

FEATURES

Plug-in, 8 or 11 pin "Octal Style Base" with see thru plastic dust cover. Standard **SPDT**, **DPDT** or **3PDT** contact arrangements. Other contact arrangements available on special order.

Dielectric Strength to 1500 Vrms.

8 or 11 pin octal style plug-in are standard and interchangeable with other general purpose relays of this type.

Available with combinations of Indicator lamps, push to test button and Blow-out Magnets for DC switching applications.

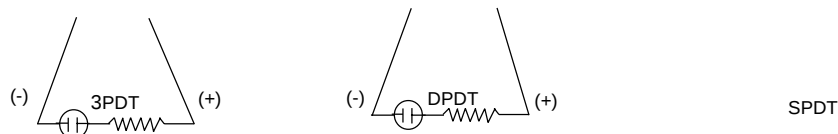
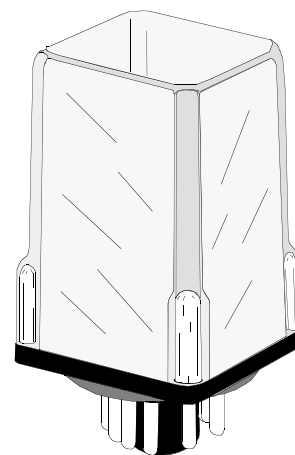
MANUFACTURED UNDER QUALITY SYSTEM

ISO 9002 & QS 9000



WIRING DIAGRAM

VIEWED FROM PIN END

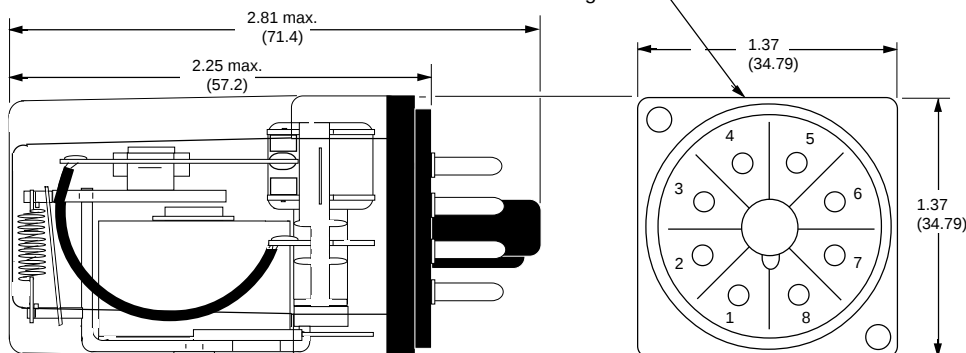


ALL INDICATOR LAMP STYLE RELAY HAVE AN ADDITIONAL LAMP CIRCUIT INSTALLED ACROSS COIL. OBSERVE COIL POLARITY WHEN L.E.D. INDICATOR IS INSTALLED ACROSS COIL (DC STYLES TYP.).

OUTLINE DIMENSIONS

Dimensions are shown in Inch and (Millimeter).

Artwork marking side



CONTACT RATINGS TABLE

POLES	120 VAC	240 VAC	28 VDC
SPDT	12 AMP 1/3 HP	12 AMP 1/2 HP	10 AMP
DPDT	12 AMP 1/3 HP	10 AMP 1/2 HP	10 AMP
3PDT	10 AMP 1/3 HP	10 AMP 1/2 HP	10 AMP

SEE SECTION 10
FOR
MATING SOCKETS

CLASS A314 & 250

8 OR 11 PIN OCTAL PLUG-IN WITH SEE THRU DUST COVER.
Enclosure is a clear high impact plastic (polycarbonate)
dust cover that is screwed to the base to protect against dust,
damage and tampering.



