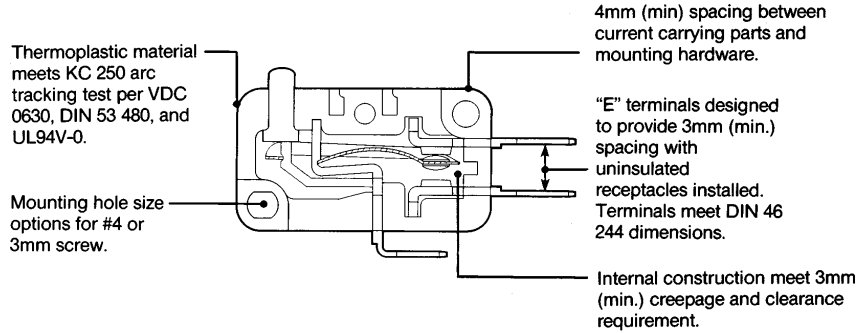




- FEATURES**
- Quick-connect and printed wiring board termination
 - Proven V3 switching mechanism
 - Physically interchangeable with existing V3 switches
 - All existing V3 lever options available
 - UL recognized File # E12252; CSA certified File # LR41370
 - International listings carry VDE approval
 - Power load switching capability up to 21 amps
 - Temperature tolerance -40° to 185°F (-40° to 85°C)
 - High temperature construction available—350°F

- APPLICABLE EUROPEAN SYMBOLS**
- μ = microgap construction. (The measurement between open contacts is less than 3mm).**
 - ~ = alternating current (used with value of voltage source: 250V ~).
 - T = maximum rated use temperature; followed by the temperature value in °C (example T 85).
 - +++ = switch is rated for at least 50,000 cycles at its rated current. (Sometimes referred to as "frequent" operation.)
 - 10(3) = first number represents resistive rating. Second number represents inductive (motor) rating.

CUTAWAY V7 MINIATURE BASIC SWITCH



GENERAL INFORMATION

The V7 Series is available in two versions, the Timesaver series and the International series. The Timesaver series is UL recognized and CSA certified. Timesaver series switches use readily available high-volume components to provide especially responsive delivery performance. The International V7 provides VDE approval in addition to UL recognition and CSA certification.

The V7 offers a choice of four quick-connect and two printed wiring board terminal types. Three quick-connect types are offset to meet international 3mm spacing requirements and one is designed for use with molded connectors. Contact material choice includes gold alloy, silver alloy or silver for handling various electrical loads. There are two mounting hole sizes available. Standard .114" or 3mm to meet European design requirements.

Terminal variations and switch dimensions of the European designed version conform to applicable DIN standards. These V7s mate with both standard domestic and international industry stan-

dard receptacles and connectors. The plastic enclosure meets VDE KC250 arc tracking requirement and is approvable under the Refrigeration Industry Taste and Odor test.

OPERATING FORCES

175 grams (V rating only)
150 grams (Not applicable to Electrical Rating V)
75 grams (Not applicable to Electrical Rating C or V)
50 grams (Not applicable to Electrical Rating B, C, V)
25 grams (Not applicable to Electrical Rating B, C, E, V)
15 grams (Not applicable to Electrical Rating A, B, C, E, S, V)

Mounting Torque:
2 inch pounds min.
5 inch pounds max.

