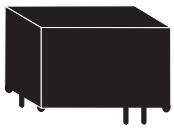
PRINTED CIRCUIT BOARD RELAYS

T81 Series
Printed Circuit Board Relay

FEATURES
- 0.5 - 1Arating
- Miniature, high density package
- Tape sealed, immersion cleanable case
- Sensitive coil high dielectric options
- Meets FCC Part 68 insolation
- Approximate Size .61" x 45" x .43"h

Mounting Options
PC board & 12-pin IC socket



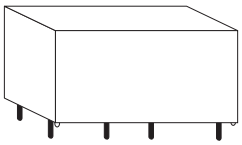
Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
T81N5D212-05	5	56	450	SPDT	1
T81N5D212-12	12	320			
T81N5D212-24	24	1,280			
T81H5D212-05	5	120	200	SPDT	1
T81H5D212-06	6	180			
T81H5D212-12	12	700			
T81H5D212-24	24	2,800			
T81N5D312-05	5	56	450	SPDT	1 *
T81N5D312-12	12	320			
T81N5D312-24	24	1,280			
T81H5D312-05	5	120	200	SPDT	1 *
T81H5D312-12	12	700			
T81H5D312-24	24	2,800			

T81N5D212-05 "N" denotes standard coil type.
T81H5D212-05 "H" denotes sensitive coil type.
* These Relays are not UL or CSArated.

T83 Series
Printed Circuit Board Relay

FEATURES
- 2Arating
- Miniature, telecom relay
- Sealed, immersion cleanable case
- Sensitive coil types
- Meets FCC Part 68 insolaton
- Latching and Non-Latching
- Approximate Size .80" x 40" x .42"h

Mounting Options
PC board & 16-pin IC socket

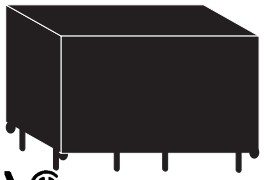


Mfr.'s Type Non-Latching	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
T83S11D112-05	5	165	150	DPDT	2
-12	12	960			
-24	24	3,840			
T83S11D212-05	5	125	200	DPDT	2
-12	12	720			
-24	24	2,880			
-48	48	11,520			
T83S11D312-05	5	95	260	DPDT	2
-24	24	2,210	260		
-48	48	6,330	360		
T83S11D412-05	5	62.5	400	DPDT	2
-12	12	360			
-24	24	1.440			
Single Coil Latching					
T83S11D122-05	5	330	75		
T83S11D222-05	5	250	100	DPDT	2
T83S11D422-12	12	720	200	DPDT	2
Dual Coil Latching				DPDT	2
T83S11D132-05	5	167			
T83S11D132-12	12	960	150		
T83S11D232-05	5	125	200	DPDT	2
T83S11D232-12	12	720	200		
T83S11D232-24	24	2,040	280	DPDT	2
T83S11D432-12	12	360	400		
T83S11D432-24	24	1,440		DPDT	2

T85 Series
Printed Circuit Board Relay

FEATURES
- 1.25Arating
- Miniature, DIP relay
- Sealed, immersion cleanable case
- High sensitivity coil
- DIP terminal arrangement
- Meets FCC Part 68 insolation
- Approximate Size .80" x 39" x .49"h

Mounting Options
PC board & 16-pin IC socket



Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
T85N11D114-05	5	167	150	DPDT	1.25
T85N11D114-06	6	240	150		
T85N11D114-12	12	960	150		
T85N11D114-24	24	2,880	200		
T85N11D114-48	48	7,680	300		

T85N11D114-05 "4" denotes Bifurcated contacts

R50 Series
Printed Circuit Board Relay

FEATURES
- 1-5Arating
- Low Profile package
- Tape sealed, immersion cleanable case
- Approximate Size 1.09" x 60" x .46"h

Mounting Options
PC board

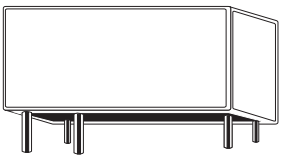


Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
R50-E2Y1-5	5	33	.750	SPDT	5
R50-E2Y1-6	6	48			
R50-E2Y1-12	12	192			
R50-E2Y1-24	24	768			
R50-E2Y1-48	48	3,068			
R50-E2X1-5	5	26	1.0	SPDT	5
R50-E2X1-12	12	125			
R50-E2X1-24	24	440			
R50-E2Y2-5	5	28	.900	DPDT	2
R50-E2Y2-12	12	160			
R50-E2Y2-24	24	640			

T75 Series
Printed Circuit Board Relay

FEATURES
- 8-14Arating
- Meets international specifications
- Sensitive coil
- Low profile design
- Immersion cleanable case
- Approximate Size 1.18" x .39" x .59"h

Mounting Options: PC board



Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
T75S5D112-05	5	118	230	SPDT	10 (8#)
T75S5D112-12	12	650			
T75S5D112-24	24	2,270			
T75S5D112-48	48	8,790			

\# VDE Rating

PRINTED CIRCUIT BOARD RELAYS

T84 Series
Printed Circuit Board Relay



FEATURES
- 1Arating
- Miniature, telecom relay
- Meets FCC Part 68 isolation
- Latching & non-latching
- Sealed, immersion cleanable case
- Sensitive coil types
- Approximate Size 1.4" x 40" x .39"h

Mounting Options
PC board & 28-pin IC socket

Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
Non-Latching					
*T84S17D214-05	5	125	200	4PDT	1
*T84S17D214-12	12	720			
*T84S17D214-24	24	2,880			
*T84S17D214-48	48	11,520			
*T84S17D414-05	5	62.5	400	4PDT	1
*T84S17D414-12	12	360			
*T84S17D414-24	24	1,440			
*T84S17D414-48	48	5,760			
Single Coil Latching Types					
*T84S17D224-05	5	278	90	4PDT	1
Dual Coil Latching Types					
*T84S17D234-05	5	139	180	4PDT	1
T84S17D434-05	5	69	360	4PDT	
T84S17D434-12	12	400			

***Sensitive Coil**

T73 Series
Printed Circuit Board Relay

FEATURES
- 1-10Arating
- Low-profile relay
- Immersion cleanable case
- UL478, UL508 & UL873
- Sensitive coil available
- Class Aor B coil insulation
- Approximate Size .85" x .66" x .59h

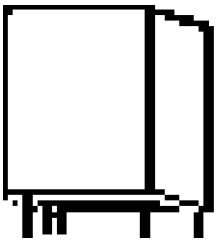
Mounting Options: PC board



Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
Non-Latching					
*T73S1D15-12	12	320	450	SPDT-NO	10
T73S5D21-12	12	440	330	SPDT	1
T73S5D24-12	12	440	330	SPDT	5
T73S5D24-24	24	1,780			
T73S5D24-24B	24	1,780			
T73S5D14-05	5	56	450	SPDT	5
T73S5D14-12	12	320	450		
T73S5D14-24	24	1,280	450		
T73S5D14-48	48	3,800	600		

T73L1D15-05 "L" denotes tape sealed enclosure
T73S1D15-05 "S" denotes permanently sealed enclosure.
T73S5D54-12 "5" denotes UL873 spacing.
T73S5D24-12B "B" denotes Class B (130oC) coil.

T70 Series
Printed Circuit Board Relay



FEATURES
- PC board moun
- 10Arating
- Low Cost
- TV5 contact rating
- 1,500 Vrms coil to contact breakdown
- Immersion cleanable case
- Approximate Size .88" x .65" x .95"

Mounting Options: PC board

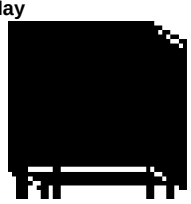
Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
T70L5D131-12	12	400	360	SPDT	10
T70L5D131-24	24	1,600			
T70L5D131-48	48	6,400			
T70L5D164-12	12	400	360	SPDT	10
T70L5D164-24	24	1,600			
T70L5D164-48	48	6,400			

T70L5D131-12 "31" denotes Au plated Ag contacts rated for tungsten loads of 3A@ 120VAC
T70D5D164-12 "64" denotes AgCdO contacts rated for tungsten loads of 5A @ 120 VAC

RKA Series
Printed Circuit Board Relay

FEATURES
- 10Arating
- Immersion cleanable case
- Meets 8mm spacing and 4kV isolation
- TV-3, TV-5 ratings

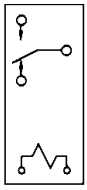
Mounting Options: PC board or Socket



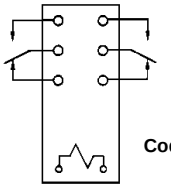
Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
RKA-1DG-24	24	1.,100	530	SPDT-NO Code 1	10
RKA-5DG-05	5	47	530	SPDT Code 1	10
RKA-5DG-06	6	68			
RKA-5DG-12	12	270			
RKA-5DG-24	24	1,100			
RKA-5DG-48	48	4,400			
RKA-7DZ-12	12	270	720	DPDT-NO Code 2	5
RKA-7DZ-24	24	1,100			
RKA-7DT-12	12	200	720	DPDT-NO Code 2	5
RKA-7DT-24	24	820			
RKA-11DZ-05	5	47	530	DPDT Code 2	5
RKA-11DZ-06	6	68			
RKA-11DZ-09	9	155			
RKA-11DZ-12	12	270			
RKA-11DZ-24	24	1,100			
RKA-11DZ-48	48	4,400			

RKA-1DG-05 "G" Denotes Ag-Ni alloy contacts.
"T" Denotes AgCdO contacts rated TV-5 fpr SPST-NO and TV-3 for DPST-NO types.
RKA-7DZ-05 "Z" Denotes Ag-Ni alloy contacts.

Wiring Diagram (Bottom View)



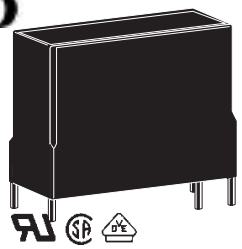
Code 1



Code 2

PRINTED CIRCUIT BOARD RELAYS

RKS Series
Printed Circuit Board Relay

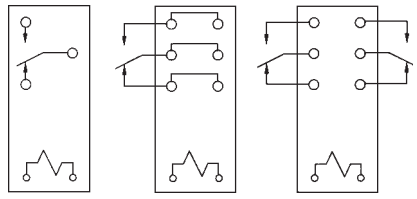


FEATURES
- 10-20A rating
- Meets international specifications
- Immersion cleanable case
- Meets 8mm spacing and 4kV isolation
- AC and DC coils

Approximate Size: 1.18" x .51" x 1.07"h
Mounting Options: PC board or Socket

Mfr.'s Type	Coil			Contacts	
	Input	Res	Nom. Power	Arrange-ment	Amp Rating
RKS-1DG -12	12	275	520mW	SPST-NO	10
-24	24	1,100		Code1	
RKS-1DW -12	12	275	520mW	SPST-NO	20
-24	24	1,100		Code3	
RKS-5DG -05	5	47	520mW	SPDT	10
-12	12	275		Code 1	
-24	24	1,100			
-48	48	4,400			
RKS-5DW -05	5	47	520mW	SPDT	20
-12	12	275		Code 3	
-24	24	1,100			
-48	48	4,400			
RKS-5DX -12	12	275	520mW	SPDT	10
	24	1,100		Code 2	
RKS-7DX -24	12	275	520m	DPST-NO	10
	24	1,100		Code 5	
RKS-11DG -12	5	47	520mW	DPDT	10
-24	12	275		Code4	
RKS-11DX -05					
-12	18	620	520mW	DPDT-NO	10
-18	24	1,100		Code 5	
-24	48	4,400			
-48					

RKS-1**A**G-24 "A" denotes AC coil
RKS-1**D**G-05 "D" denotes DC coil
RKS-1D**G**-05 "G" denotes term. code 1 for single pole models code 4 for double pole models
RKS-1D**W**-12 "W" denotes term. code 3.
RKS-1D**X**-24 "X" denotes term. code 2 for single pole Models, code 5 for double pole models



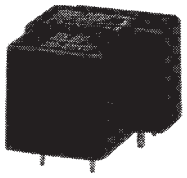
Code 1 & 2 **Code 3** **Code 4 & 5**

For Relay Socket Information See Pages 277-279

T9A Series PC Board or Panel Mount Relay

FEATURES
- 30A SPST, 20A SPDT
- Meets UL 873 and UL 508 spacings
- Class F coil insulation
- Sealed case or dust cover

Approximate Size: 1.27" x 1.08" x .1.10"h
Mounting Options: PC board - Panel Mount

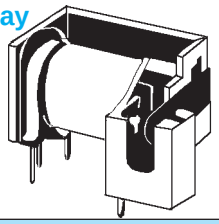


Mfr.'s Type	Coil		Case and Mounting	Contacts
	DC Input	Res In Ohms		
T9AP5D52 -12	12	144	Unsealed Flanged Case for Panel mount. QC term. for coil & contacts.	SPDT 20 amps
-24	24	576		
T9AS1D12 -12	12	144	Sealed Plastic Case. PC Board Mount w/PC term. for coil & contacts	SPST-NO 30 amps
-18	18	324		
-24	24	576		
T9AS1D22 -12	12	144	Sealed Plastic Case. PC Board Mount w/PC term. & QC term. for contacts.	
-24	24	576		
T9AS5D12 -12	12	144	Sealed Plastic Case. PC Board Mount w/PC term. for coil & contacts	SPDT 20 amps
-18	18	324		
-22	22	484		
-24	24	576		
-48	48	2,304		
T9AS5D22 -12	12	144	Sealed Plastic Case. PC Board Mount w/PC term. & QC term. for contacts.	
-24	24	576		

T90 Series Printed Circuit Board Relay

FEATURES
- 30A rating
- Less than 1W coil power requirement
- Class F coil insulation
- Open, dust cover or immersion cleanable case
- UL 873 types

Approximate Size: 1.26" x 1.07" x .81"h
Mounting Options: PC board



Mfr.'s Type	Coil			Contacts	
	Input	Res	Nom. Power	Arrange-ment	Amp Rating
Open Style Relays					
T90N1D12 -5	5	27	930	SPST-NO	30
-12	12	155	930		
-24	24	660	870	SPDT	10
T90N5D11 -12	12	155	930		
T90N5D12 -5	5	27	930	SPDT	20
-12	12	155	930		
-24	24	660	870		
-48	48	2,560	900		
-110	110	13,450	900		
Sealed Immersion Cleanable Relays					
T90S1D12 -5	5	27	930	SPST-NO	30
-12	12	155	930		
-24	24	660	870		
T90S5D12 -5	5	27	930	SPDT	20
-12	12	155	930		
-24	24	660	870		
-48	48	2,560	900		
-110	110	13,450	900		
T90S1D42 -24	24	660	870	SPDT	20
T90S5D42 -24	24	660	870	SPDT	20

35C620A Optional Dustcover for Open Style Relay

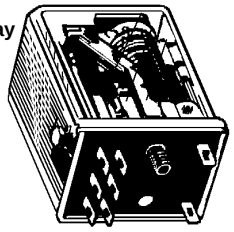
T90**N**5D11-24 "N" Denotes open style relay
T90**S**5D11-24 "S" Denotes sealed relay
T90N5D**1**1-24 "1" Denotes Ag contacts
T90N5D1**2**-24 "2" Denotes AgCdO contacts
T90S5D**4**2-24 "4" Denotes UL 873 spacing

tyco Electronics

GENERAL PURPOSE RELAYS

P&B

R10 Series
General Purpose Relay



FEATURES
- 0-7.5Arating
- Up to 8 poles
- Highly sensitive coils available
- Many contact options
- Various case, terminal and mounting styles
- Approximate Size 1.17" x .74" x 1.19"h

