

1M-Series

Miniature Rockers & Paddles

PRODUCT WEBPAGE

request sample, configure part





The 1M family of miniature rocker & paddle switches is composed of two switch series; the 1M1-Series miniature rocker and paddle switch, and the 1MS-Series sealed miniature rocker and paddle switch. Both products feature PC mounting and offer a variety of ratings, circuits, contact materials, terminal platings, rocker and paddle actuator styles and colors.

1-3 125, 250 28 Poles Amps

Typical Applications

- Instrumentation Test Equipment
- Telecommunications
- Networking

- · Handheld Appliances
- · Medical Equipment





Tech Specs



1MS-Series Sealed Miniature Rocker & Rocker Switch



IM1-SeriesMiniature Rocker
& Rocker Switch

Electrical

Contact Rating	refer to ordering scheme
Electrical Life	IMS-Series: 30,000 make & break cycles @ full load IMI-Series: 50,000 make & breakcycles @ full load
Contact Resistance	10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts
Insulation Resistance	1000 MΩ min.
Dielectric Strength	1500 Volts RMS @ sea level

Physical

Operating Temperature	-30°C to +85°C
Index of Protection	1MS-Series: IP67
Solder Heat Resistance	MIL-STD-202, Method 210
Actuator Travel	25°

Material

Case	IMS-Series: Glass filled nylon 6/6,flame retardant, heat stabilized (UL 94V-0) IMI-Series: Dially phthalate (DAP) (UL 94V-0)
Rocker/Paddle	IMS-Series: Nylon, black standard,internal o-ring sealed IMI-Series: Nylon (UL 94V-0)
Bushing	IMS-Series: Glass filled nylon 6/6,flame retardant, heat stabilized (UL 94V-0) IMI-Series: Brass, nickel plated
Housing	IMS-Series: Spring Steel IMI-Series: Stainless Steel
Actuator Pivot & Mounting Bracket	IMS-Series: Nylon (UL 94V-0) IMI-Series: Stainless Steel
Actuator Pivot Retainer	1MS-Series: Stainless Steel
Switch Support	Brass, tin plated
Terminal Seal	Ероху

Ordering Schemes

Sample Part Number IMS Selection

1. SERIES

Sealed Miniature Rocker Switch

2. POLES

Single pole - uses terminals 1, 2 & 3 Double pole uses terminals 1,2, 3, 4, 5 & 6 Three pole uses terminals 1,2, 3, 4, 5, 6, 7, 8 & 9

3. CIRCUIT

() - mon	nentary			
Position:	1 ′	2	3	
	2-3, 5-6, 8-9	Connected Terminals	2-1, 5-4, 8-7	
1	ON	NONE	ON	
2	ON	NONE	(ON)	
3	ON	OFF	ÒN	
4	(ON)	OFF	(ON)	
5	ÒN	OFF	(ON)	
6 *	ON	ON	ÒN	
7 *	(ON)	ON	(ON)	
8 *	ÒN	ON	(ON)	
9 *	OFF	ON	(ON)	
*Center Position Connects 2-3, 5-4, 8-9				

4. ACTUATOR STYLE

Large Rocker Standard Rocker Standard Paddle Small Rocker Medium Rocker Medium Paddle Large Paddle

5. ACTUATOR COLOR

1 White 2 Black 3 Red Black is standard. Other colors available, consult factory.

6. TERMINATION

M1 M2 M3 M51 M52 M53 M54 M6	Solder Lug PCB Quick Connect Wire Wrap Wire Wrap Wire Wrap Wire Wrap PC Mount, 90° horizontal PC Mount, 90° vertical	VS3 VS4 VS5 VS21 VS31 VS41	PC Mount, U bracket PC Mount, U bracket PC Mount, U bracket PC Mount, U bracket Snap-In, U bracket Snap-In, U bracket Snap-In, U bracket Snap-In, U bracket Snap-In, U bracket Snap-In, U bracket, 3-Pole	
See dimensional specifications.				

