



➔ **Product Type**

PC Mount Miniature & Sub-Miniature Pushbutton Switches

➔ **Product Series**

3M-Series

➔ **Description**

The 3M family of miniature pushbutton switches is composed of three switch series:

3MN-Series snap-action miniature pushbutton switch

3MS-Series sealed snap-action miniature pushbutton switch

3MA-Series alternate-action miniature pushbutton switch

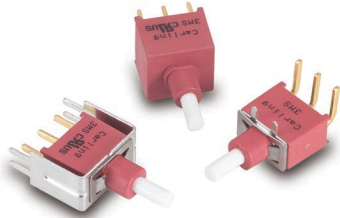
These series of PC mount sub-miniature pushbutton switches offer a variety of ratings, circuits, contact materials, terminal platings, pushbutton styles, and optional color caps.

The 3MS-Series are sealed switches that are UL and CUL approved and IP68 certified. The 3MN and 3MA-Series of switches have UL & CUL agency approvals. All series within the 3M family of switches are able to withstand temperatures from -30°C to +85°C, and all offer PC mounting.

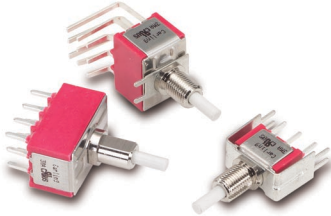
Certifications	3MN-Series and 3MA-Series: UL, CUL 3MS-Series: UL, CUL, IP68
Number of Poles	3MN-Series & 3MS-Series: 1-2 poles 3MA-Series: 1-4 poles
Ratings	1A @ 120 VAC or 28VDC 6A @ 125 VAC or 28VDC 3A @ 250VAC 0.4VA max @ 20V max (AC/DC)
Dielectric Strength	1500 Volts RMS @ sea level
Insulation Resistance	1000 megohms (minimum)
Actuator Style	square pushbutton plunger pushbutton
Case Material	all UL94 V-0 3MN-Series & 3MA-Series: Dially phthalate (DAP) 3MS-Series: Glass filled nylon 6/6, flame retardant, heat stabilized
Plunger Material	3MN-Series: Thermoplastic polyester, black 3MS-Series & 3MA-Series: Glass filled nylon or glass filled polyester (UL94V-0)
Bushing Material	3MN-Series: Brass, nickel plated 3MA-Series: Zinc, nickel plated
Housing Material	3MN-Series & 3MA-Series: Stainless Steel
Switch Support	Stainless steel
Terminal Options	Solder Lug PCB PC Mount Snap-in, U bracket Wire Wrap
Mounting Hole Dimensions	See PDF elibrary file above for dimensions



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.	<i>3MN & 3MA-Series:</i> 10 mΩ max. initial @ 2-4 VDC 100mA for both silver & gold plated contacts. <i>3MS-Series:</i> 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	<i>3MS -Series:</i> IP68
Cap Installation Support . . .	<i>3MS-Series:</i> 10 lbs. max.
Solder Heat Resistance. . .	MIL-STD-202, Method 210
Actuator Travel25°

Materials

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

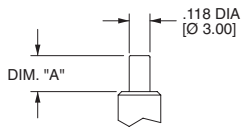
To order caps in bulk, specify the Series, followed by the cap. Ex.) 3MN-C13



<p>1 SERIES OR SWITCH CATALOG NUMBER 3MN, 3MS or 3MA</p>	<p>3 CAP COLOR</p> <table border="0" style="width: 100%;"> <tr> <td>1</td><td>white</td><td>5</td><td>yellow</td></tr> <tr> <td>2</td><td>black</td><td>6</td><td>green</td></tr> <tr> <td>3</td><td>red</td><td>7</td><td>blue</td></tr> <tr> <td>4</td><td>orange</td><td></td><td></td></tr> </table> <p><small>1 Black, white & red standard. Other colors available. Consult factory.</small></p>	1	white	5	yellow	2	black	6	green	3	red	7	blue	4	orange		
1	white	5	yellow														
2	black	6	green														
3	red	7	blue														
4	orange																
<p>2 CAP SIZE</p> <table border="0" style="width: 100%;"> <tr> <td>C1</td><td>round 7.6mm dia.</td><td>C5</td><td>round 14.5mm dia. (for 3MA w/ PL bushing)</td></tr> <tr> <td>C2</td><td>round 9.35 mm dia.</td><td>C6</td><td>brass chrome plated (for 3MA w/ PD bushing)</td></tr> <tr> <td>C3</td><td>square 11.7 x 11.7mm</td><td></td><td></td></tr> <tr> <td>C4</td><td>round 5mm dia.</td><td></td><td></td></tr> </table>	C1	round 7.6mm dia.	C5	round 14.5mm dia. (for 3MA w/ PL bushing)	C2	round 9.35 mm dia.	C6	brass chrome plated (for 3MA w/ PD bushing)	C3	square 11.7 x 11.7mm			C4	round 5mm dia.			
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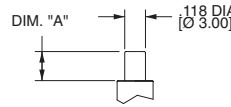
3MN-Series Dimensional Specifications: in. [mm]