Mounting Options: PC board, Panel Mount or Socket

Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
Socket/Chassis Mount					
R10S-E1Y1-J1.0K	3.2mA	1,000	10mW	SPDT	2
-J2.5K	2.0mA	2,500	10mW		(3)
-J5.0K	1.4mA	5,000	10mW		
R10-E1Y1-SS220	3VDC	220	40mW	SPDT	2
-SS1.0K	6VDC	1,000	36mW		(3)
R10-E1P2-V700	24VDC	700	820mW	DPDT	0.001 (3)
R10-E1Z2-V185	12VDC	185	770mW	DPDT	0.1
-V700	24VDC	700	820mW		(2)
R10-E1Z2-S800	12VDC	800	180mW	DPDT	0.1 (2)
R10S-E1Y2-J500	6.3mA	500	20mW	DPDT	2
-J1.0K	4.5mA	1,000	20mW		(3)
-J2.5K	2.9mA	2,500	20mW		
-J5.0K	2.0mA	5,000	20mW		
R10-E1Y2-V28	5VDC	28	900mW	DPDT	2
-V52	6VDC	52	690mW		(3)
-V185	12VDC	185	770mW		
-V700	24VDC	700	820mW		
-V2.5K	48VDC	2,500	920mW		
-V15.0K	115VDC	15,000	880mW		
R10-E1Y2-J1.0K	8.5mA	1,000	72mW	DPDT	2
-J2.5K	5.8mA	2,500	85mW		(3)
-J5.0K	4.1mA	5,000	84mW		
R10-E1M2-V700	24VDC	700	820mW	DPDT	5 (5)
R10-E1X2-V28	5VDC	28	900mW	DPDT	5
-V52	6VDC	52	690mW		(5)
-V185	12VDC	185	770mW		
-V700	24VDC	700	820mW		
-V2.5K	48VDC	2,500	920mW		
-V15.0K	115VDC	15,000	880mW		
R10-E1X2-S800	12VDC	800	180mW	DPDT	5 (5)
R10-E1W2-V185	12VDC	185	770mW	DPDT	7.5
-V700	24VDC	700	820mW		(7.5)
R10-E1P4-V185	12VDC	185	770mW	4PDT	0.001
-V700	24VDC	700	820mW		(3)
R10-E1Z4-V185	12VDC	185	770mW	4PDT	0.1
-V700	24VDC	700	820mW		(2)
-V2.5K	48VDC	2,500	920mW		
R10-E1Z4-J1.0K	13.0mA	1,000	170mW	4PDT	0.1
-J2.5K	8.4mA	2,500	176mW		(2)
R10S-E1Y4-J1.0K	6.5mA	1,000	40mW	4PDT	2 (3)
R10-E1Y4-V52	6VDC	52	690mW	4PDT	2
-V185	12VDC	185	770mW		(3)
-V700	24VDC	700	820mW		
-V2.5K	48VDC	2,500	920mW		
R10-E1Y4-S450	12VDC	450	320mW	4PDT	2 (3)
R10-E1Y4-J1.0K	13.0mA	1,000	169mW	4PDT	2
-J2.5K	8.4mA	2,500	176mW		(3)
-J10.0K	4.5mA	10,000	200mW		
R10-E1M4-V700	24VDC	700	820mW	4PDT	5 (5)

Mfr.'s Type	Coil			Contacts	
	Input Volts DC	Res In Ohms	Nom. Power in mW	Arrang.	Amp Rating
Socket/Chassis Mount					
R10-E1X4-V185	12VDC	185	770mW	4PDT	5
R10-E1M4-V700	24VDC	700	820mW		(5)
R10-E1X4-V2.5K	48VDC	2,500	920mW		
R10-E1X4-V15.0K	115VDC	15,000	880mW		
R10-E1W4-V185	12VDC	185	770mW	4PDT	7.5
R10-E1W4-V700	24VDC	700	820mW		(7.5)
R10-E1P6-V430	24VDC	430	1.3W	6PDT	0.001 (3)
R10-E1Z6-V430	24VDC	430	1.3W	6PDT	0.1
R10-E1Z6-V1.5K	48VDC	1,500	1.5W		(2)
R10-E1Z6-V9.0K	115VDC	9,000	1.5W		
R10-E1Y6-V90	12DC	90	1.6W	6PDT	2
R10-E1Y6-V430	24VDC	430	1.3W		(3)
R10-E1Y6-V1.5K	48VDC	1,500	1.5W		
R10-E1X6-V90	12VDC	90	1.6W	6PDT	5
R10-E1X6-V430	24VDC	430	1.3W		(5)
R10-E1Z8-V350	24VDC	350	1.6W	8PDT	0.1 (2)
Socket/Chassis Mount with DC coil and LED indicator					
R10L-E1Y2-V700	12VDC	185	770mW	DPDT	2 (3)
R10L-E1X2-V185	12VDC	185	770mW	DPDT	5
R10L-E1X2-V700	24VDC	70	820mW		2
R10L-E1Y4-V700	24VDC	700	820mW		(3)
R10L-E1X4-V185	12VDC	185	770mW	4PDT	5
R10L-E1X4-V700	24VDC	700	820mW		(5)
Socket/Chassis Mount with AC coil					
R10-E1P2-115V	115VAC	9,000	1.5VA	DPDT	0.001 (3)
R10-E1Z2-115V	115VAC	9,000	1.5VA	DPDT	0.1 (2)
R10-E1Y2-115V	115VAC	9,000	1.5VA	DPDT	2 (3)
R10-E1X2-115V	115VAC	9,000	1.5VA	DPDT	5 (5)
R10-E1P4-115V	115VAC	9,000	1.5VA	4PDT	0.001 (3)
R10-E1Z4-115V	115VAC	9,000	1.5VA	4PDT	0.1 (2)
R10-E1X4-24V	24VAC	500	1.5VA	4PDT	5
R10-E1X4-115V	115VAC	9,000			(5)
R10-E1X6-115V	115VAC	7,500	1.5VA	6PDT	5 (5)
R10-E1X8-115V	115VAC	7,500	1.5VA	8PDT	5 (5)
Chassis Mount Side Bracket with DC Coil					
R10-E6X2-V185	12VDC	185	700mW	DPDT	5
R10-E6X2-V185	24VDC	700	820mW		(5)
Chassis Mount Side Bracket with AC Coil					
R10-E6X2-115V	115VDC	9,000	1.5VA	DPDT	5 (5)
Octal-Type Socket Mount DC Coil					
R10-T1P2-V700	24VDC	700	820mW	DPDT	0.001 (3)
R10-T1Y2-J1.0K	8.5mA	1,000	72mW	DPDT	2 (3)
R10-T2P3-V700	24VDC	700	820mW	3PDT	0.001 (3)

R10 Series General Purpose Relays continued on the next page.

GENERAL PURPOSE RELAYS

P&B

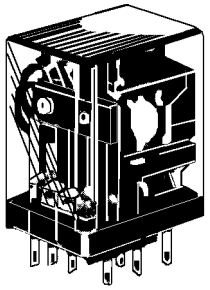
R10 Series, General Purpose Relays, Continued.

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrang.	Amp Typ. (Max)
Octal Type Socket Mount with AC Coil					
R10-T1L2-115V	115VAC	9,000	1.5VA	DPDT	0.0005 (25)
R10-T1P2-115V	115VAC	9,000	1.5VA	DPDT	0.001 (3)
R10-T2P3-115V	115VAC	9,000	1.5VA	3PDT	0.001 (3)
P.C. Board Mount, Unsealed with DC Coil					
R10S-E2Y1-J1.0K	3.2mA	1,000	10mW	SPDT	2
R10S-E2Y1-J2.5K	2.0mA	2,500	10mW		(3)
R10S-E2Y2-J2.5K	2.9mA	2,500	20mW	DPDT	2 (3)
R10-E2Y2-V185	12VDC	185	770mW	DPDT	2
R10-E2Y2-V700	24VDC	700	820mW		(3)
R10-E2X2-V700	24VDC	28	900mW	DPDT	5
R10-E2W2-V185	12VDC	185	770mW	DPDT	7.5
R10-E2W2-V700	24VDC	700	820mW		(7.5)
R10-E2P4-V185	12VDC	185	770mW	4PDT	0.001
R10-E2P4-V700	24VDC	700	820mW		(3)
R10-E2Z4-V700	24VDC	700	820mW	4PDT	0.1 (2)
R10-E2Y4-V185	12VDC	185	770mW	4PDT	2
R10-E2Y4-V700	24VDC	700	820mW		(3)
R10-E2X4-V185	12VDC	185	770mW	4PDT	5
R10-E2X4-V700	24VDC	700	820mW		(5)
R10-E2Y6-V90	12VDC	90	1.6W	6PDT	2 (3)
P.C. Board Mount, Unsealed with AC Coil					
R10-E2Y2-115V	115VAC	9,000	1.5VA	DPDT	2 (3)
R10-E2X2-115V	115VAC	9,000	1.5VA	DPDT	5 (5)
P.C. Board Mount, Sealed with DC Coil					
R10-E2X2-V185	12VDC	185	770mW	DPDT	
R10-E2X2-V700	24VDC	700	820mW	DPDT	

R10-E1X2-V28 "E1" Denotes socket/chassis mount relay.
R10-E2X2-V28 "E2" Denotes unsealed P.C. board relay.
R10-E6X2-V700 "E6" Denotes chassis mount relay with bracket on side. Mounts via #6-32 stud and locating tab on .437 centers.
R10-R2X2-V28 "R2" Denotes immersion cleanable case P.C. board relay.
R10-T1P2-V700 "T1" Denotes socket mount relay with 8 pin octal-type plug.
R10-T2P3-V700 "T2" Denotes socket mount relay with 11 pin octal-type plug.
R10L-E1Y2-V185 "L" Denotes LED in parallel with the coil.
R10S-E1Y1-J1.0K "S" Denotes super sensitive R10.
R10--T1L2-V28 "L" Denotes bifurcated crossbar Au-Pt-Ag alloy contacts.
R10-E1P2-V185 "P" Denotes bifurcated crossbar Au overlay on Ag contacts.
R10-E1Z2-V185 "Z" Denotes bifurcated Ag contacts.
R10-E1Y2-V28 "Y" Denotes single Ag contacts.
R10-E1M2-V700 "M" Denotes bifurcated AgCdO contacts.
R10-E1X2-V28 "X" Denotes single AgCdO contacts.
R10-E1W2-V700 "W" Denotes single AgCdO contacts.
R10-E1X2-V28 "V" Denotes DC voltage actuated coil.
R10-E1x2-S800 "S" Denotes sensitive DC voltage actuated coil.
R10-E1Y2-J1.0K "J" Denotes DC current actuated coil.

KHA/KH Series

General Purpose Relay



FEATURES

- 0-5Arating
- New, automated design(KHA)
- Compact package
- 4PDT switching
- Many mounting styles
- Opt. indicator lamp
- Hermetically sealed case option

Approximate Size 1.11" x .86" x 1.28"h

Mounting Options: PC board or Socket

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrang.	Amp Rating
Low Cost, Automated KHASeries Socket Mount					
KHAU-11A11-120	120	3,900	1.2VA	DPDT	3
KHAU-11D11-24	24	650	0.9W	DPDT	3
KHAU-17A16-24	24	160	1.2VA	4PDT	1
KHAU-17A16-120	120	3,900			
KHAU-17A16-12	12	160	0.9W	4PDT	1
KHAU-17A13-120	120	3,900	1.2VA	4PDT	2
KHAU-17A13-24	24	650	0.9W	4PDT	2
KHAU-17A18-120	120	3,900	1.2VA	4PDT	3
KHAU-17A11-12	12	43			
KHAU-17A11-24	24	160	1.2VA	4PDT	3
KHAU-17A11-120	120	3,900			
KHAU-17D11-6	6	40			
KHAU-17D11-12	12	160	0.9W	4PDT	3
KHAU-17D11-24	24	650			
KHAU-17D11-48	48	2,600			
KHAU-17D11-110	110	11,000			
KHAU-17A12-120	120	3,900	1.2VA	4PDT	5
KHAU-17D12-12	12	160			
KHAU-17D12-24	24	650	0.9W	4PDT	5
KHAU-17D12-48	48	2,600			
KHAU-17D12-110	110	11,000			
Socket Mount KHAwith indicator lights					
KHAU-17AN-120	120	3,900	1.2VA	4PDT	3
P.C. Board Mount KHA					
KHAE-17D12-24	24	650	0.9	4PDT	5
KH Series Socket Mount					
KHU-17A16-120	120	3,900	1.2VA	4PDT	1
KHU-17D16-12	12	160	0.9W	4PDT	1
KHU-17D16-24	24	650			
KHU-17A13-120	120	3,900	1.2VA	4PDT	2
KHU-17A18-120	120	3,900	0.9W	4PDT	3
KHU-17D18-24	24	650	1.2VA	4PDT	5
KHU-17A11-12	12	43			
KHU-17A11-24	24	160	1.2VA	4PDT	3
KHU-17A11-120	120	3,900			
KHU-17D11-5	5	28			
KHU-17D11-6	6	40			
KHU-17D11-12	12	160	0.9W	4PDT	3
KHU-17D11-24	24	650			
KHU-17D11-48	48	2,600			
KHU-17D11-110	110	11,000			
KHU-17A12-120	120	3,900	1.2VA	4PDT	5
KHU-17D12-12	12	160			
KHU-17D12-24	24	650	0.9W	4PDT	5
KH Series Socket Mount with Indicator lamp					
KHU-17A11N-120	120	3-900	1.2VA	4PDT	5

NOTE: See next page for explanation of part numbers.

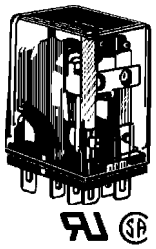
KHA/KH Series Continued

R10 Series, General Purpose Relays, Continued.

