

## Description

# Magnecraft Power Relays

199

SPST-NO-DM, 40 A; SPDT, 40 A;  
DPST-NO, 40 A; DPDT, 40 A\*



199 Series Relay

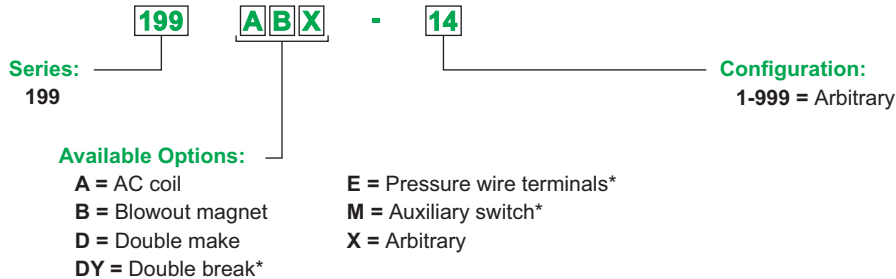
## Description

The 199 series open type, heavy duty power relays offer high-capacity switching with high dielectric strength.

Feature	Benefit
High-power contacts	Increased contact ratings (up to 50 A, 2 hp) and electrical endurance; suitable for high-power switching applications
Riveted construction	Helps to increase the mechanical life of the relay
Blowout magnet option	Helps to increase DC voltage switching up to 500 V
RoHS compliant	Environmentally friendly; Complies with the European Restriction of Hazardous Substances directive

Rated Contact Current	Contact Configuration	Coil Voltage	Coil Resistance (Ω)	Special Features	Standard Part Number
40 A*	SPST-NO-DM	120 Vac	290		199ADX-4
		12 Vdc	70		199DX-2
		24 Vdc	290	Blowout Magnet	199DBX-3
		48 Vdc	1200	Blowout Magnet	199DBX-16
	SPDT	120 Vac	290		199AX-4
		12 Vdc	70		199X-2
		24 Vdc	290		199X-3
	DPST-NO	120 Vac	290		199AX-9
		240 Vac	1200		199AX-10
		12 Vdc	70		199X-7
		24 Vdc	290		199X-8
	DPDT	24 Vac	12		199AX-13
		120 Vac	290	Blowout Magnet	199ABX-14
		240 Vac	1200		199AX-15
		12 Vdc	70	Blowout Magnet	199BX-12
		24 Vdc	290	Blowout Magnet	199BX-13
110 Vdc		6000	Blowout Magnet	199X-13	
				199BX-14	
			199X-14		

## Part Number Explanation



\* 50 A versions and additional options available. Call Customer Service for more information (847-441-2540).

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## Specifications (UL 508)

Part Numbers	199AX, 199X, 199ABX <sup>1</sup> , 199BX <sup>1</sup>	199ADX, 199DX, 199DYX, 199DBX <sup>1</sup>
<b>Contact Characteristics</b>		
Contact Configuration	SPST, SPDT, DPST, DPDT	SPST-DM, SPST-DB
Contact Material	AgSnO	
Thermal (Carrying) Current	40 A	
Maximum Switching Voltage	600 V(rms)	
Rated Switching Current at Voltage	Resistive: 40 A at 300 Vac 50/60 Hz; 5 A at 480 Vac 50/60 Hz; 5 A at 600 Vac 50/60 Hz; 40 A at 28 Vdc	Resistive: 40 A at 300 Vac 50/60 Hz; 12 A at 480 Vac 50/60 Hz; 10 A at 600 Vac 50/60 Hz; 40 A at 28 Vdc
	Motor: 2 hp at 120–600 Vac 50/60 Hz	
	Tungsten: 15 A at 120 Vac 50/60 Hz	
	Pilot Duty: A600	
Minimum Switching Requirement	1 A at 5 Vac/Vdc	
<b>Coil Characteristics</b>		
Coil Voltage Range <sup>2</sup>	6–600 Vac 50/60 Hz; 6–250 Vdc <sup>2</sup>	
Operating Range (% Of Nominal)	85%–110% (AC); 80%–110% (DC)	
Average Consumption (Maximum)	10 VA (AC); 4 W (DC)	
Drop-Out Voltage Threshold	10% (AC/DC)	
<b>General Characteristics</b>		
Electrical Life At Rated Load (Resistive)	Please refer to Table 3 on page 6	
Maximum Operating Time (Response Time)	30 ms	
Dielectric Strength	Between coil and contact: 2200 V	Between coil and contact: 2200 V
	Between poles: 2200 V	N/A
	Between open contacts: 1500 V	Between open contacts: N/A
Storage Temperature Range	-55 – +100 °C (-67 – +212 °F)	
Operating Temperature Range	-55 – +55 °C (-67 – +131 °F)	
Maximum Wire Capacity	10 AWG (5.3 mm <sup>2</sup> )	
Terminal Tightening Torque	11–15 in-lb (1.2–1.7 N•m)	
Weight	227–312 g (8–11 oz)	
Agency Approvals	UL (E43641), CSA (168986), CE (per IEC 60947-1), RoHS	

