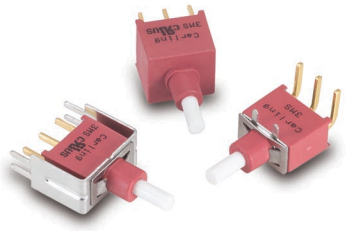
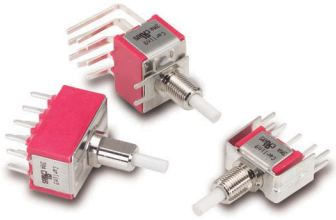
3MN-Series
Snap-Action Miniature Pushbutton Switch



3MS-Series
Sealed Snap-Action Miniature Pushbutton Switch



3MA-Series
Alternate Action Miniature Pushbutton Switch

Specifications

Contact Rating . . . . . refer to ordering scheme
Electrical Life . . . . . 50,000 make & break cycles @ full load
Contact Resistance. . . . . *3MN& 3MA-Series:* 10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts.
3MS-Series: 50 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
Operating Temperature . . . -30°C to +85°C
Index of Protection . . . . . *3MS -Series:* IP68
Cap Installation Support . . *3MS-Series:* 10 lbs. max.
Solder Heat Resistance. . . MIL-STD-202, Method 210
Actuator Travel . . . . . 25°

Materials

Case . . . . . *3MN & 3MA-Series:* Dially phthalate (DAP) (UL 94V-0)
3MS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
Plunger. . . . . *3MN-Series:* Thermoplastic polyester, black
3MS & 3MA-Series: Glass filled nylon or glass filled polyester (UL 94V-0)
Bushing . . . . . *3MN-Series:* Brass, nickel plated
3MA-Series: Zinc, nickel plated
Housing. . . . . *3MN & 3MA-Series:* Stainless Steel
Switch Support Retainer . . *3MS-Series:* Stainless Steel
Terminal Seal . . . . . Epoxy

3M-Series Optional Cap

To order a cap assembled on a switch, specify the switch number followed by the cap part number and the word “assembled”.
Ex: 3MN-SP-7-P2-B6-M6QE-C13ASSEMBLED
To order caps in bulk, specify the Series, followed by the cap. Ex.) 3MN-C13

3MN - C1 3

1 Series — 2 Cap Size — 3 Color

1 SERIES OR SWITCH CATALOG NUMBER
3MN, 3MS or **3MA**

2 CAP SIZE

C1	round 7.6mm dia.	**C5**	round 14.5mm dia. (for 3MA w/ PL bushing)
C2	round 9.35 mm dia.		
C3	square 11.7 x 11.7mm	**C6**	brass chrome plated (for 3MA w/ PD bushing)
C4	round 5mm dia.		

3 CAP COLOR

1	white	**5**	yellow
2	black	**6**	green
3	red	**7**	blue
4	orange		

1 Black, white & red standard. Other colors available. Consult factory.

3MN-Series Ordering Scheme

with Square Actuator

3MN	-	SP	-	7	-	AP2	/	3	2	-	M6	Q	E
1 Series		2 Poles		3 Circuit		4 Actuator		5A Actuator Color	5B Frame Color		6 Termination	7 Contact	8 Seal

with Plunger Actuator

3MN	-	SP	-	7	-	P2	-	B6	-	M6	Q	E
1 Series		2 Poles		3 Circuit		4 Actuator		5 Bushing		6 Termination	7 Contact	8 Seal

1 SERIES
3MN Snap-Action Miniature Pushbutton Switch

2 POLES
SP single pole **DP** double pole

3 CIRCUIT
( ) - momentary

7	ON	(ON)

4 ACTUATOR[1]
SQUARE ACTUATOR *(use with Color Options in Selection 5A & 5B.)*

AP1	square with no frame
AP2	square raised above frame
AP3	square flush with frame

PLUNGER ACTUATOR *(use with Bushing Options in Selection 5)*

P0	2.5mm short plunger(for B6 bushing only)
P1	5.2mm plunger(for bushing B10,B11,B20,B21; 7.5mm for B6)
P2	2.0mm plunger(for bushing B10,B11,B20,B21; 4.2mm for B6)

5A ACTUATOR COLOR & 5B FRAME COLOR[1,2]

1 white	**4** orange	**7** blue
2 black	**5** yellow	**8** brown
3 red	**6** green	**9** gray

1 Black, white and red are standard. Other colors available, consult factory for details.
2 Selection 5B is blank if actuator style is AP1 (no frame)

OR

5 BUSHING

B6	Unthreaded (for terminations VS6-VS9 only)
B10	Threaded keyway
B11	Threaded with flat
B20	Unthreaded keyway
B21	Unthreaded with flat

NOTE:
If ordering optional CAP with bushings B10, B11, B20 or B21, specify actuator P1.
For CAP with bushing B6, specify actuator P2.
For CAP options, see ordering scheme on page 35.

6 TERMINATION

M1	Solder Lug
M2	PCB
M5-1	Wire Wrap .750 [19.05]
M5-3	Wire Wrap .425 [10.80]
M6	PC Mount, 90° horizontal
M7	PC Mount, 90° vertical
VS2	PC Mount, U bracket, .620 mounting x .460 high
VS3	PC Mount, U bracket, .620 mounting x .630 high
VS4	PC Mount, U bracket, .750 mounting x .460 high
VS5	PC Mount, U bracket, .750 mounting x .630 high
VS6	PC Mount, U bracket, .460 high (for B6 bushing only)
VS7	PC Mount, U bracket, .630 high (for B6 bushing only)
VS8	PC Mount, U bracket, .460 high (for B6 bushing only)
VS9	PC Mount, U bracket, .630 high (for B6 bushing only)

7 CONTACT

	Material	*Terminal Plating*	*Rating*	*Approvals*
G	silver[1]	gold over silver[3]	1A@120VAC or 28VDC	UL, CUL
Q	silver[1]	silver[1]	1A@120VAC or 28VDC	UL, CUL
R	gold[2]	gold[2]	0.4VA max. @20V max (AC/DC)	

NOTE:
Tin-lead option available with PC type terminations only.
1 Moveable contact & terminals: copper alloy, silver plate
2 Moveable contact & terminals: copper alloy with gold plate over nickel plate
3 Terminals: silver plate with outer layer in gold plating

