

219 Series - Industrial Relays

DPDT, Up To 6PST, 10 Amps



Versatile. Rugged. Proven. These are but a few words used by customers to describe the 219 series. When long life and cost of down time / service are important the 219 solves the problem. It's a standard throughout industrial applications which many other relays are measured against. Capable of up to four poles double throw or six poles single throw. Contact arrangements are easily customized for special applications. NUCLEAR versions are available that utilize special platings and materials to minimize wear. All 219s are built with materials that meet the UL 94-V0 requirements.

GENERAL SPECIFICATIONS (@ 25° C)

Contacts:

Contact Configuration	Up to 4PDT or 6PST
Contact Material	Silver Alloy-Gold Diffused
Contact Rating	10 Amp / 5 Amp
120 / 240VAC Resistive	10 Amp
28VDC Resistive	10 Amp
Contact Resistance, Initial	50 milliohms max @ 6vdc Min Contact Load 50mA

Coil:

Coils Available	AC and DC
Nominal Coil Power	AC 5VA DC 1.8-2.5W
Input Voltage Tolerance - AC	85% to 110% of nominal
Input Voltage Tolerance - DC	80% to 110% of nominal
Drop-out voltag	10% of nominal
Duty	Continuous

Timing:

Operate Time (max)	25 mS
Release Time (max)	20 mS
Release Time for relays incorporating Coil Arc suppression	30 mS
Suffix "V" or "V1" (max)	

Dielectric Strength:

Across Open Contacts	500Vrms
Between mutually insulated point	1500Vrms
Insulation resistance	1,000 Mohms min @ 500VDC

Temperature:

Operating	AC = -20 to 60°C (-4 to 140°F) DC = -20 to 70°C (-4 to 158°F)
Storage	-40 to 105°C (-40 to 221°F)

Life Expectancy:

Electrical (full load)	100,000
Mechanical (no load)	10,000,000

Miscellaneous:

Mounting Position	Any
Enclosure	Clear Polycarbonate
Weight	8.5oz (241 grams)
Mating socket	12 PIN: 27390 (D)
(UL Listed when used)	14 PIN: 33377 (D) Purchase Separately

(D) is option for DIN Rail Mount - Not UL Listed



General Purpose Relays

UL Contact Load Ratings

Contact Configuration	Current / HP	Load Voltage	Load Frequency	Type of Load
All Styles EXCEPT Code 33	10 Amp	120 VAC	50/60Hz	Resistive
	5 Amp	240 VAC	50/60Hz	Resistive
	10 Amp	28 VDC	DC	Resistive
	0.5 Amp	125 VDC	DC	Resistive
	1/6HP	120 VAC	50/60Hz	Motor
	1/3HP	240 VAC	50/60Hz	Motor
Code 33	5 Amp	120 VAC	50/60Hz	General Purpose
	2.5 Amp	240 VAC	50/60Hz	General Purpose

Additional UL Ratings for code "69" relays incorporating a blowout magnet.

Contact Configuration	Current / HP	Load Voltage	Load Frequency	Type of Load
All Styles EXCEPT Code 33	3 Amp	125 VDC	DC	Resistive
	1Amp	250 VDC	DC	Resistive

See the next page for additional Contact Ratings

Use Code "33" for bifurcated contacts when switching low level current below 50mA.

219 Coil Specifications

AC Coils, 50/60HZ				DC Coils				
Nominal voltage	Resistance ohms ±10%	Milliamperes Cold Hot		Impedance ohms	Nominal voltage	Resistance ohms ±10%	Milliamperes Cold Hot	
6	1.1	1500	840	7.2	6	15.5	385	304
12	4.2	750	410	27	12	63.5	189	147
24	15.5	375	200	120	24 /28*	250	96	77
120	540	75	40	2,700	32	375	86	62
240	2100	32	17	13,400	37.5	375	100	80
					48	975	49	39
					115/125*	6200	20	16
					250	27777	9	7

Note: Stock 24VDC and 115VDC relays have nameplates stamped 24/28VDC and 115/125VDC respectively. These relays operate at 80% of the lower voltages and operate within allowable temperature rises at higher voltages.