ELECTRICAL RATINGS

A	B	C*	D	E	F	S	V
5 amps, 125, 250 or 277 VAC; 1/10 hp, 250 VAC	11 amps and 1/2 hp, 125, 250 or 277 VAC; 1/2 amp, 125 VDC; 1/4 amp, 250 VDC; 4 amps, 125 VAC "L"	15.1 amps and 1/2 hp, 125, 250 or 277 VAC; 1/2 amp, 125 VDC; 1/4 amp, 250 VDC; 5 amps, 120 VAC "L"	1 amp, 125 VAC	10 amps and 1/2 hp 125 or 250 VAC; 1/2 amp, 125 VDC; 1/4 amp, 250 VDC; 4 amps, 125 VAC "L"	3 amps, 125, 250 or 277 VAC; 1/10 hp, 250 VAC	.1 amp, 125 VAC	21 amps 125, 250 or 277 VAC, 1 HP 125, 250, 277 VAC; 2 HP, 250, 277 VAC
W	X						
15.1 amps, 125, 250 or 277 VAC	6 amps; 1/2 HP 125, 250 or 277 VAC						
International Series Only							
10 (3) + + + 250V ~ T 85 μ				5 (2) + + + 250V ~ T 85 μ		+ + + 16 (4) 250V ~ T 85 μ 50E3 SPNO only	

* Available only when specifying 150 gram operating force.
NOTE: "L" denotes lamp load.

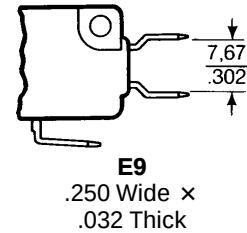
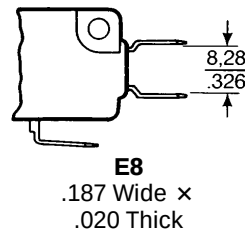
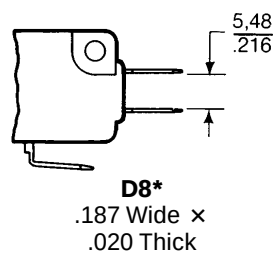
** The microgap construction (M) means contact gap is less than 3mm. Therefore, these products are suitable for secondary circuit use but not primary circuit use which requires a 3mm gap.

Basic Switches
Miniature

V7 Series

AVAILABLE TERMINALS

Quick-connect



NOTE: D8 and E8 terminals are European approved when used with electrical ratings B, D, or E. E9 terminals are European approved when used with electrical ratings B, C, D, or E.

* International approving agencies will require that switches with these terminals have insulated receptacles or connector.

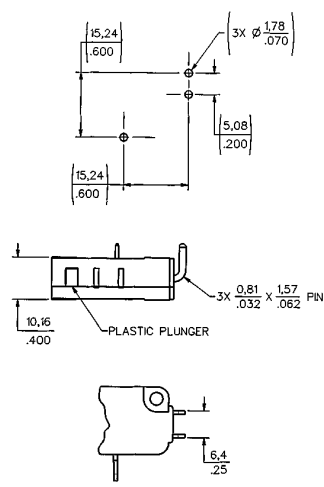
Printed Wiring Board

Printed wiring board terminals interface with snap-on receptacles and other components from AMPMODU interconnection system.

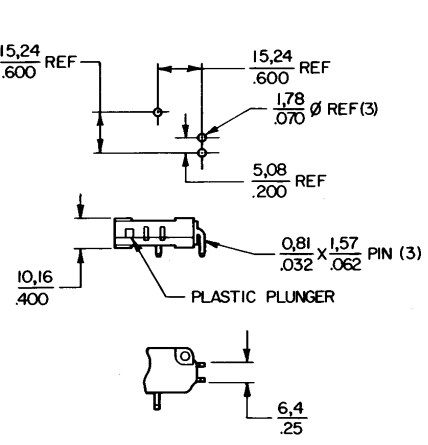
Dimensions shown are for reference only.

Key: 0,0 = mm
0.00 = inches

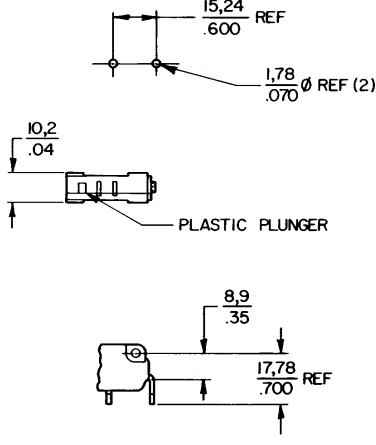
PO1



PO2



PO7



Miniature/
Subminiature

This section covers only **48** of our most popular V7 Series catalog listings. If you don't find what you're looking for, it's likely one of the approximately **300** other active V7 listings will meet your needs. Contact the 800 number.

