



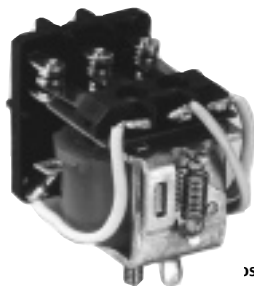
L = 1-1/16
W = 1-1/4
H = 7/8

†Script Picture
R and CSA logos

Continuous or intermittent duty buzzer which buzzes when coil is energized. Operated on 50/60 cycle AC voltage. Mounting: No. 6-32 tapped core. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066). CSA listed (File No. 20690).

BZ BUZZER

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20000-81	BZ			12VAC	20	3.0VA
20000-82	BZ			24VAC	80	3.0VA
20000-83	BZ			120VAC	2,025	3.0VA
20000-84	BZ			240VAC	8,000	3.0VA



L = 1-7/8
W = 1-1/2
H = 1-9/32

†Script Picture
R and CSA logos

Small general purpose relay. Continuous duty operation. Mounting: No. 6-32 stud and locating tab. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066). CSA listed (File No. 20690).

100U/101U SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20062-81	101U	SPDT	10A	12VAC	20	2.0VA
20062-84	101U	SPDT	10A	120VAC	2,025	2.0VA
20063-81	100U	DPDT	5A	12VAC	18	2.2VA
20063-84	100U	DPDT	5A	120VAC	1,850	2.2VA
20064-82	101U	DPDT	10A	24VAC	72	2.2VA
20064-84	101U	DPDT	10A	120VAC	1,880	2.2VA
20068-81	101U	SPDT	10A	12VDC	120	1.2W
20070-81	101U	DPDT	10A	12VDC	120	1.2W
20070-82	101U	DPDT	10A	24VDC	480	1.2W
20070-84	101U	DPDT	10A	110VDC	10,000	1.2W



L = 1-3/8
W = 1-3/8
H = 2

†Script Picture
R and CSA logos

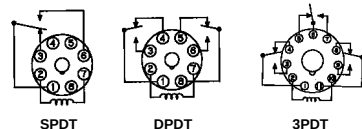
General purpose plug-in relay for continuous duty operation. Plastic cover. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066).

105 SERIES

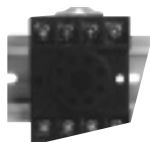
Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20106-82	105	SPDT	10A	24VAC	80	2.0VA
20106-84	105	SPDT	10A	120VAC	2,025	2.0VA
20107-84	105	DPDT	5A	120VAC	1,850	2.2VA
20108-81	105	DPDT	10A	12VAC	18	2.0VA
20108-82	105	DPDT	10A	24VAC	72	2.0VA
20108-84	105	DPDT	10A	120VAC	1,850	2.0VA
20108-85	105	DPDT	10A	240VAC	7,200	2.0VA
20110-82	105	3PDT	10A	24VAC	72	2.2VA
20110-84	105	3PDT	10A	120VAC	1,850	2.2VA
20110-85	105	3PDT	10A	240VAC	7,200	2.2VA
20114-80	105	DPDT	10A	6VDC	30	1.2W
20114-81	105	DPDT	10A	12VDC	120	1.2W
20114-82	105	DPDT	10A	24VDC	480	1.2W
20114-83	105	DPDT	10A	48VDC	1,850	1.2W
20114-84	105	DPDT	10A	110VDC	10,000	1.2W
20116-81	105	3PDT	10A	12VDC	120	1.2W
20116-82	105	3PDT	10A	24VDC	480	1.2W
20116-84	105	3PDT	10A	110VDC	10,000	1.2W

SOCKETS - 105 SERIES

20983-81	DPDT	8 PIN OCTAL
20983-82	3PDT	11 PIN OCTAL



BASE DIAGRAMS FOR 105 SERIES



105 SERIES (w/Indicator Lamp)

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20117-82	105A	DPDT	10A	24VAC	72	2.2VA
20117-84	105A	DPDT	10A	120VAC	1,850	2.2VA
20117-85	105A	DPDT	10A	240VAC	7,200	2.2VA
20118-84	105A	3PDT	10A	120VAC	1,850	2.2VA

General purpose plug-in relay with a lamp connected across relay coil; indicates voltage applied to coil. Recognized under the components Program of Underwriters Laboratories, Inc. (File No. E37066).