SPECIFICATIONS SERIES A314 & 250 RELAYS

COIL

Pull-in voltage:	80% of nominal voltage or less. for DC coils 85% of nominal voltage or less for AC coils.
Drop-out:	10% of nominal voltage or more.
Coil resistance:	± 10 % measured @ 25 °C
Minimum sensitivity:	125 milliwatts per pole
Nominal power:	1.2 Watts for DC coils, 2 VA-2.75VA for AC coils
Maximum coil dissipation:	Capability of DC coils 3.0 Watts max.
Duty:	Continuous

CONTACTS

Contact material:	3/16" silver cadmium oxide, gold flashed Std. Gold Diffused also available.
Contact resistance:	50 milliohms maximum initial resistance at rated current
Minimum Load:	12 V @ 100 Milliamps

TIMING

Operate time:	15 mS or less at nominal voltage.
Release time:	10 mS or less at nominal Voltage.

DIELECTRIC STRENGTH

Contacts to coil:	1500 V rms
Across open contacts:	500 V rms
Pole to pole:	1500 V rms
Contacts to frame:	1500 V rms
Insulation resistance:	1,000 Megohms min. @ 500 VDC

TEMPERATURE

Ambient Temperature (Operating):	-45°C to +55°C (AC), -45°C to +70°C (DC)
Non operating storage:	-45°C to +105°C

SHOCK RESISTANCE

Operating:	5 G's,
Non operating:	20 G's

VIBRATION RESISTANCE

Operating:	5 G's, 10 Hz to 55 Hz
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MISCELLANEOUS

Enclosure:	Plastic dust cover with octal plug.
Insulation material:	Molded plastic
Operating Position:	Any
Terminals:	8 or 11 pin octal plug-in
Weight:	3 1/2 ozs. 99.2 g approx.