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrang-ment.	Amp Rating
KHS Socket Mount, Hermitically Sealed					
KHS-17A13-120	120	3,900	1.2VA	4PDT	3
KHS-17D13-24	24	650	0.9W	4PDT	2
KHS-17A11-24	24	160	1.2VA	4PDT	3
KHS-17A11-120	120	3,900			
KHS-17D11-6	6	40			
KHS-17D11-12	12	160			
KHS-17D11-24	24	650	0.9W	4PDT	3
KHS-17D11-48	48	2,600			
KHS-17D11-110	110	11,000			
KHS-17A12-120	120	3,900	1.2VA	4PDT	5
KHS-17D12-12	12	160	0.9W	4PDT	5
KHS-17D12-24	24	650			

KHAU-17A12-24 "A" denotes AC coil
KHAU-17D12-24 "D" denotes AC coil
KHAU-17D11-24 "1" denotes Ag contacts
KHAU-17D12-24 "2" denotes AgCdO contacts
KHAU-17D13-24 "3" denotes Au-Ag-Ni contacts
KHAU-17D16-24 "6" denotes bifurcated crossbar contacts of Au overlay Ag.
KHAU-17D18-24 "8" denotes Au diffused Ag contacts

KUP Series General Purpose Relay



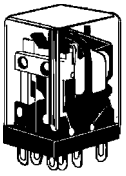
FEATURES
- 15Arating
- Compact package
- DPDTswitching
- Various mounting configurations
- AC or DC coils available
- Approximate Size 1.11" x .86" x 1.38"h

Mounting Options: Socket , Panel mount PC board

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Socket Mount K10 relays					
K10P-11A15-6	6	10.5			
K10P-11A15-12	12	43			
K10P-11A15-24	24	160	1.2VA	DPDT	15
K10P-11A15-120	120	3,900			
K10P-11D15-6	6	40			
K10P-11D15-12	12	160	0.9W	DPDT	15
K10P-11D15-24	24	650			
K10P-11D15-110	110	11,000			
Top Flange Mount K10 Relays					
K10P-11AT5-120	120	3,900	1.2VA	DPDT	15
K10P-11DT5-12	12	160	0.9W	DPDT	15
K10P-11DT5-24	24	650			
P.C. Board Mount K10 Relays					
K10P-11D55-12	12	160			
K10P-11D55-24	24	650	0.9W	DPDT	15
K10P-11D55-110	110	11,000			

K10P-11A15-24 "A" denotes AC coil
K10P-11D15-24 "D" denotes DC coil
K10P-11A15-120 "1" denotes top flange mount case with mtg. slots on 1.48" centers
K10P-11D55-12 "5" denotes P.C. terminals

KUP Series General Purpose Relay



FEATURES
- 10Arating
- Plain or bracket mount dust covers
- Optional indicator lamp and push to test button
- Various socket styles
- Approximate Size 1.53" x 1.41" x 1.91"h

Mounting Options: Socket , Panel mount PC board

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrang-ment.	Amp Rating
Socket Mount					
KUP5A15-24	24	85			
KUP-5A15-120	120	2,250	2VA	SPDT	10
KUP-5A15-240	240	9,110			
KUP-5D15-12	12	120	1.2W	SPDT	10
KUP-5D15-24	24	472			
KUP11A11-120	120	2,250	2VA	DPDT	10
KUP-11D11-24	24	472	1.2W	DPDT	10
KUP-11A15-12	12	24			
KUP-11A15-24	24	85			
KUP-11A15-120	120	2,250	2VA	DPDT	10
KUP-11A15-240	240	9,110			
KUP-11D15-5	5	21			
KUP-11D15-12	12	120	1.2W	DPDT	10
KUP-11D15-24	24	472			
KUP-11D15-110	110	10,000			
KUP-14A11-120	120	1,700	2.75VA	3PDT	10
KUP-14D11-24	24	472	1.2W	3PDT	10
KUP-14D15-12	12	18			
KUP-14D15-24	24	72	2.75VA	3PDT	10
KUP-14D15-120	120	1,700			
KUP-14D15-240	240	7,200			
KUP-14D15-6	6	32.1			
KUP-14D15-12	12	120			
KUP-14D15-24	24	472	1.2W	3PDT	10
KUP-14D15-48	48	1,800			
KUP-14D15-110	110	10,000			
KUP-17A19-120	120	1,700	2.75VA	4PDT	10
KUP-17D19-24	24	320	1.8W	4PDT	10
Socket Mount with push to test button					
KUP-14A25-120	120	1,700	2.75VA	3PDT	10
KUP-14D25-24	24	472	1.2W	3PDT	10
Socket Mount with indicator lamp					
KUP-11A35-120	120	1,700	2.75VA	DPDT	10
KUP-11D35-24	24	472	1.2W	DPDT	10
KUP-14A35-120	120	1,700	2.75VA	3PDT	10
KUP-14D35-24	24	472	1.2W	3PDT	10
Socket Mount with push to test button and indicator lamp					
KUP-14A45-120	120	1,700	2.75	3PDT	10
Side Flange Mount					
KUP-5A55-120	120	2,250	2VA	SPDT	10
KUP-5A55-240	240	9,110			
KUP-5D55-12	12	120	1.2W	SPDT	10
KUP-5D55-24	24	472			
KUP-11A55-24	24	85	2VA	DPDT	10
KUP-11A55-120	120	2,250			
KUP-11D55-6	6	32.1			
KUP-11D55-12	12	120			
KUP-11D55-24	24	472	1.2W	DPDT	10
KUP-11D55-48	48	1,800			
KUP-11D55-110	110	10,000			
KUP-14A55-12	12	18			
KUP-14A55-24	24	72	2.75	3PDT	10
KUP-14A55-120	120	1,700			
KUP-14A55-240	240	7,200			

KUP Continued on following page.

KUPSeries Continued

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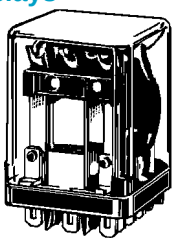
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Side Flange Mount Continued					
KUP-14D55-12	12	120			
KUP-14D55-24	24	472	1.2W	3PDT	10
KUP-17D55-24	24	320	1.8W	4PDT	10
P.C. Board Mount					
KUP-14D17-24	24	472	1.2W	3PDT	10

KUP-5A15-24 "A" denotes AC coil
KUP-5D15-24 "D" denotes DC coil
KUP-11A55-120 "5" denotes side flange mount case with mtg. slots on 2.5 centers
KUP-14AT5-24 "T" denotes top flange mount case with mtg.slots on 1.713 centers
KUP-11A11-120 "1" denotes Ag contacts, .187 quick connect terminals
KUP-11A15-120 "5" denotes AgCdO contacts, .187 quick connect terminals
KUP-14D17-120 "7" denotes AgCdO contacts, .047 P.C. terminals
KUP-17D19-120 "9" denotes AgCdO contacts, .110 quick connect terminals

KUEP Series
High DC Voltage Switching GP Relays

FEATURES
- 10Arating
- Magnetic blowout aids arc quenching when switching high voltage DC
- Socket or bracket mount dust cover
- Various socket styles
- Approximate Size 1.53" x 1.41" x 1.91"h

Mounting Options: Socket , Panel mount.



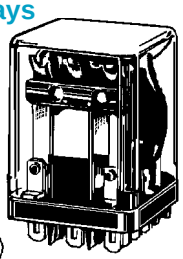
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KUEP-3A15-120	120	2,250	2.0VA	SPST-NO-DM	10•*
KUEP-3D15-12	12	120		SPST-NO-DM	10•*
KUEP-3D15-24	24	472	1.2W		
KUEP-3D15-110	110	10,000			
KUEP-7D15-24	24	320	1.8W	DPST-NO	5
KUEP-11A15-120	120	1,700	2.7VA	DPDT	3
KUEP-11D15-12	12	80	1.8W	DPDT	3
KUEP-11D15-24	24	320			

* Denotes UL •Denotes CSA
KUEP-3A15-120 denotes AC coil
KUEP-3D15-24 denotes DC coil

KUGP Series
High Contact Isolation GP Relays

FEATURES
- 10Arating
- 3mm contact gap 3500Vrms contact-to-contact
- 8mm coil to contact spacing
- VDE approved design
- Bracket mount dust cover
- Approximate Size 1.53" x 1.41" x 1.91"h

Mounting Options: Panel mount. or Socket



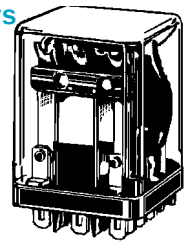
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KUGP-7D55-12	12	120	1.8W	DPST-NO	10

KUGP-7D55-24 "55" denotes flange mount relay with mtg. slots on 2.5" centers,.187" terminals

KUIP Series
High Coil Isolation GP Relays

FEATURES
- 10Arating
- 8mm coil-to- contact spacing
- 3,750Vrms coil-to-contact
- VDE approved design
- Plain or bracket mount dust cover
- Various sockets
- Approximate Size 1.53" x 1.41" x 1.91"h

Mounting Options: Socket or Panel mount.



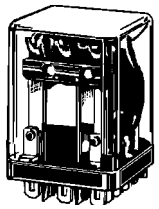
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KUIP-11A55-120	120	2,250	2.0VA	DPDT	10
KUIP-11D55-12	12	120	1.2W	DPDT	10
KUIP-11D55-24	24	472			
KUIP-14A15-120	120	1,700	2.7VA	3PDT	10
KUIP-14D15-12	12	120	1.2W	3PDT	10
KUIP-14D15-24	24	472			

KUIP-11A55-120 "A" denotes AC coil
KUIP-11D55-24 "D" denotes DC coil
KUIP-14A15-120 "1" denotes socket mount relay with .187" terminals
kuip-11A55-120 "5" denotes flange mount relay with mtg. slots on 2.5" centers, .25" terminals

KUMP Series
High Power GP Relays

FEATURES
- 15Arating
- Plain or bracket mount dust cover
- Various socket styles
- Approximate Size 1.53" x 1.41" x 1.91"h

Mounting Options: Socket or Panel mount.



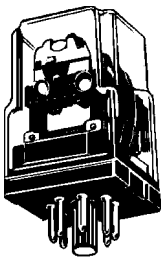
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KUMP-11A18-24	24	72			
KUMP-11A18-120	120	1,700	2.7VA	DPDT	15
KUMP-11A18-240	240	7,200			
KUMP-11D18-12	12	120			
KUMP-11D18-24	24	472	1.2W	DPDT	15
KUMP-11D18-110	110	10,000			
KUMP-14A18-24	24	72	2.7VA	3PDT	15
KUMP-14A18-120	120	1,700			
KUMP-14D18-12	12	120	1.2W	3PDT	15
KUMP-14D18-24	24	472			

KUMP-11A18-120 "A"denotes AC coil
KUMP-11D18-24 "D" denotes DC coil
KUMP-11D18-24 "18" denotes socket mount with .187 terminals.
KUMP-11D5G-24 "5G" denotes flange mount relay with mtg. slots on 2.5" centers, .25 " terminals

Prices Listed in this catalog are for estimating purpose. Prices were correct first column net at the time the pages were composed. Prices are subject to change without notice. Quantity prices are available.

tyco Electronics GENERAL PURPOSE RELAYS

KRPA/KRP Series
General Purpose Relays



FEATURES
- 10Arating
- Octal type plug
  Dust cover
- Optional indicator lamp and push-to-test button
- KRPA is low-cost automated design
- Approximate Size 1.41" x 1.41" x 2.00"h

Mounting Options: Socket

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Automated KRPA Relay					
KRPA-5AY-120	120	2,250	2VA	SPDT	5
KRPA-5AG-24	24	85	2VA	SPDT	10
KRPA-5AG-120	120	2,250			
KRPA-5DY-12	12	120	1.2W	SPDT	5
KRPA-5DY-24	24	472			
KRPA-5DG-6	6	32			
KRPA-5DG-12	12	120	1.2W	SPDT	10
KRPA-5DG-24	24	472			
KRPA-11AY-6	6	6			
KRPA-11AY-12	12	24			
KRPA-11AY-24	24	85	2VA	DPDT	5
KRPA-11AY-120	120	2,250			
KRPA-11AY-240	240	9,110			
KRPA-11AG-6	6	6			
KRPA-11AG-12	12	24			
KRPA-11AG-24	24	85	2VA	DPDT	10
KRPA-11AG-120	120	2,250			
KRPA-11AG-240	240	9,110			
KRPA-11DY-12	12	120			
KRPA-11DY-24	24	472	1.2W	DPDT	5
KRPA-11DY-110	110	10,000			
KRPA-11DG-6	6	32			
KRPA-11DG-12	12	120			
KRPA-11DG-24	24	472	1.2W	DPDT	10
KRPA-11DG-48	48	1,800			
KRPA-11DG-110	110	10,000			
KRPA-14AY-24	24	85			
KRPA-14AY-120	120	2,250	2VA	3PDT	5
KRPA-14AY-240	240	9,110			
KRPA-14AG-12	12	24			
KRPA-14AG-24	24	85	2VA	3PDT	10
KRPA-14AG-120	120	2,250			
KRPA-14AG-240	240	9,110			
KRPA-14DY-24	24	472	1.2W	3PDT	5
KRPA-14DG-12	12	120			
KRPA-14DG-24	24	472	1.2W	3PDT	10
KRPA-14DG-48	48	1,800			
KRPA-14DG-110	110	10,000			
KRPA Relay with indicator lamp					
KRPA-11AN-12*	12	24			
KRPA-11AN-24*	24	85	2VA	DPDT	10
KRPA-11AN-120	120	2,250			
KRPA-11AN-240	240	9,110			
KRPA-11DN-12*	12	120			
KRPA-11DN-24*	24	472	1.2W	DPDT	10
KRPA-11DN-110	110	10,000			
KRPA-14AN-24*	24	85			
KRPA-14AN-120	120	2,250	2VA	3PDT	10
KRPA-14AN-240	240	9,110			
KRPA-14DN-24*	24	472	1.2W	3PDT	10
KRP Relays					
KRP-5AG-120	120	2,250	2VA	SPDT	10
KRP-11AY-120	120	2,250	2VA	DPDT	5
KRP-11AG-6	6	6			
KRP-11AG-12	12	24			
KRP-11AG-24	24	85	2VA	DPDT	10
KRP-11AG-120	120	2,250			
KRP-11AG-240	240	9,110			

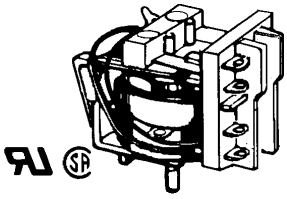
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KRP Relay					
KRP-11DY-24	24	472	1.2W	DPDT	5
KRP-11DG-12	12	120			
KRP-11DG-24	24	472			
KRP-11DG-48	48	1,800	1.2W	DPDT	10
KRP-11DG-110	110	10,000			
KRP-11DG-125	125	13,000			
KRP-14AY-120	120	2,250	2VA	3PDT	5
KRP-14AG-24	24	85			
KRP-14AG-120	120	2,250	2VA	3PDT	10
KRP-14AG-240	240	9,110			
KRP-14DG-12	12	120			
KRP-14DG-24	24	472	1.2W	3PDT	10
KRP-14DG-110	110	10,000			
KRP Relay with indicator lamp					
KRP-11AN-24*	24	85			
KRP-11AN-120	120	2,250	2VA	DPDT	10
KRP-11DN-12*	12	120			
KRP-11DN-24*	24	472	1.2W	DPDT	10
KRP-11DN-110*	110	10,000			
KRPA-14AN-24	24	85	2VA	3PDT	10
KRPA-14AN-120	120	2,250			
KRPA-14DN-24*	24	472	1.2W	3PDT	10

* These relays are not ULor CSA
KRPA-5AG-24 denotes AC coil
KRPA-5DG-24 denotes DC coil
KRPA-5AY-24 "Y" denotes Ag contacts
KRPA-5AG24 "G" denotes AgCdO
KRPA-11AN-24 "N" denotes neon indicator lamp, AgCdO contacts

KA/KAP Series
General Purpose Relays

FEATURES
- 10Arating
- Compact Open style relay
  Ruggedly constructed
- Octal plug mtg. available (KAP)
- Highly efficient for switching light power
- Approximate Size 1.92" x 1.47" x 1.38"h

Mounting Options: Socket or Panel



Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KRP Relay					
KA-5AY-24	24	85	2VA	SPDT	5
KA-5AY-120	120	2,250			
KA-5AG-120	120	2,250	2VA	SPDT	10
KA-5DG-6	6	32.1			
KA-5DG-12	12	120	1.2W	SPDT	10
KA-5DG-24	24	472			
KA-5DG-110	110	10,000			
KA-11AY-6	6	6			
KA-11AY-24	24	85	2VA	DPDT	5
KA-11AY-120	120	2,250			
KA-11AG-120	120	2,250	2VA	DPDT	10
KA-11DY-12	12	120	1.2W	DPDT	5
KA-11DG-24	12	120			
KA-11DG-12	24	472	1.2W	DPDT	10
KA-11DG-110	110	10,000			
KA-14AY-120	120	2,250	2VA	3PDT	5
KA-14AG-120	120	2,250	2VA	3PDT	10
KA-14DG-24	24	472	1.2W	3PDT	10
KA-1DG-110	110	10,000			