Basic Switches

Miniature

V7 Series

TIMERSAVER SERIES

PIN PLUNGERS



Dim. Dwg. Fig. 1

Characteristics: O.F. – Operating Force; R.F. – Release Force; P.T. – Pretravel; O.T. – Overtravel; D.T. – Differential Travel.

ORDER GUIDE - SPDT*

Catalog Listing	Elect. Rating P. 38	O.F. max. grams ounces	R.F. min. grams ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches
V7-1S17D8	1 Amp S	150 5.3	25 .88	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-3S17E9	1 Amp S	50 1.75	5 .175	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-3A17E9	5 Amps A	50 1.75	5 .175	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-2B17D8	11 Amps B	75 2.63	10 .35	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-2B17E9	11 Amps B	75 2.63	10 .35	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-1C17D8	15.1 Amps C	150 5.3	25 .88	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-9W1AE9	15.1 Amps W (350°F)	300 10.6	25 .88	1,19 .047	1,27 .050	0,25 .010 max.
V7-1V19E9	21 Amps V	175 6.1	20 .70	1,19 .047	1,27 .050	0,05-0,25 .002-.010

STRAIGHT LEVERS



Dim. Dwg. Fig. 2

ORDER GUIDE - SPDT* .87" LEVER TIMESAVER SERIES

V7-3S17D8-002	1 Amp S	54 1.9	3 .11	1,52 .060	0,89 .035	0,33 .013
V7-1A17D8-002	5 Amps A	160 5.6	7 .25	1,52 .060	0,89 .035	0,38 .015
V7-2B17D8-002	11 Amps B	80 2.8	5 1.76	1,52 .060	0,89 .035	0,38 .015
V7-1C17E9-002	15.1 Amps C	160 5.6	17 .60	1,52 .060	0,89 .35	0,36 .014
V7-1V19E9-002	21 Amps V	185 6.5	13 .5	1,65 .065	0,89 .035	0,38 .015

1.40" LEVER TIMESAVER SERIES

V7-3S17D8-022	1 Amp S	30 1.05	1 0.035	3,04 .120	2,16 .085	0,76 .030
V7-1A17E9-022	5 Amps A	85 3	8 .28	3,04 .120	1,52 .060	0,76 .030
V7-1X2AD8-022	6 Amps X (350°F)	185 6.5	15 .53	1,40 .055	0,76 .030	0,38 .015
V7-1B17D8-022	11 Amps B	82 2.9	8 .28	3,04 .120	1,7 .067	0,68 .027
V7-1C17E9-022	15.1 Amps C	82 2.9	8 .28	3,04 .120	1,7 .067	0,76 .030
V7-1V19E9-022	21 Amps V	95 3.3	5 .18	3,3 .130	1,78 .070	0,76 .030

2.34" LEVER TIMESAVER SERIES

V7-3S17D8-048	1 Amp S	16 .56	.5 .018	5,97 .235	3,0 .118	1,27 .050
V7-2B17D8-048	11 Amps B	20 .7	1 .035	5,97 .235	2,92 .115	1,27 .050
V7-1C17E9-048	15.1 Amps C	85 3	4 .14	5,97 .235	1,65 .065	1,29 .051
V7-9W1AE9-048	15.1 Amps W (350°F)	90 3.2	4 .14	6,35 .250	3,15 .124	1,37 .054

* For SPST (N.O. & N.C.) circuitry, contact the 800 number.

NOTE: Catalog listings in V7 Order Guides have standard .114" mounting holes. For 3mm size holes, contact the 800 number.