8 EPOXY SEAL
E epoxy seal

3MS-Series Ordering Scheme

3MS - WSP 7 - P1 - B1 - M6 Q E

1 Series · 2 Poles · 3 Circuit · 4 Actuator · 5 Bushing · 6 Termination · 7 Contact · 8 Seal

1 SERIES
3MS Sealed Snap-Action Miniature Pushbutton Switch

2 POLES
WSP single pole **WDP** double pole

3 CIRCUIT
( ) - momentary

7	ON	(ON)

4 ACTUATOR

P1	.173" plunger (for B1 bushing); .276" (for B4 bushing)
P2	.220" plunger (for B1 bushing); .327" (for B4 bushing)
P3	.087" plunger (for B1 bushing); .193" (for B4 bushing)

5 BUSHING

B1	Threaded
B4	Unthreaded

6 TERMINATION

M1	Solder Lug	**VS21**	Snap-In, U bracket, .620 mounting x .460 high
M2	PCB	**VS3**	PC Mount, U bracket, .620 mounting x .630 high
M6	PC Mount, 90° horizontal	**VS4**	PC Mount, U bracket, .750 mounting x .460 high
M61	Snap-In, 90° horizontal	**VS5**	PC Mount, U bracket, .750 mounting x .630 high
M7	PC Mount, 90° vertical		
M71	Snap-In, 90° vertical		
VS2	PC Mount, U bracket, .620 mounting x .460 high		

7 CONTACT

	Material	Terminal Plating	Rating	Approvals	
G	silver[1]	gold over silver[3]	1A@120VAC or 28VDC	UL, CUL	IP68
Q	silver[1]	silver[1]	1A@120VAC or 28VDC	UL, CUL	IP68
R	gold[2]	gold[2]	0.4VA max. @20V max (AC/DC)		IP68

NOTE:
Tin-lead option available with PC type terminations only.
1 Moveable contact & terminals: copper alloy, silver plate
2 Moveable contact & terminals: copper alloy with gold plate over nickel plate
3 Terminals: silver plate with outer layer in gold plating

7 EPOXY SEAL
E epoxy seal

3MA-Series Ordering Scheme

with Square Actuator

3MA - SP - 1 - AP2 / 3 2 - M6 Q E

1 Series · 2 Poles · 3 Circuit · 4 Actuator · 5A Actuator Color · 5B Frame Color · 6 Termination · 7 Contact · 8 Seal

with Plunger Actuator

3MA - SP - 1 - PD - BD - M6 Q E

1 Series · 2 Poles · 3 Circuit · 4 Actuator · 5 Bushing · 6 Termination · 7 Contact · 8 Seal

1 SERIES
3MA Alternate-Action Miniature Pushbutton Switch

2 POLES
SP single pole **DP** double pole **3P** three pole **4P** four pole

3 CIRCUIT
( ) - momentary

	Switching Position: 2-3, 5-6, 8-9, 11-12	*OPEN*	2-1, 5-4, 8-7, 11-10
1	ON	NONE	ON
2	ON	NONE	(ON)

4 ACTUATOR

SQUARE ACTUATOR *(use with Color Options in Selection 5A & 5B.)*

AP1	square with no frame
AP2	square raised above frame

PLUNGER ACTUATOR *(use with Bushing Options in Selection 5)*

PA	.118 dia. x .299" plunger length
PI	.118 dia. x .244" plunger length
PL	.118 dia. x .327" plunger length
PC	.315" dia. brass chrome plated plunger (for BD bushing only)
PD	.242" dia. brass chrome plated plunger (for BD bushing only)

5A ACTUATOR COLOR & 5B FRAME COLOR[1,2]

1 white	**4** orange	**7** blue
2 black	**5** yellow	**8** brown
3 red	**6** green	**9** gray

1 Black, red and white are standard. Other colors available, consult factory for details.
2 Selection 5B is blank if actuator style AP1 (no frame)

OR

5 BUSHING

BD	Big bushing for PC, PD actuator 15/32"
B10	Threaded 1/4 - 40
B20	Unthreaded
B21	Unthreaded with flat

NOTE: For CAP options, see ordering scheme on page 35.

6 TERMINATION

M1	Solder Lug	**VS2**	PC Mount, U bracket, .620 mounting x .460 high
M2	PCB	**VS3**	PC Mount, U bracket, .620 mounting x .630 high
M5-1	Wire Wrap .750 [19.05]	**VS4**	PC Mount, U bracket, .750 mounting x .460 high
M5-2	Wire Wrap .964 [24.48]	**VS5**	PC Mount, U bracket, .750 mounting x .630 high
M5-3	Wire Wrap .425 [10.80]		
M5-4	Wire Wrap 1.062 [26.87]		
M6	PC Mount, 90° horizontal		
M7	PC Mount, 90° vertical		

7 CONTACT

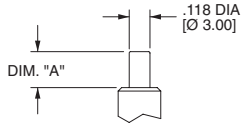
	Material	Terminal Plating	Rating	Approvals
G	silver[1]	gold over silver[3]	6A@125VAC or 28VDC, 3A@250VAC	UL, CUL
K	gold[2]	tin-lead[4]	6A@125VAC or 28VDC	
P	silver[1]	tin-lead[4]	6A@125VAC or 28VDC, 3A@250VAC	UL, CUL
Q	silver[1]	silver[1]	6A@125VAC or 28VDC 3A@250VAC	UL, CUL
R	gold[2]	gold[2]	0.4VA max. @20V max (AC/DC)	

NOTE:
Tin-lead option available with PC type terminations only.
1 Moveable contact & terminals: copper alloy, silver plate
2 Moveable contact & terminals: copper alloy with gold plate over nickel plate
3 Terminals: silver plate with outer layer in gold plating
4 Outer terminals: copper alloy with tin-lead over nickel plate

8 EPOXY SEAL
E epoxy seal

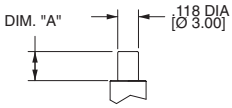
3MN-Series Dimensional Specifications: in. [mm]

PLUNGER



OPTION CODE	DIM. "A"
P0	.000 [0.00]
P1	.205 [5.20]
P2	.079 [2.00]

FOR B10,B11,B20,B21 ONLY

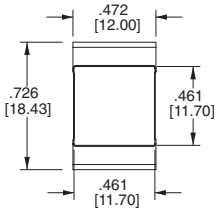


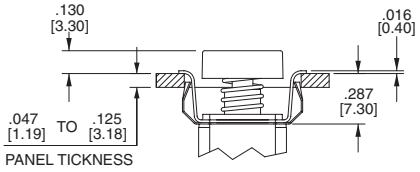
OPTION CODE	DIM. "A"
P0	.098 [2.50]
P1	.295 [7.50]
P2	.165 [4.20]

