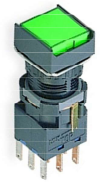
M6 Series
Pushbutton

◆ Features
- ✓ For front panel cut-outs measuring ø16.2mm
- ✓ IP65 & V-0 rated enclosure
- ✓ Solder/plug-in #110 (2.8mm) terminals
- ✓ PCB (0.8w x 0.5t) terminals
- ✓ Tough and durable plastic body with fiber glass
- ✓ Positive opening E-Stop Pushbuttons


Pushbuttons (M6P)


Selectors (M6S)

◆ Recognition(s)
- ✓ CE – EN60947
- ✓ CSA – 6241 90
- ✓ RoHS Compliant
- ✓ Reach Unaffected


Pilot lights (M6L)


Emergency Stop (M6E)


Key Selectors (M6K)


Buzzers (M6Z)

◆ Characteristics

Positive Opening	Electrical Contact	Terminal Type	Contact Form(s)	Poles & Throws	Actuation Sequence(s)
Yes & No	Max 9	Solder/Plug-in (#110), or PCB (0.8w x 0.5t)	M6L=*not applicable* M6P=1 or 2 “C” M6S=1 or 2 “C” M6K=1 or 2 “C” M6Z=*not applicable* M6E=1 or 2 “B”	M6L=*not applicable* M6P=SPDT/DPDT M6S=SPDT/2*SPDT/DPDT M6K=SPDT/2*SPDT/DPDT M6Z=*not applicable* M6E=SPST-NC/DPST-NC	Break(1)-Make(2), DB(1)-DM(2), Single Break, Double Break

Operating Temp.	AC Rated	DC Rated	Oil Resist	Dust Resist	Water Resist	IP
-25 to 55 C	Switch=2A 250V	Switch=0.4A 125V	Yes	Yes	Yes	65

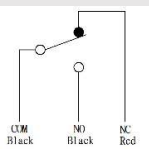
Operation Frequency	Service Life (min.)	Dielectric Strength
Momentary~1800/hr Alternate~1200/hr Selector~1200/hr E-Stop~600/hr	Momentary=2,000,000 Alternate=250,000 Selectors=250,000 E-Stop=100,000	Between live part and ground=2500Vac, 1min Between terminals of different poles=2500Vac, 1min Between terminals of the same poles=1000Vac, 1min

Operating Humidity	Contact Resistance	Insulation Resistance	Vibration
85% RH max	50mΩ max. (initial)	100MΩ min. (500VDC)	1.5mm amplitude at 10-55Hz

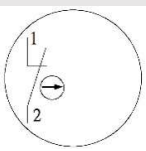
Recommended tightening forces

Purpose	Screw type	Tightening
Panel mount	Lock Ring	0.88 N·m MAX

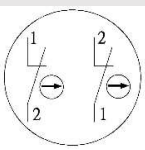
Circuitry



Single Form C



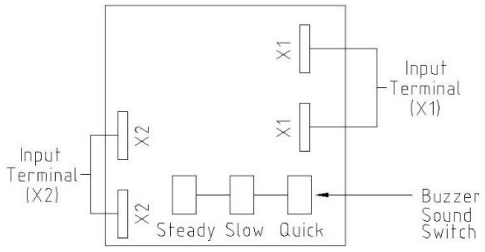
M6E-1NC



M6E-2NC

Additional Characteristics: Internal Illumination Lamps	
LED (DC)	6 Vdc 25mA
	12 Vdc 25mA
	24 Vdc 25mA
Neon (AC)	110 Vac 1.2mA
	220 Vac 1.2mA

Additional Characteristics: Buzzer (inside M6Z)	
Sound types: (select type at bottom of unit):	Steady sound, Quick cycle (600cycles/min), Slow cycle (100cycles/min)
Sound Pressure:	80dB min.
Sound Frequency:	2KHz±500HZ
Insulation Voltage:	60V AC/DC
Operating Voltage:	6V AC/DC, 12~24V AC/DC
Current Draw:	DC=7mA AC=20mA
Operating Temperature:	-25 to 55 C
Operating Humidity	85% RH max
Insulation Resistance	100MΩ min. (500VDC)
Dielectric Strength	Between live and dead part=1000Vac, 1min
Vibration	1.5mm amplitude at 10-55Hz
Service Life (min.)	1000 hours



Buzzer unit bottom view:

◆ Materials

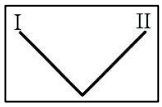
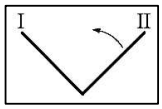
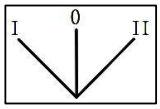
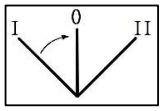
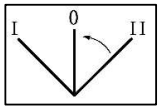
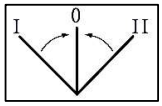
Actuation touch part	Electrical contact point	Enclosure
PC Plastic	Palladium plated silver(99%)	PBT Plastic+Glass fiber (V-0 rating)

◆ Nomenclature

Pilot Light	Frame:	Terminal:	Lamp:	Lens Color:
M6L –	**A**	**S**	**24E**	**G**
ø16mm	**A**=Circle (ø18mm) **B**=Square (18x18mm) **C**=Rectangular (18x24mm)	**S**=Solder/Plug-in (#110) **P**=PCB (0.5t)	Neon (AC) **110**=110Vac **220**=220Vac LED (DC) **06E**=6Vdc **12E**=12Vdc **24E**=24Vdc	**R**=Red **G**=Green **Y**=Yellow **O**=Orange **W**=White **B**=Blue

(illume & non-illume) Pushbuttons	Frame:	Actuation:	Terminal:	Contact Form(s):	Lamp:	Lens Color:
M6P –	**A**	**M**	**S**	**2 –**		**G**
ø16mm SPDT or DPDT	**A**=Circle (ø18mm) **B**=Square (18x18mm) **C**=Rectangular (18x24mm)	**M**=Momentary **A**=Alternate (maintained)	**S**=Solder/Plug-in (#110) **P**=PCB (0.8w x 0.5t)	**1**=1x Form C **2**=2x Form C	*Blank* =Non-illume Neon (AC) **110**=110Vac **220**=220Vac LED (DC) **06E**=6Vdc **12E**=12Vdc **24E**=24Vdc	**R**=Red **G**=Green **Y**=Yellow **O**=Orange **W**=White **B**=Blue

Note:
-Illumination colors from lamps are the same as lens colors; unless otherwise specified.

(illume & non-illume) Selectors	Frame:	Operation:	Terminal:	Contact Form(s):	Lamp:	Lens Color:
M6S –	**A**	**30**	**S**	**2 –**	**24E**	**G**
ø16mm SPDT, or DPDT, or 2*SPDT	**A**=Circle (ø18mm) **B**=Square (18x18mm) **C**=Rectangular (18x24mm)	Two Positions - 90° throw **20**=  Alternate (maintained) **22**=  Spring return from right ⚠ Only at position "II" will the switch actuate; max *two* form C may both energize simultaneously ⚠ SPDT or DPDT; depending on contact forms chosen. Three Positions - 45° throw **30**=  Alternate (maintained) **31**=  spring return from left, **32**=  spring return from right **33**=  spring return left & right ⚠ Positions "I" and "II" actuates the switch; only *one* form C energizes ⚠ Always and only 2*SPDT configuration possible.	**S**=Solder/ Plug-in (#110) **P**=PCB (0.5t)	**1**=1x Form C **2**=2x Form C	*Blank* =Non-illume Neon (AC) **110**=110Vac **220**=220Vac LED (DC) **06E**=6Vdc **12E**=12Vdc **24E**=24Vdc	**R**=Red **G**=Green **Y**=Yellow **O**=Orange **W**=White **B**=Blue **WO**= Opaque White (available only for Non-illumed)






Note:
-Illumination colors from lamps are the same as lens colors; unless otherwise specified.

Key Selectors	Frame:	Operation:	Terminal:	Contact Form(s):	Key Lock Limit(s):
M6K –	**B**	**30**	**S**	**2 –**	**A**

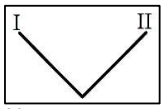
ø16 mm

SPDT, or DPDT, or 2*SPDT

A=Circle (ø18mm)
B=Square (18x18mm)
C=Rectangular (18x24mm)

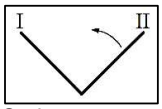
Two Positions - 90° throw

20=



Alternate (maintained)

22=



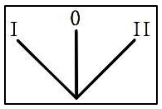
Spring return from right

⚠ Only at position "II" will the switch actuate; max *two* form C may both energize simultaneously

⚠ SPDT or DPDT; depending on contact forms chosen.

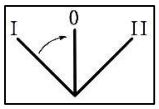
Three Positions - 45° throw

30=



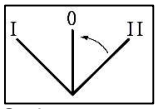
Alternate (maintained)

31=



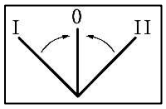
Spring return from left,

32=



Spring return from right

33=



Left & right spring return

⚠ Positions "I" and "II" actuates the switch; only *one* form C energizes

⚠ Always and only 2*SPDT configuration possible.