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Additional Contact Ratings

Highest Load for Standard Contacts

*Current - A, Resistive unless otherwise noted

Voltage	Current, A	Switching Type
28 VDC, "69"	10A	Make & Break
48 VDC, "69"	10A	Make & Carry
	5A	Make & Break
125 VDC, "69"	10A	Make & Carry
	4A	Carry & Break
	3A	Make & Break
	0.5A, Inductive	Make & Break
125 VDC, "69" DOUBLE MAKE	4A	Make & Break
	1.1A, Inductive	Make & Break
250 VDC, "69"	4A	Make & Carry
	2A	Carry & Break
	1A	Make & Break
	0.15A, Inductive	Make & Break
250 VDC, "69" DOUBLE MAKE	1.5A	Make & Break
	0.55A, Inductive	Make & Break
120 VAC	10A, 3A Inductive, 1/6 HP	Make & Break
240 VAC	10A, 1/3 HP	Make & Break
277 VAC	10A	Make & Carry
	7A	Carry & Break
	4.5A	Make & Break

Highest Load for Bifurcated Contacts

*Current - A, Resistive unless otherwise noted

Voltage	Current, A	Switching Type
28 VDC	5A	Make & Carry
	3A	Carry & Break
	2.5	Make & Break
48 VDC	3A	Make & Carry
	2A	Carry & Break
	1.5A	Make & Break
125VDC	1A	Make & Carry
	0.5	Carry & Break
	0.25	Make & Break
250 VDC	0.5A	Make & Carry
	0.25A	Carry & Break
	0.1A	Make & Break
120 VAC	5A	Make & Carry
	3A	Carry & Break
	5	Make & Break
240 VAC	2.5A	Make & Carry
	1.5A	Carry & Break
	2.5 A	Make & Break
277 VAC	2.5A	Make & Carry
	1.5A	Carry & Break
	1.0A	Make & Break
480 VAC	0.5A	Make & Carry
	0.2A	Make & Break

Lowest Load for Standard Contacts

*Current - A, Resistive unless otherwise noted

Voltage	Current, A	Switching Type
5 VDC	1A	Make & Break
12 VDC	0.75A	Make & Break
28 VDC	0.050A	Make & Break
48 VDC	0.050A	Make & Break
125VDC	0.050 A	Make & Break
250 VDC	0.050A	Make & Break
120 VAC	0.050A	Make & Break
240 VAC	0.050A	Make & Break
480 VAC	0.050A	Make & Break

Lowest Load for Bifurcated Contacts

*Current - A, Resistive unless otherwise noted

Voltage	Current, A	Switching Type
5 VDC	0.1A	Make & Break
12 VDC	0.075A	Make & Break
28 VDC	0.01A	Make & Break
48 VDC	0.005A	Make & Break
125VDC	0.005A	Make & Break
250 VDC	0.001A	Make & Break
120 VAC	0.01A	Make & Break
240 VAC	0.005A	Make & Break
480 VAC	0.001A	Make & Break

Use Code "69" for blowout magnet when switching voltages above 40VDC.

Use Code "33" for bifurcated contacts when switching low level current below 50mA.

General Purpose Relays

Outline Dimensions

Dimensions Shown in inches & (millimeters)

Ordering Code **219** **XBX** **69PLMV33N** **-24VDC**

Series
219

Contact Arrangement

- ABA (SPST-NO & DPDT&SPST-NC) (1 Form A & 2 Form C & 1 Form, B) 12 Pin Plug
- ABX (SPST- NO & DPDT) (1 Form & 2 Form C) 12-pin Plug
- BBX (DPST-NO & DPDT) (2 Form A & 2 Form C) 12-pin Plug
- BXB (DPST- NO & DPST- NC) (2 Form A & 2 Form B) 12-pin Plug
- BXD (DPST- NO & 4PST-NC) (2 Form A & 4 Form B) 14-pin Plug
- DXB (4PST- NO & DPST- NC) (4 Form A & 2 Form B) 14-pin Plug
- FXX (6PST- NO) (6 Form A) 14-pin Plug
- JXH (DPST-NO-DM & SPST-NC-DB) (2 Form X & 1 Form Y) 14-pin Plug
- XBX (DPDT) (2 Form C) 12-pin Plug
- XCX (3PDT) (3 Form C) 12-pin Plug
- XDX (4PDT) (4 Form C) 14-pin Plug

Optional Features (SEQUENCE)

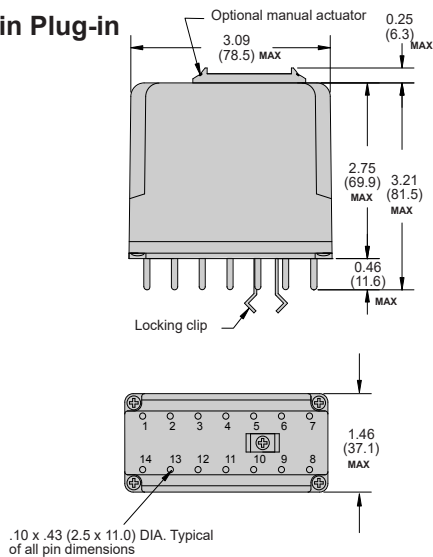
- Permanent Magnet Blowout - CODE 69
- Polycarbonate Cover - CODE P (Standard)
- Indicator Lamp - CODE L
- Manual Actuator - CODE M
- Coil Suppression Diode - CODE V
- Bifurcated Contacts - CODE 33
- Coil ARC Suppressor & Snubber Network - Code V1 (VAC Coils)
- Cover Gasket - CODE N