ALL DIMENSIONS ARE NOMINAL.



L = 1.250, 1.625 w/stud
W = 1.450
H = 2.101 max.

istScript Picture
R and CSA logos

10 amp general purpose relay. Molded Class F coil. Coil terminates in panel for greater strength. Combination .187 quick connect/solder termination. Recognized under the Components Program of Underwriter's Laboratories, Inc. (File No. E37066). Also CSA Recognized.

161 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20300-84	161	SPDT	13A	120VAC	2,025	2.0VA
20301-84	161	DPDT	13A	120VAC	1,850	2.2VA



L = 1-13/32
W = 1-1/2
H = 2-3/16

istScript Picture
R and CSA logos



Available upon request

Plastic covered general purpose plug-in relay. Molded Class F coil. Continuous duty operation. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066). Also CSA Recognized.

165/166 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20307-82	166	DPDT	13A	24VAC	72	2.2VA
20307-84	166	DPDT	13A	120VAC	1,850	2.2VA
20307-85	166	DPDT	13A	240VAC	7,200	2.2VA
20308-82	166	3PDT	13A	24VAC	72	2.2VA
20308-84	166	3PDT	13A	120VAC	1,850	2.2VA
20308-85	166	3PDT	13A	240VAC	7,200	2.2VA
20310-80	166	DPDT	13A	6VDC	30	1.2W
20310-81	166	DPDT	13A	12VDC	120	1.2W
20310-82	166	DPDT	13A	24VDC	480	1.2W
20325-84	165	3PDT	5A	120VAC	1,850	2.2VA
20311-81	166	3PDT	13A	12VDC	120	1.2W
20311-82	166	3PDT	13A	24VDC	480	1.2W
20311-84	166	3PDT	13A	110VDC	10,000	1.2W
20381-82	166A	3PDT	13A	24VAC	72	2.2VA
20381-83	166A	3PDT	13A	120VAC	1,850	2.2VA



165/166
HOLD DOWN SPRING
for BACK CONNECTING
S/N 20902-00
\$0.40 Ea. Any Qty.



Solder



Quick-Connect

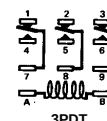
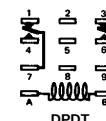
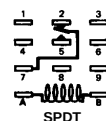


Printed Circuit

SOCKETS - 165/166 SERIES — BACK CONNECTING

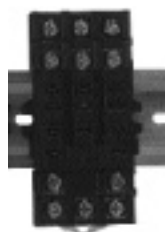
20312-81	DPDT	SOLDER TERMINALS
20312-82	3PDT	SOLDER TERMINALS
20313-82	3PDT	.187 QUICK-CONNECT TERMINALS
20314-82	3PDT	PRINTED CIRCUIT TERMINALS

WIRING DIAGRAM FOR 165/166 SERIES



Hold
Down
Spring

165/166 HOLD DOWN SPRING
for DIN RAIL MOUNTING
S/N 20902-03 \$0.40 Ea. Any Qty.



DIN RAIL MOUNTING

SOCKETS - 165/166 SERIES

20982-81	DPDT	8 PIN SQUARE BASE DIN RAIL MOUNTABLE
20982-82	3PDT	11 PIN SQUARE BASE DIN RAIL MOUNTABLE

ALL DIMENSIONS ARE NOMINAL.