KA/KAPSeries Continued on next page

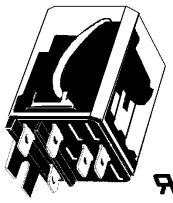
P&B

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Enclosed Relay					
KAP-5AG-120	120	2,250	2VA	SPDT	10
KAP-5AY-24	24	472	1.2W	SPDT	10
KAP-11AY-24	24	85	2VA	DPDT	5
KAP-11AY-120	120	2,250	2VA	DPDT	10
KAP-11AG-24	24	85	1.2W	DPDT	5
KAP-11AG-120	120	2,250	1.2W	DPDT	10
KAP-11DY-12	12	120	2VA	DPDT	5
KAP-11DY-24	24	472	2VA	3PDT	10
KAP-11DY-110	110	10,000	1.2W	3PDT	5
KAP-11DG-24	24	472	1.2W	3PDT	10
KAP-11DG-110	110	10,000			
KAP-14AY-120	120	2,250			
KAP-14AG-120	120	2,250			
KAP-14DY-24	24	472			
KAP-14DG-12	12	120			
KAP-14DG-24	24	472			

KAP-5DG-24 "P" denotes polycarbonate cover with octal-style plug.
KAP-5AG-24 "A" denotes AC coil
KAP-5DG-24 "D" denotes DC coil
KA-5AY-24 "Y" denotes Ag contacts
KA-5AG-24 "G" denotes AgCdO contacts

Note: Open style KArelays mount via a # 6-32 threaded stud and a locating tab on .438 centers Tab requires .165" dia. clearance hole.
Enclosed KAP relays have a seated height of 2.281" and are 1.531" wide and 1.437" deep

KUHP Series Power Relays



FEATURES
- 20-30Arating
- Enclosed Case
- Various mounting options
- 3,750Vrms coil-to contact breakdown
- Class B coil construction
- Approximate Size 1.53" x 1.41" x 1.97"h

Mounting Options: Panel Mount, side or top mount

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Enclosed Relay					
KUHP-5A51-24	24	72	2.7VA	SPDT	30
KUHP-5A51-120	120	1,700			
KUHP-5AT1-120	124	1,700	2.7VA	SPDT	30
KUHP-5D51-12	12	120	1.2W	SPDT	30
KUHP-5D51-24	24	472			
KUHP-5DT1-12	12	120	1.2W	SPDT	30
KUHP-5DT1-24	24	472			
KUHP-11A51-24	24	72	2.7VA	DPDT	20
KUHP-11AT1-120	120	1,700	2.7VA	DPDT	20
KUHP-11D51-12	12	120	1.2W	DPDT	20
KUHP-11D51-24	24	472			
KUHP-11DT1-12	12	120	1.2W	DPDT	30
KUHP-11DT1-24	24	472			

KUHP-11A51-24 "A" denotes AC coil
KUHP-11D51-24 "D" denotes DC coil
KUHP-11A51-120 "5" denotes side mtg. brackets. Mounts on 2.5" centers
KUHP-11AT1-120 "T" denotes top mtg. brackets. Mounts on 1.875" centers

S86/S87 Series Power Relays

FEATURES
- 20Arating
- Compact package
- Choice of two mounting brackets
- Class B coil construction
- Approximate Size 2.42" x 2.07" x 1.31"h

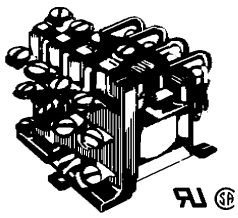
Mounting Options: Panel Mount .



Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
S86R5A1B1D1-120	120	800	4.0VA	SPDT	20
S87R5A2B1D1-24	24	32			
S87R5A2B1D1-120	120	800	4.0VA	SPDT	20
S87R5A2B1D1-240	240	3,200			
S87R5D2B1D1-12	12	50	2.9W	SPDT	20
S87R5D2B1D1-24	24	200			
S86R11A1B1D1-120	120	800	4.0VA	DPDT	20
S87R11A2B1D1-24	24	32			
S87R11A2B1D1-120	120	800	4.0VA	DPDT	20
S87R11A2B1D1-240	240	3,200			
S87R11D2B1D1-24	24	128	4.5W	DPDT	20

S86R5A1B1D1-120 "A" denotes AC coil
S87R5D2B1D1-24 "D" denotes DC coil
S86 and S87 have identical electrical specifications, but their mounting dimensions and terminal locations differ.

PM Series Power Relays



FEATURES
- 25Arating
- 4PDT Arrangement
- High dielectric Strength
- Screw or quick connect terminals
- Approximate Size 3.39" x 2.66" x 2.72"h

Mounting Options: Panel Mount .

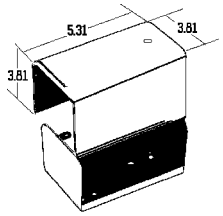
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
PM17AY-24	24	5			
PM17AY-120	120	120	14VA	4PDT	25
PM17AY-240	240	587			
PM-17DY-12	2	33			
PM-17DY-24	24	132	4.4W	4PDT	25
PM-17DY-110	110	2,760			
PMT17DY-24	24	132	4.4W	4PDT	25

PM -17DY-24 "PM denotes screw terminal type
PMT-17DY-24 "PMT" denotes .25" quick connect terminal type

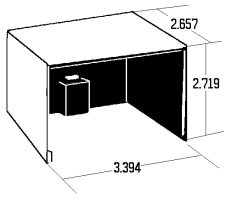
PM Dust Covers

Mfr.'s Type	Description	Length	Width	Height
35D203	Plastic Cover	3.394 (86.21)	2.657 (67.49)	2.791 (69.06)
35D227	Metal Cover	5.313 (134.95)	3.831 (96.85)	3.813 (96.85)

35D227

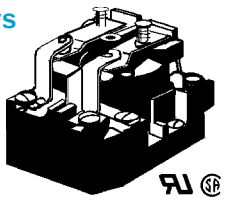


35D203



POWER RELAYS/CONTACTORS

PRD Series Power Relays



FEATURES
- 30Arating
- Available with magnetic blowout to aid arc quenching when switching high voltage DC
- Optional auxiliary switch
- Approximate Size 3.39" x 2.66" x 2.72"h

Mounting Options: Panel Mount .

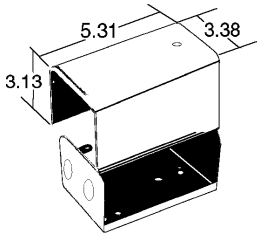
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrangement	Amp Rating
PRD-1AY0-24 PRD-1AY0-120	24 120	12 290	9.8VA	SPST-NO	25
PRD-3AY0-24 PRD-3AY0-120 PRD-3AY0-240	24 120 240	12 290 1,200	9.8VA	SPST-NO-DM	25
PRD-3AG0-120	120	290	9.8VA	SPST-NO-DM	30
PRD-3DYO-12 PRD-3DYO-24 PRD-3DYO-110	12 24 110	71 288 6,050	2W	SPST-NO-DM	25
PRD-3DG0-24	24	288	2W	SPST-NO-DM	30
PRD-5AYO-12 PRD-5AYO-24 PRD-5AYO-120 PRD-5AYO-240	12 24 120 240	3.2 12 290 1,200	9.8VA	SPDT	25
PRD-5DY0-12 PRD-5DY0-24 PRD-5DY0-110	12 24 110	71 288 6,050	2W	SPDT	25
PRD-7AY0-24 PRD-7AY0-120 PRD-7AY0-208 PRD-7AY0-240	24 120 208 240	12 290 850 1,200	9.8VA	DPST-NO	25
PRD-7AG0-120	120	290	9.8VA	DPST-NO	30
PRD-7DY0-12 PRD-7DY0-24 PRD-7DY0-110	12 24 110	71 288 6,050	2W	DPST-NO	2
PRD-7DG0-24	24	288	2W	DPST-NO	30
PRD-11AY0-24 PRD-11AY0-120 PRD-11AY0-240 PRD-11AY0-480	24 120 240 480	12 290 1,200 4,500	9.8VA	DPDT	25
PRD-11AG0-24 PRD-11AG0-120 PRD-11AG0-240	24 120 240	12 290 1,200	9.8VA	DPDT	30
PRD-11DY0-12 PRD-11DY0-24 PRD-11DY0-48 PRD-11DY0-110	12 24 48 110	71 288 1,150 6,050	2W	DPDT	25
PRD-11DG0-12 PRD-11DG0-24	12 24	71 288	2W	DPDT	30
Model with SPDT Auxilliary Switch					
PRDA-11AYA-24	24	12	9.8VA	DPDT+SPDT Aux. Sw.	25
PRDA-11AGA-120	120	290	9.8VA	DPDT+SPDT Aux. Sw.	30
Model with Magnetic Blowouts for heavy DC loads					
PRD-3DH0-24	24	288	2W	SPDT-NO-DM	20
PRD-11AH0-120	120	290	9.8VA	DPDT	20
PRD-11DH0-12 PRD-11DH0-24 PRD-11DH0-110	12 24 110	71 288 6,050	2W	DPDT	20
PRD-11DJ0-24	24	288	2W	DPDT	20

Codes "G" & "J" denote AgCdO contacts
Codes "Y" & "H" denote Ag contacts
All mount via. two .187 holes on 1.875" centers.

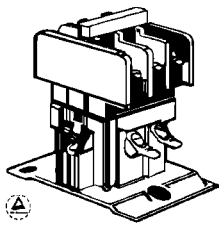
PRD Dust Cover

Fits PRD Relays Except with Auxiliary contacts.

Mfr.'s Type: 35D013



P25 Series Contactors



FEATURES
- 25Arating
- Control 3 phase loads
  Field replaceable contacts
- Universal mounting plate
- Approximate Size 2.50" x 2.75" x 3.33"h

Mounting Options: Panel Mount .

Mfr.'s Type AC coil Models	Coil			Contacts	
	Input	Inrush VA (Max.)	Sealed VA (Max.)	Arrangement	Amp Rating
P25P42A12P1-120 P25P42A12P1-240	120 240~	40	10	SPST-NO-DM	25
P25P42A22P1-120 P25P42A22P1-240	120 240~	40	10	3PST-NO-DM	25

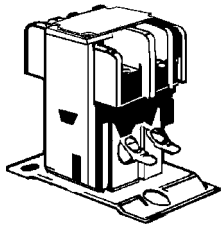
Mfr.'s Type DC coil Models	Coil			Contacts	
	Input	Res in Ohms	Max. Power (W)	Arrangement	Amp Rating
P25P42D22P1-12	12	34	4.8	3PST-NO-DM	25
P25P42D22P1-24	24	133			

Optional Contact Replacement Kit Mfr.'s Type 9P25X1
Kit includes 3 contact pressure springs, 3 moveable contact assemblies, 6 stationary contact assemblies and complete contact replacement instructions.

~Coil is 208/240VAC

P25P42A22P1-240	"A" denotes AC coil
P25P42D22P1-12	"D" denotes DC coil
P25P42A12P1-240	"1" denotes models which mount via two slots on 2.125" centers
P25P42A22P1-240	"2" denotes models which mount via an attached universal mounting plate

P30/P40 Series Contactors



FEATURES
- 30Arating (P30) 40Arating (P40)
- Field replaceable contacts
- Optional Auxiliary Switch
- Universal mounting plate
- Approximate Size 2.65" x 3.80" x 3.98"h

Mounting Options: Panel Mount .

Mfr.'s Type AC coil Models	Coil			Contacts	
	Input	Inrush VA (Max.)	Sealed VA (Max.)	Arrangement	Amp Rating
P30P42A12P1-120	120	92	12	3PST-NO-DM	30
P30P47A12P1-120	120	92	12	4PST-NO-DM	30
P40P42A12P1-24 P40P42A12P1-120 P40P42A12P1-240	24 120 240	92	12	3PST-NO-DM 3PST-NO-DM+Aux.	40
P40C42A12D1-120	120	92	12	Switch	40

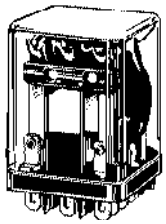
Mfr.'s Type DC coil Models	Coil			Contacts	
	Input	Res in Ohms	Max. Power (W)	Arrangement	Amp Rating
P30P42D12P1-24	24	84	7.5	3PST-NO-DM	30
P40P42D12P1-24	24	84	7.5	3PST-NO-DM	40
P30P47D12P1-24	24	84	7.5	4PST-NO-DM	30

LATCHING, IMPULSE AND REED RELAYS

tyco Electronics

P&B

KUL Series Latching Relays



FEATURES
- 10Arating
- Magnetic latching relay
- Single or Dual coil
- High latch strength
- Low power requirement
- Various sockets available
- Approximate Size 1.53" x 1.41" x 2.16"h

Mounting Options: Socket. Screw terminal, Solder terminal, PC terminal, Quick connect terminal

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
KUL-5A15S-120	120	3,700	-	SPDT	10
KUL-11A15S-24	24	176	-	DPDT	10
KUL-11A15S-120	120	3,700	1.65W	DPDT	10
KUL-11D15D-12	12	90	1.2W	DPDT	10
KUL-11D15D-24	24	350			
KUL-11D15S-12	12	120			
KUL-11D15S-24	24	472			

KUL-11A15S-24 "A" denotes AC coil
KUL-11D15S-24 "D" denotes DC coil
KUL-11D15D-24 "D" denotes dual coil
KUL-11D15S-24 "S" denotes single coil

KB/KBP Series Latching Relays



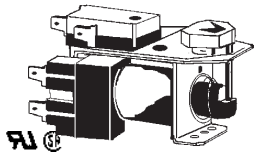
FEATURES
- 10Arating
- Dual coil mechanical latching relay
- Open style relay (KB)
- Clear dust cover with plug in base(KBP)
- Socket available
- Approximate Size 1.78" x 2.41" x 3.56"h

Mounting Options: Socket, Panel Mount. Screw Terminal, Solder Terminal.

Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Open Style Relays					
KB-17AY-120	120	1,030	5VA	4PDT	5
KB-17AG-120	120	1,030	5VA	4PDT	10
KB-17DG-12	12	52	2.7W	4PDT	10
Enclosed Relays					
KBP-11A-120	120	1,030	5VA	4PDT	5
KBP-11AG-120	120	1,030	5VA	4PDT	10
KBP-11DG-24	12	52	2.7W	4PDT	10

KB-17AY-120 "KB" denotes open-style relay with two .156" mtg. holes on 1.375" centers
KBP-11A-120 "KBP" denotes enclosed relay with octal plug.
KB-17AY-120 "A" denotes AC coil
KB-17DY-12 "D" denotes DC coil

S89/S90 Series Impulse Relays



FEATURES
- 15-20Arating
- Low cost bistable relay
- Optional dust cover with plug in base
- Approximate Size 2.70" x 2.00" x 2.42"h

Mounting Options: Panel Mount, Socket Screw Terminal.