Coil Voltage

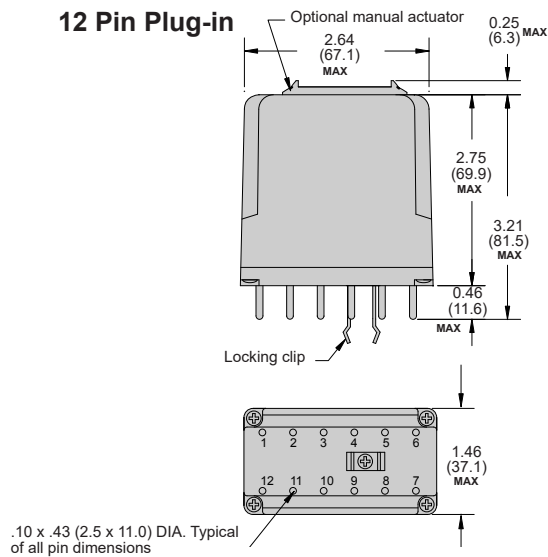
- AC: 12, 24, 120, 240, (Add VAC)
- DC: 6, 12, 24/28, 32, 48, 115/125, 250 (Add VDC)

*Coil voltages and frequencies must be specified

14 Pin Plug-in



12 Pin Plug-in



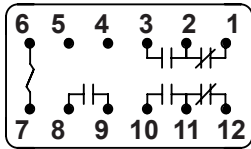
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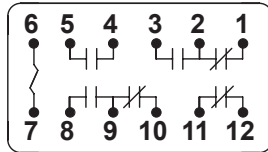
NOTE: See website configurator for additional wiring schematics.

219 Wire Diagram (Top View) 12-Pin

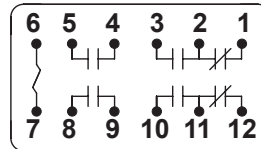
219ABX
(SPST-N.O. + DPDT)



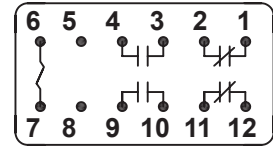
219ABA
(DPDT+SP-NO+1P-NC)



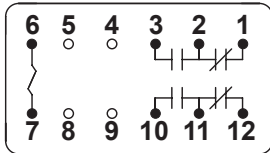
219BBX
(DPDT+2P- N.O.)



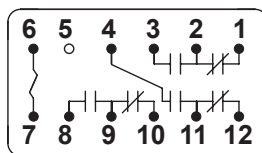
219BXB
(DPDT+2P- N.O.)



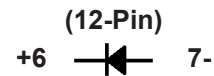
219XBX
(DPDT)



219XCX
(3PDT)

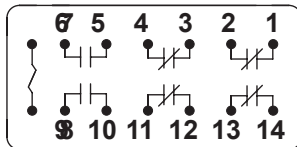


Standard Diode Suppression Wiring
(applies to relays with option "V", alternative polarity/wiring is also available as a special)

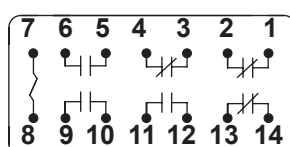


219 Wire Diagram (Top View) 14-Pin

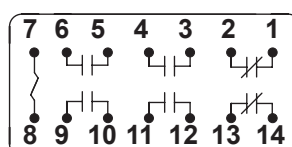
219BXD
(2P-NO+4P-NC)



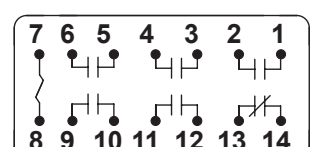
219CXC
(3P-NO+3P-NC)



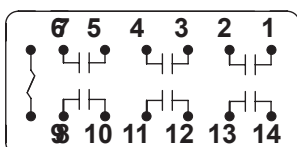
219DXB
(4P-NO+2P-NC)



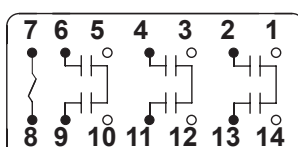
219EXA
(5P-NO+1P-NC)



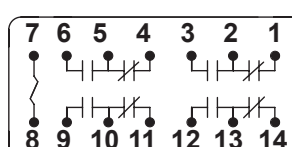
219FXX
(6P-NO)



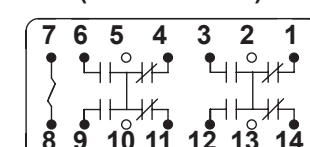
219KXX
(3PST-DM)



219XDX
(4PDT)



219XJX
(DPDT-DM/DB)



UL LISTED when used with mating sockets
27390 for 12 pin or 33377 for 14 pin