

# Product Details and Certifications

Cross Reference RA Part Number: 193-TAC16 A

 Product: **193-TAC16**

Description: 193-T Thermal Overload Relay, IEC, Bimetallic, 10.0-16.0A



Representative Photo Only (actual product may vary based on configuration sections)

## **OVERLOAD DATA**

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Bulletin Number	193-IEC Overload Relay
Overload Relay Type	Biometric
Full Load Current Range (A)	10.0-16.0A

## **CONTACTOR DATA**

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Phases	3 Phase
Separate Mounting	No

## **CERTIFICATIONS AND APPROVALS**

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UL  
IEC  
CSA  
CE

# Bulletin 193-T Bimetallic Overload Relays

## Thermal Overload Relays

For Use With*	Setting Range [A] ‡ §	Cat. No.
100-C09...100-C37	0.1...0.16	193-TAA16
	0.16...0.24	193-TAA24
	0.24...0.4	193-TAA40
	0.4...0.6	193-TAA60
	0.6...1.0	193-TAB10
	1.0...1.6	193-TAB16
	1.6...2.4	193-TAB24
	2.4...4	193-TAB40
	4...6	193-TAB60
	6...10	193-TAC10
<b>100-C12...100-C37</b>	<b>10...16</b>	<b>193-TAC16</b> ←
100-C23...100-C37	16...24	193-TAC24
100-C30...100-C43	18...30	193-TBC30
100-C37...100-C43	30...45	193-TBC45
100-C60...100-C85	18...30	193-TCC30
	30...45	193-TCC45
	45...60	193-TCC60
100-C72...100-C85	60...75	193-TCC75
Separate Mounting Required	70...90	193-TDC90

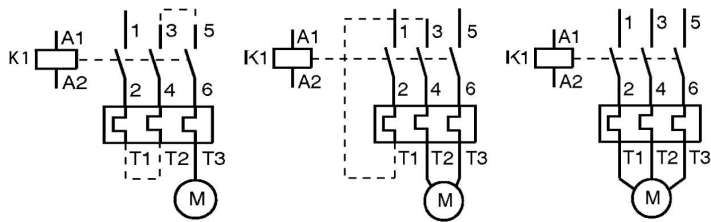
\* Bulletin 193-T overload relays should not be direct mounted with DC coil contactors.

‡ To select the setting range for use in Y-Δ Starters, multiply the rated operating current of the motor by a factor of 0.58.

§ For motors with service factor of 1.15 or greater, use motor nameplate full load current. For motors with service factor of 1.0, use 90% of the motor nameplate full load current.

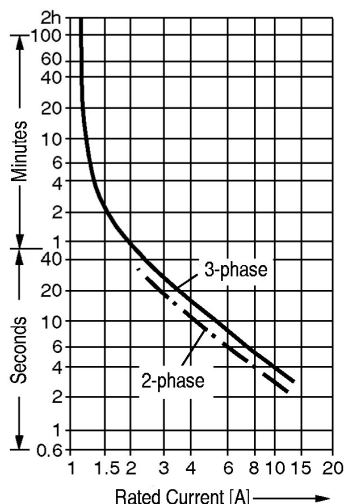
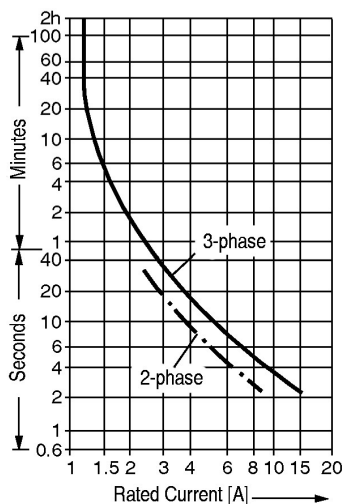
## Thermal Overload Relays

### Circuit Diagrams



### Trip Characteristics

These trip characteristics refer to IEC 60947 and are average values from cold start at an ambient temperature of 20 °C. Trip time is pictured as a function of operating current. With the device at normal operating temperature, the trip time decreases to approximately 25% of the shown value.