1=1x Form C
2=2x Form C

S=Solder/ Plug-in (#110)
P=PCB (0.5t)

Applicable for **two** or **three** positions

A=No lock limits
B=Right
C=Left

Applicable only for **three** positions

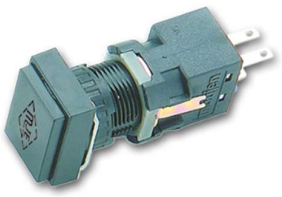
D=Right and left
E=Center
G=Center and right
H=Left and center

⚠ Keys are always non-removable and non-insertable at positions with spring-return function.

⚠ Key Lock Limit(s) means keys WILL BE NON-REMOVEABLE. But may still operate different positions.

Note:
-Please be careful when matching Operations with Key Lock Limits. *Example*: Matching Operation "20" with Key Lock Limit "C" means operator(s) MAY NOT be able to remove the key; the switch contacts will still be energized. This may be hazardous with some applications.
-Additionally, *Example*: Matching Operation "33" with Key Lock Limit "E" is not possible, because impossible to insert key.

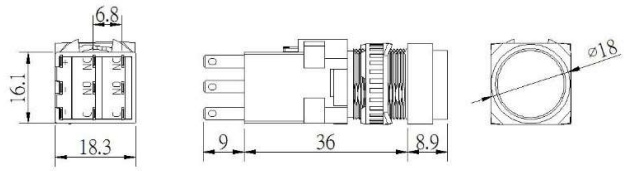
Buzzers	Frame:	Operating Voltage:	Terminal:
M6Z –		**24**	**S**
ø16mm	***Blank***=Rectangular (18x24mm)	**06**=6V AC/DC **24**=12~24V AC/DC	**S**=Solder/Plug-in (#110) **P**=PCB (0.8w x 0.5t)



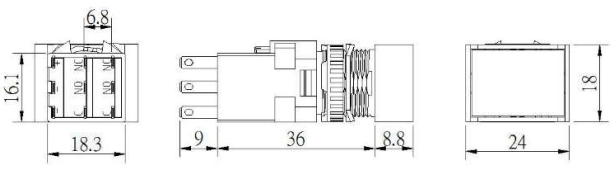
E-Stop Pushbuttons	Positive Opening:	Terminal:	Contact Form(s):	Button Size:	Lens Color:
M6E –	**P**	**S**	**1**	**40**	**R**
ø16mm, Positive Opening SPST-NC or DPST-NC	**P**=Positive Opening	**S**=Solder/Plug-in (#110)	**1**=1x Form B (SPST) **2**=2x Form B (DPST)	**30**=ø30mm **40**=ø40mm	**R**=Red **Y**=Yellow

◆ Unit Dimensions

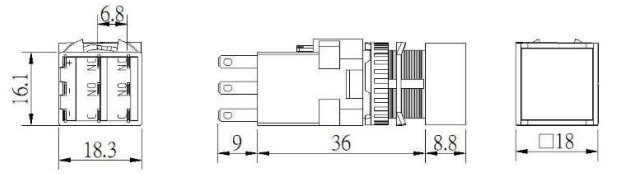
*Measurements in *millimeters*



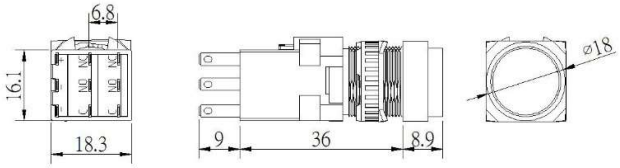
M6L-A (Round)



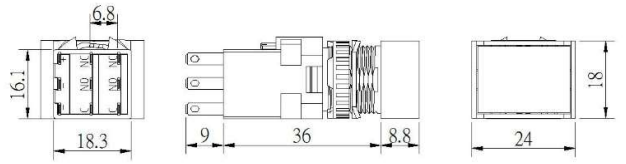
M6L-C (Rectangle)



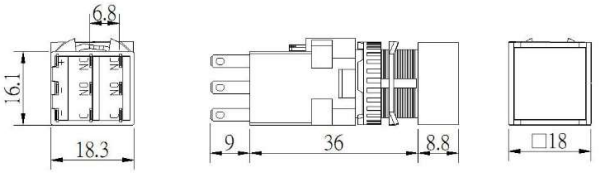
M6L-B (Square)



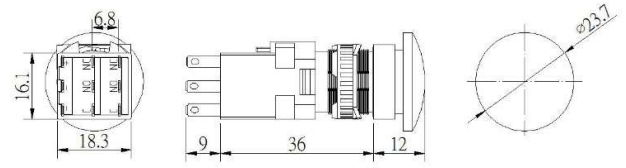
M6P-A (Round)