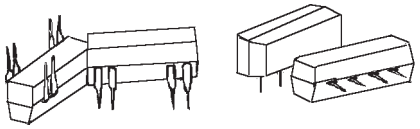
Mfr.'s Type	Coil			Contacts	
	Input	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
S89 Relays (Open Style)					
S89R5ABD1-24	24	8.7	9VA	SPDT	15
S89R5ABD1-120	120	260			
S89R5DB1-12	12	22.5	6.33W	SPDT	15
S89R11AAC1-24	24	8.7	9VA	DPDT	15
S89R11AAC1-120	120	260			
S89R11ABD1-24	24	8.7	9VA	DPDT	15
S89R11ABD1-120	120	260			
S89R11DAC1-12	12	22.5	6.33W	DPDT	15
S89R11DAC1-24	24	92			
S89R11DBD1-12	12	22.5	6.33W	DPDT	15
S89R11DBD1-24	24	92			
S89 Relays (Enclosed with octal plug-in base)					
S89R11APP1-120	120	260	9VA	DPDT	10
S90 Relays (Open)					
S90R5ABD1-24	24	8.7	9VA	SPST	20
S90R11ABD1-120	120	260	9VA	DPDT	20

S89R11AAC1-24 "AC1" denotes .187 quick connects.
S89R11ABD1-24 "BD1" denotes .250 quick connects.
S89R11APP1-120 "PP1" denotes enclosed relay with octal type plug.
S89R5ABD1-120 "A" denotes AC coil
S89R5DBD1-12 "D" denotes DC coil

JWD/JWS Series Reed Relays

FEATURES
- 3-10W rating
- Low cost dry reed
- DIP and SIPconfigurations
- Molded package
- Wave solderable and immersion cleanable
- Optional coil suppression diode
- Approximate Size .77" x .30" x .315"h

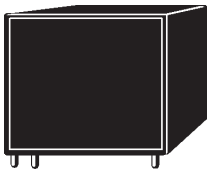
Mounting Options: PC board, fits 14-pin IC Socket



Mfr.'s Type	Coil			Contacts	
	Nom. Input (VDC)	Res In Ohms	Nom. Power	Arrangement	Amp Rating
JWD (DIP) Relays without Coil Suppression Diode					
JWD-107-1	5/6	500	50/72		
JWD-107-3	12	500	288	SPDT-NO	10
JWD-171-5	24	2,150	262		
JWD-171-12	5/6	500	50/72	SPDT-NC	10
JWD-171-14	12	1,200	120		
JWD-172-1	5/6	200	125/180		
JWD-172-3	12	500	288	SPDT	3
JWD-172-4	24	2,150	262		
JWD-171-23	12	500	288	DPST-NO	10

AUTOMOTIVE RELAYS

VKM Automotive Relays



FEATURES
- 10A rating
- Miniature P.C. board mount relay
- Available open or with sealed case
- various contact arrangements

Mounting Options: PC board
Approximate Size: .689" x .591" x .768"h

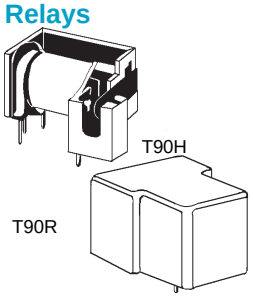
Mfr.'s Type	Coil			Contacts	
	Input (VDC)	Res In Ohms	Nom. Power in W	Arrange-ment	Amp Rating
Open Style Relays					
VKM-186F11-K01	12	130	1.11	SPST-NO-DM	10
Sealed Relays					
VKM-25F11-K01	12	130	1.11	SPDT	10
VKM-286F11-K01	12	130	1.11	SPST-NO-DM	10

VKM-25F11-K01 "1" denotes AgNi20 contacts
VKM-25F21-K01 "2" denotes AgNi0.15 contacts

T90H/T90R Automotive Relays

FEATURES
- 30A rating
- PC board relay
- Available open or with sealed case
- Various contact arrangements
- Optional snap-on dust cover for open models

Mounting Options: PC board
Approximate Size: 1.20" x .95" x .67"h

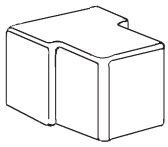


Mfr.'s Type	Coil			Contacts	
	Input (VDC)	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Open Style Relay					
T90H5D12-12	12	97	1.5	SPDT	30
Sealed Style Relay					
T90R5D12-24	24	380	1.5	SPDT	30

T90H5D12-12 "2" denotes AgCdO contacts
T90H5D13-12 "3" denotes AgCuNi contacts

Dust Cover for T90 OpenStyle Relays

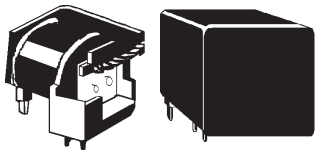
Mfr.'s Type	Description
35C620A	T90 Open Style- Black Dust Cover



VKP Automotive Relays

FEATURES
- 40A rating
- Open or sealed relay for PC board mounting
- Various contact arrangements

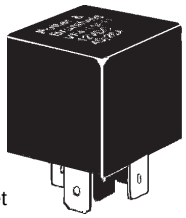
Mounting Options: PC board
Approximate Size: .911" x .748" x .715"h



Mfr.'s Type	Coil			Contacts	
	Input (VDC)	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
VKP-11F42	12	90	1.6	SPST-NO	40
VKP-15F42	12	90	1.6	SPDT	40
VKP-35F42	12	90	1.6	SPDT	40

VKP-15F42 "1" denotes open relay
VKP-35F42 "3" denotes sealed relay

VF4 Automotive Relays



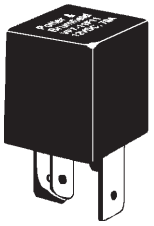
FEATURES
- 40A rating
- Plug-in or PC board mountable relay
- Several enclosure options
- Various contact arrangements
- Optional mounting brackets

Mounting Options: PC board, Plug-in or Bracket PC terminal socket, Wiring harness style connector with or without bracket
Approximate Size: 1.12" x 1.12" x .987"h

Mfr.'s Type	Coil			Contacts	
	Input (VDC)	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Relays with dust cover					
VF4-11F11	12	90	1.6	SPST-NO	40
VF4-11F13	12	90	1.6		40
VF4-15F11	12	90	1.6	SPST-NO SPDT	40
VF4-15F11-S01	12	90	1.81		
VF4015H11	24	360	1.6		
VF4-15F13	12	90	1.6		
Relays with dust cover & Metal Mtg. Bracket					
VF4-41F11	12	90	1.6	SPST-NO SPDT	40
VF4-45F11	12	90	1.6		40
Relays with Shrouded Dust Cover & Metal Mtg. Bracket					
VF4-55F11-S01	12	90	1.81	SPDT	40
Relays with Weatherproof Cover & Metal Mtg. Bracket					
VF4-65F11	12	90	1.6	SPDT	40
Relays with dust cover & Molded Mtg. Bracket					
VF4-81F11	12	90	1.6	SPST-NO	40
VR4-85F11	12	90	1.6	SPDT	40

VF4-75F11 "1" denotes quick connect terminals
VF4-75F12 "2" denotes clinch type P.C. terminals
VF4-75F13 "3" denotes P.C. board terminals.
VF4-15F11-S01 "S01" denotes 680 ohm coil suppression resistor in parallel with relay coil.

VF7 Automotive Relays



FEATURES
- 70A rating
- Plug-in or PC board mountable relay
- 1 Form A contact arrangement
- Optional mounting bracket

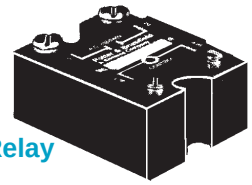
Mounting Options: PC board, Plug-in , Bracket Wiring Harness style connector
Approximate Size: 1.04" x 1.04" x .992"h

Mfr.'s Type	Coil			Contacts	
	Input (VDC)	Res In Ohms	Nom. Power	Arrange-ment	Amp Rating
Relays with dust cover					
VF7-11F11	12	72	2.0	SPST-NO	70
VF7-11F12	12	72	2.0	SPST-NO	70
Relays with dust cover and Metal Mtg. Bracket					
VF7-41F11	12	72	2.0	SPST-NO	70

VF7-11F11 "1" denotes quick connect terminals
VF7-11F12 "2" denotes P.C. board terminals

SOLID STATE RELAYS

SSR Solid State Relay



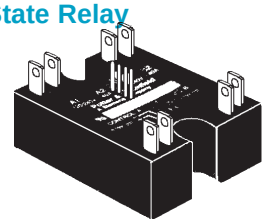
FEATURES
- 110A rating
- "Hockey Puck" package
- Inverse parallel SCR output
- AC& DC input

Mounting Options: Screw terminals, Chassis mount
Approximate Size: 1.75" x 2.25" x .8"h

Mfr.'s Type	Input	Output
SSR-240A25	90-280 AC/DC	24-280 @ 25A
SSR-240A50	90-280 AC/DC	24-280 @ 50A
SSR-240D25	3-32 VDC	24-280 @ 25A
SSR-240D50	3-32 VDC	24-280 @ 50A

SSR relays mount via two .17" mtg. holes on 1.87" centers

SSRQ Quad Output Solid State Relay



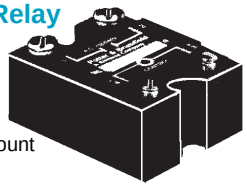
FEATURES
- 20A rating per output
- Four independent solid state relays in one "Hockey Puck package
- Triac output

Mounting Options: Quick connect, Chassis mount
Approximate Size: 1.75" x 2.25" x .93"h

Mfr.'s Type	Input (VDC)	Output Per Section (VDC)
SSR-240D20	4-15VDC	24-280 @ 20A

SSR relays mount via two .17" mtg. holes on 1.87" centers

SSRT Solid State Relay



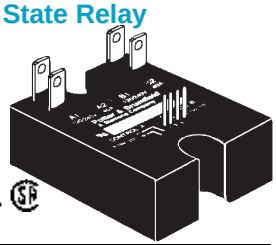
FEATURES
- 25Arating
- "Hockey Puck" package
- Triac output
- AC& DC input

Mounting Options: Screw terminals, Chassis mount
Approximate Size: 1.75" x 2.25" x .8"h

Mfr.'s Type	Input	Output
SSRT-240A10	90-280 AC/DC	24-280 @ 25A
SSRT-240A50	90-280 AC/DC	24-280 @ 50A
SSRT-240D10	3-32 VDC	24-280 @ 25A
SSRT-240D25	3-32 VDC	24-280 @ 50A

SSRT relays mount via two .17" mtg. holes on 1.87" centers

SSRD Dual AC Output Solid State Relay



FEATURES
- 40A rating
- Two independent solid state relays in one "Hockey Puck package
- Inverse parallel SCR output

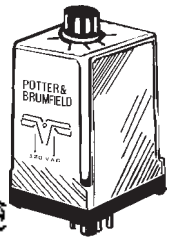
Mounting Options: Screw terminals, Chassis mount
Approximate Size: 1.75" x 2.25" x .8h

Mfr.'s Type	Input (VDC)	Output Per Section (VDC)
SSRD-240D25	4-15VDC	24-280 @ 25A
SSRD-240D4	4-15VDC	24-280 @ 40A

SSRD relays mount via two .17" mtg. holes on 1.87" centers

TIME DELAY RELAYS

CG Time Delay Relay

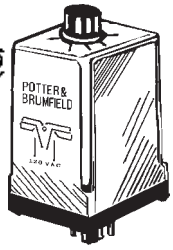


FEATURES
- 10A rating
- Top of the line non-programmable time delay relay
- Extended timing ranges

Mounting Options: Plug-in
Approximate Size: 2.41" x 1.78" x 2.94"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Delay on operate models				
CGB-38-70050M	120VAC	5-50M	8	Knob
Delay on release models				
CGB-38-78010M CGB-38-78050M	120VAC	1-10M 5-50M	11	Knob
Interval on models				
CGB-38-79010S CGB-38-79010M	120VAC	1-10S 1-50M	8	Knob

CD Time Delay Relay

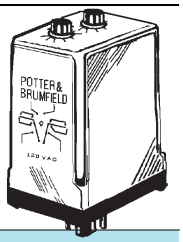


FEATURES
- 10A rating
- Ideal for many demanding applications
- Broad temperature range

Mounting Options: Plug-in
Approximate Size: 2.41" x 1.78" x 2.94"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Delay on operate models				
CDB-38-30001	24VAC	1-10S	8	Knob
CDB-38-70002		0.1-5S		
CDB-38-70003		0.1-10S		
CDB-38-70006	120VAC	0.3-30S	8	Knob
CDB-38-70004		0.6-60S		
CDB-38-70005		1.8-180S		
CDA-38-70012	120VAC	1S	8	Fixed
CDF-38-70002	120VAC	0.1-5S	11	Resistor
CDF-38-70003		0.1-10S		
CDD-38-30003		0.1-10S		
CDD-38-30004	24VDC	0.6-60S	8	Knob
CDD-38-30005		1.8-180S		
CDD-38-40002	48VDC	0.6-60S	8	Knob
Delay on release models				
CDB-38-70016		1-10S		
CDB-38-70091		0.1-5S		
CDB-38-70014	120VAC	0.1-10S	11	Knob
CDB-38-70092		0.3-30S		
CDB-38-70012		0.6-60S		
CDB-38-70015		1.8-180S		
CDD-38-30014		0.1-10S		
CDD-38-30012	24VDC	0.6-60S	11	Knob
CDD-38-30008		1.8-180S		

CR Time Delay Relay

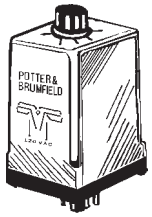


FEATURES
- 10A rating
- Recycle timer allows independent control ON and OFF delays
- Time as low as 0.1 sec.

Mounting Options: Plug-in
Approximate Size: 2.41" x 1.78" x 3.56"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Recycled Models				
CRB-48-70010		1-10S		
CRB-48-70030	120VAC	0.3-30S	8	Knob
CRB-48-70060		0.6-60S		
CRD-48-30180	24VDC	1.8-180S		

CK Time Delay Relay

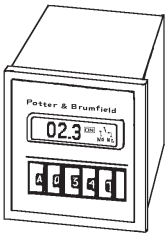


FEATURES
- 10A rating
- Wide choice of functions Broad Line
- Extremely versatile

Mounting Options: Plug-in
Approximate Size: 2.41" x 1.78" x 2.94"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Delay on operate models				
CKB-38-70010		0.1-10S		
CKB-38-70060	120VAC	0.6-60S	8	Knob
CKB-38-70120		1.2-120S		
CKF-38-70010	120VAC	0.1-10S	11	Resistor
CKD-38-20010	12VDC	0.1-10S	8	Knob
Delay on release models				
CKB-38-78010	120VAC	0.1-10S	11	Knob
CKB-38-78060		0.6-60S		
Delay on dropout models				
CKB-38-37010	24VAC	0.1-10S	8	Knob
CKB-38-37060		0.6-60S		
CKB-38-77010		0.1-10S		
CKB-38-77060	120VAC	0.6-60S	8	Knob
CKB-38-77120		1.2-120S		
Interval on models				
CKB-38-79010	120VAC	0.1-10S	11	Knob

CNT Time Delay Relay

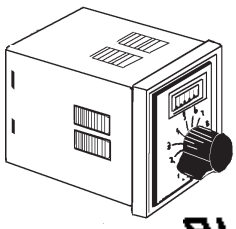


FEATURES
- 10A rating
- Programmable timer /counter
- Digital display
- Universal Input
- 1/16 DIN style enclosure
- Counts to 99,900

Mounting Options: Plug-in
Approximate Size: 1.88" x 1.88" x 2.83"h

Mfr.'s Type	Input Voltage	Time Range	Type of Adjustment
Programmable, Multifunction Models -11-Pin Base			
CNT-35-96	Universal 24-240 VAC/VDC	0.1 S-9,990H in 7 ranges	Thumbwheel Switches
CNT-35-26	12VDC		
CNT-35-76	120VAC		

CNT Time Delay Relay



FEATURES
- 10A rating
- Programmable time delay relay
- Universal Input
- 1/16 DIN style enclosure