FOR B6 ONLY

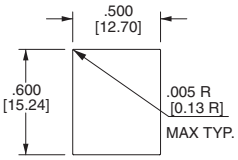
ACTUATOR

AP1

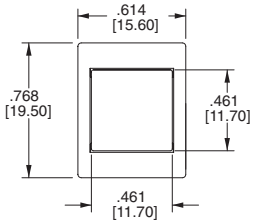


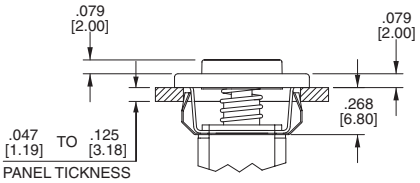


PANEL MOUNTING

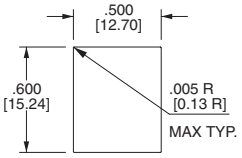


AP2

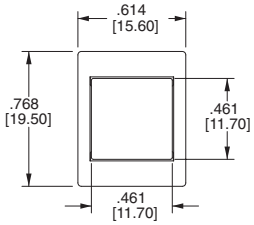


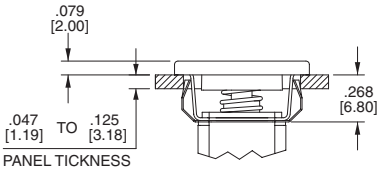


PANEL MOUNTING



AP3

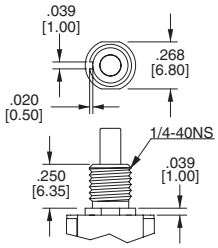




BUSHING

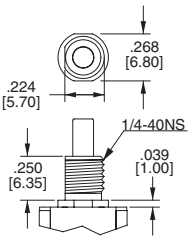
B10
STANDARD KEYWAY THREADED SHOWN

B20
STANDARD KEYWAY NON-THREADED

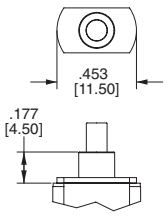


B11
THREADED SHOWN WITH FLAT

B21
NON-THREADED WITH FLAT

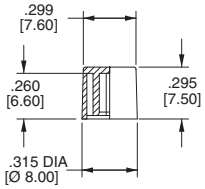


B6
NON-THREADED (FOR TERMINATION OPTIONS VS6-VS9 ONLY)

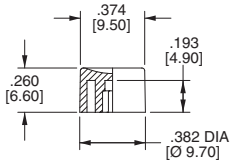


CAP

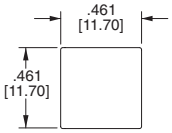
C1



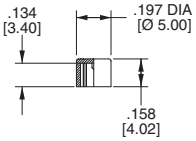
C2



C3



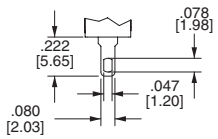
C4



3MN-Series Dimensional Specifications: in. [mm]

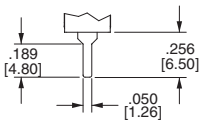
TERMINATION

M1



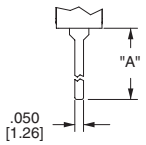
THK .030 [0.75]

M2



THK .030 [0.75]

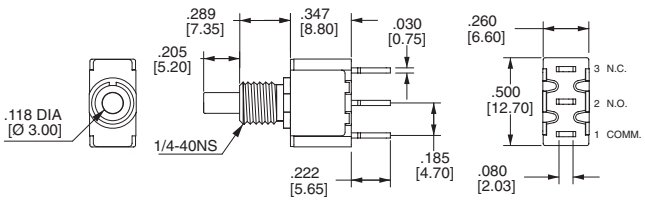
M5



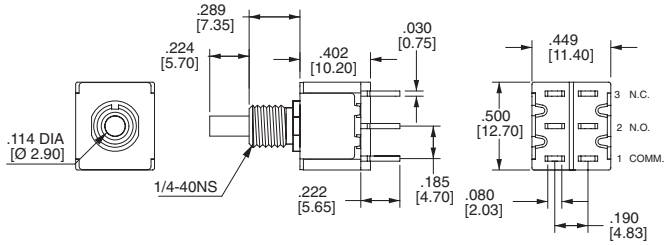
OPTION CODE	DIM. "A"
M5-1	.750 [19.05]
M5-3	.425 [10.80]

THK .030 [0.75]