L = 1-13/32
W = 1-1/2
H = 2-29/32
Mounting Center = 2-1/2



Available upon request

165F/166F SERIES FLANGE-MOUNTED VERSION OF 165/166 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20546-82	166F	DPDT	13A	24VAC	72	2.2VA
20546-84	166F	DPDT	13A	120VAC	1,850	2.2VA
20547-82	166F	3PDT	13A	24VAC	72	2.2VA
20547-84	166F	3PDT	13A	120VAC	1,850	2.2VA



L = 1-7/8
W = 1-5/8
H = 1-1/4

istScript Picture
R and CSA logos

High current relays for industrial control applications. Molded Class F encapsulated coil is resistant to fungus and moisture. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066).

177 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20935-82	177	SPST	30A	24VAC	42	4.7VA
20935-83	177	NO-DM	30A	120VAC	1,100	4.7VA
20936-81	177	SPST	30A	12VDC	72	2W
20936-82	177	NO-DM	30A	24VDC	285	2W



L = 1-13/32
W = 1-1/2
H = 2-29/32
Mounting Center = 2-1/2

istScript Picture
R and CSA logos

General purpose relay with plastic cover. Molded Class F coil insures reliable continuous-duty performance. .250 quick connect terminals. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066).

267F SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20600-84	267F	SPDT	15A	120VAC	2,025	2.0VA
20601-82	267F	DPDT	15A	24VAC	80	2.2VA
20601-84	267F	DPDT	15A	120VAC	1,850	2.2VA
20606-81	267F	SPDT	15A	12VDC	120	1.2W
20606-82	267F	SPDT	15A	24VDC	480	1.2W
20607-81	267F	DPDT	15A	12VDC	120	1.2W
20607-82	267F	DPDT	15A	24VDC	480	1.2W



L = 1-13/32
W = 1-1/2
H = 2-3/16

istScript Picture
R and CSA logos

Plastic covered general purpose plug-in relay. Molded class F coil. Continuous duty operation. .187 quick connect terminals. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066). Also CSA recognized.

268 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20684-82	268	DPDT	15A	24VAC	72	2.2VA
20684-84	268	DPDT	15A	120VAC	1850	2.2VA
20686-82	268	DPDT	15A	24VDC	375	1.2W

ALL DIMENSIONS ARE NOMINAL.





L = 1.250, 1.625 w/stud
W = 1.450
H = 2.101 max.

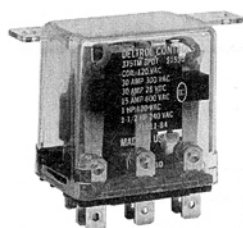


General purpose relays with plastic dust cover with flange mounting, barrier-type .250" quick-connect terminals and molded Class F coil. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066). Certified under SEMKO (Certificate No. 9648100/01)

275F SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20844-82	275F	DPDT	30A	24VAC	56	2.4VA
20844-84	275F	DPDT	30A	120VAC	1,500	2.4VA
20844-82	275F	SPST-NO-DM	35A	24VDC	315	1.8W
20852-82	275F	DPDT	30A	24VDC	315	1.8W

3-POLE, 30AMP POWER RELAYS



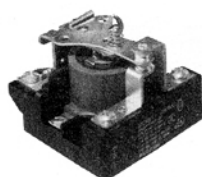
L = 1-2/5
W = 2-3/4
H = 2-1/2



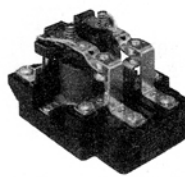
30-Amp, 3-Pole Relay can replace similarly rated contactors. Compact size saves space, plus offers double-throw configuration. Available in "F" case like 275 "F" above also. UL File recognition E37066.