Mounting Options: Plug-in
Approximate Size: 1.88" x 1.88" x 2.83"h

Mfr.'s Type	Input Voltage	Time Range	Type of Adjustment
Programmable, 4-function Models-8-Pin Bases			
CNS-35-92	Universal 24-240 VAC/VDC	0.1 S-100M in 6 ranges	Knob & DIPSwitches
CNS-35-72	120VAC		
Programmable, 8-function Models-11-Pin Bases			
CNS-35-96	Universal 24-240 VAC/VDC	0.1 S-100M in 6 ranges	Knob & DIPSwitches
CNS-35-76	120VAC		

TIME DELAY RELAYS

CNM5 Multifunction Time Delay Relay For Plug-In Or Panel Mounting



FEATURES
- Five timing functions selectable via rotary switch
- Fiixed input type (120 VAC +15%)
- 10Aoutput relay with DPDT contacts
- 1/16 DIN style enclosure with 1I-pin plug-in base
- Thumbwheel switches for programming delay time
- 0.1 sec. to 9,999 hr timing range (7 ranges)
- Five timing functions selectable via rotary switch:

Repeat: Output relay is turned on at the end of programmed time interval which is started by application of input power. Relay stays on for equatime interval, then turns off and cycle is repeated on a free-run ning basis with equal on and off times until terminated by removal of input power. LED is flashing when output relay is off and on continu ously when the relay is on.
Applying CONTROLinput during timing will have no effect on timing or the state of the relay.
One Shot: Output relay is turned on by applying CONTROL input with input voltage present or application of input voltage with the control inputon. Immediately upon either, timing is initiated with the output relay turning off at the completion of the selected time interval. Applying CONTROLinput after time out will reset the timer, turn on the output relay and initiate anothertime interval. LED is on continuously when output relay is off and flashes when the relay is on. Applying CONTROLinput during timing will have no effect on timing or state of the relay.
Off Delay: Output relay is turned on by applying CONTROL input voltage present or application of input voltage with the CONTROL input on. The time interval will be started by removing the CONTROL input with the output relay turning off at completion of the time interval. Reapplying the CONTROL during timing will reset the time to zero and inhibit timing until removed. LED is off when CONTROL input is on, flashing during timing and on continuously when the output relay is on.
Interval: Output relay is turned on for a programmed time interval by applying input voltage. LED flashes when output relay is on and is on continuously when the output relay is off. Applying CONTROL input will have no effect on timing or the state of the relay.
On Delay: Output relay is off for a programmed time interval which is started by applying input voltage. LED flashes when output relay is on and is on continuously when the output relay is off. Applying CONTROLinput will have no effect on timing or state of the relay.
On Delay: Output relay is off for a programmed time interval which is started by applying input voltage. LED flashes when output relay is off and is on continuously when the output relay is on. Applying CONTROL input will have no effect on timing or state of the relay.
Mounting Options: 11 Pin or Panel Mount
Fits sockets 27E123, or 27E892
Approximate Size: 1.88" x 1.88" x 2.83"h

Programmable Multifunction

Mfr.'s Type	Input Voltage	Time Range	Type of Adjustment
CNM5	120VAC ±15% @ 60Hz	0.1S-9,990H in 7 ranges	Thumbwheel Switches

Accessory: SSA-24C667 Mounting clip for panel mounting applications.

CN1 Series On Delay, Time Delay Relay For Plug-In Or Panel Mounting



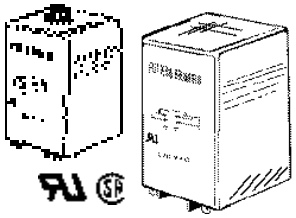
FEATURES
- Fixed input type (120VAC+15%)
- 10Aoutput relay with DPDTcontacts
- 1/16 DIN style enclosed with 8-pin plug-in base
- Thumbwheel switches for programming delay time
- 0.1 sec. to 9,990 hr. timing range (7ranges)

Mounting Options: 8 Pin or Panel Mount Fits sockets 27E122, or 27E891
Approximate Size: 1.88" x 1.88 x 2.83"h

Mfr.'s Type	Input Voltage	Time Range	Type of Adjustment
CN1	120VAC	0.1S-9,990H in 7 ranges	Thumbwheel Switches

Accessory:SSA-24C667 Mounting clip for panel mounting applications.

CL/CU Time Delay Relay



FEATURES
- 10A rating
- Compact package is well suited for many OEM applications
- Various mounting options

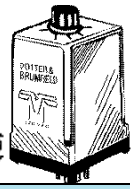
Mounting Options: Plug-in, Bracket
Approximate Size: 1.53" x 1.41" x 1.91"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Delay on operate models types with no timing interrupt transfer				
CLB-51-30010	24VAC	0.1-10S		
CLB-51-70010		0.1-10S	8	Knob
CLB-51-70030	120VAC	0.3-30S		
CLB-51-70120		1.2-120S		
CLB-41-70010	120VAC	0.1-10S		
CLB-42-70010		0.1-10S	10	Resistor
CLB-41-30010	24VDC	0.1-10S		
Types which may momentarily transfer contacts if timing cycle is interrupted				
CUA-41-30010	24VAC	10S	8	Fixed
CUF-41-30010	24VAC	1-10S	10	Resistor
CUB-51-70010		1-10S		
CUB-51-70030	120VAC	1-30S	8	Knob
CUB-51-70060		1-60S		
CUB-51-70120		1-120S		
CUA-41-70001		1S		
CUA-41-70003		3S		Fixed
CUA-41-70005	120VAC	5S	8	
CUA-41-70010		10S		
CUA-42-70010		10S		
CUA-41-70120		120S		
CUF-41-70010		1-10S		
CUF-42-70010		1-10S		
CUF-41-70030	120VAC	1-30S	10	Resistor
CUF-41-70120		1-120S		
CUF-42-70120		1-120S		
CUH-41-30010		1-10S		
CUH-42-30010	24VAC	1-10S	10	Resistor
CUH-41-30120		1-120S		

"42" denotes bracket mount case two mounting slots on 2.5" centers.
All other modles listed have a plain case for socket mounting.

tyco Electronics TIME DELAY RELAYS

CH Time Delay Relay

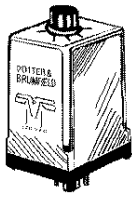


FEATURES
- 10A rating
- Wide range of industrial applications
  Dependable timing cycles

Mounting Options: Plug-in
Approximate Size: 2.41" x 1.78" x 2.94"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Delay on operate models				
CHIB-38-30001 CHIB-38-30003	24VAC	0.1-10S 1-180S	8	Knob
CHIB-38-70001 CHIB-38-70002 CHIB-38-70003	120VAC	1-10S 1-60S 1-180S	8	Knob
CHIA-38-70001	120VAC	10S	8	Fixed
CHIB-38-80001	240VAC	1-10S	8	Knob
CHID-38-30001 CHID-38-30003	24VDC	1-10S 1-180S	8	Knob
Delay on release models				
CHB-38-30011	24VAC	1-10S	11	Knob
CHB-38-70011 CHB-38-70012 CHB-38-70013	120VAC	1-10S 1-60S 1-180S	11	Knob
Interval on models				
CHB-38-70021 CHB-38-70022	120VAC	0.1-10S 1-60S	8	Knob
CHB-38-70023 CHB-38-30021	24VDC	1-180S 1-10S	8	Knob

CB Time Delay Relay

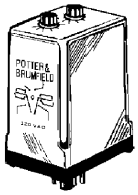


FEATURES
- 10A rating
- Economical for volume applications
  Various timing ranges

Mounting Options: Plug-in
Approximate Size: 2.41" x 1.78" x 2.94"h

Mfr.'s Type	Input Voltage	Time Range	Pins	Type of Adjustment
Delay on operate models				
CB-1041B-30 CB-1042B-30	24VAC	0.1-10S 1.8-180S	8	Knob
CB-1001B-70 CB-1002B-70 CB-1003B-70 CB-1004B-70 CB-1005B-70 CB-1006B-70 CB-1007B-70	120VAC	0.1-1S 0.1-5S 0.1-10S 0.6-60S 1.8-180S 1.10M 10-100M	8	Knob
CB-1047D-20	12VDC	0.1-10S	8	Knob
CB-1026D-30 CB-1028D-30 CB-1029D-30	24VDC	0.1-1S 0.1-0S 0.6-60S		
Delay on release models				
CB-1045B-38 CB-1046B-38	24VAC	0.1-10S 1.8-180S	11	Knob
CB-1021B-78 CB-1022B-78	120VAC	0.1-10S 0.1-10S	11 8	
CB-1023B-78 CB-1024B-78		0.6-60S 1.8-180S	11	
CB-1038D-38 CB-1039D-38	24VDC	0.1-10S 1.8-180S	11	
Interval on models				
CB-1043B-39	24VAC	0.1-10S	11	Knob
CB-1011B-79 CB-1014B-79	120VAC	1.8-180S 0.1-10S	11	
CB-1016B-79 CB-1018B-78 CB-1024B-78		0.1-10S 0.6-60S 1.8-180S	8 11	
CB-1038D-38 CB-1039D-38	24VDC	0.1-10S 1.8-180S	11	

CS VOLTAGE SENSOR

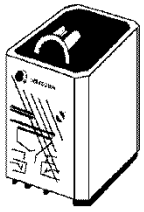


FEATURES
- Voltage Sensor
- Functions as either an overvoltage or an undervoltage sensor
- Choice of fixed pickup and knob adjustable drop-out or knob adjustable pick-up and drop-out

Approximate Size: 2.41" x 1.78" x 2.94"h
Contact /Switch Arrangements: 2 From C Rated 10A @ 28 VDC or 120 VAC
Terminals: Octal type plug

Mfr.'s Type	Voltage Type	Pick-up Voltage	Drop-out Voltage	Max. Voltage
Adjustable Pick-Up and Drop-Out Models				
CSJ-38-70010	AC	92-140	90-138	150
CSL-38-30010	(50/60Hz)	20-30	18-28	40
CSL-38-40010	DC	40-58	38-56	60
CSL-38-60010		92-140	90-138	150
Fixed Pick-Up and Adjustable Drop-Out Models				
CSJ-38-71010	AC	105	90-103	140
CSL-38-31010	(50/60Hz)			
	DC	22	16-21	40

SDAS CURRENT SENSORS



OPERATIONS

Adjustable Current Sensor Operations

Overcurrent Sensor: Internal relay energizes when sense current exceeds the user-set level for longer than the built in time delay allows (200ms min.) Actual delay is dependent upon the potentiometer setting and the magnitude of the over current. The relay remains energized until sensor control voltage is removed, even if the overcurrent ceases to exist.

Undercurrent Sensor: Internal relay energizes when sense current drops below the user-set level for at least 350ms. The relay remains energized until sense current exceeds the potentiometer setting or sensor control voltage is removed. A 350ms delay after control voltage is applied allows line components to turn on.

Mfr.'s Type	Control Voltage (50/60 Hz, or DC+10%	Power Requirement
Overcurrent Sensor (1.5-15AAC Sense Range)		
SDAS-018Y2S1024	24V	1.7VA or1W
Under Current Sensor (1.5 - 15AAC Sense Range)		
SDAS-017Y2S1024	24V	1.7VA or1W

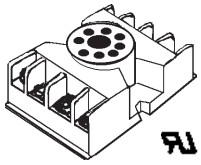
SOCKETS

RELAY AND SOCKET USAGE CHART

Relay	Socket	Terminal Type	Hold Down Spring	Socket Fig. Number	NOTES: See page 19 of P&B.
CB (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CB (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	4	7,8
CD (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CD (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	4	7,8
CG (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CG (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	4	7,8
CH (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CH (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	4	7,8
CK (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CK (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	4	7,8
CL-41& CU-41	27E043	Solder	20C228 or 20C254	5	9
	27E046	PC	20C228 or 20C254	5	9
	27E067	QC & Solder	20C228 or 20C254	5	9
	27E088	Blank	20C228 or 20C254	5	9
	27E121	Screw	20C314	6	10
	27E396	QC & Solder	20C254	7	-
	27E400	Solder	20C254	7	-
	27E893	Screw	20C318	8	7,11
CL-51	27E043	Solder	20C247 or 20C255	5	12
	27E046	PC	20C247 or 20C255	5	12
	27E067	QC & Solder	20C247 or 20C255	5	12
	27E088	Blank	20C247 or 20C255	5	12
	27E121	Screw	20C314	6	10
	27E396	QC & Solder	20C254	7	-
	27E400	Solder	20C254	7	-
	27E893	Screw	20C318	8	7,11
CNS (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CNS (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	2	7,8
CNT (11-pin octal)	27E123	Screw	-	3	-
	27E892	Screw	20C419	2	7,8
CR (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CS (8-pin octal)	27E122	Screw	-	1	-
	27E891	Screw	20C419	2	7,8
CU-41& CL-41)	27E043	Solder	20C228 or 20C254	5	9
	27E046	PC	20C228 or 20C254	5	9
	27E067	QC & Solder	20C228 or 20C254	5	9
	27E088	Blank	20C228 or 20C254	5	9
	27E121	Screw	20C314	6	10
	27E396	QC & Solder	20C254	7	-
	27E400	Solder	20C254	7	-
	27E893	Screw	20C318	8	7,11
CU-51	27E043	Solder	20C247 or 20C255	5	12
	27E046	PC	20C247 or 20C255	5	12
	27E067	QC & Solder	20C247 or 20C255	5	12
	27E088	Blank	20C247 or 20C255	5	12
	27E121	Screw	20C314	6	10
	27E396	QC & Solder	20C255	7	-
	27E400	Solder	20C255	7	-
	27E893	Screw	20C318	8	7,11
JM-1 &JM-2 (8-pin octal)	27E122	Screw	20C419	1	-
	27E891	Screw	-	2	7
JM-3 (11-pin octal)	27E123	Screw	20C419	3	-
	27E892	Screw	-		7
K10	27E487	Screw	20C297	9	-
	27E488	Solder	20C217	10	-
	27E489	PC	20C217	10	-
	27E895	Screw	20C297	11	7,11

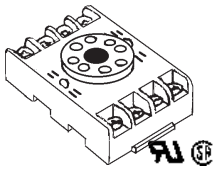
SOCKET FIGURES

1



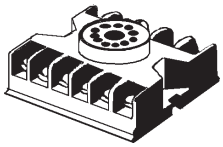
1.572 x 2.385 x .925h

2



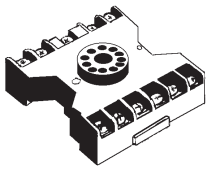
DIN Rail Mount
1.575 x 2.362 x .866h

3



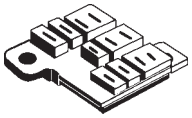
2.322 x 2.385 x .925h

4



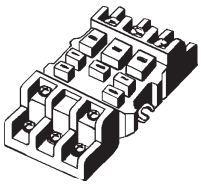
DIN Rail Mount
1.575 x 2.362 x .866h

5



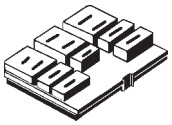
1.270 x 1.395 with two .156 Dia.
Screw Holes for mounting

6



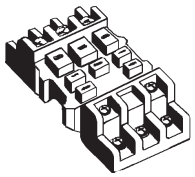
3.150 x 1.9 x .895h

7



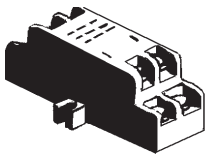
Chassis Cut-out 1.270 x 1.395
Snap mount.

