

M22 Series Pushbuttons

◆ Features

- ✓ For front panel cut-outs measuring $\varnothing 22.3\text{mm}$
- ✓ IP65 protection
- ✓ M3.5 screw terminals
- ✓ PCB ($\varnothing 0.1\text{t}$) terminals
- ✓ Tough and durable body material
- ✓ Available for multi-layer installations

⚠ All back facing terminal block buckles (SB) are ONLY compatible with Moujen in house control boxes (M22B).



◆ Recognition(s)

- ✓ CE – EN60947
- ✓ UL – UL508
- ✓ RoHS Compliant
- ✓ Reach Unaffected



◆ Characteristics

Positive Opening	Electrical Contact	Terminal Type	(1-layer) Contact Form(s)	(1-layer) Possible Poles & Throws	(1-layer) Possible Actuation Sequence(s)
Yes(NC) & No(NO)	max 12 (2-layers: 4 contact blocks with 2 lamp blocks)	Screw(M3.5), or PCB	Each Block: A, B Two Blocks: A+B, 2A, 2B	SPST, 2*SPST, DPST-NO/NC, DPST	Single Make, or Single Break, or Make & Break, or Double Make, or Double Break

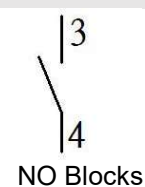
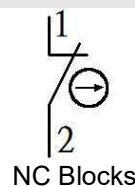
Operating Temp.	AC Rated	DC Rated	Oil Resist	Dust Resist	Water Resist	IP
-25 to 70 C	Switch: 6A 230V LED: 14mA 30~230V	Switch: 3A 24V LED: 14mA 30V	Yes	Yes	Yes	65

Operation Frequency	Service Life (min.ops)	Dielectric Strength
Momentary~3600/hr Alternate~1800/hr Selectors~2000/hr E-Stop~600/hr	Momentary=5,000,000 Alternate=1,000,000 Selectors=100,000 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	50m Ω max. (initial)	100M Ω min. (500VDC)	1.5mm amplitude at 10-55Hz

Recommended tightening forces	Circuitry
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Purpose	Screw type	Tightening
Control Box		8.5 \pm 0.5 kgf.cm
Panel Mount	Lock Ring	2.0 N·m






Additional Characteristics: Lamp blocks (LED)	
Codename in nomenclature = E30	12~30VDC, 5~14mA, 0.25W/24V
Codename in nomenclature = E230	85~264VAC, 5~15mA, 0.33W/24V

Additional Characteristics: Buzzer (M22BZ)	
Sound types:	Slow pulse, Fast pulse
Dimensions	Surface=ø29.7mm Length=53mm
Sound Pressure:	80dB at rated voltage within 1 meter
Sound Frequency:	2.5KHz±300HZ
Insulation Voltage:	60V AC/DC
Operating Voltage:	AC=110V, 220V DC=24V
Current Draw:	AC/DC<50mA
Operating Temperature:	-20°C ~ 65°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.)	10,000 hours

◆ Materials

Actuation touch part	Electrical contact point	Enclosure
PC Plastic	Silver-Nickel Alloy	Nylon+Glass fiber (V-0 rating)




◆ Nomenclature

Flathead	Actuation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap/Lens Color:	Symbol:
M22FP –	M	SF	01		G	
ø22.3mm SPST, or DPST	M =Momentary A =Alternate (Maintained)	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals  <u>Back facing buckle</u> (for use with control box) SB =Screw terminals	<u>One block</u> 10 =1x Form A 01 =1x Form B <u>Two blocks</u> 11 =1x Form A (&) 1x Form B 20 =2x Form A 02 =2x Form B	Blank =non-illume E30 =LED30V E230 =LED230V 	R =Red G =Green Y =Yellow W =White BL =Blue <u>Opaque</u> WO =White RO =Red BKO =Black	<I> <O> Blank =None 






 **Note:**

- Illumination colors from lamps are the same as lens colors; unless otherwise specified.
- Please contact Moujen before production to customize symbols to your needs. Only applicable to indicated items.
- Please consider PCB terminal pins when designing your systems. Pins will conflict multi-layer designs if installed on top.
- ▲ All back facing terminal block buckles (SB) are ONLY compatible with Moujen in house control boxes (M22B).