SINGLE POLE

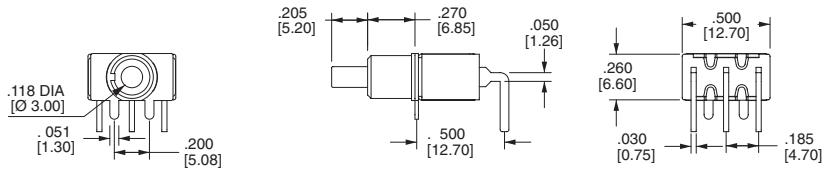


DOUBLE POLE

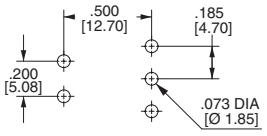


M6

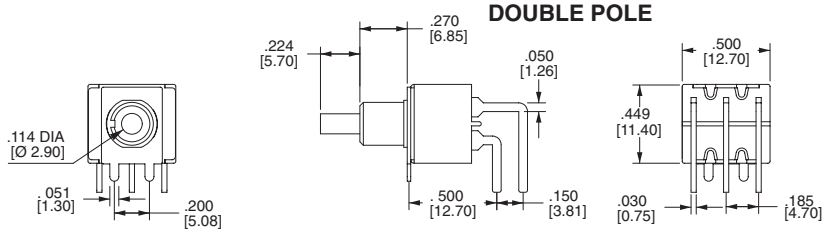
SINGLE POLE



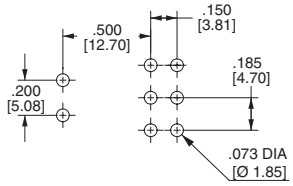
PC MOUNTING



DOUBLE POLE

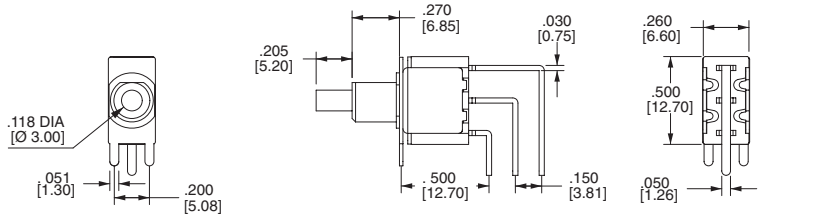


PC MOUNTING

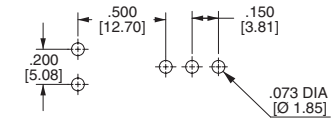


M7

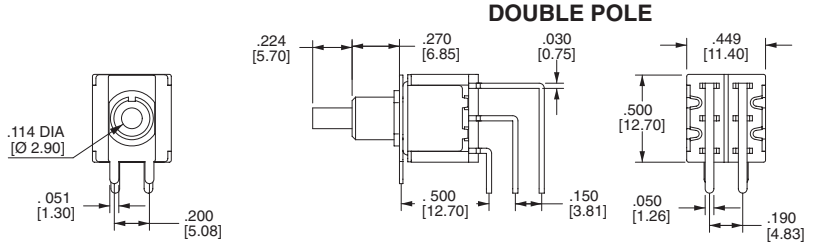
SINGLE POLE



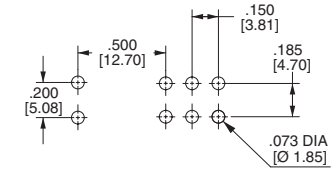
PC MOUNTING



DOUBLE POLE



PC MOUNTING

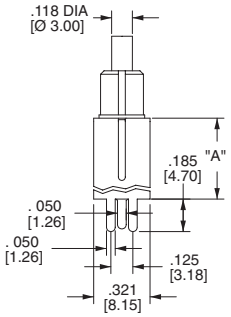


3MN-Series Dimensional Specifications: in. [mm]

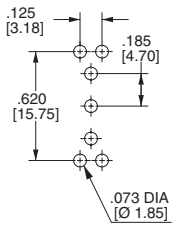
TERMINATION

SINGLE POLE

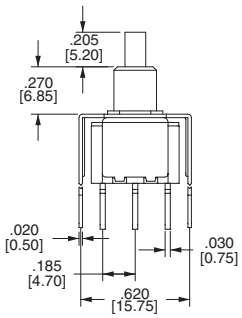
OPTION CODE	DIM. "A"
VS2 VS6	.460 [11.68]
VS3 VS7	.630 [16.00]



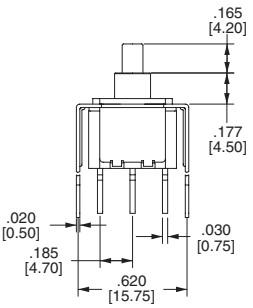
PC MOUNTING



VS2-VS3

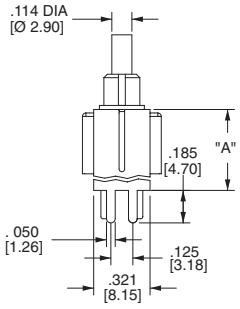


VS6-VS7
(For B6 Bushing Only)

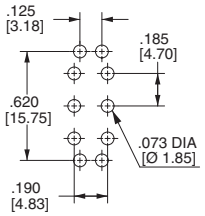


DOUBLE POLE

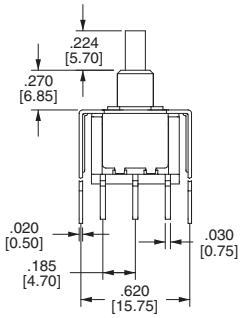
OPTION CODE	DIM. "A"
VS2 VS6	.460 [11.68]
VS3 VS7	.630 [16.00]



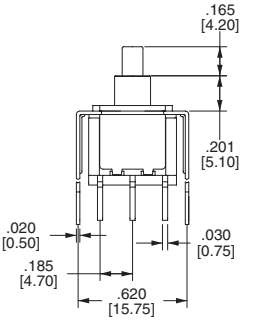
PC MOUNTING



VS2-VS3

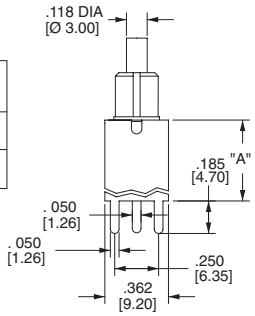


VS6-VS7
(For B6 Bushing Only)

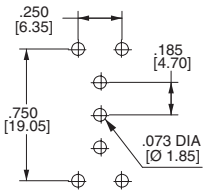


SINGLE POLE

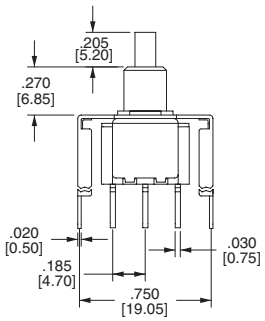
OPTION CODE	DIM. "A"
VS4 VS8	.460 [11.68]
VS5 VS9	.630 [16.00]



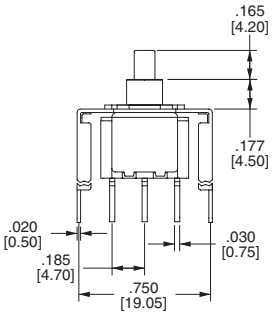
PC MOUNTING



VS4-VS5

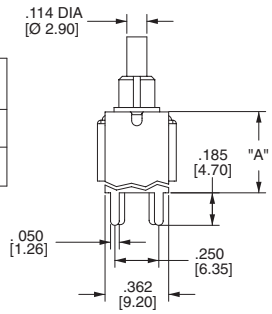


VS8-VS9
(For B6 Bushing Only)

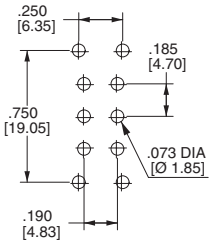


DOUBLE POLE

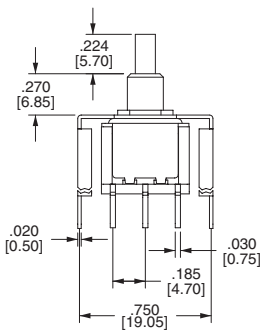
OPTION CODE	DIM. "A"
VS4 VS8	.460 [11.68]
VS5 VS9	.630 [16.00]