8



DIN Rail Mount
2.992 x 1.693 x .984h

9



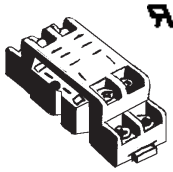
2.650 x 1.409 x .985h

10



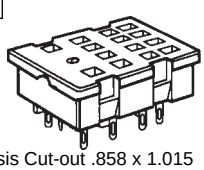
Chassis Cut-out .850 x 1.015

11



DIN Rail Mount 2.638 x 1.181 x .984

12



Chassis Cut-out .858 x 1.015

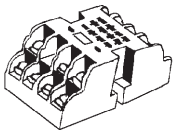
SOCKETS

RELAY AND SOCKET USAGE CHART

Relay	Socket	Terminal Type	Hold Down Spring	Socket Fig. Number	NOTES: See page 19 of P&B.
KBP	27E123	Screw	-	3	-
(11pin octal)	27E892	Screw	20C419	4	7,8
KHA& KH	27E006	Solder	20C217	12	13
	27E007	PC	20C217	12	-
	27E023	PC	20C217	12	-
	27E166	Screw	20C297	13	-
	27E894	Screw	20C297	14	7,11
KRP3-H	27E122	Screw	-	1	-
(8-pin-octal)	27E891	Screw	20C419	2	7,11
KRPA & KRP	27E122	Screw	-	1	-
(8-pin octal)	27E891	Screw	20C419	2	7,11
KRPA & KRP	27E123	Screw	-	3	-
(11-pin octal)	27E892	Screw	20C419	4	7,11
KUEP	27E043	Solder	20C228 or 20C254	5	9
KUGP, KUIP	27E046	PC	20C228 or 20C254	5	9
KUMP& KUP	27E067	QC & Solder	20C228 or 20C254	5	9
(1-3 Poles	27E088	Blank	20C228 or 20C254	5	9
with .187 QC	27E121	Screw	20C314	6	10
Terms)	27E396	QC& Solder	20C254	7	-
	27E400	Solder	20C254	7	-
	27E893	Screw	20C318	8	7,11
	27E043	Solder	20C247 or 20C255	5	12
KUL	27E046	PC	20C247 or 20C255	5	12
(1-3 Poles	27E067	QC & Sloder	20C247 or 20C255	5	12
with .187 QC	27E088	Blank	20C247 or 20C255	5	12
Term)	27E121	Screw	20C314	6	10
	27E396	QC& Solder	20C254	7	-
	27E400	Solder	20C254	7	-
	27E893	Screw	20C318	8	7,11
KUP	27E415	QC & Solder	20C228 or 20C254	5	9
(4 pole with	27E419	PC	20C228 or 20C254	5	9
.110 QC	27E867	Screw	20C254	5	6
Terms.)					
R10, R10L &	27E125	Solder	20C249	15	2,4,14
R10S (2 pole)	27E701	Solder	20C249	15	2,4,15
	27E162	Solder	20C249	15	2,4,16
	27E128	PC Stag.	20C249 or 20C259	15	2,4,14
	27E446	Solder	20C249	16	1,2,4,14
	27E709	PC Stag.	20C249 or 20C259	15	2,4,15
	27E193	PC Stag.	20C249 or 20C259	15	2,4,14
	27E717	PC Stag.	20C249 or 20C259	15	2,4,15
	27E212	PC Stag.	20C249 or 20C259	15	2,4,16
	27E342	PC in-line	20C249 or 20C259	15	2,4,16
	27E317	Solder/Bkt. Mt.	20C249	17	2,4,14
	27E215	PC Rt. Angle	20C249	18	2,4,5,19
	27E460	Screw	20C249 or 20C259	19	2,4,5,16
R10,R10L &	27E126	Solder	20C250	15	3,4,14
R10 (4 pole)	27E702	Solder	20C250	15	3,4,15
	27E163	Solder	20C250	15	3,4,16
	27E447	Solder	20C250	16	1,3,4,14
	27E710	PC Stag.	20C250 or 20C259	15	3,4,15
	27E194	PC Stag.	20C250 or 20C259	15	3,4,17
	27E740	PC Stag.	20C250 or 20C259	15	3,4,18
	27E213	PC Stag.	20C250 or 20C259	15	3,4,16
	27E714	PC Stag.	20C250 or 20C259	15	3,4,20
	27E629	PC in-line	20C250 or 20C259	15	3,416
	27E152	Solder/Bkt. Mt	20C250	17	3,414
	27E461	Screw	20C250 or 20C259	19	3,4,616
R10, R10L	27E127	Solder	20C251	15	4,14
(6 pole)	27E164	Solder	20C251	15	4,16
	27E130	PC Stag.	20C251 or 20C259	15	4,14
	27E448	Solder	20C251	16	1,4,14
	27E195	PC Stag.	20C251 or 20C259	15	4,17
	27E271	PC Stag.	20C251 or 20C259	15	4,16
	27E715	PC Stag.	20C251 or 20C259	15	4,20
	27E630	PC in-line	20C251 or 20C259	15	4,16
	27E462	Screw	20C251 or 20C259	19	4,6,16
R10	27E211	Solder	20C266	15	4,14
(8 pole)	27E254	PC Stag.	20C266 or 20C 259	15	4,14
R10-T1	27E122	Screw	-	1	-
(8-pin octal)	27E891	Screw	20C419	2	7,11
R10-T2	27E123	Screw	-	3	-
(11 pin octal)	27E892	Screw	20C419	4	7,11
R12	27E131	Solder	20C251	15	14
(8 pin octal)	27E132	PC	20C251 or 20C259	15	14
RKA/RKS	27E936	PC	20C418	20	21
RKA	27E937	PC	20C418	20	22
RKS	27E937	PC	20C418	20	23

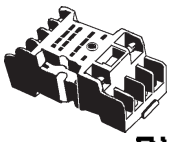
SOCKET FIGURES

13



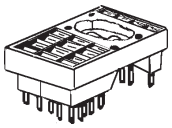
2.363 x 1.22 x .800h

14



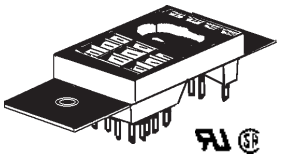
2.441 x 1.181 x .984

15



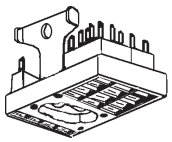
Sizes vary with number of poles Please call for exact information for your application.

16



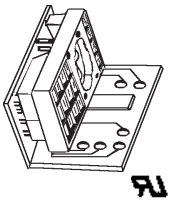
Sizes vary with number of poles Please call for exact information for your application.

17



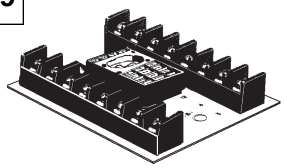
Sizes vary with number of poles Please call for exact information for your application.

18



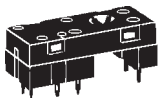
Sizes vary with number of poles Please call for exact information for your application.

19



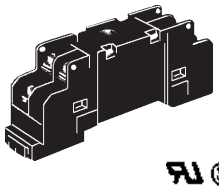
2.75" wide x 3592 high and have .187 dia. mtg. holes. Length, mtg. Centers vary.

20



1.18 x .51 x .39h

21

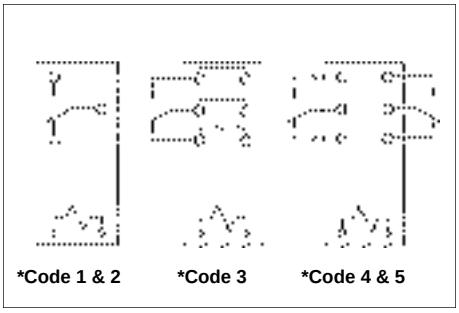


2.76 x .63 x 1.06h

RELAY AND SOCKET USAGE CHART- Continued

Relay	Socket	Terminal Type	Hold Down Spring	Socket Fig. Number	NOTES:
RKA/RKS					
RKA	27E1038	Screw	20C418	21	7,21
RKS	27E1039	Screw	20C418	21	7,22
S89R11AAP	27E1039	Screw	20C418	21	7,23
(8-pin octal)	27E122	Screw	-	1	-
SDAS-01	27E891	Screw	20C419	2	7,11
	27E043	Solder	-	5	9
	27E046	PC	-	5	9
	27E067	QC & Solder	-	5	9
	27E088	Blank	-	4	9
	27E121	Screw	20C314	6	10
	27E396	QC & Solder	-	7	-
	27E400	Solder	-	7	-
	27E893	Screw	-	8	7,11

Wiring Diagram (Bottom View)



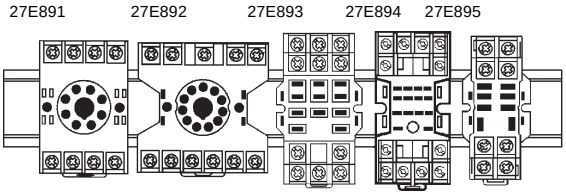
Notes:

1: Flange mount sockets pre-assembled on steel mounting plate. Grounding is not recommended for currents of 5AAC & above.
2: For 2 Pole R10S a 20C300 hold-down spring is used instead of those listed in the chart.
3: For 4 pole R10S a 20C301 hold-down spring is used instead of those listed in the chart.
4: On R10Lseries hold-down spring fits to the side of the light emitting diode.
5: PC right angle socket for use to 1Aonly.
6: Use 40G432 insulator or suitable insulator (2per socket)
7: Snap-mount relay sockets snap onto 24A110 mounting rail with out extra hardware
8: Use 20C317 anchor clip for hold down spring when chassis mounting (2 supplied per socket).
9: 20C 228 held in place by socket hold-down screw whereas 20C254 snaps into socket
10: Use 2 pieces 20C214 per socket
11: Use 20C317 anchor for hold down spring (2 supplied per socket)
12: 20C247 held in place by socket hold-down screw whereas 20C255 snaps into socket
13: Chassis socket retainer part number 24A032
14: Tin plated terminals with grounding strip
15: Gold flashed terminals with grounding strip
16: Tin plated terminals with no grounding provision.
17: Tin plated terminals with grounding terminal.
18: Gold flashed terminals with grounding terminal
19: Tin plated terminals with grounding provision.
20: Gold flashed terminals with no grounding provision
*21:Use with Code 1 See Wiring Diagram
*22:Use with Code 2 See Wiring Diagram
*23:Use with Code 3&5 See Wiring Diagram

SOCKET ACCESSORIES

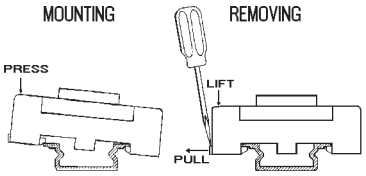
DIN RAIL MOUNT SCREW TERMINAL SOCKET TRACK MOUNTING SYSTEM

FEATURES
Sockets mount on standard 32mm DIN track and P&B 24A110 track. Spring Loaded integral clip holds sockets securely to the track. End clips can be used to further stabilize sockets on track.
Small screwdriver can be used to release sockets from the track.
All DIN sockets are shipped with two anchor clips for hold down springs. Hold down springs must be ordered separately.

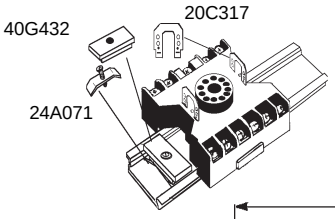


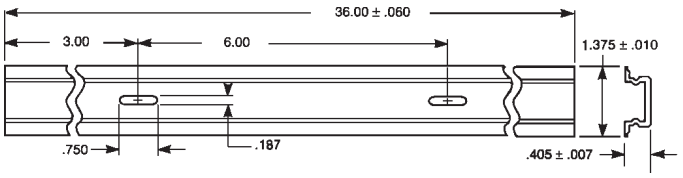
24A110 - DIN RAILSTYLE MOUNTING TRACK
Mounting track is designed to accept snap-mount as well as all other P&B screw terminal sockets. Extruded aluminum track shipped in three -foot lengths with mounting holes on six -inch centers. Track can be shorter lengths or used end to end.

20C317 - ANCHOR CLIP
Steel anchor clip snaps into the body of the snap-mount socket and is used as an anchor point for relay hold-down spring. Two clips are shipped with each socket.



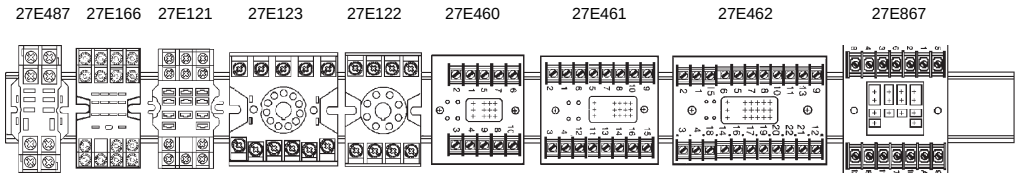
24A071 & 40G432 - END CLIP
24A071 steel mounting clip with one #6-32 screw .437" long is used with 40G432 insulator to prevent sockets from moving sideways off the end of the track. Each part number must be ordered separately.

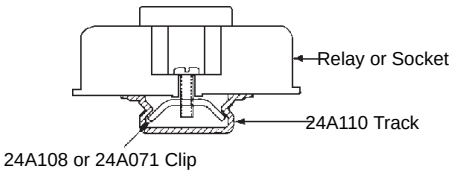


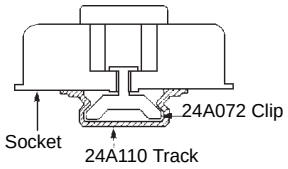


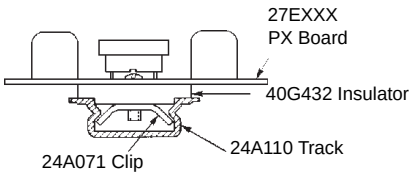
Typical Relay	Base	Socket Part Number
KRPA (DPDT)	8 pin octal-type	27E891
KRPA (3PDT)	11-pin octal-type	27E892
KUP	11-blade square	27E893
KH	14-blade square	27E894
K10	8-blade square	27E895

CONVENTIONAL SCREW TERMINAL SOCKET TRACK MOUNTING SYSTEM

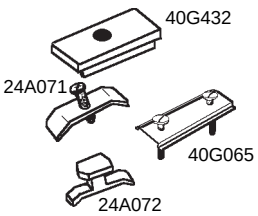








Typical Relay	Base	Socket Part Number
K10	8-Blade square	27E487
KH	14-Blade square	27E166
KUP (3PDT)	11-Blade square	27E121
KRPA (3PDT)	11-Blade square	27E123
KRPA (DPDT)	8-Pin octal-type	27E122
R10(DPDT)	10-Blade square	27E460
R10(4PDT)	16-Blade square	27E461
R10(6PDT)	22-Blade square	27E462
KUP (4PDT)	14-Blade square	27E867

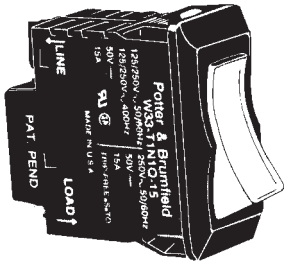


24A110-DIN Rail Style Mounting Track (See Complete description and drawing in section above).
24A071 - Steel Mounting Clip with one #6-32 screw .437" long
24A072 - Plastic Twist Mounting Clip for 27E166, 27E122, and 27E123 sockets. Twist clip into track to hold socket in place, except when used on end of track. Use 24A071 on ends of track to lock first and last socket in place.
40G432 - Plastic insulator for track or surface mounting. Use 27E460, 27E461, 27E462 and 27E867 sockets.