Note: Actual product performance may vary depending on application and environmental conditions.

<sup>1</sup> For ratings with blowout magnet, please refer to Table 1 below.

<sup>2</sup> For available standard coil voltages, please refer to the standard part number table on page 4.

**Table 1: Additional DC Ratings with Blowout Magnet**

Load Voltage	Contact Rating
110 Vdc	20 A
220 Vdc	8 A
325 Vdc	4 A
500 Vdc	2 A

**Table 2: Auxiliary Switch Ratings (Non-Standard Option)**

Load Type	Contact Rating
Resistive Load 120/250 Vac (50/60 Hz)	10 A
Motor Load 125/250 Vac (50/60 Hz)	0.25 hp
Tungsten Load 125 Vac (50/60 Hz)	3 A

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**Table 3: Contact Ratings & Electrical Endurance (per IEC 60947-1, 60947-4-1)**

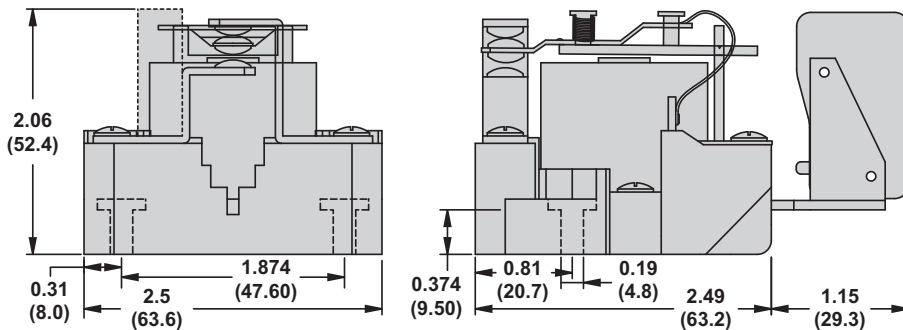
Contact Ratings	Load Voltage	Frequency	Load Type	Estimated Electrical Endurance	See Note(s)
<b>AC Load</b>					
40 A	300 V	50/60 Hz	Resistive	50,000 cycles	1, 3
2 hp	120–600 V		Motor	50,000 cycles	2, 3
15 A	120 V		Tungsten	20,000 cycles	3, 4
A600	---		Pilot Duty	100,000 cycles	3
<b>DC Load</b>					
40 A	28 V	DC	Resistive	100,000 cycles	3
20 A	110 V				
8 A	220 V				
4 A	325 V				
2 A	500 V				

**Notes:**

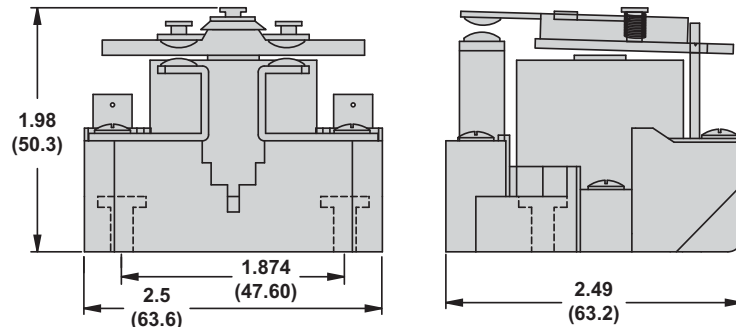
1. Resistive AC load ratings are based on a power factor of 0.85 to 1.0.
2. Motor horsepower ratings are based on a power factor of 0.4 to 0.5, and an initial inrush current not in excess of six times the full load current.
3. All ratings are based on applying the rated nominal power to the relay coil in such a manner as to provide a “clean” make and break that does not result in any contact chatter or multiple actuation of the contacts.
4. The tungsten rating is based on cold filament inrush current not exceeding 15 times the rated steady state lamp current.