7. CONTACTS / TERMINALS

Con	tact Material	Terminal Plating	Rating _Approval	s
G	silver 1	gold over silver	5A 125VAC or 28VDC, c Sus, IP6	7
		2A	250VAC	
Κ	gold ^{2,5}	tin ⁴	0.4VA max 20V max (AC/DC) IP6	7
Р	gold ^{2,5} silver ^{1,6}	tin ⁴	0.4VA max 20V max (AC/DC) IP6 5A 125VAC or 28VDC, c 125vs, IP6	7
	_	2A	250VAC	
R	gold ²	gold ³	0.4VA max 20V max (AC/DC) IP6	7

8. EPOXY SEAL

Epoxy Seal 0 without Epoxy Seal

Tin option not available with M1 and M3 terminals.

- Movable contact and terminal platings: silver over copper alloy Movable contact platings: gold over nickel over copper alloy Terminal platings: gold over nickel over copper alloy Terminal platings: tin over copper alloy Terminal contact platings: gold over nickel alloy Terminal contact platings: silver over nickel alloy

© Configure Complete Part Number > © Browse Standard Parts >

Sample Part Number

1. SERIES

1M1 Miniature Rocker Switch

2. POLES

Single pole - uses terminals 1, 2 & 3 DP Double pole uses terminals 1,2, 3, 4, 5 & 6 Three pole uses terminals 1,2, 3, 4, 5, 6, 7, 8 & 9 Four pole uses terminals 1,2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

3. CIRCUIT

	- momentary		
Pos	ition: 1	2	3
	2-3, 5-6, 8-9, 11-12	Connected Terminals	2-1, 5-4, 8-7, 11-10
1	ON	NONE	ON.
2	ON	NONE	(ON)
3	ON .	OFF	ON
4	(ON)	OFF	(ON)
5	ON	OFF	(ON)
61	ON .	ON	ON
7]	(ON)	ON	(ON)
81	ON	ON	(ON)
92	NONE	ON	(ON)

4. ACTUATOR STYLE

5. ACTUATOR COLOR / 6 FRAME COLOR

No Frame* Black 3 Red White

Black is standard. Other colors available, consult factory. *Actuator style R8 or R9 only.

7. TERMINATION

M1	Solder Lug	VS3	PC Mount, U bracket
	PCB	VS4	PC Mount, U bracket
М3	Quick Connect	VS5	PC Mount, U bracket
M51	Wire Wrap		Snap-In, U bracket, 90° horizontal
M52	Wire Wrap	M71	Snap-In, U bracket, 90° vertical
M53	Wire Wrap	VS21	Snap-In, U bracket
	Wire Wrap		Snap-In, U bracket
М6	PC Mount, 90° horizontal	VS41	Snap-In, U bracket
М7	PC Mount, 90° vertical	VS51	Snap-In, U bracket
VS2	PC Mount, U bracket	U4	Snap-In, U bracket, 3-Pole
See d	imensional specifications.		

8. CONTACTS / TERMINALS

Cor	ntact Material	Terminal Plating	g Rating	Approvals
G	silver ³	gold over silver 2A 250VAC	5A 125VAC or 28VDC,	·· 71 1, (
K P	gold ^{4,7} silver ^{3,8}	tin ⁶	0.4VA max 20V max (5A 125VAC or 28VDC,	AC/DC) N/A
Р	silver ^{3,8}	tin ⁶ 2A 250VAC	5A 125VAC or 28VDC,	71 1, 🖫
Q	silver ³	silver ³ 2A 250VAC	5A 125VAC or 28VDC,	91 , (
R	gold ⁴	gold ⁵	0.4VA max 20V max (AC/DC) N/A