375 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
21009-82	375TM	3PST-NO	30A	24VAC	38	4.6VA
21009-84	375TM	3PST-NO	30A	120VAC	970	4.6VA
21009-85	375TM	3PST-NO	30A	240VAC	3800	4.6VA
21011-82	375TM	3PDT	30A	24VAC	38	4.6VA
21011-84	375TM	3PDT	30A	120VAC	970	4.6VA
21011-85	375TM	3PDT	30A	240VAC	3800	4.6VA
21012-82	375TM	3PST-NO	30A	24VDC	230	2.6W
21014-81	375TM	3PDT	30A	12VDC	56	2.6W
21014-82	375TM	3PDT	30A	24VDC	230	2.6W



Single Pole
L = 2-1/2
W = 2-1/2
H = 2-3/16



Double Pole
L = 3-11/32
W = 2-1/2
H = 2-3/8

900 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20237-82	900	SPST-NO	30A	24VAC	11.5	9.5VA
20237-83	900	SPST-NO	30A	120VAC	295	9.5VA
20238-82	900	SPST	30A	24VAC	11.5	9.5VA
20238-83	900	NO-DM	30A	120VAC	295	9.5VA
20239-82	900	SPDT	30A	24VAC	11.5	9.5VA
20239-83	900	SPDT	30A	120VAC	295	9.5VA
20240-82	900	DPST-NO	30A	24VAC	11.5	9.5VA
20240-83	900	DPST-NO	30A	120VAC	295	9.5VA
20240-84	900	DPST-NO	30A	240VAC	1,170	9.5VA
20241-82	900	DPDT	30A	24VAC	11.5	9.5VA
20241-83	900	DPDT	30A	120VAC	295	9.5VA
20241-84	900	DPDT	30A	240VAC	1,170	9.5VA
20243-81	900	SPDT	30A	12VDC	72	2W
20243-82	900	SPDT	30A	24VDC	290	2W
20244-81	900	DPST-NO	30A	12VDC	72	2W
20244-82	900	DPST-NO	30A	24VDC	290	2W
20245-81	900	DPDT	30A	12VDC	72	2W
20245-82	900	DPDT	30A	24VDC	290	2W
20245-84	900	DPDT	30A	110VDC	6,050	2W



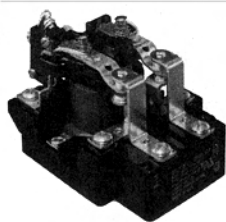
B-5 DUST COVER
L = 5
W = 4
H = 3

S/N 20257-80 — List - \$10.50

Sealed knock-out holes for standard conduit fittings. Relay mounts on pre-drilled base. Constructed of Aluminum. Snap action cover release. Accommodates relay series 900.

ALL DIMENSIONS ARE NOMINAL.

7
RELAYS



L = 4-1/4
W = 2-1/2
H = 2-3/8



900 Series heavy duty power relay with snap-action, 10 amp, 1/4" hp, SPDT auxiliary switch. Molded Class F coil resists fungus and moisture. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066).

900-1C SERIES

Contacts				Coil		
Stock No.	Series	Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20246-83	900-1C	DPDT	30A	120VAC	295	9.5VA
20249-82	900-1C	DPST-NO	30A	24VDC	290	2W



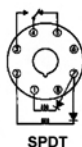
L = 1-15/16
W = 1-15/16
H = 3-1/4

General purpose magnetic latching plug-in relay. Positive snap-action, one-piece armature eliminates interconnections. Standard 8-pin octal-type plug for SPDT, 11-pin for DPDT. Recommended receptacles: Amphenol 77MIP Series, or equivalent.

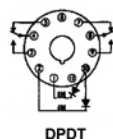
105ML SERIES

		Contacts		Coil		
Stock No.	Series	Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20034-83	105ML	SPDT	10A	120VAC	1,850	3.5VA
20035-83	105ML	DPDT	10A	120VAC	1,850	3.5VA
20037-82	105ML	SPDT	10A	24VDC	315	2W
20038-82	105ML	DPDT	10A	24VDC	315	2W

105ML
Series
AC



SPDT

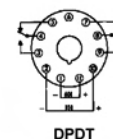


DPDT

105ML
Series
DC



SPDT



DPDT



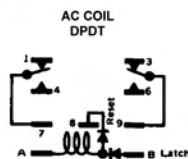
L = 1-13/32
W = 1-1/2
H = 2-3/16



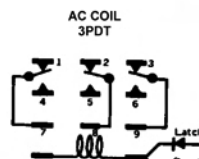
Latching relays especially suited for AC power supplies. Units have moisture and fungus resistant Class F encapsulated coil. Recognized under the Components Program of Underwriters Laboratories, Inc. (File No. E37066).