## Dimensions — inches (millimeters)

### SPDT – Short Base (shown w/optional Auxiliary Switch)



### SPST-NO-DM



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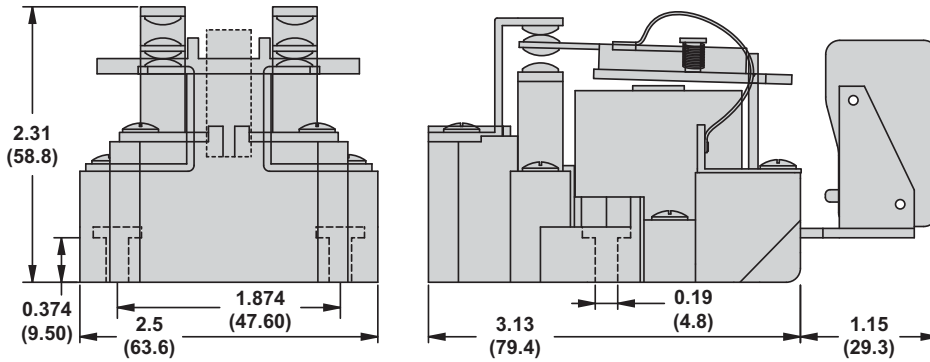
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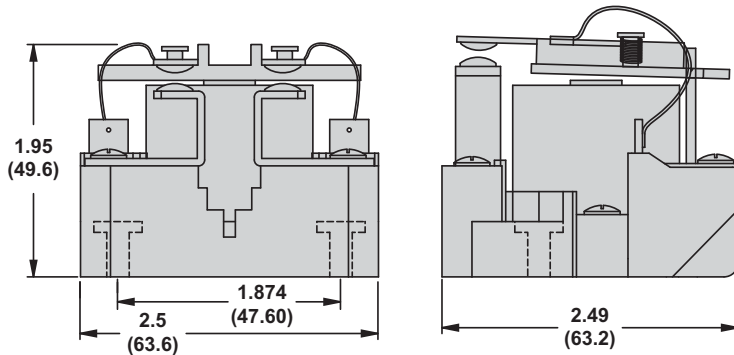
DPST-NO, 40 A; DPDT, 40 A\*

## Dimensions — inches (millimeters)

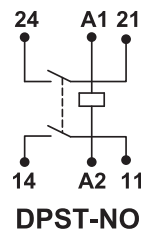
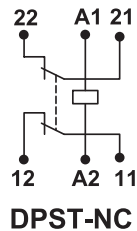
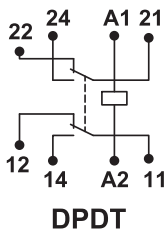
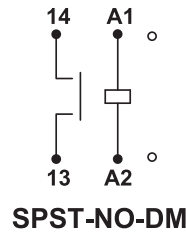
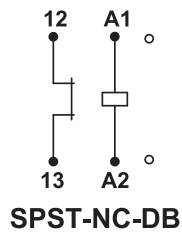
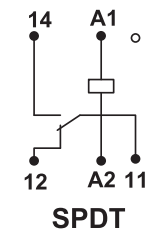
DPDT – Long Base (shown w/optional Auxiliary Switch)



DPST-NO



## Wiring Diagrams



\* 50 A versions and additional options available. Call Customer Service for more information (847-441-2540).

# Magnecraft Power Relays

199

Metal Enclosure, 50-1289-1



50-1289-1  
Shown with 199 Relay

## Description

The 50-1289-1 metal enclosure provides cover and protection as well as alternate wiring and mounting options.

Description	Function	Weight	For Use With Relays	Packaging Minimum	Standard Part Number
Metal Enclosure	Covers and protects relays	Approx. 1 lb (16 oz)	199 Series Relays	1	50-1289-1

## Dimensions — inches (millimeters)