9. EPOXY SEAL

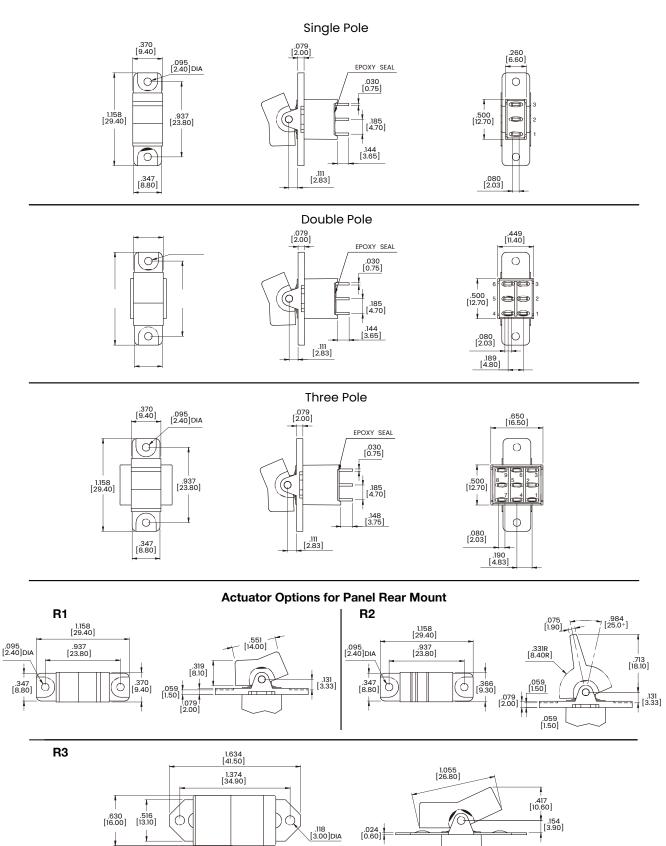
Epoxy Seal without Epoxy Seal

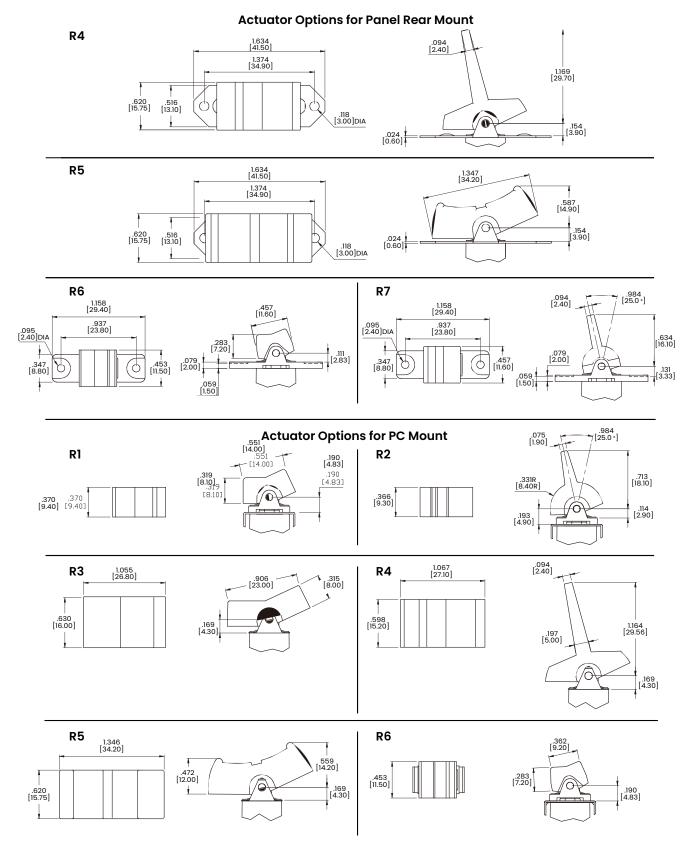
Tin option not available with M1 and M3 terminals

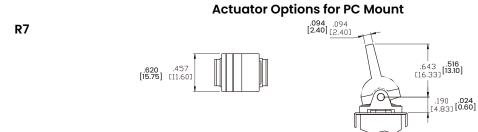
Double-Pole and Four-Pole only. Center position connects 2-3, 5-4, 8-9, 11-10 Double-Pole only

