

**SPDT, DPDT, DPST-N.O.,  
SPST-N.C.-D.B. & SPST-N.O.-D.M.,  
10 TO 50 AMPS**



LISTED  
367G



UL Listed  
File No. E43641



COMPLIES WITH REQUIREMENTS OF

- \* IEC STANDARDS 947-4-1 AND 947-5-1 LOW VOLTAGE DIRECTIVE
- \* IEC = INTERNATIONAL ELECTROTECHNICAL COMMISSION
- \* CE TESTING AND EVALUATION PERFORMED BY THE UNDERWRITERS LABORATORIES AS A THIRD PARTY PARTICIPANT

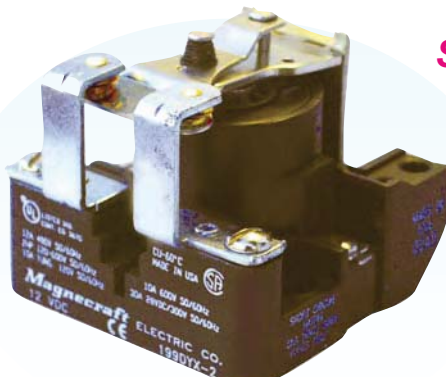
**MANUFACTURED UNDER  
ISO 9002**

Optional metal enclosure  
available, see page 12

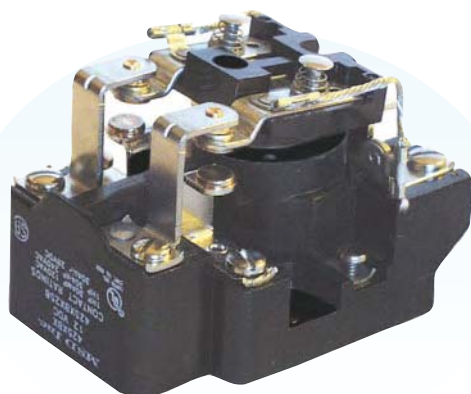
**CLASS "B" COIL  
INSULATION SYSTEM**



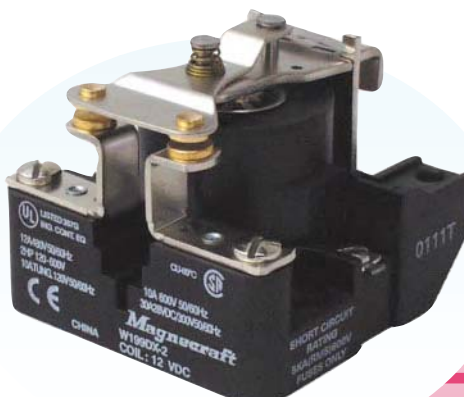
**199 SPDT**  
30 AMP, 1-1/2 Hp



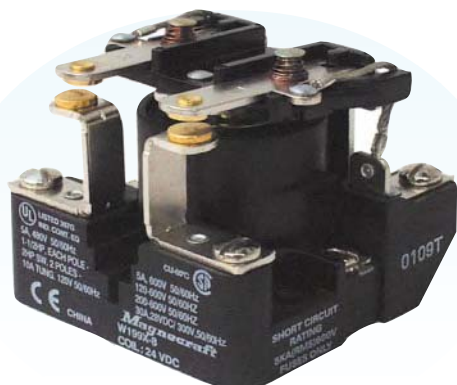
**199 SPST-NC-DB**  
30 AMPS, 2 Hp



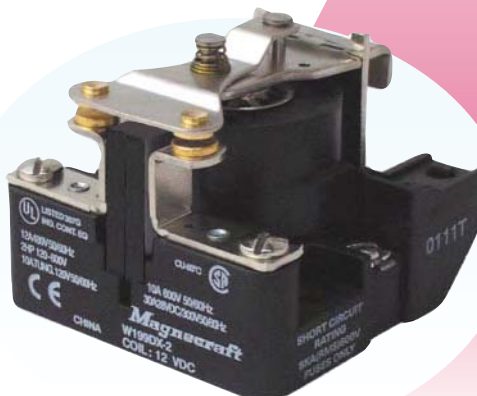
**199 DPDT**  
30 AMP, 1-1/2 Hp PER POLE  
2 Hp-2 POLE SWITCHING



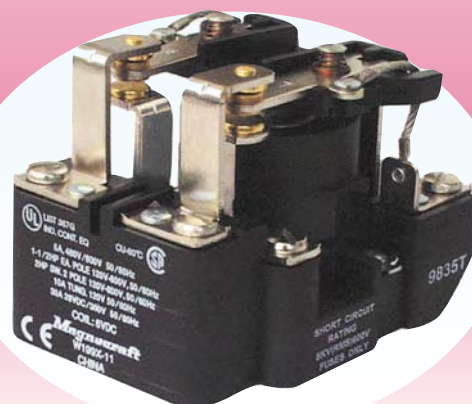
**199 SPST-NO-DM**  
30 AMPS, 2 Hp



**199 DPST-NO**  
30 AMPS, 1-1/2 Hp PER POLE  
2 Hp - 2 POLE SWITCHING



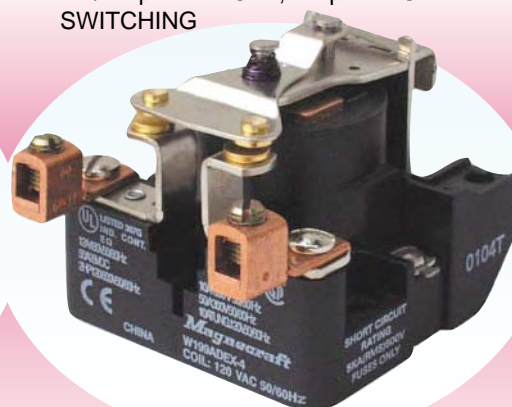
**199DB SPST-NO-DM**  
WITH MAGNETIC BLOWOUT FOR DC ARC  
QUENCHING 20 AMPS, 110 VDC