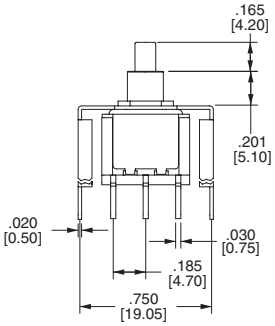
PC MOUNTING



VS4-VS5

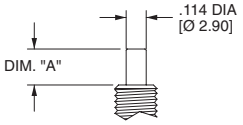


VS8-VS9
(For B6 Bushing Only)



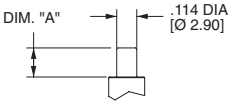
3MS-Series Dimensional Specifications: in. [mm]

PLUNGER



OPTION CODE	DIM. "A"
P1	.173 [4.40]
P2	.220 [5.60]
P3	.087 [2.20]

FOR B1 BUSHING

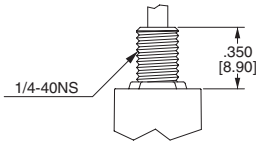


OPTION CODE	DIM. "A"
P1	.276 [7.00]
P2	.327 [8.30]
P3	.193 [4.90]

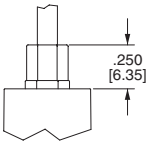
FOR B4 BUSHING

BUSHING

B1

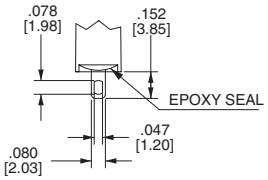


B4



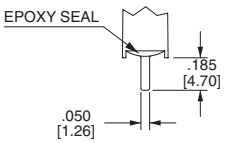
TERMINATION

M1



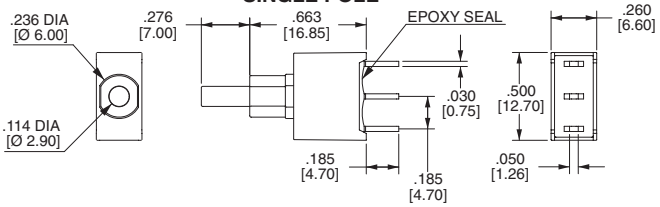
THK .030 [0.75]

M2

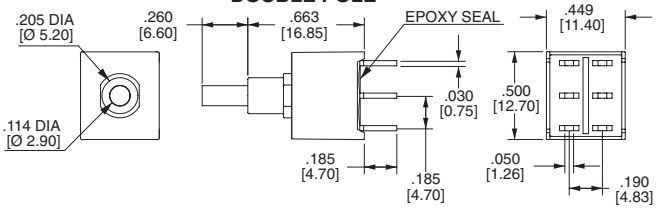


THK .030 [0.75]

SINGLE POLE

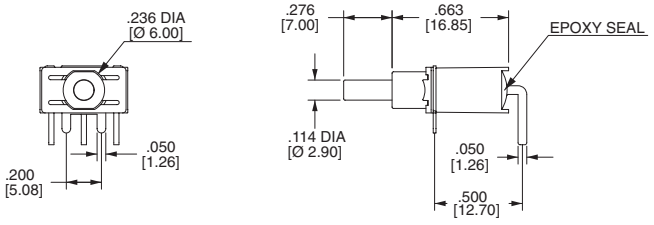


DOUBLE POLE

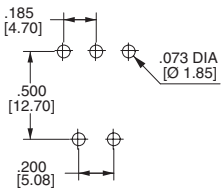


M6

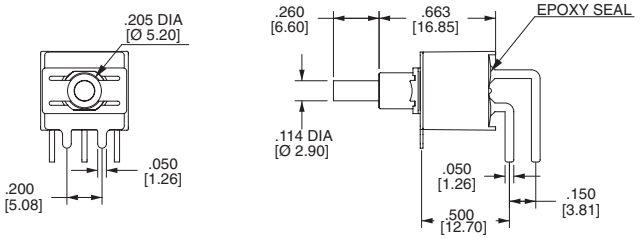
SINGLE POLE



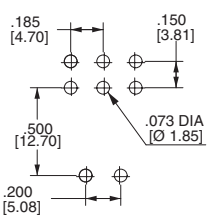
PC MOUNTING



DOUBLE POLE



PC MOUNTING

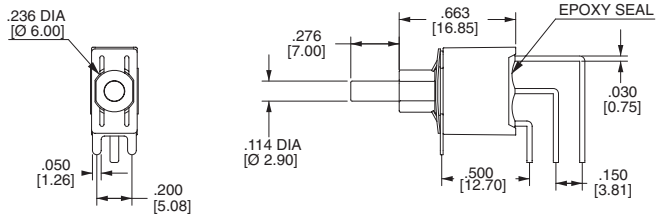


3MS-Series Dimensional Specifications: in. [mm]

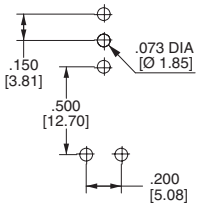
TERMINATION

M7

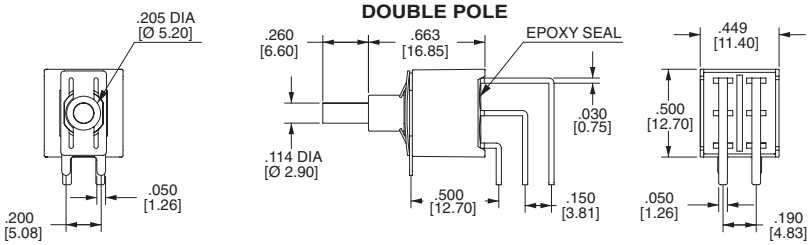
SINGLE POLE



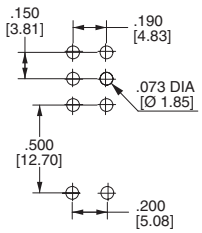
PC MOUNTING



DOUBLE POLE



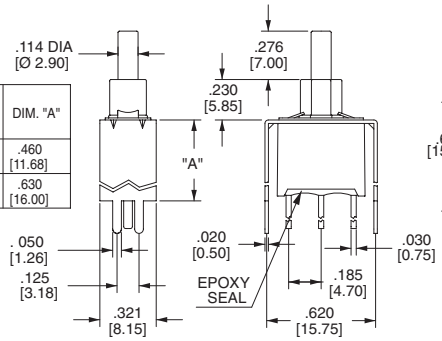
PC MOUNTING



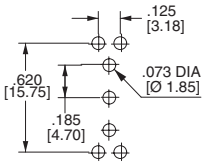
VS2-VS3

SINGLE POLE

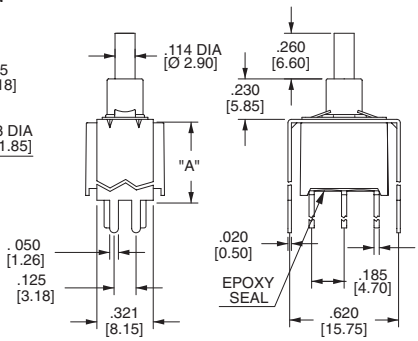
OPTION CODE	DIM. "A"
VS2	.460 [11.68]
VS3	.630 [16.00]