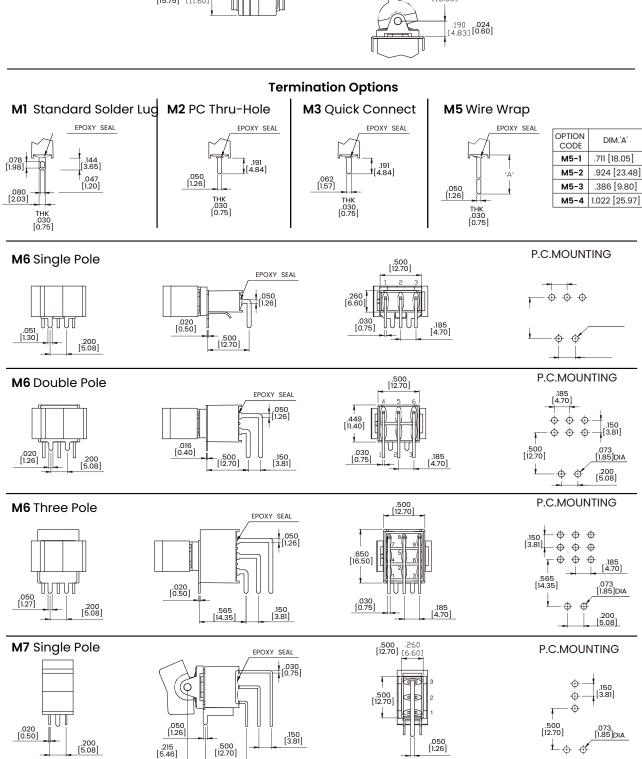
Double-Pole only
Movable contact and terminal platings: silver over copper alloy
Movable contact and terminal platings: silver over copper alloy
Terminal platings: gold over nickel over copper alloy
Terminal platings: tin over copper alloy
Terminal contact platings: gold over nickel alloy
Terminal contact platings: silver over nickel alloy

🛭 Configure Complete Part Number > 👚 🕾 Browse Standard Parts >



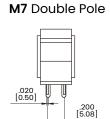


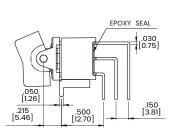


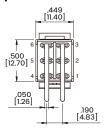


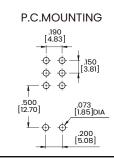
inches [millimeters]



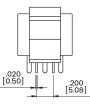


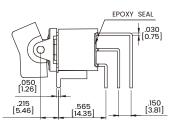


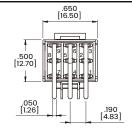


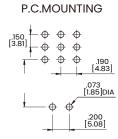


M7 Three Pole

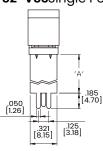


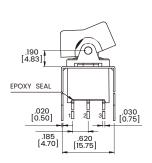




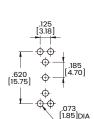


VS2-VS3Single Pole



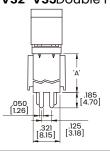


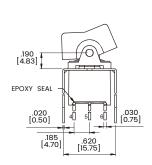
OPTION CODE	DIM.'A'
VS2	.461 [11.70]
VS3	.630 [16.00]



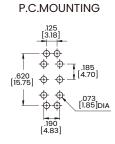
P.C.MOUNTING

VS2-VS3Double Pole

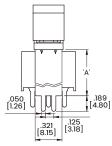


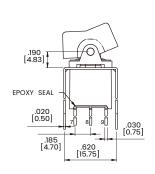


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VS3	.630 [16.00]



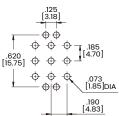
U2-VS3Three Pole





OPTION CODE	DIM.'A'
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VS3	.630 [16.00]

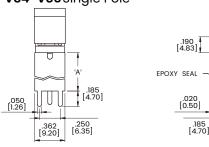
P.C.MOUNTING



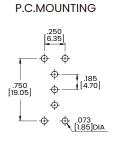
inches [millimeters]