**SEE SECTION 10
FOR
MATING SOCKETS**



RELAYS CAN BE ORDERED EITHER BY MAGNECRAFT OR STRUTHERS-DUNN PART NUMBERS LISTED BELOW

DUAL MARKED PART NUMBERS		CONTACT CONFIGU- RATION	COIL Measured @ 25°C			CROSS REFERENCE TO	
Struthers-Dunn SERIES A314	Magnecraft CLASS 250CP		NOMINAL INPUT VOLTAGE	NOMINAL RESIS- TANCE	NOMINAL POWER	POTTER & BRUMFIELD *	IDEC
AC OPERATED							
A314XAX48P-24A	W250ACPX-3	SPDT	24 VAC	-	2.0VA	KRPA5AG (or GF) -24	-
A314XAX48P-120A	W250ACPX-4	SPDT	120VAC	-	2.0VA	KRPA5AG (or GF) -120	-
A314XBX48P-24A	W250ACPX-8	DPDT	24 VAC	-	2.75VA	KRPA11AG (or GF) -24	RR2P-U-AC24V
A314XBX48P-120A	W250ACPX-9	DPDT	120VAC	-	2.75VA	KRPA11AG (or GF) -120	RR2P-U-AC120V
A314XBX48P-240A	W250ACPX-10	DPDT	240 VAC, 60 Hz 220 VAC, 50 Hz	-	2.75VA	KRPA11AG (or GF) -240	RR2P-U-AC240V
A314XCX48P-24A	W250ACPX-13	3PDT	24 VAC	-	2.75VA	KRPA14AG (or GF) -24	RR3PA-U-AC24V
A314XCX48P-120A	W250ACPX-14	3PDT	120 VAC	-	2.75VA	KRPA14AG (or GF) -120	RR3PA-U-AC120V
A314XCX48P-240A	W250ACPX-15	3PDT	240 VAC, 60 Hz 220 VAC, 50 Hz	-	2.75VA	KRPA14AG (or GF) -240	RR3PA-U-AC240V
AC OPERATED WITH INDICATOR LAMP							
A314XBX48PL-24A	W250ANCPX-26	DPDT	24 VAC		2.0VA	KRPA11AN (or NF) -24	RR2P-UL-AC24V
A314XBX48PL-120A	W250ANCPX-27	DPDT	120 VAC		2.0VA	KRPA11AN (or NF) -120	RR2P-UL-AC120V
A314XBX48PL-240A	W250ANCPX-28	DPDT	240 VAC, 60 Hz 220 VAC, 50 Hz		2.75VA	KRPA11AN (or NF) -240	RR2P-UL-AC240V
A314XCX48PL-24A	W250ANCPX-29	3PDT	24 VAC		2.0VA	KRPA14AN (or NF) -24	RR3PA-UL-AC24V
A314XCX48PL-120A	W250ANCPX-30	3PDT	120 VAC		2.0VA	KRPA14AN (or NF) -120	RR3PA-UL-AC120V
A314XCX48PL-240A	W250ANCPX-31	3PDT	240 VAC, 60 Hz 220 VAC, 50 Hz		2.75VA	KRPA14AN (or NF) -240	RR3PA-UL-AC240V
DC OPERATED							
A314XAX48P-12D	W250CPX-2	SPDT	12 VDC	120 Ω	1.2W	KRPA5DG (or GF) -12	-
A314XAX48P-24D	W250CPX-3	SPDT	24 VDC	472 Ω	1.2W	KRPA5DG (or GF) -24	-
A314XBX48P-12D	W250CPX-6	DPDT	12VDC	120 Ω	1.2W	KRPA11DG (or GF) -12	RR2P-U-DC12V
A314XBX48P-24D	W250CPX-7	DPDT	24 VDC	472 Ω	1.2W	KRPA11DG (or GF) -24	RR2P-U-DC24V
A314XCX48P-12D	W250CPX-10	3PDT	12 VDC	120 Ω	1.2W	KRPA14DG (or GF) -12	RR3PA-U-DC12V
A314XCX48P-24D	W250CPX-11	3PDT	24 VDC	472 Ω	1.2W	KRPA14DG (or GF) -24	RR3PA-U-DC24V
DC OPERATED WITH INDICATOR LAMP							
A314XBX48PL-24D	W250NCPX-20	DPDT	24 VDC	472 Ω	1.2 W	KRPA11DN (or NF) -24	RR2P-UL-DC24V
A314XCX48PL-24D	W250NCPX-21	3PDT	24 VDC	472 Ω	1.2 W	KRPA14DN (or NF) -24	RR3PA-UL-DC24V

PART NUMBERS SHOWN ALSO AVAILABLE THRU STOCKING DISTRIBUTION

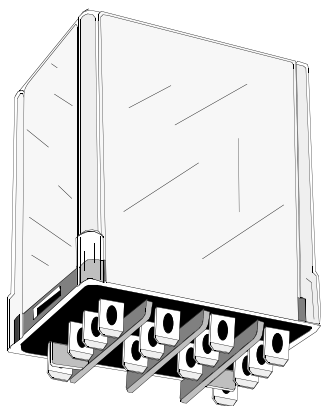
*F = GOLD FLASHED

CONTACT RATINGS WITH BLOW-OUT MAGNET				
POLES	120 VAC	240 VAC	30 VDC	150 VDC
DPDT	12 AMP 1/3 HP	10 AMP 1/2 HP	10 AMP	3 AMP

RELAYS FOR DC SWITCHING

PART NUMBERS	CONTACT CONFIGU- RATION	NO. OF PINS OCTAL STYLE	COIL Measured @ 25°C		
			NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)	NOMINAL POWER
AC OPERATED WITH BLOW-OUT MAGNET					
A314XBX48P69-24A	DPDT	8 PIN	24 VAC	-	2.0 VA
A314XBX48P69-120A	DPDT	8 PIN	120VAC	-	2.0 VA
DC OPERATED WITH BLOW-OUT MAGNET					
A314XBX48P69-12D	DPDT	8 PIN	12 VDC	120 Ω	1.2 W
A314XBX48P69-24D	DPDT	8 PIN	24 VDC	472 Ω	1.2 W
A314XBX48P69-110D	DPDT	8 PIN	110 VDC	10,000 Ω	1.2 W