166ML SERIES

		Contacts		Coil		
Stock No.	Series	Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
20525-84	166ML	DPDT	10A	120VAC	1,850	4VA



AC COIL
DPDT



AC COIL
3PDT

Diodes are Externally Wired and Supplied by Customer. Type 1N4005 or Equivalent Recommended. 3PDT Only.

WIRING DIAGRAMS FOR 166ML SERIES

ALL DIMENSIONS ARE NOMINAL.

7 RELAYS



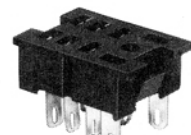
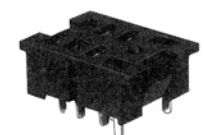
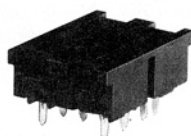
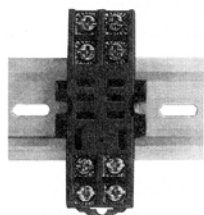
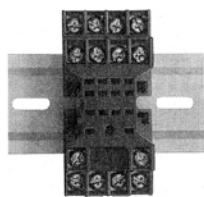
L = 1.10
W = .35
H = 1.42

General purpose miniature relay, for continuous duty operation.

310/320 SERIES

Stock No.	Series	Contacts		Coil		
		Arrang.	Rating (Amps)	Input Voltages	Resistance (Ohms)	Nominal Power
31000-81	310	SPDT	15A	12VDC	160	0.9W
31000-82	310	SPDT	15A	24VDC	650	0.9W
31001-81	310	DPDT	10A	12VAC	160	0.9W
31001-82	310	DPDT	10A	24VAC	650	0.9W
31003-81	310	4PDT	10A	12VDC	100	1.5W
31003-82	310	4PDT	10A	24VAC	350	1.5W
31004-84	310	SPDT	10A	120VAC	4430	1.2VA
31005-84	310	DPDT	10A	120VAC	4430	1.2VA
31007-84	310	4PDT	10A	120VAC	2200	1.95VA
32003-81	320	4PDT	3A	120VAC	160	0.9W
32003-82	320	4PDT	3A	24VAC	650	0.9W
32007-82	320	4PDT	3A	24VAC	180	1.2VA
32007-84	320	4PDT	3A	120VAC	4430	1.2VA

SOCKETS



310/320 SERIES

33000-80	SPDT	SOLDER LUG, BACK CONNECTING
33001-80	DPDT	PC TERMINAL, BACK CONNECTING
33002-80	SPDT	SOLDER LUG, BACK CONNECTING
33003-80	DPDT	PC TERMINAL, BACK CONNECTING
33004-80	4PDT	DIN RAIL MOUNT W/PRESSURE CLAMP SCREWS
33005-80	4PDT	DIN RAIL MOUNT W/PRESSURE CLAMP
33006-80	4PDT	SOLDER LUG, BACK CONNECTING
33007-80	4PDT	PC TERMINAL, BACK CONNECTING
33008-80	4PDT	DIN RAIL MOUNT W/PRESSURE CLAMP SCREWS

ALL DIMENSIONS ARE NOMINAL.