**199H DPDT**  
40 AMPS GENERAL PURPOSE,  
1-1/2 Hp PER POLE; 2 Hp - 2 POLE  
SWITCHING



**199B DPDT**  
WITH MAGNETIC BLOWOUT FOR DC ARC  
QUENCHING 10 AMPS, 110 VDC

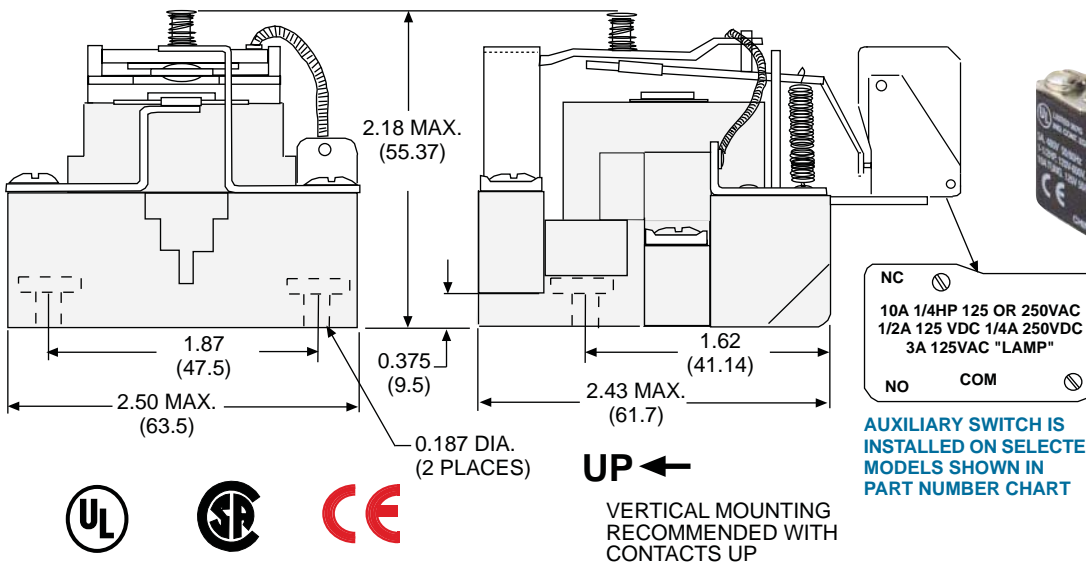


**199DE SPST-NO-DM**  
WITH BOX TERMINALS.  
50 AMPS, 2 Hp



**SPDT, 30 AMPS**

**OUTLINE DIMENSIONS**  
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



Optional metal enclosure available, see page 12

## GENERAL SPECIFICATIONS

### COIL

Pull-in Voltage: 85% of nominal voltage or less for AC coils  
80% of nominal voltage or less for DC coils  
Dropout Voltage: 10% of nominal voltage or more @ 25°C  
Coil Resistance: ± 10% @ 25°C  
Coil Power: 2.0 Watts DC., 10 VA (60Hz) AC @ 25°C  
Max. Coil Dissipation: DC Coils-4 watts max.  
Duty: Continuous

### CONTACTS

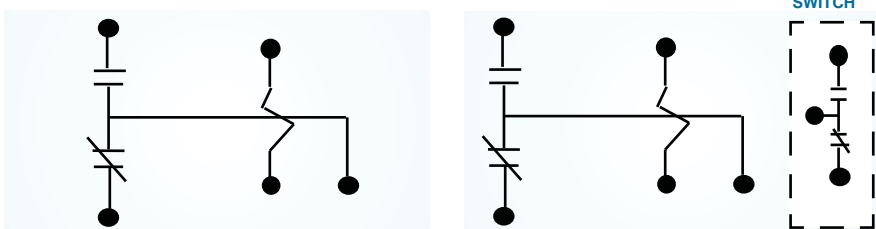
Contact Material: Silver cadmium oxide, gold flashed  
5/16" diameter standard  
Contact Rating: 30 amps up to 300 VAC, 50/60Hz  
5 amps @ 480/600 VAC, 50/60HZ 0.75 pf  
Inductive load. 1-1/2 Hp motor load @ 120 thru 600 VAC, 50/60 Hz. 30 Amps @ 28 VDC  
resistive load. 15 Amps tungsten @ 120 VAC  
NEMA A 600 pilot duty 50/60Hz  
Auxiliary Switch: 10 amps 1/4 Hp 125 or 250VAC  
1/2 amp 125 VDC 1/4 amp 250 VDC  
3 amps 125 VAC "Lamp"

### TIMING

Operate Time: 40 milliseconds max. @ nominal voltage  
Release Time: 30 milliseconds max. @ nominal voltage

## WIRING DIAGRAM

(VIEWED FROM PIN END)



### DIELECTRIC STRENGTH

Between Open Contacts: 1500 V rms  
Mutually Insulated  
Conductive elements: 2200 V rms

### TEMPERATURE

Operating Range: (AC) -30°C to +50°C,  
(DC) -30°C to +60°C  
Non-Operating Storage Range: -55°C to +100°C

### LIFE EXPECTANCY

Electrical: 100,000 operations  
Mechanical: @ rated resistive load  
1,000,000 operations @ no load

### MISCELLANEOUS

Coil Terminals: 6-32 combination head screws  
Load Terminals: 8-32 combination head screws  
Base Material: Molded phenolic,  
UL recognized (QMFZ2)  
Weight: 227 grams approx.

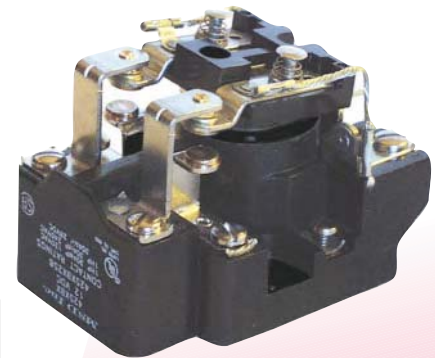
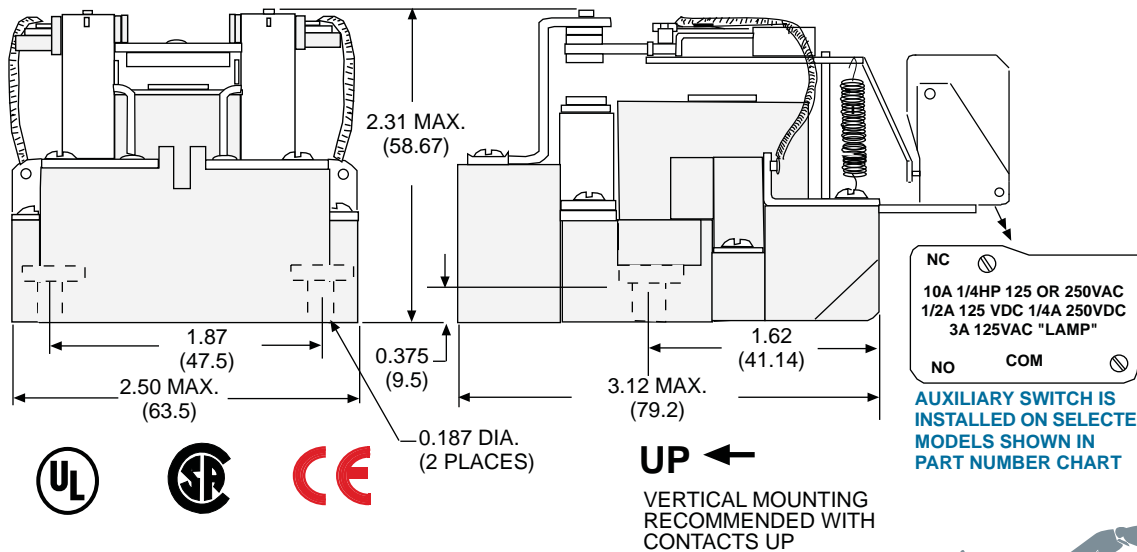
### COIL MEASURED @ 25°C

STANDARD PART NUMBERS	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>AC OPERATED</b>		
W199AX-4	120 VAC	290 Ω
<b>AC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199AMX-4	120 VAC	290 Ω
<b>DC OPERATED</b>		
W199X-2	12 VDC	70 Ω
W199X-3	24 VDC	290 Ω
<b>DC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199MX-2	12 VDC	70 Ω
W199MX-3	24 VDC	290 Ω

DPDT, 30 AMPS

## OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



## GENERAL SPECIFICATIONS

### COIL

- Pull-in Voltage: 85% of nominal voltage or less for AC coils  
80% of nominal voltage or less for DC coils
- Dropout Voltage: 10% of nominal voltage or more @ 25°C
- Coil Resistance:  $\pm 10\%$  @ 25°C
- Coil Power: 2.0 watts DC., 10 VA (60Hz) AC @ 25°C
- Max. Coil Dissipation: DC coils-4 matts max.
- Duty: Continuous.