FEATURES
P&B DIN rail track accommodates a variety of sockets and relays. Various clips are available (must be ordered separately to secure components to track)

CIRCUIT BREAKERS

W33 SERIES ONE-AND TWO-POLE THERMAL CIRCUIT BREAKER



FEATURES
- 2 to 20 amp ratings
- One or two pole sensing
- Lighted or non-lighted rocker actuator in various colors
- Convenient, snap-in mounting
- Optional auxiliary switch available
- Trip-free operation

Mfr.'s Type	RATING IN AMPS	TRIP TIME @200% OF RATING
W33-S1N1Q-5	5	3.0-33 Sec.
W33-S1N1Q-10	10	
W33-S1N1Q-15	15	
W33-S1N1Q-20	20	
W33-S4B1Q-10	10	
W33-S4B1Q-15	15	
W33-T2N1Q-15	15	
W33-T2N1Q-20	20	
W33-T4B1Q-5	5	
W33-T4B1Q-10	10	
W33-T4B1Q-15	15	

ENGINEERING DATA

Calibration: Breaker will continuously carry 100% of rated load. It may trip between 101% and 135% of rated load, but must trip at 135% within one hour at +25˚C
Dielectric Strength: Over 2,000 volts RMS
Max. Operating Voltages: 50 VDC; 250VAC, 400Hz
Interrupt Capacity: 1,000 amps at 50 VDC; 250VAC, 60Hz.; 125/250VAC, 400Hz. 1500 amps at 125/250VAC, 60Hz.
Resettable Overload Capacity: Ten times rated current.

CATALOG NUMBERING EXPLANATION

W 33 -S 1 N 1 Q 20

1. Designator:
W=Circuit Breaker

2. Series number:
33=Two-pole rocker actuated.

3. Circuit Function:
S=Pole1 - Switching only; Pole 2 - Series trip overload sensing.
T=Poles 1&2 - Series trip overload sensing.
SS=Same as S with auxiliary switch on pole 1.
TS=Same as T with auxiliary switch on pole1.
D=2Pole Switching

4. Rocker Color
1=Black - 2=White - 3=Red - 4=Amber - 5=Smoke

5. Light
(not available in Black rocker colors)
A =24VDC(Incandescent) - B =120VAC(Neon with Resistor) - C =240VAC(Neon with Resistor) - N=No Light

6. Marking: 1=International I/O.

7. Termination: .250" x 032" quick connect/solder terminals.

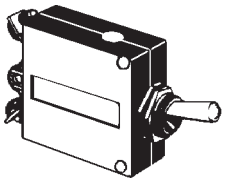
8. Amp Rating:
2 - 5 - 7 - 10 - 12 - 15 - 16 - 20

CIRCUIT BREAKERS

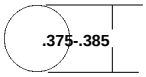
FUSEHOLDER-TYPE THERMAL BREAKER W31 SERIES

GENERALINFORMATION

"W" Series breakers are UL 1077 Recognized as Supplementary Protectors, File E69543, and CSA Certified as Appliance Component Protectors, File LR30671.
W31 series breakers are single pole , thermal type devices featuring a toggle trip lever. This feature allows these units to function as switches, as well as breakers. When an overload occurs and the breaker contacts open, the lever trips to the OFF position. If a dangerous overload continues to exist, the breaker contains a trip free feature which permits the contacts to open even though the breaker may be held manually in the ON position. The contacts have a wipe-on-make action which helps keep them clean.



SUGGESTED MOUNTING HOLE



ENGINEERING DATA

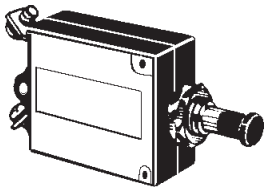
Calibration: Will continuously carry 100% of rating, it may trip between 101% and 134%, but must trip at 135% in one hour
Dielectric Strength: Over 1,500 volts RMS
Max. Operating Voltages: 50 VDC; 250VAC, (to 400Hz)
Interrupt Capacity: 2500 amps at 50 VDC, 1000 amps @ 250VAC (0.5-25 Amp models) 1000 amps at 50 VDC or 250 VAC (26-50 amp models)
Resettable Overload Capacity: Ten times rated current.
Reset time: Less than 10 seconds.
Voltage Drop: Less than one volt maximum.
Approximate Size:.69" x 1.38" x 1.6"D

Mfr.'s Type	RATING IN AMPS	TRIP TIME @200% OF RATING
W31-X2M1G-1	1	
W31-X2M1G-2	2	11-30 SEC.
W31-X2M1G-3	3	
W31-X2M1G-5	5	
W31-X2M1G-7.50	7.50	
W31-X2M1G-10	10	
W31-X2M1G-15	15	
W31-X2M1G-20	20	6.0-22 SEC
W31-X2M1G-25	25	
W31-X2M1G-30	30	
W31-X2M1G-35	35	
W31-X2M1G-40	40	
W31-X2M1G-50	50	

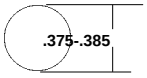
PUSH BUTTON THERMAL W23 SERIES

GENERALINFORMATION

W23 series breakers are single pole , thermal type devices. When overload occurs and the breaker contacts open, the reset button extends, allowing a white band to appear for visible trip indication. Each breaker contains a trip free feature which allows the contacts to open even if the breaker is held in the reset position against an overload. The contacts have a wipe-on-make action which helps keep them clean.



SUGGESTED MOUNTING HOLE



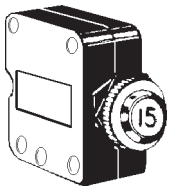
ENGINEERING DATA

Calibration: Will continuously carry 100% of rating, it may trip between 101% and 134%, but must trip at 135% in one hour
Dielectric Strength: Over 1,500 volts RMS
Max. Operating Voltages: 50 VDC; 250VAC, (to 400Hz)
Interrupt Capacity: 2500 amps at 50 VDC, 1000 amps @ 250VAC (0.5-25 Amp models) 1000 amps at 50 VDC or 250 VAC (26-50 amp models)
Resettable Overload Capacity: Ten times rated current.
Approximate Size:.69" x 1.38" x 1.6"D

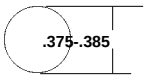
THERMAL RECESSED BUTTON W58 SERIES

GENERALINFORMATION

W58 series comprise single pole thermal type circuit breakers that feature a recessed button which cannot be manually pulled out to disconnect the circuit. When an overload occurs and the breaker opens, the reset button extends, allowing a red band to appear for visible trip indication.



SUGGESTED MOUNTING HOLE



ENGINEERING DATA

Calibration: Will continuously carry 100% of rated load, it may trip between 101% and 144%, but must trip at 145% @ 25oC
Dielectric Strength: Over 1,500 volts RMS
Max. Operating Voltages: 50 VDC; 250VAC.
Interrupt Capacity: 2000 amps at 50 VDC. or 1000 amps @ 250VAC
Resettable Overload Capacity: Ten times rated current.
Approximate Size: .66" x 1.38" x 1.38"D

Mfr.'s Type	RATING IN AMPS	TRIPTIME @200% OF RATING
.250 Q.C. Term. Types (Hex Nut & Knurled Nut Mtg.)		
W58-XB1A4A-1	1	10-45 SEC.
W58-XB1A4A-2	2	
W58-XB1A4A-3	3	6.0-30 SEC.
W58-XB1A4A-4	4	
W58-XB1A4A-5	5	
W58-XB1A4A-6	6	
W58-XB1A4A-7	7	
W58-XB1A4A-8	8	
W58-XB1A4A-10	10	
W58-XB1A4A-12	12	
W58-XB1A4A-15	15	
W58-XB1A4A-20	20	
W58-XB1A4A-25	25	
W58-XB1A4A-30	30	
W58-XB1A4A-35	35	
Screw Term. Types (Lockwasher & Knurled Nut Mtg.)		
W58-XC4C12A-1	1	10-45 SEC.
W58-XC4C12A-2	2	
W58-XC4C12A-3	3	
W58-XC4C12A-5	5	
W58-XC4C12A-7	7	
W58-XC4C12A-10	10	
W58-XC4C12A-15	15	6.0-30 SEC.
W58-XC4C12A-20	20	
*W58-XC4C12A-25	25	
*W58-XC4C12A-30	30	
*W58-XC4C12A-35	35	

*** Not ULor CSAcertified**

Mfr.'s Type	RATING IN AMPS	TRIP TIME @200% OF RATING
W23-X1A1G-2	2	11-30 SEC.
W23-X1A1G-5	5	
W23-X1A1G-7.5	7.50	
W23-X1A1G-10	10	
W23-X1A1G-15	15	
W23-X1A1G-20	20	
W23-X1A1G-25	25	6.0-22 SEC
W23-X1A1G-30	30	
W23-X1A1G-35	35	
W23-X1A1G-40	40	
W23-X1A1G-50	50	

God Gave man two ends. One to sit on and one to think with. Man's success depends on which one he uses most. It's just a case of heads you win and tails you lose.

tyco Electronics

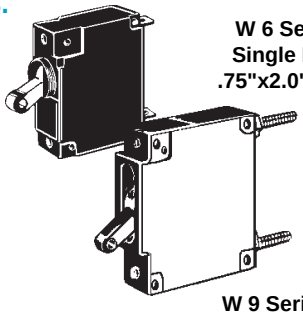
CIRCUIT BREAKERS

MAGNETIC/HYDRAULIC CIRCUIT BREAKERS W67, W68, W69, W91, W92,W93.

P&B

GENERAL INFORMATION

"W6 and W9" Series magnetic-hydraulic circuit breakers are designed to pass safe surge currents and momentary overloads, but to trip on dangerous overloads. Units are offered with various trip time delays Between the must-trip values of 101% to 125% of rating, these breakers are temperature stable from -40oC to 85oC. They will hold 100% of their rated load when installed in standard panel mount positions.



W 6 Series
Single Pole
.75"x2.0"x1.64d

W 9 Series
Single Pole
.75"x2.5"x2.1"d

ENGINEERING DATA

Calibration: Breaker will continuously carry 100% of rated load. It may trip between 101% and 124% of rated load but must trip at 125%.
Max. Operating Voltages: 277 AC; 64VDC
Auxiliary Switch Rating: SPDT Common: 5A@ 125/250VAC; 1A@ 50VDC
Reset Time: Instantaneous.

W67, W68, W69 MINI-MAG BREAKERS

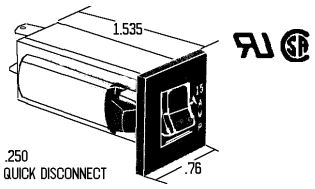
Mfr.'s Type & AMPS	Voltage	TRIP TIME @200% OF RATING
Single Pole		
W67-X2Q10-3 W67-X2Q10-5 W67-X2Q12-2 W67-X2Q12-3 W67-X2Q12-5	AC	30ms
W67-X2Q12-7 W67-X2Q12-10 W67-X2Q12-15 W67-X2Q12-20 W67-X2Q12-30	AC	2.2-20sec
W67-X2Q13-2 W67-X2Q13-5 W67-X2Q13-10 W67-X2Q13-15 W67-X2Q13-20 W67-X2Q13-25	AC	.15-1.5sec
W67-X2Q50-10	DC	30ms
W67-X2Q52-5 W67-X2Q52-10 W67-X2Q52-30	DC	2.2-20sec
W67-A2Q12-5* W67-A2Q12-10*	AC	2.2-20sec
Two Pole		
W68-X2Q12-2 W68-X2Q12-3 W68-X2Q12-5 W68-X2Q12-10 W68-X2Q12-15 W68-X2Q12-20 W68-X2Q12-25 W68-X2Q12-30	AC	2.2-20sec
W68-X2Q13-15	AC	.15-1.5sec
W68-X2Q110-20 W68-X2Q110-30		9-100sec
Three Pole		
W69-X2Q12-5 W69-X2Q12-10 W69-X2Q12-15 W69-X2Q12-20 W69-X2Q12-25 W69-X2Q12-30	AC	2.2-20sec

* **Single Pole W Aux. Switch**

W91, W92, W93 STANDARD SIZE BREAKERS

Mfr.'s Type & AMPS	Voltage	TRIP TIME @200% OF RATING
Single Pole		
W91-X112-1 W91-X112-2 W91-X112-3 W91-X112-5 W91-X112-7 W91-X112-10 W91-X112-15 W91-X112-20 W91-X112-40 W91-X112-50	AC	2.2-20sec
W91-X113-5 W91-X113-10 W91-X113-15	AC	.15-1.5sec
W91-X152-5 W91-X152-10 W91-X152-15 W91-X152-20 W91-X152-30 W91-X152-40 W91-X152-50	DC	2.2-20sec
Two Pole		
W92-X112-1 W92-X112-2 W92-X112-3 W92-X112-5 W92-X112-7 W92-X112-10 W92-X112-15 W92-X112-20 W92-X112-25 W92-X112-30 W92-X112-40 W92-X112-50	AC	2.2-20sec
Three Pole		
W93-X112-5 W93-X112-10 W93-X112-15 W93-X112-20 W93-X112-25 W93-X112-30 W93-X112-40 W93-X112-50	AC	2.2-20sec

FUSEHOLDER-TYPE THERMAL BREAKER W28 SERIES MOUNT SAME AS PANEL MOUNTED FUSE-HOLDER



"W" Series breakers are UL 1077 Recognized as Supplementary Protectors, File E69543, and CSA Certified as Appliance Component Protectors, File LR30671. W28 breakers have been issued Certificate of Suitablity CS2190N as Supplementary Equipment Protectors by the Energy Authority of New South Wales, Australia. W28 breakers are also DEMKO (Denmark) and SEV (Switzerland) approved. VDE approved for use in office equipment and provides 8mm contact spacing.

ENGINEERING DATA

Calibration: Will continuously carry 100% of rating. 3-15 amp models- may trip between 101% and 134%, but must trip at 135% of rating within one hour at 25˚C 0.25-2 amp models- may trip between 101% and 174% but must trip at 175% of rating within one hour @ 25˚C
Dielectric Strength: Over 1,500 volts RMS
Max. Operating Voltages: 32 VDC; 250VAC, 50/60Hz
Interrupt Capacity: 1,000 amps at 250 VAC, 50/60Hz. and 32V DC in accordance with UL standard 1077.
Resettable Overload Capacity: Ten times rated current.
Reset time: 0.25-2 amp models 180 seconds, maximum 3-15 models, 10-60 seconds.

Mfr.'s Type	RATING IN AMPS	TRIPTIME @200% OF RATING
W28-XQ1A-0.25 W28-XQ1A-0.50 W28-XQ1A-1 W28-XQ1A-2	0.25 .050 1 2	4.5-28 SEC.
W28-XQ1A-3 W28-XQ1A-4 W28-XQ1A-5 W28-XQ1A-6 W28-XQ1A-7 W28-XQ1A-8 W28-XQ1A-10 W28-XQ1A-12 W28-XQ1A-15	3 4 5 6 7 8 10 12 15	2.2-15 SEC.

CATALOG NUMBERING EXPLANATION

W 67 X 2 Q 1 2 20

W=6/32 Mounting Threads

67-Single Pole
68-Two Pole
69-Three Pole
91-Single Pole
92-Two Pole
93-Three Pole

X -Series Trip
A-Series Trip With Auxilary Switch

1-Black Toggle
2-White Toggle

Q-.250" Quick Connect -
(W9 Series have 10/32 studs)

1=277VAC 50/60Hz
277/480 VAC, 3ø-WYE
5=65 VDC

0=Instantaneous
2=Standard
3=Short Delay

From.025--50=Amps