Basic Switches
Miniature

V7 Series

Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • Main Office: (650) 588-9200 • Outside Local Area: (800) 258-9200 • www.stevenengineering.com

SIMULATED
ROLLER LEVERS

ORDER GUIDE - SPDT*
1.29" LEVER TIMESAVER SERIES

Characteristics: O.F. – Operating Force; R.F. – Release Force; P.T. – Pretravel; O.T. – Overtravel; D.T. – Differential Travel.

Catalog Listing	Elect. Rating P 38	O.F. max. grams ounces	R.F. min. grams ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. max. mm inches
1.29" LEVER TIMESAVER SERIES						
V7-1S17D8-263	1 Amp S	90 3.15	9 .32	2,79 .110	1,9 .075	0,76 .030
V7-1B17D8-263	11 Amps B	90 3.15	9 .32	2,79 .110	1,52 .060	0,76 .030
V7-1C17D8-263	15.1 Amps C	91 3.19	9 .32	2,79 .110	1,54 .061	0,61 .024

.81" ROLLER LEVER TIMESAVER SERIES

V7-2S17D8-201	1 Amp S	90 3.15	7 .25	1,19 .047	1,02 .040	0,38 .015
V7-2B17D8-201	11 Amps B	88 3.1	7 .25	1,3 .052	1,04 .041	0,3 .012
V7-1C17E9-201	15.1 Amps C	176 6.16	19 .67	1,3 .052	0,81 .032	0,3 .012
V7-1V19E9-201	21 Amps V	205 7.2	15 .5	1,42 .056	0,81 .032	0,33 .013

1.34" ROLLER LEVER TIMESAVER SERIES

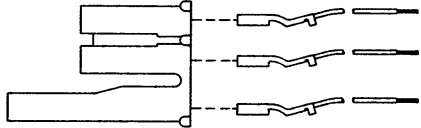
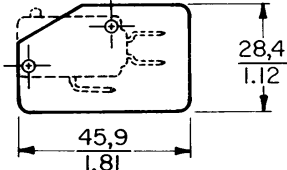
V7-3S17D8-207	1 Amp S	35 1.23	2 .07	2,79 .110	2,03 .080	0,76 .030
V7-2A17D8-207	5 Amps A	43 1.51	3 .105	2,92 .115	1,52 .060	0,64 .025
V7-1C17E9-207	15.1 Amps C	86 3	9 .32	2,84 .112	1,63 .064	0,64 .025
V7-1V19E9-207	21 Amps V	100 3.5	7 .25	3,07 .121	1,65 .065	0,76 .030

* For SPST (N.O. & N.C.) circuitry, contact the 800 number.
NOTE: Catalog listing in V7 Order Guides have standard .114" mounting holes. For 3mm size holes, contact the 800 number.

Miniature/
Subminiature

Key: 0,0 = mm
0.00 = inches

ORDER GUIDE – ACCESSORIES

Catalog Listing	Description	Catalog Listing	Description
15PA176-V7	Connector/Receptacle packet - Includes 25 connectors and 75 receptacles with 18", blue 16 gauge PVC insulated, stranded wire. (To be used with D8 terminals only). 	15PA177-V7	Insulator packet (500 pcs.) .018" thick varnished fiberglass. 
15PA260	Plunger boot seal. Elastomer dust and splash resistant plunger seal. 		

Dimensions shown are for reference only.

Basic Switches

Miniature

V7 Series

INTERNATIONAL SERIES

PIN PLUNGER



Dim. Dwg. Fig. 1

ORDER GUIDE - SPDT* INTERNATIONAL SERIES

Characteristics: O.F. – Operating Force; R.F. – Release Force; P.T. – Pretravel; O.T. – Overtravel; D.T. – Differential Travel.