### CONTACTS

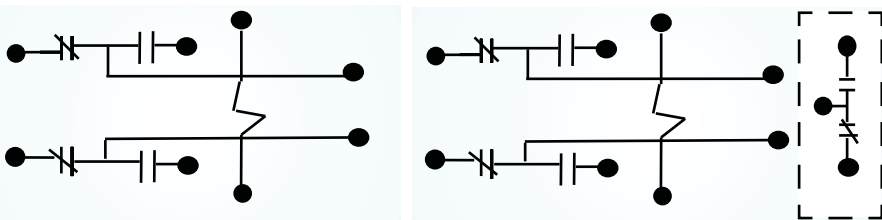
- Contact Material: Silver cadmium oxide, gold flashed 5/16" diameter standard.
- Contact Rating: 30 amps up to 300 VAC, 50/60Hz  
5 amps @ 480/600 VAC, 50/60Hz 0.75 pf inductive load. 1-1/2 Hp motor load each pole @ 120 thru 600 VAC, 50/60 Hz. 2 Hp motor load @ 200 to 600 VAC. when using two poles to switch both sides of load.  
30 amps @ 28 VDC resistive load  
15 amps tungsten @ 120 VAC  
NEMA A 600 pilot duty 50/60Hz
- Auxiliary Switch: 10 amps 1/4 Hp 125 or 250VAC  
1/2 amp 125 VDC 1/4 amp 250 VDC  
3 amps 125 VAC "Lamp"

### TIMING

- Operate Time: 40 milliseconds max. @ nominal voltage
- Release Time: 30 milliseconds max. @ nominal voltage

## WIRING DIAGRAM

(VIEWED FROM PIN END)



OTHER COIL VOLTAGES ARE AVAILABLE ON SPECIAL ORDER.  
CONTACT FACTORY FOR SPECIAL REQUIREMENTS.

### DIELECTRIC STRENGTH

- Between Open Contacts: 1500 V rms
- Mutually Insulated
- Conductive elements: 2200 V rms

### TEMPERATURE

- Operating Range: (AC) -30°C to +50°C, (DC) -30°C +60°C
- Non-Operating Storage Range: -55°C to +100°C

### LIFE EXPECTANCY

- Electrical: 100,000 operations @ rated resistive load
- Mechanical: 1,000,000 operations @ no load

### MISCELLANEOUS

- Coil Terminals: 6-32 combination head screws
- Load Terminals: 8-32 combination head screws
- Base Material: Molded phenolic, UL recognized (QMFZ2)
- Weight: 311 grams approx.

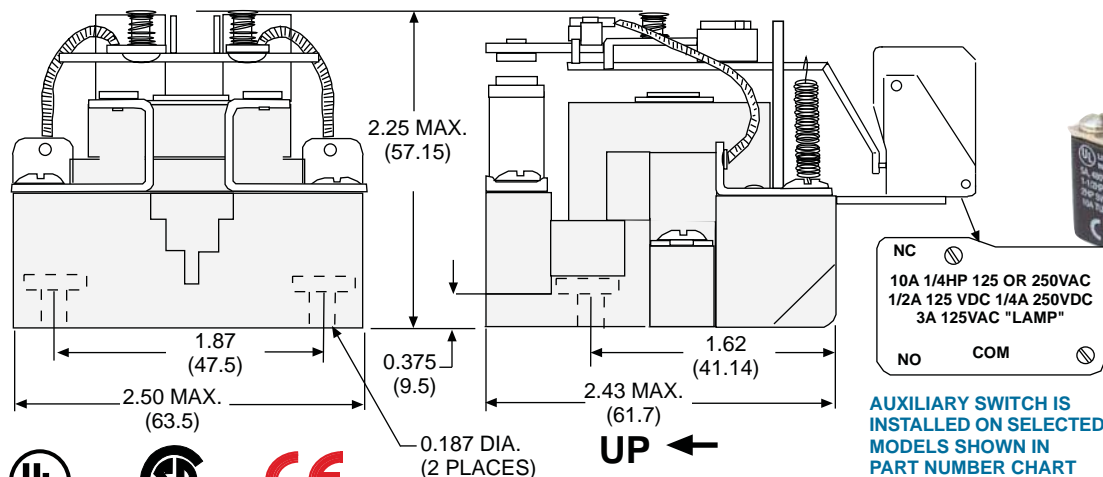
STANDARD PART NUMBERS	COIL MEASURED @ 25°C	
	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>AC OPERATED</b>		
W199AX-13	24 VAC	12 $\Omega$
W199AX-14	120 VAC	290 $\Omega$
W199AX-15	240 VAC	1200 $\Omega$
<b>AC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199AMX-63	24 VAC	12 $\Omega$
W199AMX-64	120 VAC	290 $\Omega$
W199AMX-65	240 VAC	1200 $\Omega$
<b>DC OPERATED</b>		
W199X-11	6 VDC	18 $\Omega$
W199X-12	12 VDC	70 $\Omega$
W199X-13	24 VDC	290 $\Omega$
W199X-14	110 VDC	6000 $\Omega$
<b>DC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199MX-49	6 VDC	18 $\Omega$
W199MX-50	12 VDC	70 $\Omega$
W199MX-51	24 VDC	290 $\Omega$
W199MX-52	110 VDC	6000 $\Omega$



DPST-N.O., 30 AMPS

## OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES &amp; (MILLIMETERS).



VERTICAL MOUNTING  
RECOMMENDED WITH  
CONTACTS UP



Optional metal enclosure  
available, see page 12

## GENERAL SPECIFICATIONS

## COIL

Pull-in Voltage:	85% of nominal voltage or less for AC coils, 80% of nominal voltage or less for DC coils
Dropout Voltage:	10% of nominal voltage or more @ 25°C
Coil Resistance:	± 10% @ 25°C
Coil Power:	2.0 Watts DC., 10 VA (60Hz) AC @ 25°C
Max. Coil Dissipation:	DC coils 4 watts max
Duty:	Continuous.