Extended Head	Actuation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap/Lens Color:	Symbol:
M22XP –	M	SF	01		G	
ø22.3mm SPST, or DPST	M =Momentary A =Alternate (Maintained)	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals  <u>Back facing buckle</u> (for use with control box) SB =Screw terminals	<u>One block</u> 10 =1x Form A 01 =1x Form B <u>Two blocks</u> 11 =1x Form A (&) 1x Form B 20 =2x Form A 02 =2x Form B	Blank =non-illume E30 =LED30V E230 =LED230V 	R =Red G =Green Y =Yellow W =White BL =Blue	Blank =None 





Double Actuator	Actuation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap Color:	Symbol:
M22DP –		SF	02	E30	GR	<I,O>
ø22.3mm 2x SPST	Blank =Momentary (All M22DP are momentary)	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals  <u>Back facing buckle</u> (for use with control box) SB =Screw terminals	<u>Two blocks</u> 11 =1x Form A (&) 1x Form B 20 =2x Form A 02 =2x Form B	Blank =non-illume E30 =LED30V E230 =LED230V  Center lamp illumines only WHITE color.	GR =Green & Red WB =White & Black	<I,O> <Start,Stop> <+,-> Blank =None 





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Mushroom Actuator	Actuation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap Color:	Symbol:
M22MP –	M	SF	01		G	<O>
ø22.3mm SPST, or DPST	M =Momentary A =Alternate (Maintained)	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals 	<u>One block</u> 10 =1x Form A 01 =1x Form B <u>Two blocks</u> 11 =1x Form A (& 1x Form B 20 =2x Form A 02 =2x Form B	(not applicable)	R =Red G =Green Y =Yellow	<I> <O> <Start> <Stop> Blank= None 




Illuminated Mushroom Actuator	Actuation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap/Lens Color:	Symbol:
M22MPL –	M	SF	01	E30	R	<O>
ø22.3mm SPST, or DPST	M =Momentary A =Alternate (Maintained)	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals 	<u>One block</u> 10 =1x Form A 01 =1x Form B <u>Two blocks</u> 11 =1x Form A (& 1x Form B 20 =2x Form A 02 =2x Form B	E30 =LED30V E230 =LED230V 	R =Red	<I> <O> <Start> <Stop> Blank= None 



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- Please consider PCB terminal pins when designing your systems. Pins will conflict multi-layer designs if installed on top.

 All back facing terminal block buckles (SB) are ONLY compatible with Moujen in house control boxes (M22B).

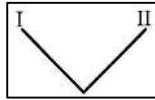
Selector Actuator	Actuator Style:	Operation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap/Lens Color:
M22S -	T	30	SF	01	E30	G

ø22.3mm

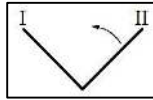
SPST, or DPST, or 2x SPST

R=
Rotary

T=
Thumb grip

Two Positions
20=


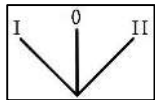
Alternate (Maintained)

22=


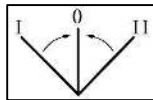
Spring-return from right

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

⚠ SPST or DPST; depending on contact blocks chosen.

Three Positions
30=


Alternate (Maintained)

32=


Left & right spring return

⚠ Positions "I" or "II" may actuate the switch; but only one form C energizes.

⚠ 1 or 2 SPST; depending on contact blocks chosen.

Front facing buckle

(for use with A3 adapter)

SF=Screw terminals

PF=PCB terminals

Back facing buckle

(for use with control box)

SB=Screw terminals

One block
10=1x Form A

01=1x Form B

Two blocks
11=

1x Form A (& 1x Form B

20=2x Form A

02=2x Form B

Blank= non-illume

E30= LED30V

E230= LED230V

(Lamps only applicable for "T" thumb grip style)

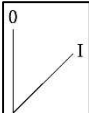
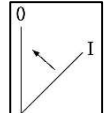
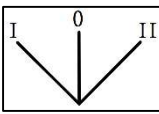
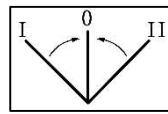

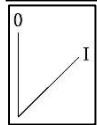
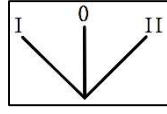

R=Red
G=Green
Y=Yellow
BL=Blue

Opaque
W=White

(Color only applicable for "T" thumb grip style)


Note:




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- Please consider PCB terminal pins when designing your systems. Pins will conflict multi-layer designs if installed on top.
- ⚠ All back facing terminal block buckles (SB) are ONLY compatible with Moujen in house control boxes (M22B).

