Resetting time		% % % ms ms	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50
Setting accuracy Repeat accuracy Influence of voltage variation Influence of temperature variation Resetting time		% % % ms	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50
Setting accuracy Repeat accuracy Influence of voltage variation Influence of temperature variation Resetting time		% % % ms ms	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement		% % % ms ms	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with common pole
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays		% % % ms ms	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current Ith		% % % ms ms N°	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 vith 2 N/O with common pole 250
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage		% % % ms ms N°	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with common pole 250 8
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current Ith   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui		% % % ms ms M° VAC A	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with common pole 250 8
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current Ith   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui   Rated impulse withstand voltage Uimp		%     %     %     ms     ms     N°     VAC     A     V     kV	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with common pole 250 8 B300 250 4
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current Ith   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui   Rated insulation voltage Ui   Power frequency withstand voltage		% % % ms ms M° VAC A	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with common pole 250 8 B300 250
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current lth   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui   Rated impulse withstand voltage Uimp   Power frequency withstand voltage   Connections		%     %     %     ms     ms     N°     VAC     A     V     kV	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 vith 2 N/O with common pole 250 8 B300 250 4 2
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current Ith   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui   Rated insulation voltage Ui   Rated impulse withstand voltage Uimp   Power frequency withstand voltage   Connections   Terminals type		%     %     %     ms     ms     N°     VAC     A     V     kV	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 with 2 N/O with common pole 250 8 B300 250 4
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current lth   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui   Rated impulse withstand voltage Uimp   Power frequency withstand voltage   Connections	Elapsed time	%     %     %     ms     ms     N°     VAC     A     V     kV     kV	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 vith 2 N/O with common pole 250 8 B300 250 4 2 2 Screw
Setting accuracy   Repeat accuracy   Influence of voltage variation   Influence of temperature variation   Resetting time   Relay outputs   Number of relays   Contact arrangement   Maximum switching voltage   IEC Conventional free air thermal current Ith   UL/CSA and IEC/EN 60947-5-1 designation   Insulation (input-output)   Rated insulation voltage Ui   Rated insulation voltage Ui   Rated impulse withstand voltage Uimp   Power frequency withstand voltage   Connections   Terminals type		%     %     %     ms     ms     N°     VAC     A     V     kV	0.11s / 110s / 660s / 110min <±9 <±0.5 <±0.1 <±0.2 ≥100 ≥50 1 1 vith 2 N/O with common pole 250 8 B300 250 4 2



Conductor section			
AWG/Kcmil			
	min		2412
	max		1218
IEC			
	min	mm²	0.2
	max	mm²	4
Operations			
Mechanical life		cycles	3000000
Electrical life (with rated load)		cycles	100000
Ambient conditions			
Temperature			
Operating temperature			
	min	°C	-20
	max	°C	+60
Storage temperature		°.	
	min	°C °°	-30
	max	°C	+80
Relative humidity		%	<90%
Maximum Pollution degree			2
Overvoltage category			111
Housing			4
Execution (n° of modules)			1
Material			Self-extinguishing
Mounting			polyamide DIN rail 35 mm
			IP40 on front,
Degree of protection			IP40 off front, IP20 terminals
Dimensions (W x H x D)		mm	17.5 x 104.7 x
		111111	64.9
Weight		g	90
Dimensions			



TIME RELAY FOR STARTING. MULTISCALE. MULTIVOLTAGE, MODULAR VERSION, 280...440VAC



## Wiring diagrams

A1	1	17
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A2	18	28

Certifications and compliance				
Compliance				
	CSA C22.2 n°14			
	IEC/EN 61812-1			
	UL508			
Certificates				
	000			
	cULus			
	EAC			
ETIM classification				
		EC001420		

ETIM 8.0

EC001439 -Timer relay