## CONTACTS

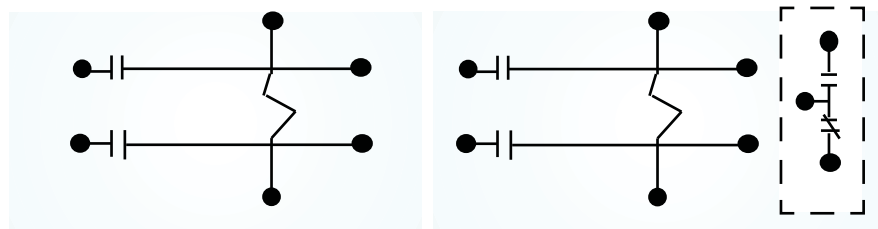
Contact Material:	Silver cadmium oxide, gold flashed. 5/16" diameter standard
Contact Rating:	30 amps up to 300 VAC, 50/60Hz, 5 amps @ 480/600VAC, 0.75 pf Inductive load. 1-1/2 Hp motor load (each pole) @ 120 thru 600 VAC, 50/60 Hz. 2 Hp motor load @ 200 thru 600 VAC, 50/60 Hz only when using two poles to switch both sides of load. 30 amps @ 28 VDC resistive load each poles. 15 amps tungsten @ 120 VAC. NEMA A600 pilot duty 50/60Hz.
Auxiliary Switch:	10 amps 1/4 Hp 125 or 250VAC 1/2 amp 125 VDC 1/4 amp 250 VDC 3 amps 125 VAC "Lamp"

## TIMING

Operate Time:	40 milliseconds max. @ nominal voltage
Release Time:	30 milliseconds max. @ nominal voltage

## WIRING DIAGRAM

(VIEWED FROM PIN END)



## DIELECTRIC STRENGTH

Between Open Contacts:	1500 V rms
Mutually Insulated	
Conductive elements:	2200 V rms

## TEMPERATURE

Operating Range:	(AC) -30°C to +50°C, (DC) -30°C to +60°C
Non-Operating Storage Range:	-55°C to +100°C

## LIFE EXPECTANCY

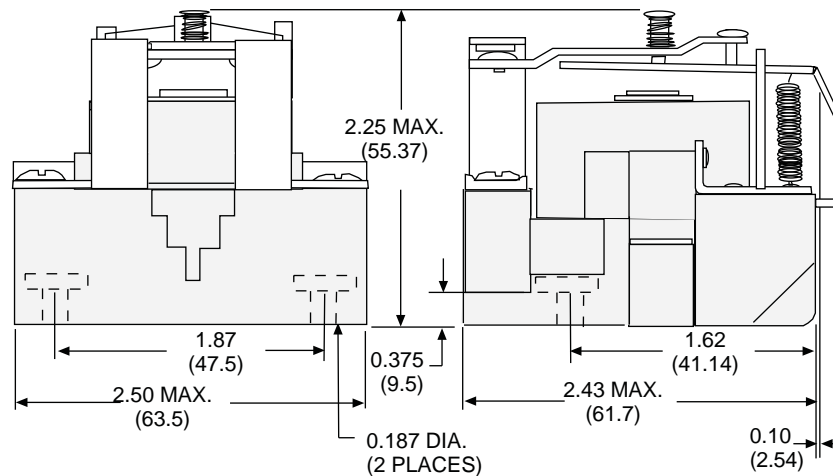
Electrical:	100,000 operations @ rated resistive load
Mechanical:	1,000,000 operations @ no load

## MISCELLANEOUS

Coil Terminals:	6-32 combination head screws
Load Terminals:	8-32 combination head screws
Base Material:	Molded phenolic, UL recognized (QMFZ2)
Weight:	255 grams approx

STANDARD PART NUMBERS	COIL MEASURED @ 25°C	
	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>AC OPERATED</b>		
W199AX-8	24 VAC	12 Ω
W199AX-9	120 VAC	290 Ω
W199AX-10	240 VAC	1200 Ω
<b>AC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199AMX-33	24 VAC	12 Ω
W199AMX-34	120 VAC	290 Ω
W199AMX-35	240 VAC	1200 Ω
<b>DC OPERATED</b>		
W199X-7	12 VDC	70 Ω
W199X-8	24 VDC	290 Ω
<b>DC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199MX-26	12 VDC	70 Ω
W199MX-27	24 VDC	290 Ω

**OUTLINE DIMENSIONS**  
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



## GENERAL SPECIFICATIONS

### COIL

- Pull-in Voltage: 85% of nominal voltage or less for AC coils  
80% of nominal voltage or less for DC coils
- Dropout Voltage: 10% of nominal voltage or more @ 25°C
- Coil Resistance: ± 10% @ 25°C
- Coil Power: 2.0 watts DC., 10 VA (60Hz) AC @ 25°C
- Max. Coil Dissipation: DC coils - 4 watts max
- Duty: Continuous

### CONTACTS

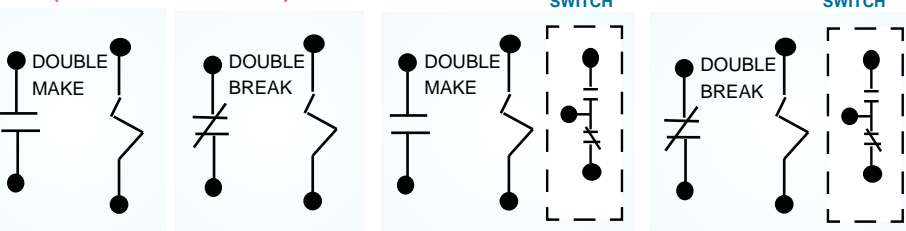
- Contact Material: Silver cadmium oxide, gold flashed.  
5/16" diameter standard.
- Contact Rating: 30 amps up to 300 VAC, 50/60Hz  
5 amps @ 480/600 VAC, 50/60Hz  
12 amps @ 480 VAC, 10 amps @ 600 VAC, 50/60Hz 0.75 pf inductive load.  
2 Hp motor load @ 120 thru 600 VAC, 50/60 Hz. 30 amps @ 28 VDC resistive load.  
15 amps tungsten @ 120 VAC  
NEMA A600 pilot duty 50/60Hz  
10 amps @ 120/240 VAC, 50/60 Hz  
1/4Hp. 120/240 VAC, 50/60 Hz  
1/2 amps @ 125 VDC, 1/4 amp @ 250 VDC
- Auxiliary Switch: 10 amps 1/4 Hp 125 or 250VAC  
1/2 amp 125 VDC 1/4 amp 250 VDC  
3 amps 125 VAC "Lamp"

### TIMING

- Operate Time: 40 milliseconds max. @ nominal voltage
- Release Time: 30 milliseconds max. @ nominal voltage

## WIRING DIAGRAM

(VIEWED FROM PIN END)



OTHER COIL VOLTAGES ARE AVAILABLE ON SPECIAL ORDER.  
CONTACT FACTORY FOR SPECIAL REQUIREMENTS.