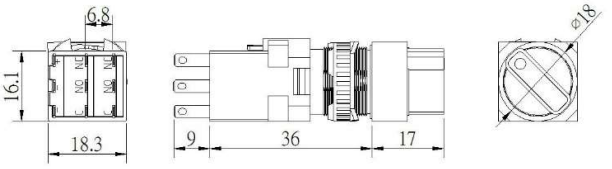
M6P-C (Rectangle)



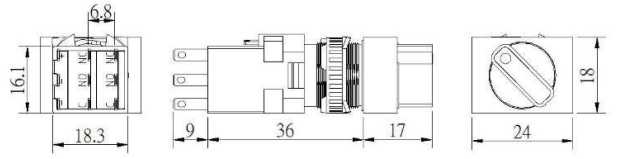
M6P-B (Square)



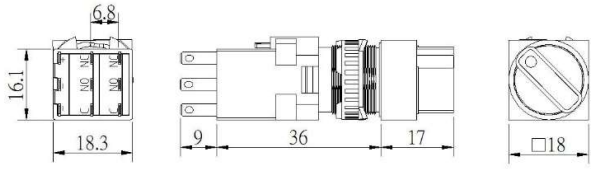
M6P-D (mushroom)



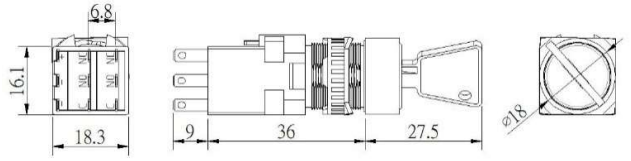
M6S-A (Round)



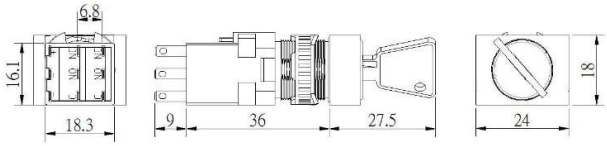
M6S-C (Rectangle)



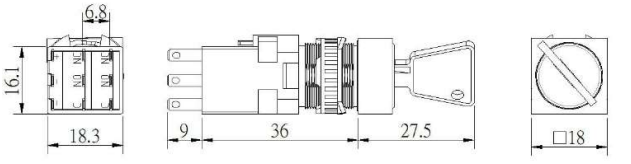
M6S-B (Square)



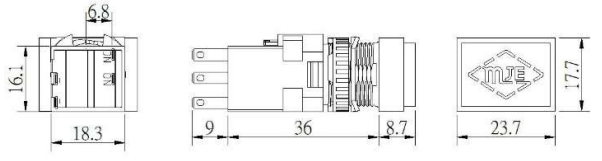
M6K-A (Round)



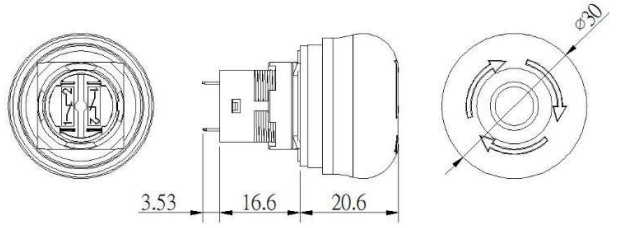
M6K-C (Rectangle)



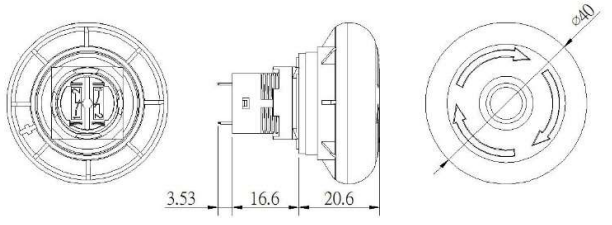
M6K-B (Square)