Key Actuator	Operation:	Type of Terminal:	Contact Block(s):	Key Removal Positions:
M22K -	30	SF	01	3B
ø22.3mm SPST, or DPST, or 2x SPST	<p>Two Positions</p> <p>20=  Alternate (Maintained)</p> <p>22=  Spring-return from right</p> <p>Three Positions</p> <p>30=  Alternate (Maintained)</p> <p>32=  Left & right spring return</p>	<p>Front facing buckle (for use with A3 adapter) SF=Screw terminals PF=PCB terminals</p> <p></p> <p>Back facing buckle (for use with control box) SB=Screw terminals</p>	<p>One block 10=1x Form A 01=1x Form B</p> <p>Two blocks 11= 1x Form A (& 1x Form B 20=2x Form A 02=2x Form B</p>	<p>Two Positions</p> <p> A= Only at "O"</p> <p>B= Both "O" and "I"</p> <p>Three Positions</p> <p> A= Only at "O"</p> <p>B= All three "I, O, II"</p>
	<p>⚠ Only at position "I" will the switch actuate; max <u>two</u> form C may energize simultaneously</p> <p>⚠ SPST or DPST; depending on contact blocks chosen.</p>			<p>⚠ Keys are always non-removable and non-insertable at positions with spring-return function.</p>
	<p>⚠ Positions "I" or "II" may actuate the switch; but only <u>one</u> form C energizes.</p> <p>⚠ 1 or 2 SPST; depending on contact blocks chosen.</p>			




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Pilot light	Actuator Style:	Type of Terminal:	Lamp:	Cap/Lens Color:	Symbol:
M22L –	F	SF	E30	G	
ø22.3mm	F =Flathead X =Extended-head	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals  <u>Back facing buckle</u> (for use with control box) SB =Screw terminals	E30 =LED30V E230 =LED230V 	R =Red G =Green Y =Yellow W =White BL =Blue	Blank = <i>None</i> 





Compact Pilot light	Actuator Style:	Lamp:	Cap/Lens Color:
M22LC –	F	E24	G
ø22.3mm No blocks needed	F =Flathead X =Extended-head	E06 =LED6VDC E12 =LED12VDC E24 =LED24VDC E110 =LED110VAC E220 =LED220VAC 	R =Red G =Green Y =Yellow W =White BL =Blue


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Emergency Stop	Operation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap Color:
M22E -	T	SF	20		R
ø22.3mm SPST, or DPST	P =Pull to release K =Key to release T =Twist to release	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals  <u>Back facing buckle</u> (for use with control box) SB =Screw terminals	<u>One block</u> 10 =1x Form A 01 =1x Form B <u>Two blocks</u> 11 =1x Form A (& 1x Form B) 20 =2x Form A 02 =2x Form B	(not applicable)	R =Red



Illuminated Emergency Stop	Operation:	Type of Terminal:	Contact Block(s):	Lamp:	Cap/Lens Color:
M22EL -	T	SF	20	E30	R
ø22.3mm SPST, or DPST	P =Pull to release T =Twist to release	<u>Front facing buckle</u> (for use with A3 adapter) SF =Screw terminals PF =PCB terminals  <u>Back facing buckle</u> (for use with control box) SB =Screw terminals	<u>One block</u> 10 =1x Form A 01 =1x Form B <u>Two blocks</u> 11 =1x Form A (& 1x Form B) 20 =2x Form A 02 =2x Form B	E30 =LED30V E230 =LED230V 	R =Red


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Control Box

Box hole(s):



Color:

M22 –
B2
YB

ø22.3mm

B1=one hole
B2=two holes
B3=three holes

YB=Yellow top, black bottom
IB=Ivory top, black bottom

-  Control Box alone does not come with actuators, illumination units, or contact blocks.
-  Control Box cable wire through holes are not pre-made. M20 and M25 sizes possible.



4 sides; M20 or M25 sizes.

Conduit sold separately.