Termination Options

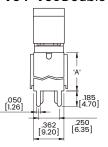
VS4-VS5 Single Pole

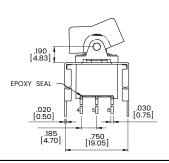


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]



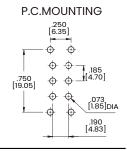
VS4-VS5 Double Pole



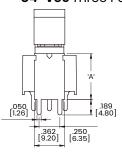


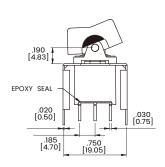
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DIM.'A'
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.630 [16.00]

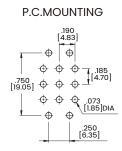


U4-VS5 Three Pole





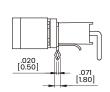
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VS5	.630 [16.00]

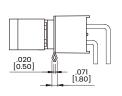


Snap-In Termination Options

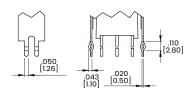
M61



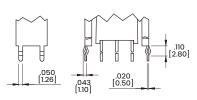




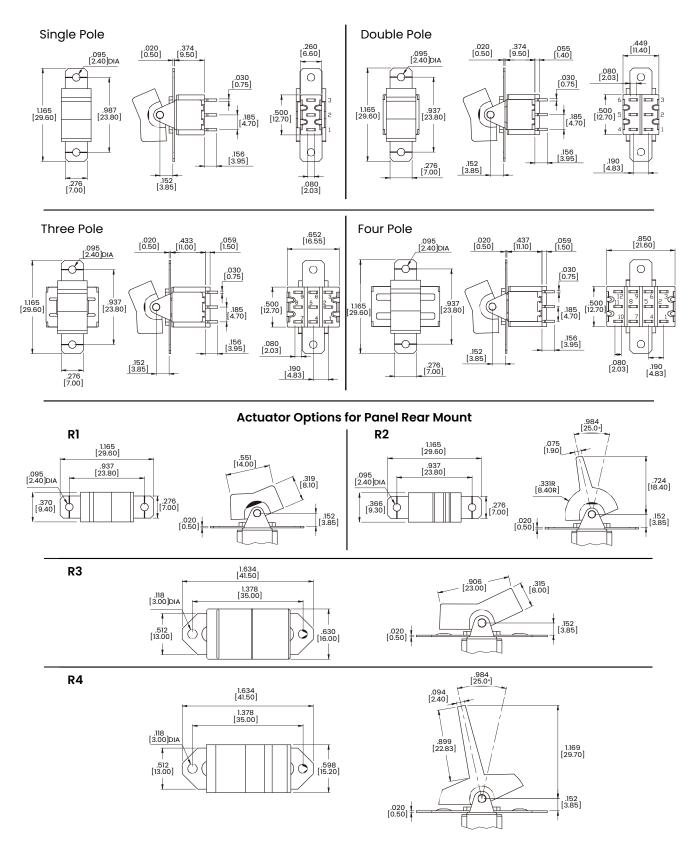