SPST  
N.C.- D.B.

**SPST-N.C.- D. B. OR  
SPST-N.O.- D.M., 30 AMPS**

Optional metal enclosure  
available, see page 12

NC  
10A 1/4HP 125 OR 250VAC  
1/2A 125 VDC 1/4A 250VDC  
3A 125VAC "LAMP"  
NO COM

AUXILIARY SWITCH IS  
INSTALLED ON SELECTED  
MODELS SHOWN IN  
PART NUMBER CHART

**UP** ←  
VERTICAL MOUNTING  
RECOMMENDED WITH  
CONTACTS UP



### DIELECTRIC STRENGTH

- Between Open Contacts: 1500 V rms
- Mutually Insulated
- Conductive elements: 2200 V rms

### TEMPERATURE

- Operating Range: (AC) -30°C to +50°C,  
(DC) -30°C to +60°C
- Non-Operating Storage  
Range: -55°C to +100°C

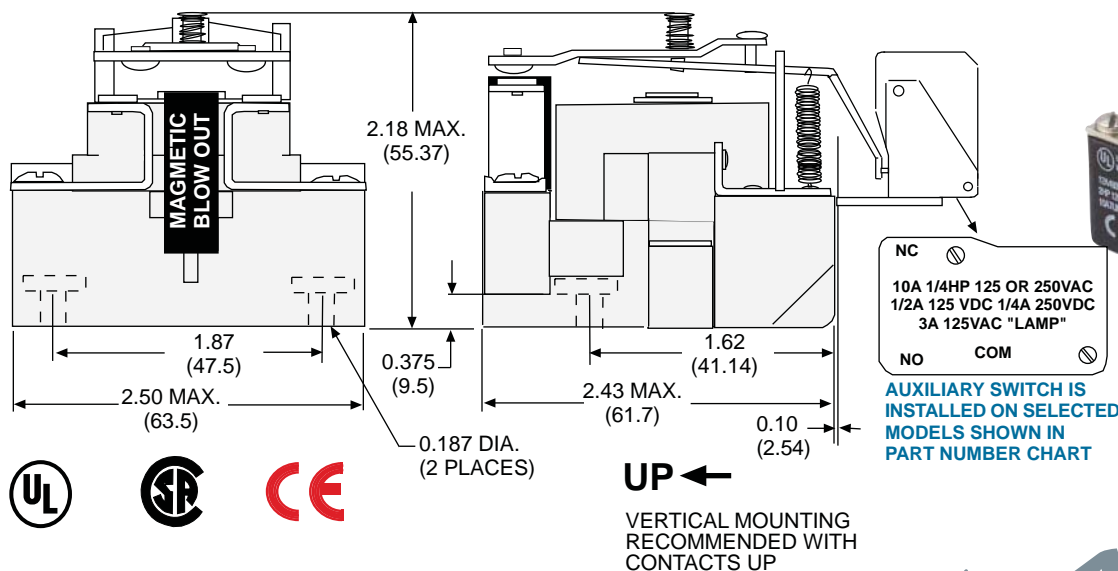
### LIFE EXPECTANCY

- Electrical: 100,000 operations  
@ rated resistive load
- Mechanical: 1,000,000 operations @ no load

### MISCELLANEOUS

- Coil Terminals: 6-32 combination head screws
- Load Terminals: 8-32 Ccombination head screws
- Base Material: Molded phenolic, UL recognized (QMFZ2)
- Weight: 227 grams approx.

STANDARD PART NUMBERS	CONTACT CONFIGU- RATION	COIL MEASURED @ 25°C	
		NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
AC OPERATED			
W199ADX-4	SPST-NO-DM	120 VAC	290 Ω
W199ADX-5	SPST-NO-DM	240 VAC	1200 Ω
AC OPERATED WITH SPDT AUXILIARY SWITCH			
W199ADMX-4	SPST-NO-DM	120 VAC	290 Ω
W199ADMX-5	SPST-NO-DM	240 VAC	1200 Ω
DC OPERATED			
W199DYX-2	SPST-NC-DB	12 VDC	70 Ω
W199DX-2	SPST-NO-DM	12 VDC	70 Ω
W199DX-3	SPST-NO-DM	24 VDC	290 Ω
DC OPERATED WITH SPDT AUXILIARY SWITCH			
W199DYMx-2	SPST-NC-DB	12 VDC	70 Ω
W199DMX-2	SPST-NO-DM	12 VDC	70 Ω
W199DMX-3	SPST-NO-DM	24 VDC	290 Ω

**SPST-N. O., 30 AMPS  
20 AMPS @ 110 VDC****OUTLINE DIMENSIONS**  
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).**Optional metal enclosure  
available, see page 12****GENERAL SPECIFICATIONS****COIL**

- Pull-in Voltage: 85% of nominal voltage or less for AC coils  
80% of nominal voltage or less for DC coils
- Dropout Voltage: 10% of nominal voltage or more @ 25°C
- Coil Resistance: ± 10% @ 25°C
- Coil Power: 10 VA (60Hz) AC @ 25°C
- Max. Coil Dissipation: DC coils-4 watts max.
- Duty: Continuous.

**CONTACTS**

- Contact Material: Silver cadmium oxide, gold flashed.  
5/16" diameter standard.
- Contact Rating: 30 amps up to 300 VAC, 50/60Hz  
12 amps @ 480 VAC, 10 Amps @ 600 VAC,  
50/60Hz 0.75 pf Inductive load. 1-1/2 Hp motor  
load @ 120 thru 600 VAC, 50/60 Hz. 30 amps  
@ 28 VDC resistive load  
15 amps tungsten @ 120 VAC  
NEMA A600 pilot duty 50/60Hz
- DC Rating: 20 Amps @ 110 VDC, resistive; 8 amps  
@ 220 VDC resistive, 4 Amps @ 325VDC  
resistive. 2 amps @ 500 VDC resistive.  
For inductive loads, contacts must be  
derated accordingly. Capacitive loads must  
have current limiting to insure that inrush  
current will not exceed 100 amps.
- Auxiliary Switch: 10 amps 1/4 Hp 125 or 250VAC  
1/2 amp 125 VDC 1/4 amp 250 VDC  
3 amps 125 VAC "Lamp"

**TIMING**

- Operate Time: 40 milliseconds max. @ nominal voltage
- Release Time: 30 milliseconds max. @ nominal voltage

**DIELECTRIC STRENGTH**

- Between Open Contacts: 1500 V rms
- Mutually Insulated
- Conductive elements: 2200 V rms

**TEMPERATURE**

- Operating Range: (AC) -30°C to +50°C, (DC) -30°C to +60°C
- Non-Operating Storage  
Range: -55°C to +100°C

**LIFE EXPECTANCY**

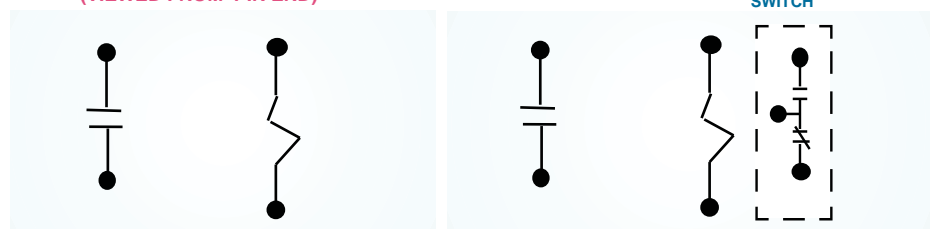
- Electrical: 100,000 operations  
@ rated resistive load
- Mechanical: 1,000,000 operations @ no load

**MISCELLANEOUS**

- Coil Terminals: 6-32 combination head screws
- Load Terminals: 8-32 combination head screws
- Base Material: Molded phenolic, UL recognized (QMFZ2)
- Weight: 227 grams approx.