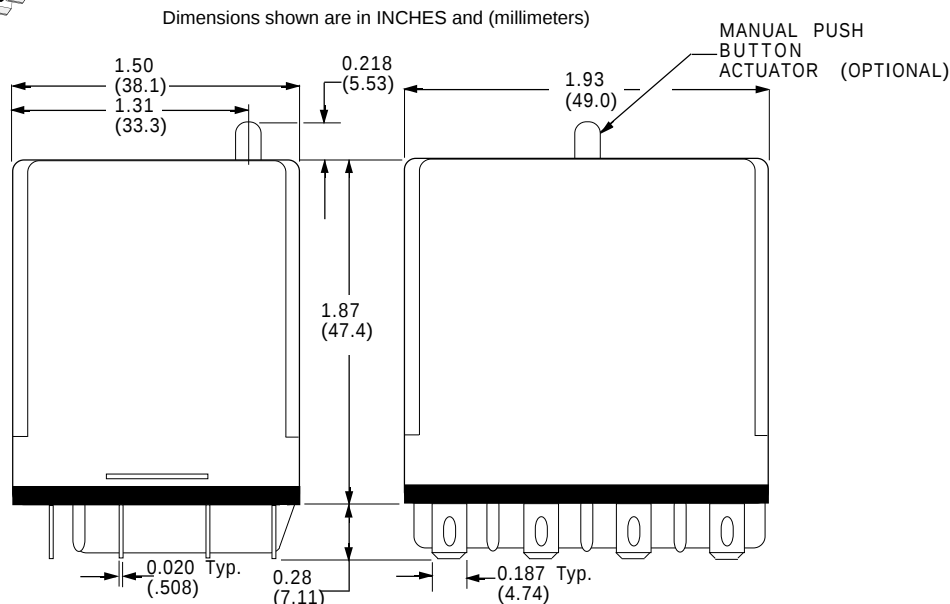
RELAYS USING MAGNETIC BLOW-OUT MAGNETS ARE NOT AGENCY APPROVED.



The series 284 relay is an extension of the Class 388/283 style relay except it provides for 4PDT contacts, any one set of contacts capable of switching 10 Amps (total load of 30 Amps at 120 VAC and 20 Amps at 240 VAC). This relay has the 3 way terminal design for greater flexibility in making connections. The 0.187 Spade terminals can be soldered, plugged into sockets or connected using 3/16" Q.C. Female connectors.



OUTLINE DIMENSIONS



Magnecraft & Struthers-Dunn

ORDERING CODE

Typical Type No.

284 XDX C GLM -240A

Series

284 3 way terminals
10 Amp, 4 pole

Contact Arrangements

XDX (4PDT)

Construction Style

Open, with tapped 6-32 hole - **NO CODE**

Open, with 6-32 Stud - **CODE S**

Enclosed, 3 way terminals - **CODE C**

Options

10 Amp contacts Standard - **NO CODE**

Gold diffused contacts - **CODE G**

Indicator Lamp - **CODE L**

Manual Actuator - **CODE M**

Printed Circuit Terminals - **CODE T**

5 Amp contacts (Silver) - **CODE Y**

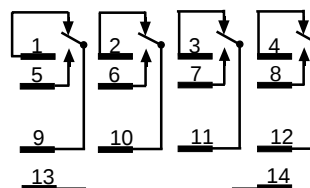
Coil Voltage

AC: 6, 12, 24, 48, 120, 240 (Add "A")

DC: 6, 12, 24, 48, 115, 125 (Add "D")

WIRING DIAGRAM

(VIEWED FROM TERMINAL END)