Buzzer

AC/DC Voltage:

Sound:

 Illumination:
 (Optional only for 24VDC)

M22BZ –
024DC
F
L

ø22.3mm

220AC=220VAC
110AC=110VAC
024DC=24VDC

S=Slow pulse
F=Fast pulse

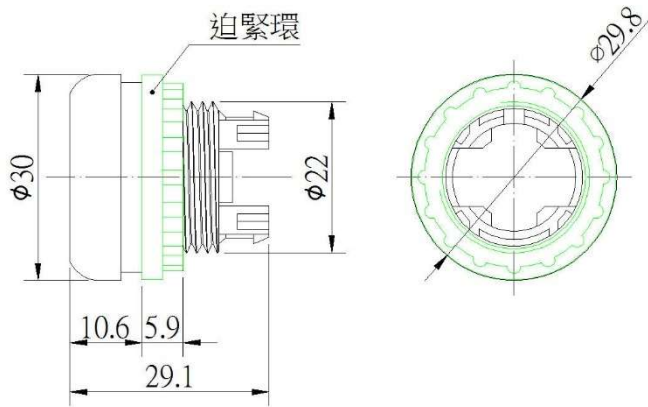
Blank=none
L=Red steady-light indication

-  Except illumination types, all else are opaque black.

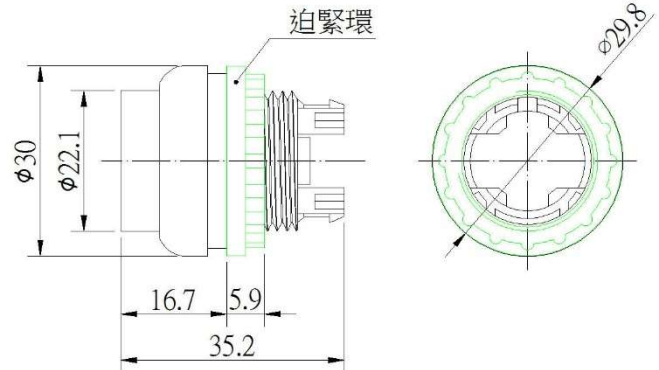


◆ **Unit Dimensions**
 *Measurements in *millimeters*

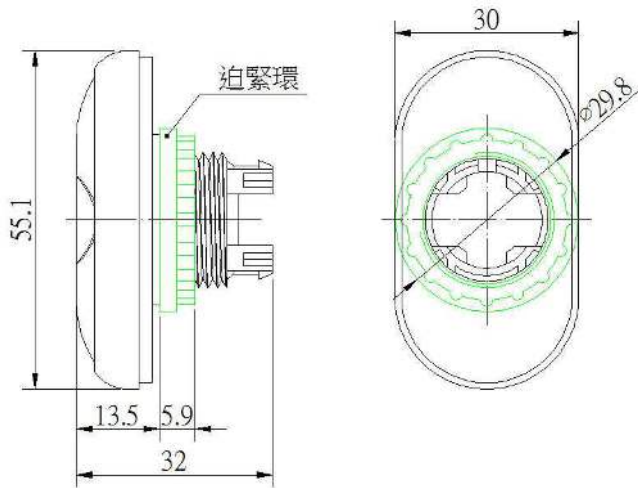
Flat head (FP)



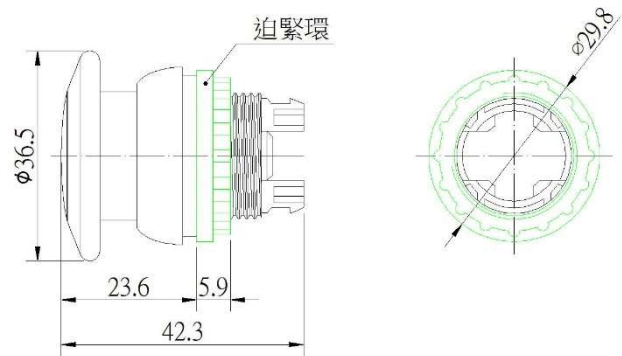
Extended head (XP)



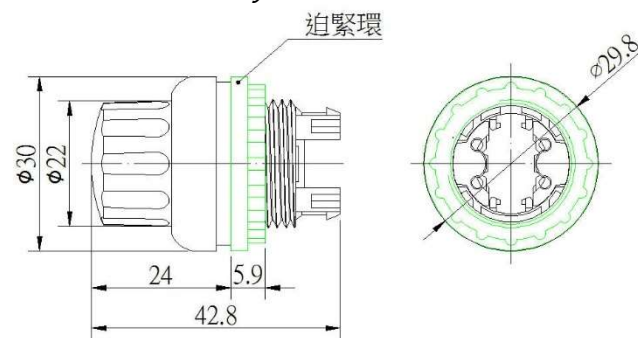
Double pushbutton (DP)