**WIRING DIAGRAM**

(VIEWED FROM PIN END)



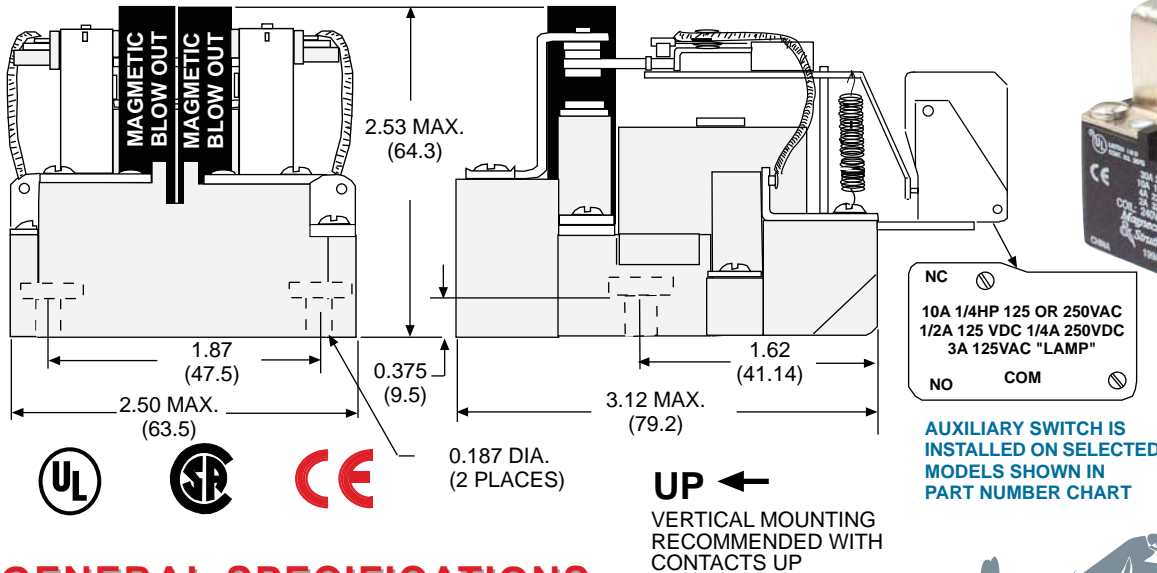
OTHER COIL VOLTAGES ARE AVAILABLE ON SPECIAL ORDER. CONTACT FACTORY FOR SPECIAL REQUIREMENTS.

STANDARD PART NUMBERS	COIL MEASURED @ 25°C	
	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>AC OPERATED</b>		
W199ADB-X-4	120 VAC	290 Ω
<b>AC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199ADB-MX-4	120 VAC	290 Ω
<b>DC OPERATED</b>		
W199DBX-3	24 VDC	290 Ω
W199DBX-6	48 VDC	1200 Ω
<b>DC OPERATED WITH SPDT AUXILIARY SWITCH</b>		
W199DBM-X-3	24 VDC	290 Ω
W199DBM-X-2	48 VDC	1200 Ω



**DPDT, 30 AMPS 10 AMPS  
@ 110 VDC**

**OUTLINE DIMENSIONS**  
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



Optional metal enclosure  
available, see page 12



## GENERAL SPECIFICATIONS

### COIL

Pull-in Voltage: 85% of nominal voltage or less for AC coils  
80% of nominal voltage or less for DC coils

Dropout Voltage: 10% of nominal voltage or more @ 25°C

Coil Resistance: ± 10% @ 25°C

Coil Power: 2.0 watts DC., 10 VA (60Hz) AC @ 25°C

Max. Coil Dissipation: DC coils - 4 watts max.

Duty: Continuous.

### CONTACTS

Contact Material: Silver cadmium oxide, gold flashed.  
5/16" diameter standard.

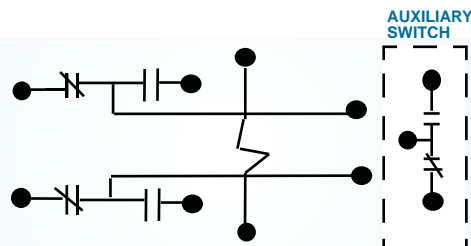
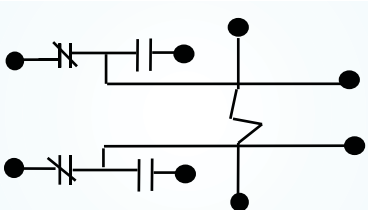
Contact Rating: 30 amps up to 300VAC, 50/60Hz  
5 amps @ 480/600 VAC, 50/60Hz 0.75 pf  
Inductive load. 1-1/2 Hp motor load (each pole)  
@ 120 thru 600 VAC, 50/60 Hz. 2 Hp motor load  
@ 120 thru 600 VAC, 50/60 Hz only when using  
two poles to switch both sides of load. 30 amps  
@ 28 VDC resistive load.  
15 amps tungsten @ 120 VAC  
NEMA A 600 pilot duty 50/60Hz

DC Rating: 10 amps @ 110VDC, resistive; 4 Amps @ 220VDC,  
resistive, 2 amps @ 325VDC resistive. For inductive  
loads, contacts must be derated accordingly.  
Capacitive loads must have current limiting to  
insure that inrush current will not exceed 50 amps

Auxiliary Switch: 10 amps 1/4 Hp 125 or 250VAC  
1/2 amp 125 VDC 1/4 amp 250 VDC  
3 amps 125 VAC "Lamp"

## WIRING DIAGRAM

(VIEWED FROM PIN END)



OTHER COIL VOLTAGES ARE AVAILABLE ON SPECIAL ORDER.  
CONTACT FACTORY FOR SPECIAL REQUIREMENTS.

### DIETIMING

Operate Time: 40 milliseconds max. @ nominal voltage

Release Time: 30 milliseconds max. @ nominal voltage.