VS21, VS31

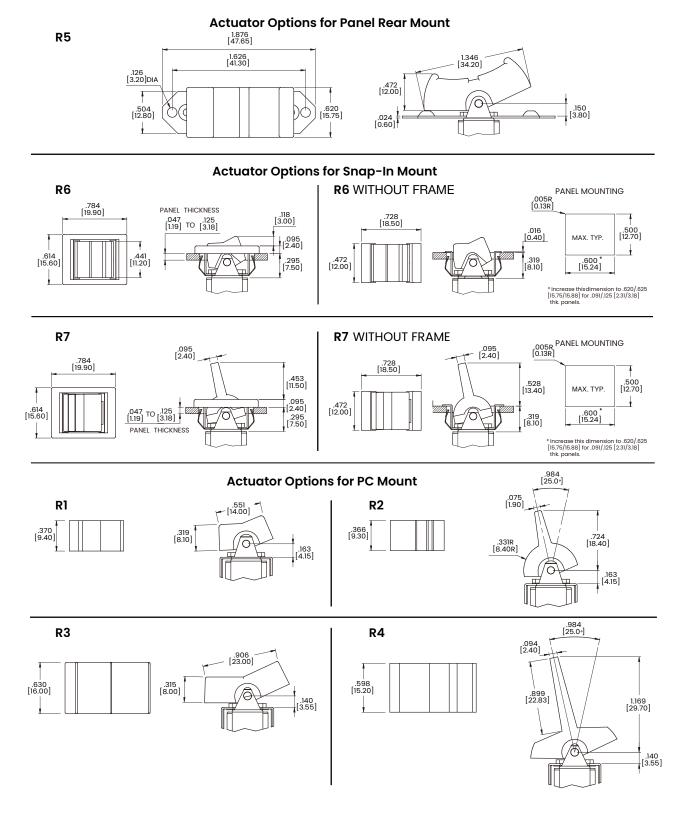


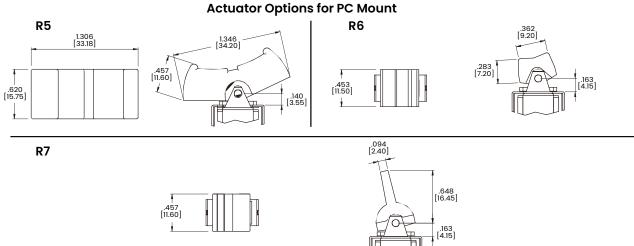
VS41, VS51

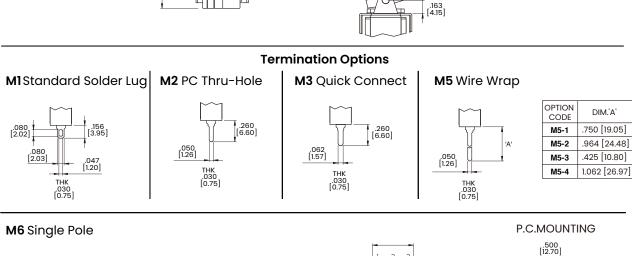


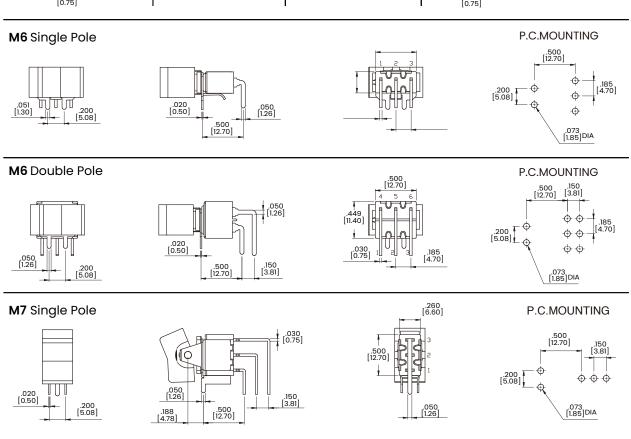
^{*} PC Mounting for M61, M71, VS21, VS31, VS41, VS51 refer to M6, M7, VS2, VS3, VS4, VS5 respectively.











.020 [0.50]

.125 [3.18] .030 [0.75]

inches [millimeters]

Termination Options P.C.MOUNTING M7 Double Pole .200 T [5.08] .020 [0.50] .150 [3.81] .073 1.85]DIA P.C.MOUNTING M7 Three Pole .030 [0.75] .200 [5.08] $\phi \phi \phi \neg$ $\phi \phi \phi$.150 [3.81] .073 [1.85]DIA P.C.MOUNTING M7 Four Pole .200 [5.08] .190 [4.83] .150 [3.81] VS2-VS3Single Pole P.C.MOUNTING OPTION CODE .461 [11.70] VS2 ф-.185 [4.70] .630 [16.00] VS3 ⊕ (1.85]DIA .125 [5.08] VS2-VS3Double Pole P.C.MOUNTING OPTION DIM.'A' CODE .461 [11.70] VS2 ф .620 [15.75]