## Main Circuits

Cat. Nos.		193-TA...	193-TB...	193-TC...	193-TDC90
Rated isolation voltage $U_i$	[V]	690			1000
Rated surge withstand $U_{imp}$	[kV]	6			8
Rated operating voltage $U_e$	[V]	690			1000
Overvoltage category/pollution degree		III/3			
Safe isolation (between main circuit and auxiliary contacts per DIN, VDE 106, Part 101 and Part 101 A1)	[V]	440			
Current setting range		0.1...24	18...45	18...60 (75)	70...90
Direct load loss (for 3 current paths)					
min. value of adjustment range	[W]	2.5	3	3 (7)	16
max. value of adjustment range	[W]	6	7.5	7.5 (10)	23
Wiring cross section Type of clamp					
Terminal screws		M 4	M 6	M 8	
	multi-strand conductor with ferrule	[mm <sup>2</sup> ]	2 x (1...4)	1 x 25 / 2 x (1...10)	50
	solid conductor	[mm <sup>2</sup> ]	2 x (1...6)	2 x (1... 16)	16
	multi-strand conductor solid or multi-strand	[mm <sup>2</sup> ]	14... 8	14... 2	50
		[AWG]			2
Flexible bus [mm]		—	—	6 x 9 x 0.8	
Recommended tightening torque	[Nm] [lb-in]	1.8 (16)	3.5 (31)	6 (54)	
Pozidrive screwdriver	Size	2			—
Slotted screwdriver	[mm]	1 x 6			—
Hex-head screw	[mm]	—			4








## General

Cat. Nos.		193-TA...	193-TB...	193-TC...	193-TDC90
Weight	[kg (lbs)]	0.130 (0.29)	0.210 (0.46)	0.210 (0.46)	1.300 (2.86)
Standards		IEC 60947, DIN VDE 0660			
Approvals		CE, UL Listed, CSA, PTB, RINA			
Climatic withstand		humid/warm, constant, per DIN, IEC 68, Part 2-3 humid/warm, cyclic, per DIN, IEC 68, Part 2-30			
Ambient temperature	open enclosed	-25...+50° C (-13...122° F)			
		-25...+40° C (-13...104° F)			
Temperature compensation		continual			
Shock withstand (Sin impact 10 ms)	[G]	10			
Protection class		IP00			
		IP2X when attached			
Contact protection		Finger- and back of hand proof (VDE 0106, Part 100)			

## Control Circuits



Cat. Nos.		193-TA...	193-TB...	193-TC...	193-TDC90
Rated isolation voltage $U_i$	[V]	500			
Rated surge withstand $U_{imp}$	[kV]	6			
Rated operating voltage $U_e$	[V]	500			
Overvoltage category/pollution degree		III/3			
Rated operating current $I_e$					
AC-15	220...240V	[A]	1.5	1.5	
	380...415V	[A]	0.5	0.9	
	500V	[A]	0.5	0.8	
DC-13	24V	[A]	0.9	0.9	
	60V	[A]	0.75	0.75	
	110V	[A]	0.4	0.4	
	220V	[A]	0.2	0.2	
Safe isolation (between auxiliary contacts) per DIN, VDE 106, and Part 101 A1	[V]	240			
Conventional thermal current $I_{th}$	[A]	6			
Short circuit withstand without welding, fuse $g_L$	[A]	6			
Wiring cross section Type of clamp					
Terminal screw		M 3.5			
 multi-strand conductor with ferrule	[mm <sup>2</sup> ]	2 x (0.75...2.5)			
 solid conductor solid or multi-strand	[mm <sup>2</sup> ]	2 x (0.75...4)			
	[AWG]	18...14			
Recommended tightening torque	[Nm (lb-in)]	1.2 (11)			
Pozi-driv screwdriver	Size	2			
Slotted screwdriver	[mm]	1 x 6			