### ELECTRIC STRENGTH

Between Open Contacts: 1500 V rms

Mutually Insulated

Conductive elements: 2200 V rms

### TEMPERATURE

Operating Range: (AC) -30°C to +50°C,  
(DC) -30°C to +60°C

Non-Operating Storage  
Range: -55°C to +100°C

### LIFE EXPECTANCY

Electrical: 100,000 operations  
@ rated resistive load

Mechanical: 1,000,000 operations @ no load

### MISCELLANEOUS

Coil Terminals: 6-32 combination head screws

Load Terminals: 8-32 combination head screws

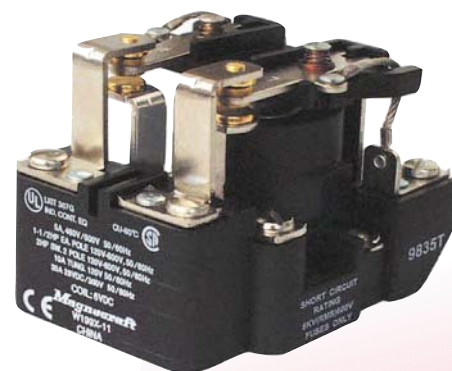
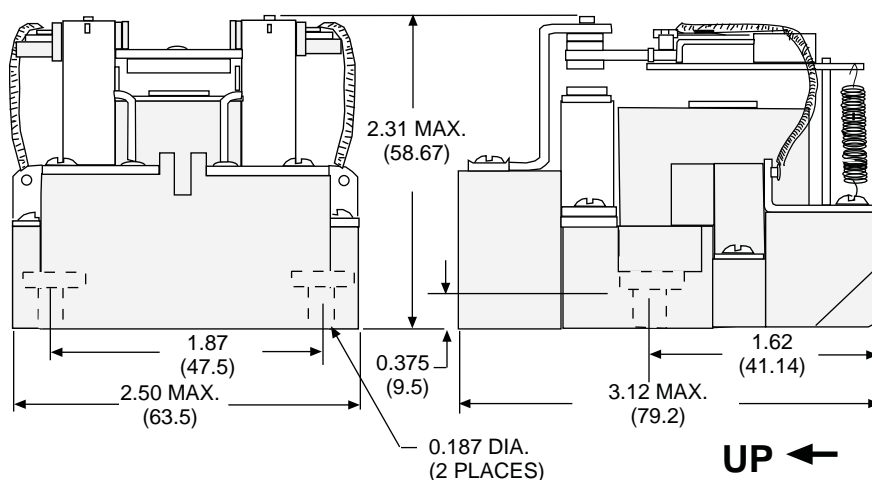
Base Material: Molded phenolic, UL recognized (QMF)

Weight: 312 grams approx.

STANDARD PART NUMBERS	COIL MEASURED @ 25°C	
	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>AC OPERATED</b>		
W199ABX-14	120 VAC	290 Ω
<b>AC OPERATED WITH SPDT AUXILIARY</b>		
W199ABMX-7	120 VAC	290 Ω
<b>DC OPERATED</b>		
W199BX-13	24 VDC	290 Ω
W199BX-14	110 VDC	6000 Ω
<b>DC OPERATED WITH SPDT AUXILIARY</b>		
W199BMX-13	24 VDC	290 Ω
W199BMX-14	110 VDC	6000 Ω

**DPDT, 40 AMPS****OUTLINE DIMENSIONS**

DIMENSIONS SHOWN IN INCHES &amp; (MILLIMETERS).

Optional metal enclosure  
available, see page 12**UP** ←VERTICAL MOUNTING  
RECOMMENDED WITH  
CONTACTS UP**GENERAL SPECIFICATIONS****COIL**

Pull-in Voltage:	85% of nominal voltage or less for AC coils 80% of nominal voltage or less for DC coils
Dropout Voltage:	10% of Nominal voltage or more @ 25°C
Coil Resistance:	± 10% @ 25°C
Coil Power:	2.0 watts DC., 10 VA (60Hz) AC @ 25°C
Max. Coil Dissipation:	DC coils-4 watts max
Duty:	Continuous

**CONTACTS**

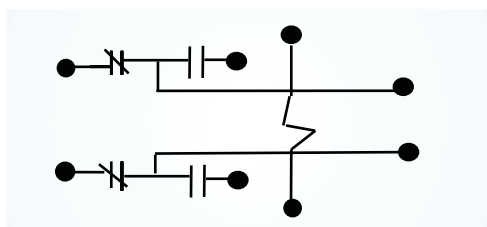
Contact Material:	Silver cadmium oxide, gold flashed. 5/16" diameter standard
Contact Rating:	40 amps up to 300 VAC, 50/60Hz 5 amps @ 480/600 VAC, 50/60Hz 0.75 pf inductive load. 1-1/2 Hp motor load esch pole @ 120 thru 600 VAC, 50/60 Hz. 2 Hp motor load @ 200 to 600 VAC when using two poles to switch both sides of load. 40 amps @ 28 VDC resistive load 15 amps tungsten @ 120 VAC NEMA A600 pilot duty 50/60Hz
Operate Time:	40 milliseconds max. @ nominal voltage
Release Time:	30 milliseconds max. @ nominal voltage

**TIMING**

Operate Time:	40 milliseconds max. @ nominal voltage
Release Time:	30 milliseconds max. @ nominal voltage

**WIRING DIAGRAM**

(VIEWED FROM PIN END)

**DIELECTRIC STRENGTH**

Between Open Contacts:	1500 V rms
Mutually Insulated	
Conductive elements:	2200 V rms

**TEMPERATURE**

Operating Range:	(AC) -30°C to +50°C, (DC) -30°C +60°C
Non-Operating Storage Range:	-55°C to +100°C

**LIFE EXPECTANCY**

Electrical:	100,000 operations @ rated resistive load
Mechanical:	1,000,000 operations @ no load

**MISCELLANEOUS**

Coil Terminals:	6-32 combination head screws
Load Terminals:	8-32 combination head screws
Base Material:	Molded phenolic, UL recognized (QMFZ2)
Weight:	311 grams approx.