.630

.073 [1.85]DIA

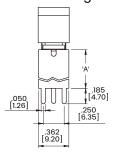
VS3

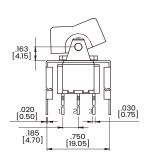


inches [millimeters]

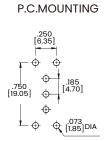
Termination Options

VS4-VS5 Single Pole

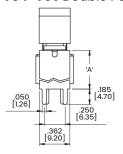


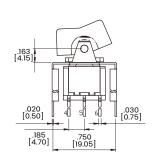


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

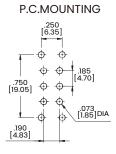


VS4-VS5 Double Pole

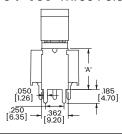


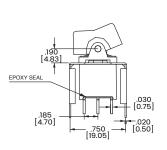


OPTION CODE	DIM.'A'
VS4	.461 [11.70]
VS5	.630 [16.00]

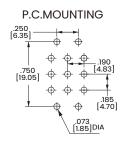


U4-VS5 Three Pole





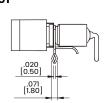
OPTION CODE	DIM.'A'
U4	.551 [14.00]
VS5	.630 [16.00]



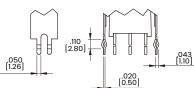
Snap-In Termination Options





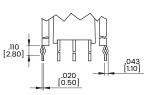


VS21, VS31



VS41, VS51





^{*} PC Mounting for M61, VS21, VS31, VS41, VS51 refer to M6, VS2, VS3, VS4, VS5 respectively.

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About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With six ISO9001 and IATF16949 registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit www.carlingtech.com/company-profile.

To view all of Carling's environmental, quality, health & safety certifications please visit www.carlingtech.com/environmental-certifications.

Mouser Electronics

Authorized Distributor

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1MS-00000047 1MS-00000048 1MS-00000049 1MS-00000050 1MS-00000052 1MS-00000053 1MS-SP3-
R1/2M1GE 1M1-SP1-R7/2-M1QE 1M1-SP3-R1/2-VS4QE 1M1-SP1-R1/2-VS4QE 1M1-SP3-R3/0-2M1QE 1M1-SP1-
R3/2-M3QE 1M1-SP5-R7/2-2M1QE 1MS-DP1-R3/2-VS5GE 1M1-DP1-R1/2-VS4QE 1M1-SP4-R3/2-M1QE 1M1-
DP1-R7/2-2M2QE 1MS-DPN-R1/2M6GE 1M1-SP1-R6/2-M1QE 1MS-SP3-R5-M6GE 1M1-DP3-R8/2-M2PE 1M1-
SP4-R1/2-VS4QE 1M1-SP1-R3/2-VS5RE 1MS-SP1-R6-M1GE 1MS-SP1-R1-VS3GE 1M1-DP1-R6/2-2M6QE 1M1-
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DP3-R7/2-2M1QE 1MS-SP4-R1-M3GE 1M1-SP1-R3/2-M1RE 1M1-SP3-R1/9-E7GE 1M1-DP1-R1/2-VS4GE 1M1-
SP1-R6/2-M2GE 1M1-SP4-R9/2-M1RE 1MS-DP4-R4/2-VS5GE 1MS-SP1-R3-U4GE 1MS-SP1-R1-M6GE 1M1-SP1-
R3/3-M3QE 1M1-SP5-R1/2-VS2QE 1MS-3P1-R3-U4GE 1MS-SP1-R1-/2-M6PE 1MS-SP3-R3-U4GE 1MS-DP4-R3-
M1GE 1M1-DP1-R1/1-VS4QE 1M1-SP1-R3/2-VS5KE
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