Catalog Listing	Elect. Rating P. 38	O.F. max. grams ounces	R.F. min. grams ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches
V7-1B11E9	11 Amps B	150 5.3	25 .88	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-2B11D8	11 Amps B	75 2.63	10 .35	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-2B11PO2	11 Amps B	75 2.63	10 .35	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-3E11D8	10 Amps E	50 1.75	5 .175	1,19 .047	1,27 .050	0,05-0,25 .002-.010
V7-3E11E9	10 Amps E	50 1.75	5 .175	1,19 .047	1,27 .050	0,05-0,25 .002-.010

STRAIGHT LEVERS



Dim. Dwg. Fig. 5

1.40" LEVER INTERNATIONAL SERIES

V7-1B11E9-022	11 Amps B	80 2.8	8 .28	2,79 .110	2,28 .090	0,76 .030
V7-2B11E9-022	11 Amps B	45 1.58	4 .14	2,79 .110	2,28 .090	0,76 .030
V7-3E11D8-022	10 Amps E	30 1.05	2 .070	2,79 .110	2,28 .090	0,76 .030

SIMULATED ROLLER LEVERS



Dim. Dwg. Fig. 3

1.29" LEVER INTERNATIONAL SERIES

V7-2B11D8-263	11 Amps B	50 1.75	5 .175	2,54 .100	1,9 .075	0,76 .030
V7-3E11E9-263	10 Amps E	33 1.16	2 .070	2,54 .100	1,9 .075	0,76 .030

ROLLER LEVERS



Dim. Dwg. Fig. 4

ORDER GUIDE - SPDT* .81" LEVER INTERNATIONAL SERIES

V7-2B11D8-201	11 Amps B	90 3.15	10 .35	1,19 .047	1,02 .040	0,38 .015
V7-3E11D8-201	10 Amps E	62 2.17	5 .175	1,19 .047	1,02 .040	0,38 .015

1.34" LEVER INTERNATIONAL SERIES

V7-2B11E9-207	11 Amps B	45 1.58	5 .175	2,54 .100	2,16 .085	0,76 .030
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NOTE: Catalog listings in V7 Order Guides have standard .114" mounting holes. For 3mm size holes, contact the 800 number.



Dim. Dwg. Fig. 7

Basic Switches
Miniature

V7 Series

MOUNTING DIMENSIONS (for reference only)

Key: 0,0 = mm
0.00 = inches

PIN PLUNGER
Fig. 1

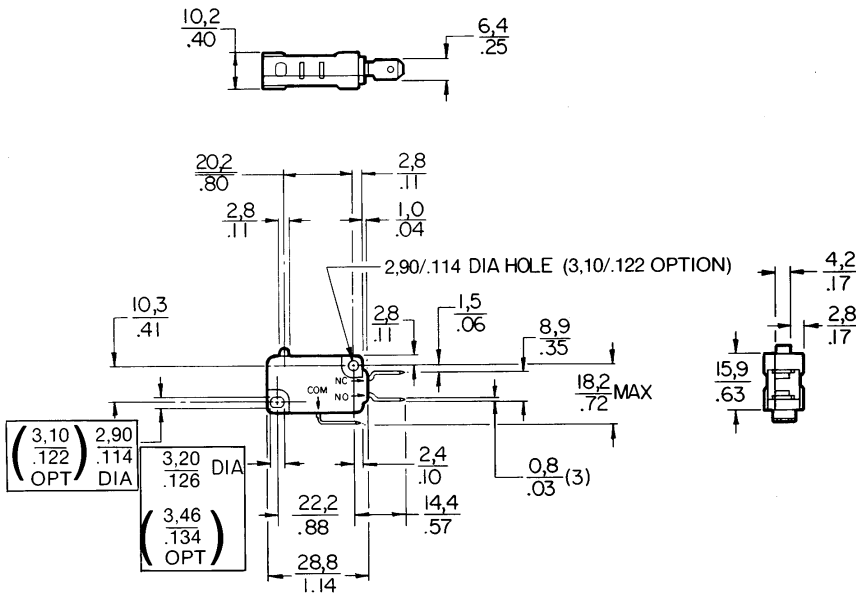


Fig. 2 Straight Lever (Style-002)