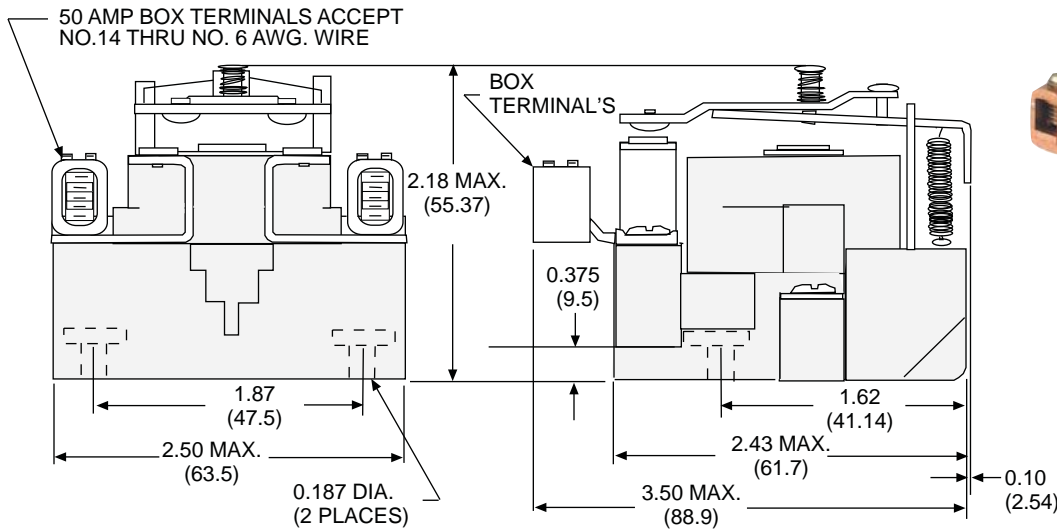
AUXILIARY CONTACTS AND OTHER COIL VOLTAGES ARE AVAILABLE ON SPECIAL ORDER.  
CONTACT FACTORY FOR SPECIAL REQUIREMENTS.

STANDARD PART NUMBERS	COIL MEASURED @ 25°C	
	NOMINAL INPUT VOLTAGE	NOMINAL RESISTANCE (OHMS)
<b>AC OPERATED</b>		
W199AHX-13	24 VAC	12 Ω
W199AHX-14	120 VAC	290 Ω
W199AHX-15	240 VAC, 60 Hz	1200 Ω
<b>DC OPERATED</b>		
W199HX-13	24 VDC	290 Ω
W199HX-14	110 VDC	6000 Ω



**SPST-N.O.- D.M., 50 AMPS**

**OUTLINE DIMENSIONS**  
DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



**UP** ←  
VERTICAL MOUNTING  
RECOMMENDED WITH  
CONTACTS UP



Optional metal enclosure  
available, see page 12

## GENERAL SPECIFICATIONS

### COIL

Pull-in Voltage:	85% of nominal voltage or less for AC coils 80% of nominal voltage or less for DC coils
Dropout Voltage:	10% of nominal voltage or more @ 25°C
Coil Resistance:	± 10% @ 25°C
Coil Power:	2.0 watts DC., 10 VA (60Hz) AC @ 25°C
Max. Coil Dissipation:	DC coils-4 watts max.
Duty:	Continuous.

### CONTACTS

Contact Material:	Silver cadmium oxide, gold flashed. 5/16" diameter standard.
Contact Rating	50 amps up to 300VAC, 50/60Hz 50 amps @ 28 VDC resistive load, loads must have current limiting to insure that inrush current will not exceed 100 amps NEMA A600 pilot duty 50/60Hz

### TIMING

Operate Time:	40 milliseconds max. @ nominal voltage
Release Time:	30 milliseconds max. @ nominal voltage.

### DIELECTRIC STRENGTH

Between Open Contacts:	1500 V rms
Mutually Insulated	
Conductive elements:	2200 V rms

### TEMPERATURE

Operating Range:	(AC) -30°C to +50°C, (DC) -30°C to +60°C
Non-Operating Storage Range:	-55°C to +100°C

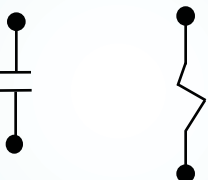
### LIFE EXPECTANCY

Electrical:	100,000 operations @ rated resistive load
Mechanical:	1,000,000 operations @ no load

### MISCELLANEOUS

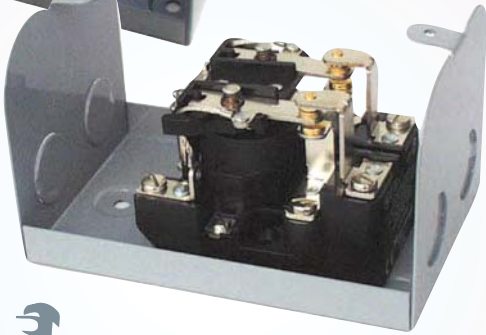
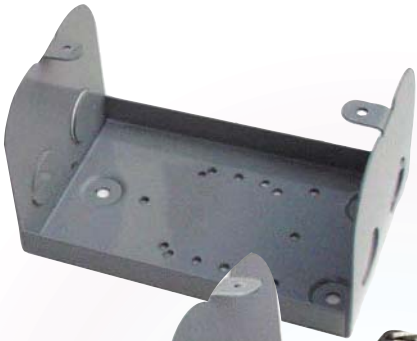
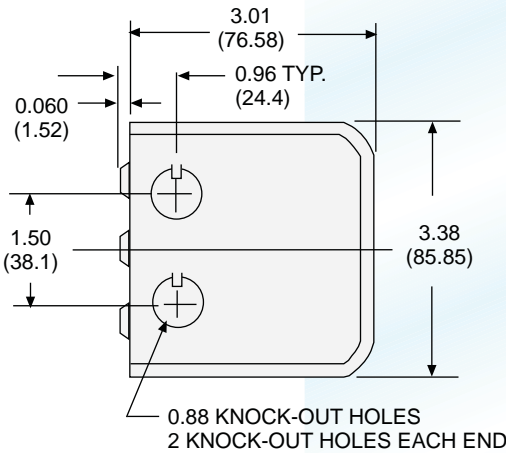
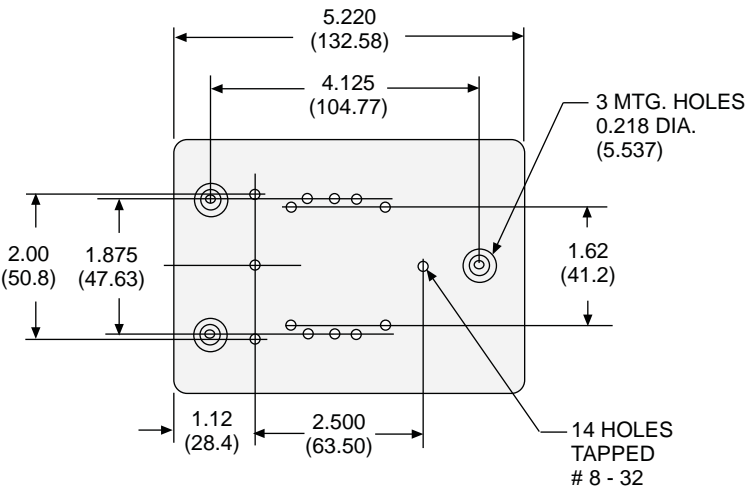
Coil Terminals:	6-32 Combination head screws
Load Terminals:	AMG 2-12 Pressure wire connector
Base Material:	Molded phenolic, UL recognized (QMFZ2)
Weight:	227 grams approx.

## WIRING DIAGRAM (VIEWED FROM PIN END)



OUTLINE DIMENSIONS

DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



STANDARD PART NUMBER	DESCRIPTION
50-1289-1	UNIVERSAL MOUNT METAL ENCLOSURE

COVER & RELAY MOUNTING SCREWS INCLUDED