SEE NEXT PAGE FOR RATINGS & SPECIFICATIONS



CONTACT RATINGS

LOAD	30VDC	120VAC	240VAC
Resistive Motor Load 80% pF.	10A	10A 1/3Hp	10A 1/2Hp

Maximum total load for 4 pole relay is 30 Amps @ 120VAC, 20Amps @ 240VAC

GENERAL SPECIFICATIONS

COIL	
Pull-in Voltage:	AC: 85%, DC: 75% of nominal voltage measured at 25°C
Dropout Voltage:	10% of nominal voltage or more @ 25°C
Max. allowed voltage:	110% of nominal voltage
Coil Resistance:	±10% Measured @ 25°C
CONTACTS	
Contact Material:	Silver Cadmium Oxide.
TIMING	
Operate Time:	15 mS Max. @ Nominal Voltage.
Release Time:	10 mS Max. @ Nominal Voltage.
DIELECTRIC STRENGTH	
All Mutually Insulated Points:	500 V rms across open contacts 1500 V rms between current carrying parts
Insulation Resistance:	1000 Megohms.min. @ 500 VDC
TEMPERATURE	
Temperature Rating:	AC: -45°C to +50°C @ Rated Operation. (+65°C for open style) DC: -45°C to +70 °C +85°C for open style)
LIFE EXPECTANCY	
Mechanical:	10 Million Operations no load
Electrical:	100,000 Operations @ Rated Load.
MISCELLANEOUS	
Enclosure:	Clear polycarbonate
Weight:	5.0 oz. approx..

COIL SPECIFICATIONS @ 25°C

Nominal Voltage	Resistance Ohms ± 10%	Resistance Ohms ± 10%	Current (MA)		Power Consumption	
			AC	DC	AC	DC
6	3	30	560	200	3.4VA	1.2W
12	12	120	230	100	3.4VA	1.2W
24	48	480	115	50	3.4VA	1.2W
48	-	1920	-	25	3.4VA	1.2W
120AC or 115-125DC	870	8200	31	13-15	3.4VA	1.2W
240AC*	4700	-*	12	-*	3.4VA	1.2W

NOTE: * For 220-250VDC coils use a 8,200 Ω, 5 Watt resistor in series with 110-125 VDC relays

The Class 388 & 283 general purpose relays are available in a wide choice of AC or DC voltages with Indicator Lamp, Push to test button and other options. Plug-in style relays have 3-way pierced terminals. While spaced for standard plug-in Socket mounting. The flat terminals (0.187 x 0.020) also accept quick connect receptacles or direct soldering.

**MANUFACTURED UNDER
QUALITY SYSTEM
ISO 9002 & QS 9000**

UL US
UL Recognized
File No. E43641

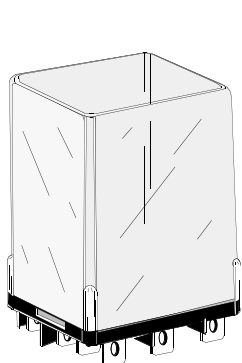
Recognized Component mark for
Canada and the United States.



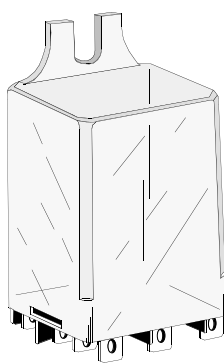
COMPLIES WITH
REQUIREMENTS OF

* IEC STANDARDS
947-4-1 AND 947-5-1
LOW VOLTAGE DIRECTIVE

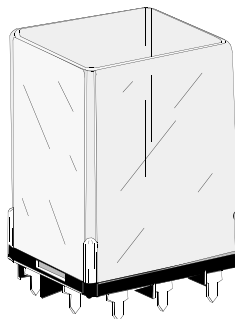
* IEC = INTERNATIONAL
ELECTROTECHNICAL COMMISSION



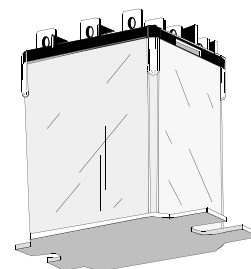
PLUG-IN



FLANGE MOUNT



P.C. MOUNT



TOP FLANGE MOUNT

CONTACT RATINGS TABLE

POLES	120 VAC	240 VAC	28 VDC
1 POLE	13 AMP 1/3 HP	13 AMP 1/2 HP	13 AMP
2 POLE	13 AMP 1/3 HP	12 AMP 1/2 HP	12 AMP
3 POLE	13 AMP 1/3 HP	11 AMP 1/2 HP	11 AMP

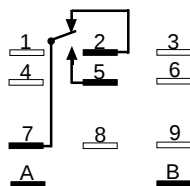
TYPICAL OPERATING CHARACTERISTICS

(For DC Voltage types only).