Buzzer M6Z



E-Stop M6E-30mm

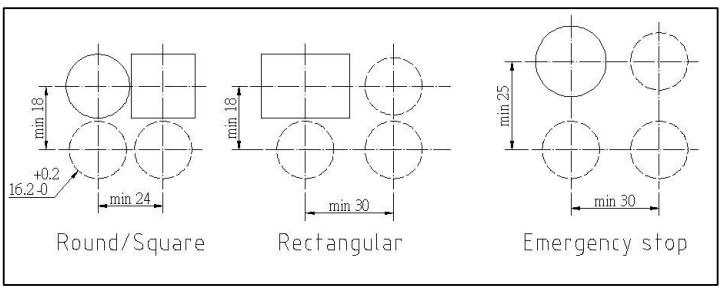


E-Stop M6E-40mm

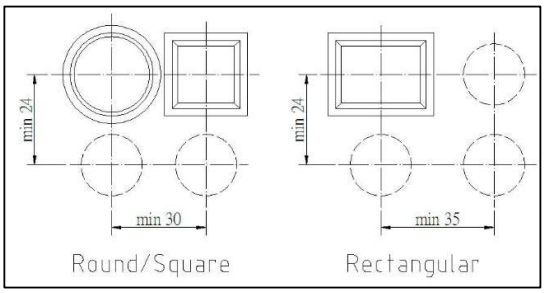
◆ Panel cut-outs

*Measurements in *millimeters*

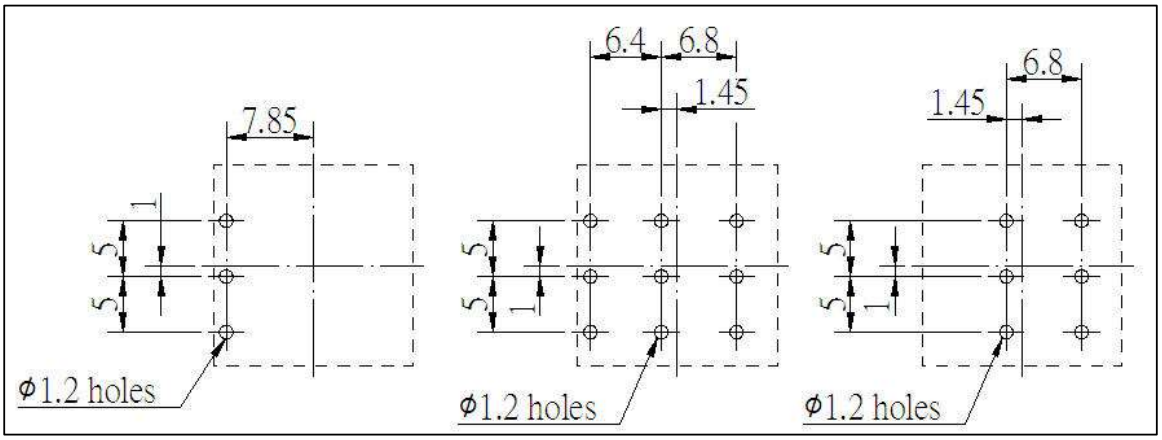
⚠All M6-series products fits best in a circular panel cut out that measures 16.2mm in diameter, with a thickness of 2~3mm. Damage and bad operation may occur to product if installed into incorrect diameter through-holes and incorrect tightening forces.



With-out protective cover



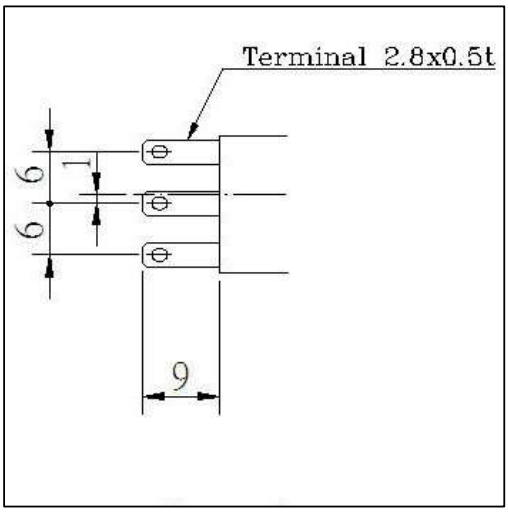
With protective cover



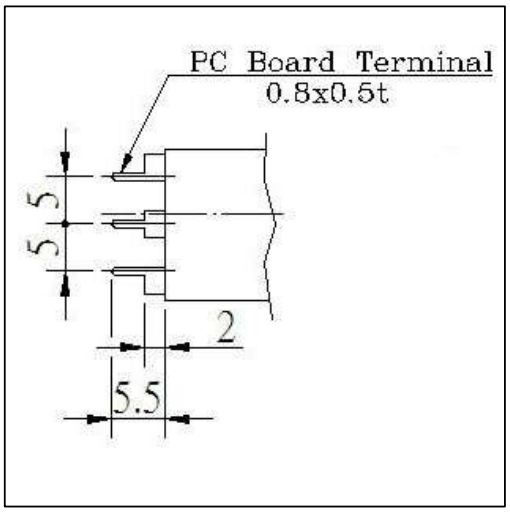
PCB panels

◆ Terminal Dimensions

*Measurements in *millimeters*



Solder, quick connect #110 terminal



PCB Pin terminal