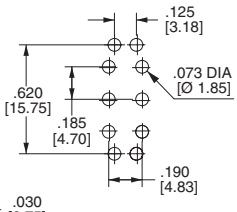
PC MOUNTING



DOUBLE POLE



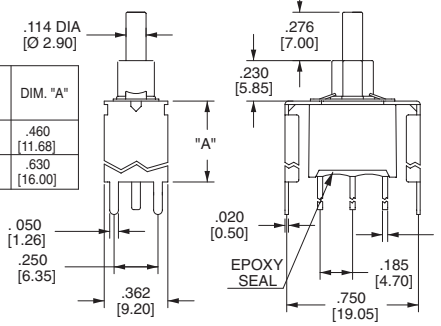
PC MOUNTING



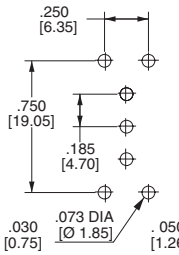
VS4-VS5

SINGLE POLE

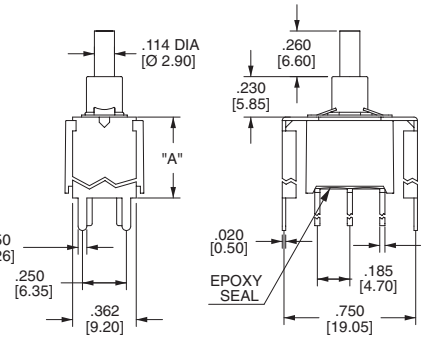
OPTION CODE	DIM. "A"
VS4	.460 [11.68]
VS5	.630 [16.00]



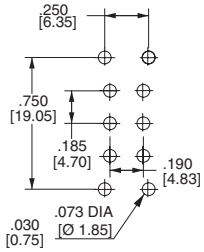
PC MOUNTING



DOUBLE POLE



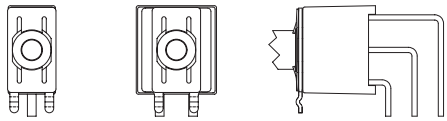
PC MOUNTING



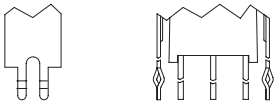
SNAP-IN TERMINATION OPTIONS

M61

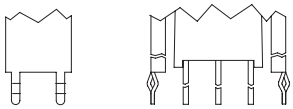
M71



VS21,VS31



VS41,VS51

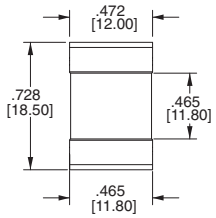


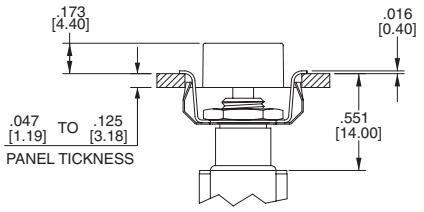
M61,M71,VS21,VS31,VS41,VS51 have the same P.C. mounting but with snap-in bracket.

3MA-Series Dimensional Specifications: in. [mm]

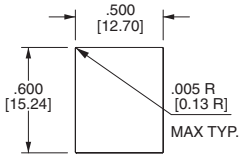
ACTUATOR

AP1

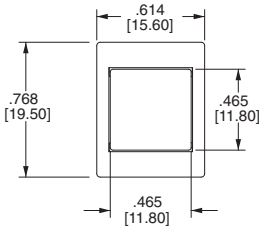


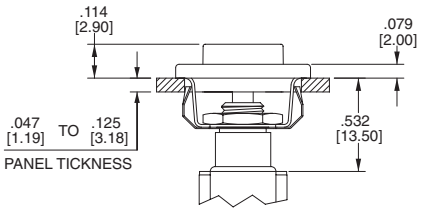


PANEL MOUNTING

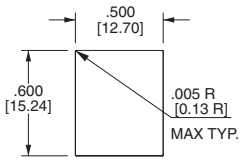


AP2



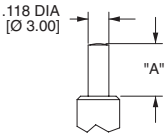


PANEL MOUNTING



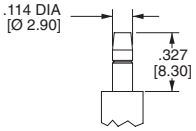
PLUNGER

PA,PI

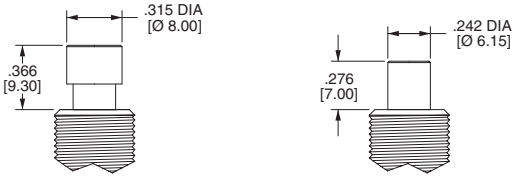


OPTION CODE	DIM. "A"
PA	.299 [7.60]
PI	.244 [6.20]