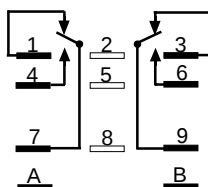
POLES	SPDT	DPDT	3PDT
MIN. OPERATE mW (SENSITIVITY)	125	250	375
OPERATE TIME (Milliseconds maximum.)	18.0	20.0	24.0
RELEASE TIME (Milliseconds Maximum.)	30.0	28.0	26.0

WIRING DIAGRAMS

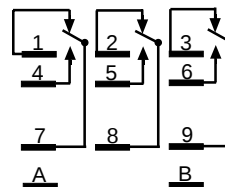
Viewed from terminal end



SPDT



DPDT



3PDT

* RELEVANT IEC CONTACT UTILIZATION CATEGORIES

CE	AC-1, AC-3, DC-1, AC-15
	(SEE SECTION 11 FOR RELEVANT UTILIZATION CATEGORIES.)

SEE SECTION 10 FOR MATING SOCKETS

SPECIFICATIONS CLASS 388 & 283 RELAYS

COIL

Pull-in voltage:	80% of nominal voltage or less. for DC coils. 85% of nominal voltage or less for AC coils.
Dropout voltage:	10% of nominal voltage or more.
Resistance:	± 10 % Measured at 25°C
Coil power	1.2 Watts for DC coils, 2 VA to 2.75 VA for AC coils
Insulation System:	Class "B" (130°C per UL std. 1446)
Maximum coil dissipation:	Capability of DC coils 3.0 Watts max.
Duty:	Continuous

CONTACTS

Contact material:	3/16" silver cadmium oxide, gold flashed.
Contact resistance:	50 Milliohms maximum initial resistance at rated current

DIELECTRIC STRENGTH

Contacts to coil:	2000 V rms
Across open contacts:	500 V rms
Pole to pole	2000 V rms
Contacts to frame:	2000 V rms
Insulation resistance:	1000 Megohms @ 500 VDC

TEMPERATURE

Operating:	-30°C to +50°C (AC), -30°C to +65°C (DC)
Storage	-30°C to 100°C

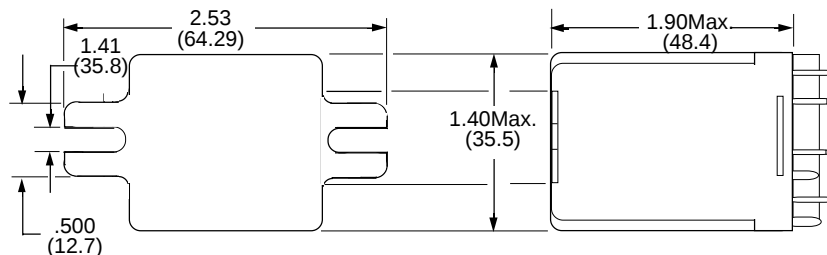
LIFE EXPECTANCY

Electrical:	100,000 Operations @ rated AC load
Mechanical:	5,000,000 Operations @ No load

MISCELLANEOUS

Operating Position:	Any
Insulation material:	Molded plastic
Enclosure:	Clear Polycarbonate dust cover
Terminals:	3/16" solder/plug-in, Printed Circuit terminals other terminals available: .205 x .032, .250 x .032 on special order. Consult Factory.
Weight:	3.1 oz.. (88 g approx. with cover).

**OPTIONAL
TOP FLANGE COVER
IS AVAILABLE ON
SPECIAL ORDER.
CONSULT FACTORY.**



SEE SECTION 10 FOR MATING SOCKETS