PLUNGER



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

FOR B10,B11,B20,B21 ONLY

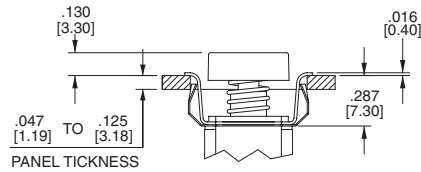
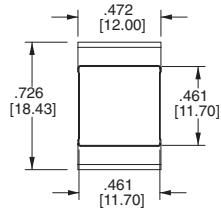


OPTION CODE	DIM. "A"
P0	.098 [2.50]
P1	.295 [7.50]
P2	.165 [4.20]

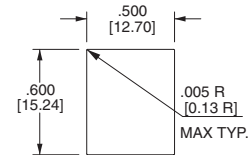
FOR B6 ONLY

ACTUATOR

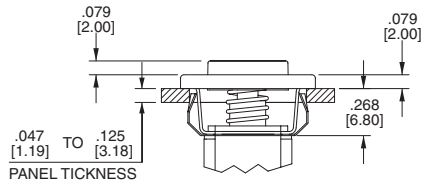
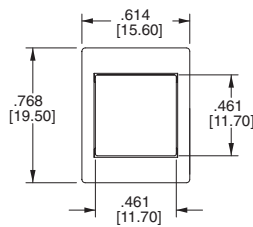
AP1



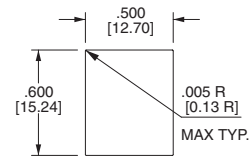
PANEL MOUNTING



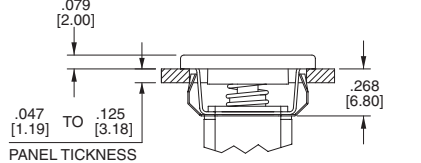
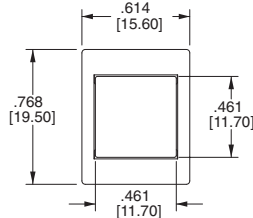
AP2



PANEL MOUNTING

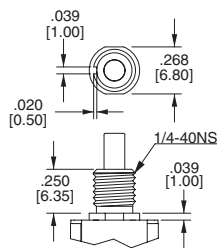


AP3

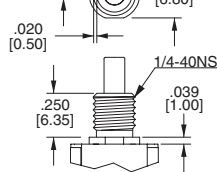


BUSHING

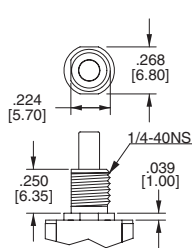
B10
STANDARD KEYWAY
THREADED SHOWN



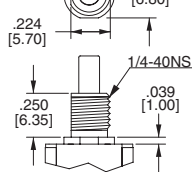
B20
STANDARD KEYWAY
NON-THREADED



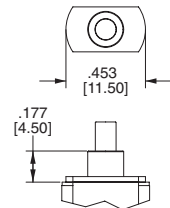
B11
THREADED SHOWN
WITH FLAT



B21
NON-THREADED
WITH FLAT

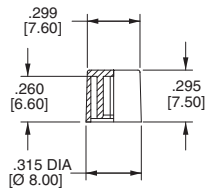


B6
NON-THREADED
(FOR TERMINATION
OPTIONS VS6-VS9 ONLY)