270 & 275



270



275F

SERIES 30 AND 35 AMP POWER RELAY



Model 275 F, P, T

FEATURES

- 30 Amps Switching on all Contacts thru a DPDT Configuration (25 Amps in Europe)
- Coil Molded in DuPont Rynite®, Providing Class F Temperature Insulation
- Low Cost Alternative to Small Contactors

CONTACT DATA

CONFIGURATION:

Thru DPDT, Including SPST-NO-DM, SPST-NC-DB and DMDB

MATERIALS:

All Contacts 1/4" Silver Cadmium Oxide

CONTACT RATINGS

MODEL	POLE CONFIG.	UL RATINGS
270/275	SPST-NO SPST-NC SPDT DPST-NO DPST-NC DPDT DMDB	30 amp at 300VAC 15 amp at 600VAC 25 amp at 28VDC 1 HP at 120VAC 2 HP at 240/277VAC 3 HP at 480VAC 17 FLA, 60 LRA at 300VAC Heavy Pilot Duty, 600VAC 20 amp at 277VAC Ballast 20 amp at 480VAC Ballast
	SPST-NO-DM SPST-NC-DB	35 amp at 300VAC 15 amp at 600VAC 35 amp at 28VDC 5 amp at 125VDC 1 HP at 120VAC 2 HP at 240/277VAC 3 HP at 480VAC 17 FLA, 60 LRA at 300VAC Heavy Pilot Duty, 600VAC 20 amp at 277VAC Ballast 20 amp at 480VAC Ballast
SEMKO RATINGS		
275F 275P 275T	SPST-NO SPST-NC SPDT DPST-NO DPST-NC DPDT DMDB	25 amp at 250VAC, 50 Hz AC-1 25 amp at 28VDC DC-1 12 amp at 240VAC 50 Hz AC-3
	SPST-NO-DM SPST-NC-DB	35 amp at 250VAC 50 Hz AC-1 35 amp at 28VDC DC-1 12 amp at 240VAC 50 Hz AC-3

UL RECOGNIZED FILE NO.: E37066

US and Canadian Recognition

SEMKO CERTIFICATE NO.: 9648100/01* Model 275 F, P, T

MODELS

- 270S:** Open Frame w/Stud & Locator Tab
275F: Flange Cover
275T: Top Mount Cover
 Other Suffixes Available
 B-Bracket Provided, L-Tap & Locator,
 P-Printed Circuit Pins

COIL DATA

	NOMINAL VOLTAGE	RESISTANCE IN OHMS ± 10%	NOMINAL COIL POWER
AC Coils	6VAC	3.5	2.4VA
	12VAC	14	
	24VAC	56	
	48VAC	230	
	120VAC	1500	
DC Coils	240VAC	6000	1.8W
	6VDC	20	
	12VDC	80	
	24VDC	315	
	48VDC	1300	
	110VDC	6800	

Coil

Voltages: USA/Canada European
 AC: Up to 277 Volts/60 Hz Up to 250 Volts 50/60 Hz
 DC: Up to 125 Volts Up to 125 Volts

Coil Treatment: Molded Rynite® Std. Class F

Insulation Resistance: 100 Megohms Minimum

UL Insulation System File No.: E74443

S155D 155°C Total Temperature Std.

(Covers S105 Class A and S130D Class B Requirements)

OPERATE DATA

Pick Up (at 25°C): AC Volts 85% or Less of Nominal
 DC Volts 75% or Less of Nominal

Operate Time: Approx. 15 Milliseconds

Release Time: Approx. 15 Milliseconds

ENVIRONMENTAL DATA

Operating Ambient: AC: -45° to 75°C

DC: -45° to 80°C

Coil Temperature Rise: (25°C Ambient – Continuous Duty)

AC: 45°C Approx. @ 60 Hz – Use at 50 Hz

will Cause Slight Increase in Coil Rise

DC: 40°C Approx.

EXPECTED LIFE

Electrical At Rated Load (Minimum)

100,000 Operations

Mechanical Life

10,000,000 Operations

DIELECTRIC STRENGTH

1200 VRMS, 60 Hz Between Contacts

2200 VRMS, 60 Hz Between Other Elements

MECHANICAL DATA

Terminals: All Versions (Except P Suffix)

.250" x .032" Quick Connect/Solder

P Suffix Version Printed Circuit Pins

Cover: Clear Polycarbonate - Flammability Rating 94V2

Weight: Approx. 3 oz. (85 g)

* Double Pole units may require 150°C lead wire for some applications.

SCHEMATICS