PL



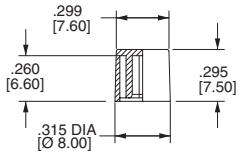
PC — Brass Chrome Plated — **PD**



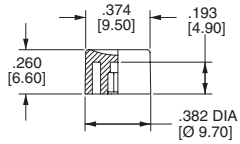
PC, PD Plunger must fit with BD bushing

CAP

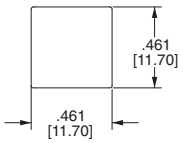
C1



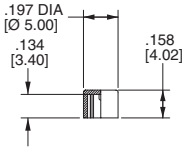
C2



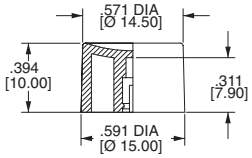
C3



C4

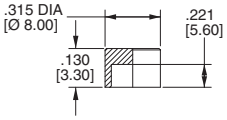


C5



For PL Bushing Only

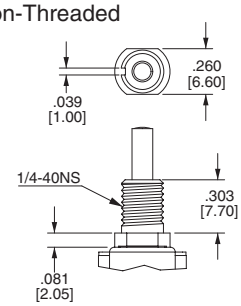
C6 — Brass Chrome Plated



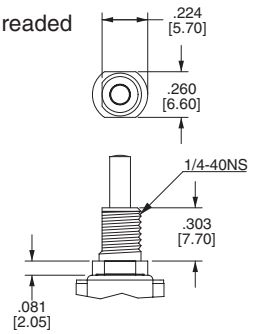
For PD Bushing Only

BUSHING

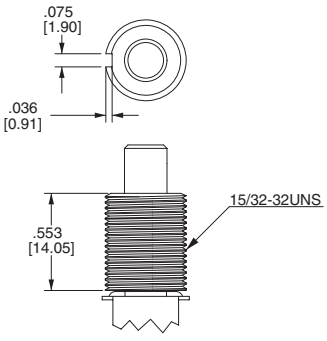
B10 Threaded
B20 Non-Threaded



B21 Non-Threaded



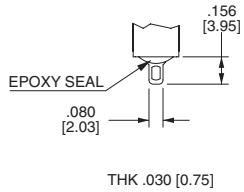
BD



3MA-Series Dimensional Specifications: in. [mm]

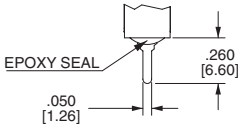
TERMINATION

M1



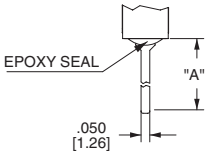
THK .030 [0.75]

M2



THK .030 [0.75]

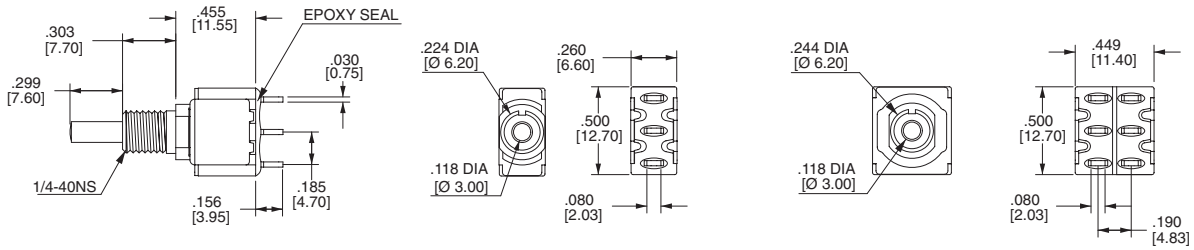
M5



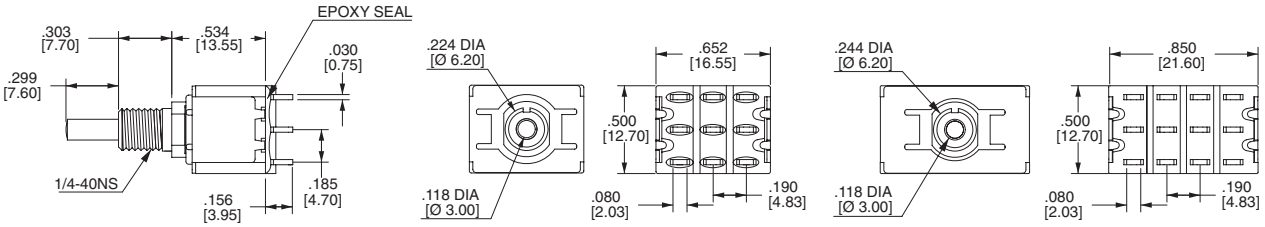
THK .030 [0.75]

OPTION CODE	DIM. "A"
M5-1	.750 [19.05]
M5-2	.964 [24.48]
M5-3	.425 [10.80]
M5-4	1.062 [26.97]

SINGLE POLE **DOUBLE POLE**

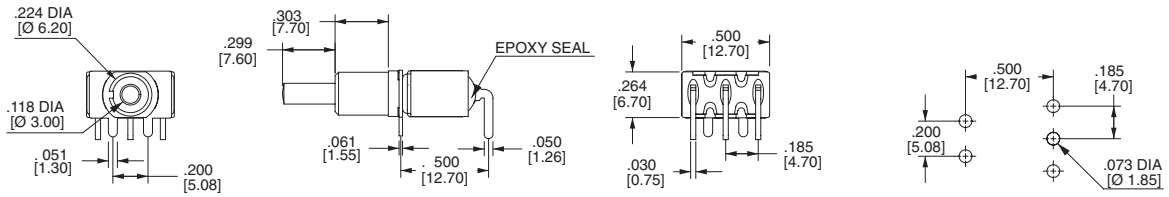


3 POLE **4 POLE**

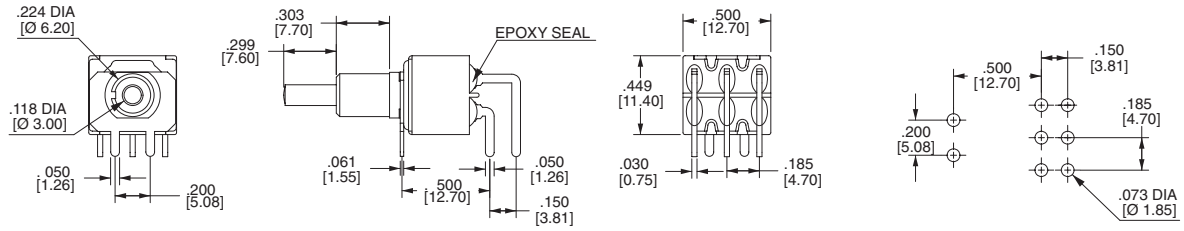


M6

SINGLE POLE **PC MOUNTING**



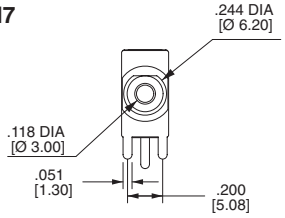
DOUBLE POLE **PC MOUNTING**



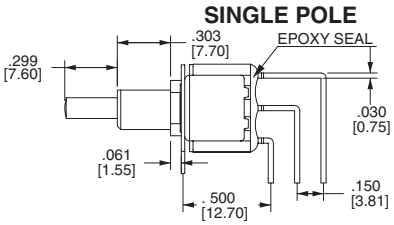
3MA-Series Dimensional Specifications: in. [mm]