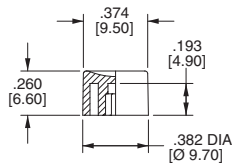


CAP

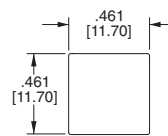
C1



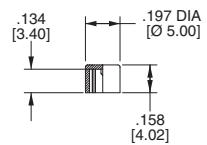
C2



C3



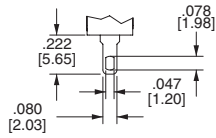
C4



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

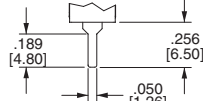
TERMINATION

M1



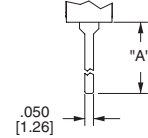
THK .030 [0.75]

M2



THK .030 [0.75]

M5

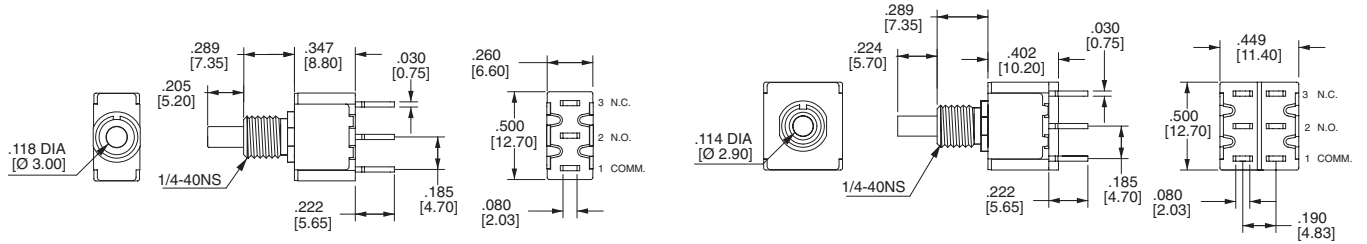


THK .030 [0.75]

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

SINGLE POLE

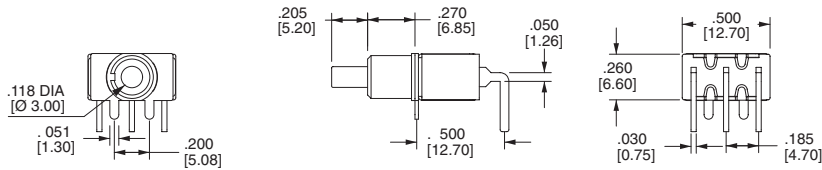
DOUBLE POLE



M6

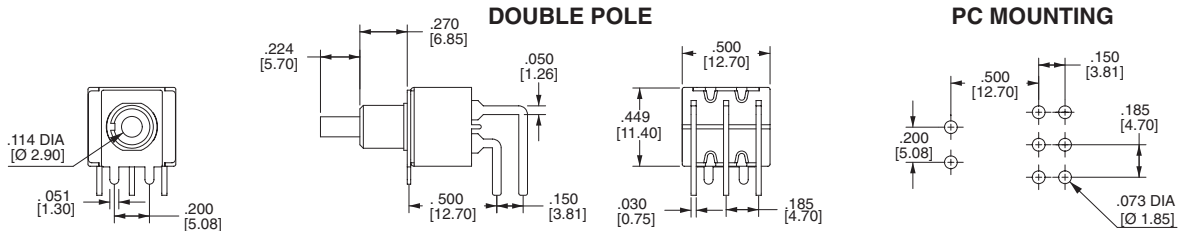
SINGLE POLE

PC MOUNTING



DOUBLE POLE

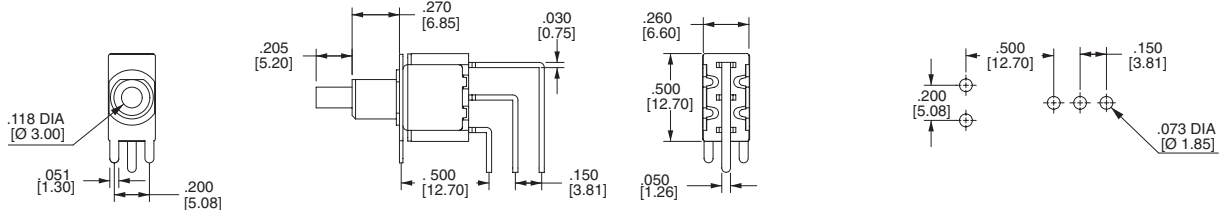
PC MOUNTING



M7

SINGLE POLE

PC MOUNTING



DOUBLE POLE

PC MOUNTING