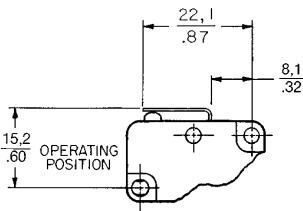


Fig. 3 Simulated Roller (Style-263)

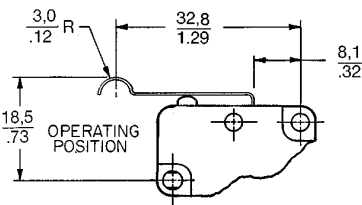


Fig. 4 Roller Lever (Style-201)

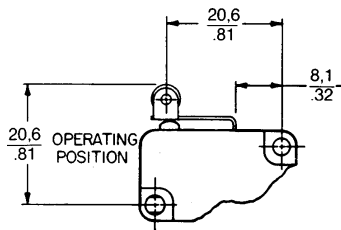


Fig. 5 Straight Lever (Style-022)

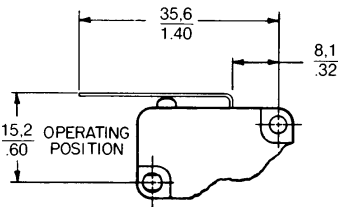


Fig. 6 Straight Lever (Style-048)

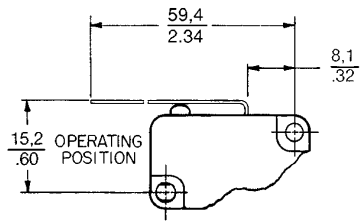
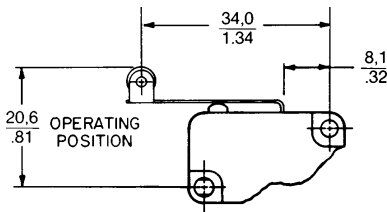


Fig. 7 Roller Lever (Style-207)



NOTE: All levers are 0.17" (4,31 mm) wide. Rollers are 0.19" (4,82 mm) wide.

NOTE: Operate point dimensions taken at top of lever/roller.

Miniature/
Subminiature

Basic Switches

Subminiature/Miniature

ELECTRICAL DATA AND UL CODES MINIATURE/SUBMINIATURE BASIC SWITCHES

Most of the switches in this section are UL recognized and CSA certified. The current and voltage values shown are based on test conditions specified by these agencies. Electrical life of the switch is influenced by each application condition as well as by voltage and current.