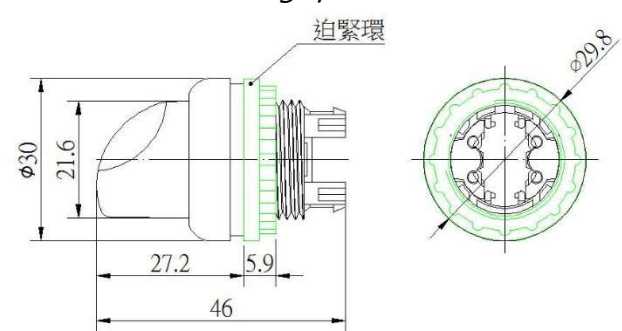
Mushroom pushbutton (MP, MPL)



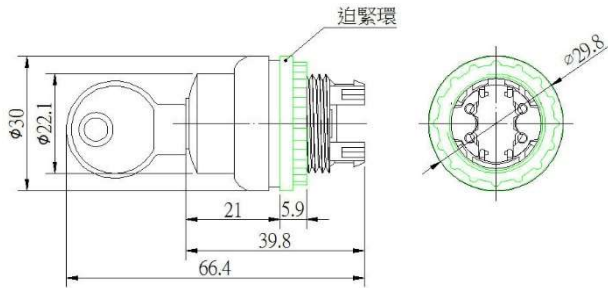
Selector (S) - Rotary



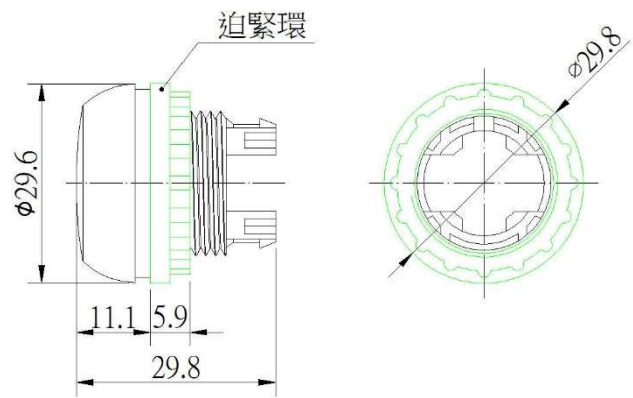
Selector (S) - Thumb grip



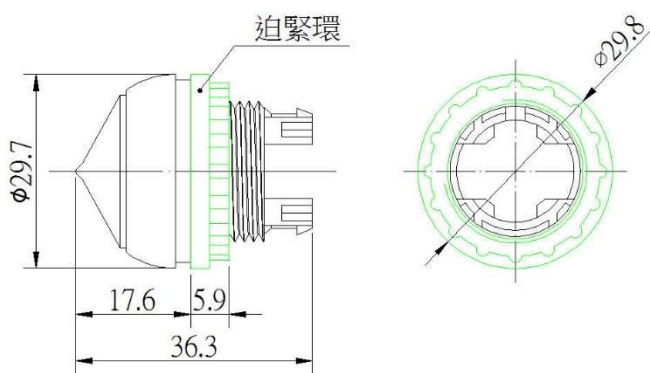
Key Selector (K)