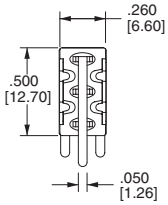
TERMINATION

M7

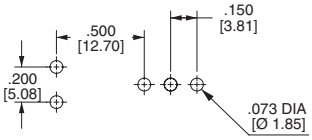


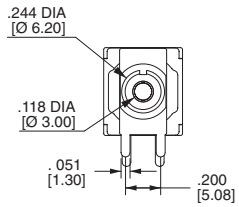
SINGLE POLE



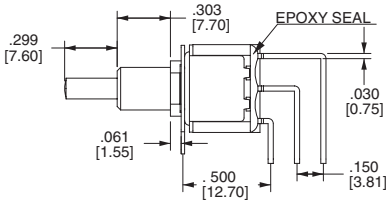


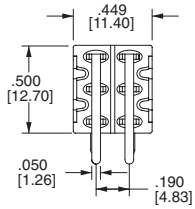
PC MOUNTING



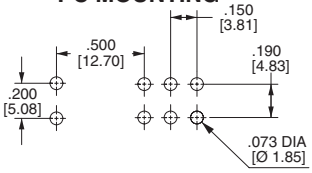


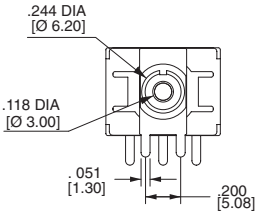
DOUBLE POLE



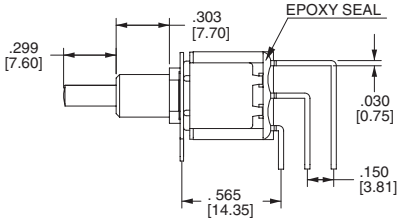


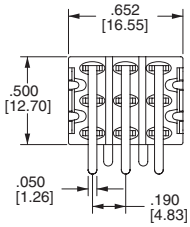
PC MOUNTING



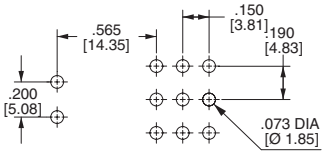


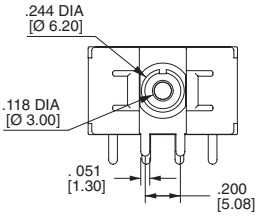
THREE POLE



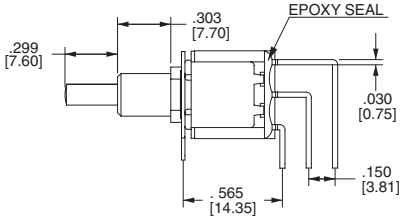


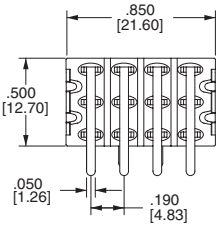
PC MOUNTING



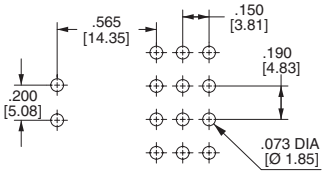


FOUR POLE



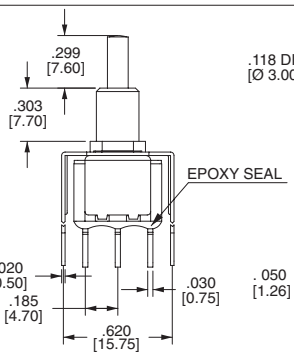


PC MOUNTING

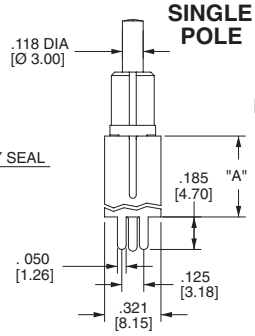


VS2-VS3

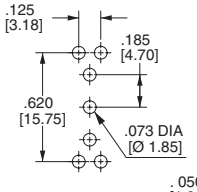
OPTION CODE	DIM. "A"
VS2	.460 [11.68]
VS3	.630 [16.00]



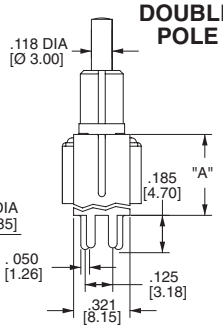
SINGLE POLE



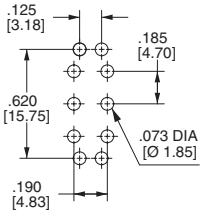
PC MOUNTING



DOUBLE POLE

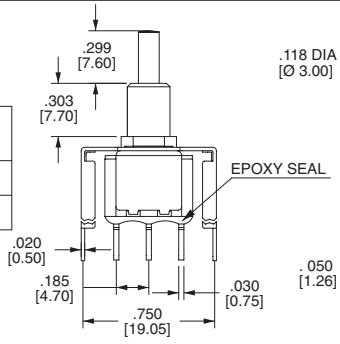


PC MOUNTING

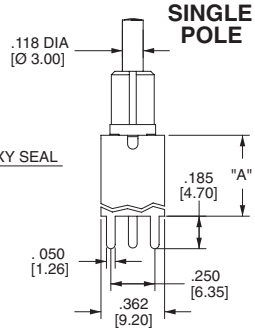


VS4-VS5

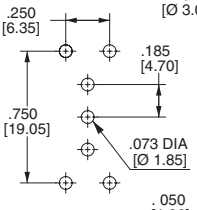
OPTION CODE	DIM. "A"
VS4	.460 [11.68]
VS5	.630 [16.00]



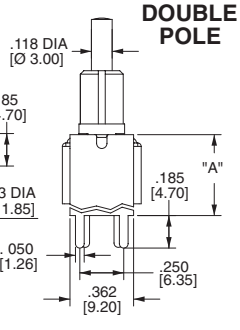
SINGLE POLE



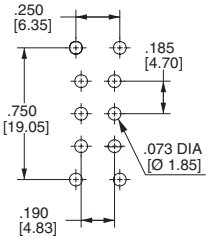
PC MOUNTING



DOUBLE POLE



PC MOUNTING



LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

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