Circuitry	Electrical Data
Single-pole double-throw 	A 5 amps res., 3 amps ind., (sea level), 4 amps res., 2 amps ind., (50,000 feet), 28 vdc 5 amps res. or ind. 115 vac, 60 Hz. UL/CSA rating: 5 amps, 250 vac.
Single-pole double-throw 	B 7 amps res., 4 amps ind., (sea level), 7 amps res., 2.5 amps ind., (50,000 feet), 28 vdc. UL/CSA rating: 7 amps, 250 vac.
Single-pole double-throw 	C 3.5 amps res., 2 amps ind., (sea level), 3.5 amps res., 1.5 amps ind., (50,000 feet), 28 vdc. UL rating: 7 amps, 250 vac.
Single-pole double-throw 	D 1 amp res., 0.5 amp ind., (sea level and 50,000 feet), 28 vdc. UL/CSA rating: 1 amp, 125 vac.
Single-pole double-throw 	E 3 amps res., 2 amps ind., (sea level), 28 vdc. UL rating: 3 amps, 250 vac.
Single-pole double-throw 	F 7 amps res., 4 amps ind., 2.5 amps lamp load, (sea level), 4 amps res., 2.5 amps ind., 2.5 amps lamp load, (50,000 feet), 28 vdc. 7 amps res., 7 amps ind., 2 amps lamp load, 115 vac, 60 Hz (sea level).
Single-pole double-throw 	G 2 amps res., lamp ind., (sea level) 28 vdc.
Single-pole double-throw 	H .010 amp res. and ind., (sea level). 28 vdc. UL/CSA rating: 1 amp, 125 vac.
Single-pole double-throw 	I 7 amps res., 4 amps ind., (sea level), 28 vdc.
Single-pole double-throw 	J 5 amps res., 3 amps ind., (sea level), 5 amps res., 2.5 amps ind., (50,000 feet), 28 vdc. UL rating: 5 amps, 250 vac.
Single-pole double-throw 	K UL rating: 5 amps, 125 or 250 vac.
Single-pole double-throw 	L 1 amp res., 1/2 amp ind., (sea level) 28 vdc.
Single-pole double-throw 	M UL rating: 11 amps and 1/4 hp, 125 or 250 vac.
Single-pole double-throw 	N 1 amp res., 0.5 amp ind., 30 vdc. UL rating: 1 amp, 125 vac.
Single-pole double-throw	P 1 amp res., 30 vdc. UL rating: .1 amp, 125 vac.
Single-pole double-throw	R 5 amps res., 3 amps ind., 2.4 amps lamp load (sea level), 5 amps res., 2.5 amps ind., 2.4 amps lamp load, (50,000 feet), 28 vdc. 5 amps res., 5 amps ind., 1.5 amps lamp load, 115 vac. 60 Hz (sea level)

Circuitry	Electrical Data
Single-pole double-throw 	S UL rating: 4 amps, 250 vac.
Single-pole double-throw 	T UL/CSA rating: 11 amps and 1/3 hp, 125, 250, or 277 vac; 1/2 amp, 125 vdc; 1/4 amp, 250 vdc; 4 amps, 125 vac "L" (lamp load). TT UL/CSA rating: 10 amps and 1/3 hp, 125 or 250 vac; 1/2 amp, 125 vdc; 1/4 amp, 250 vdc; 4 amps, 125 vac "L" (lamp load).
Single-pole double-throw unless otherwise noted in order guide 	UU 10 amps res., 10 amps ind., (sea level), 6 amps ind. (50,000 feet), 6 amps motor load, 30 vdc. U UL/CSA rating: 15.1 amps and 1/2 hp, 125 or 250 vac. 1/2 amp, 125 vdc; 1/4 amp, 250 vdc; 5 amps, 120 vac "L" (lamp load).
Single-pole double-throw 	VV UL/CSA rating: 3 amps-125, 250, 277 vac; 1/10 hp-250 vac
Single-pole double-throw 	V UL/CSA rating: 10 amps and 1/4 hp, 125 or 250 vac; 1/2 amp, 125 vdc; 1/4 amp, 250 vdc; 3 amps, 125 vac "L" (lamp load).
Single-pole double-throw 	W 10 amps, 250 vac or 28 vdc; 1/2 amp, 125 vdc; 1/4 amp, 250 vdc.
Single-pole double-throw 	X UL rating: 1 amp, 125 vac.
Single-pole double-throw 	Y 10 amps and 1/3 hp, 125 or 250 vac; 4 amps, 125 vac "L" (lamp load).
Single-pole double-throw 	YY UL/CSA rating: 5 amps-125, 250, 277 vac 1/10 hp-250 vac
Two-circuit double-break  Four-circuit double-break 	Z 10 amps, 125 or 250 vac, or 30 vdc. UL/CSA rating: 10 amps, 125 or 250 vac; 1/2 hp, 125 vac.
Single-pole double-throw 	ZZ UL rating: 5 amps and 1/10 hp. 125 or 250 vac.
Single-pole double-throw 	AA UL rating: 20 amps, 277 vac. 1 hp, 125 vac; 2 hp, 250 vac.
Single-pole double-throw 	BB UL rating: 25 amps, 277 vac. 1 hp, 125 vac; 2 hp, 250 vac.