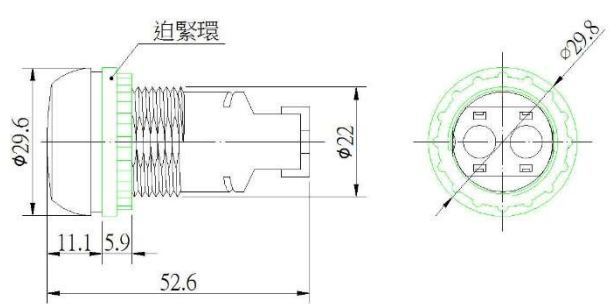
Pilot light (L) - Flat head



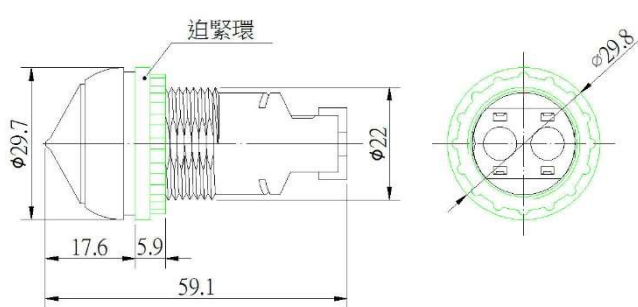
Pilot light (L) - Extended head



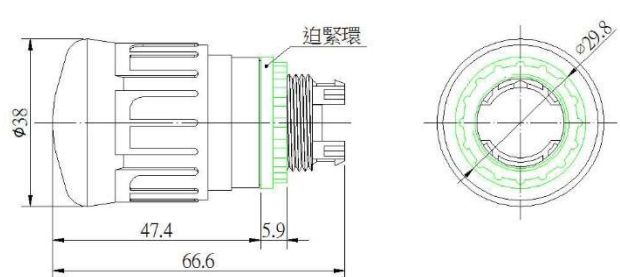
Compact pilot light (LC) - Flat head



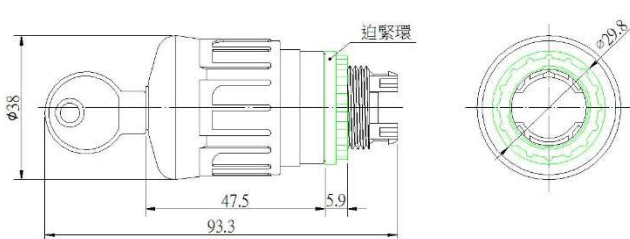
Compact pilot light (LC) - Extended head



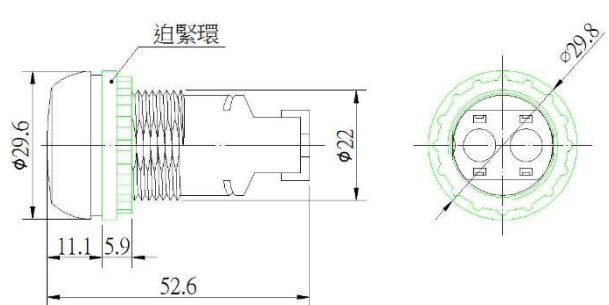
Emergency stop (E, EL) - Pull or Turn to release



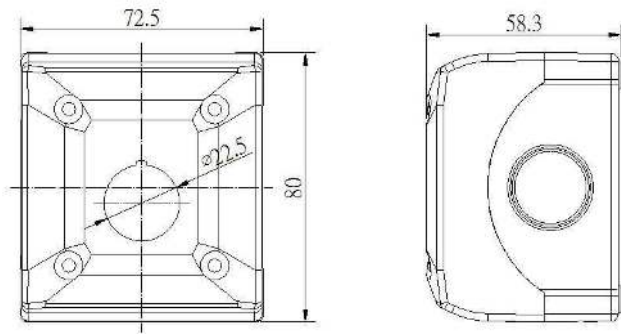
Emergency stop (E) - Key to release



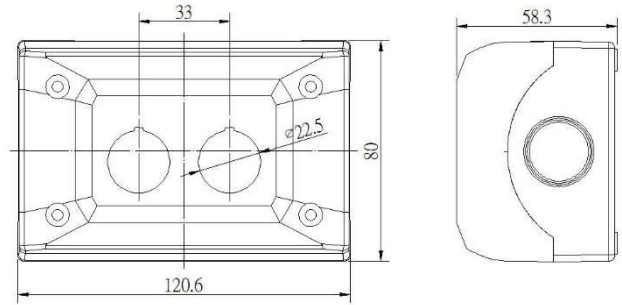
Buzzer (BZ)



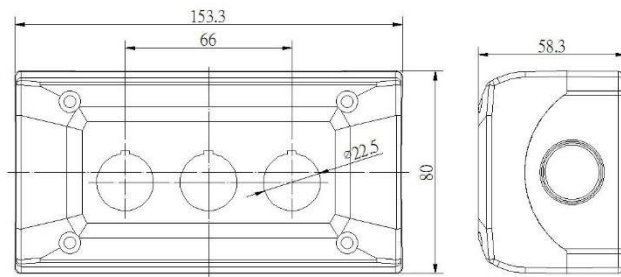
Control Box (M22B1) – 1 hole



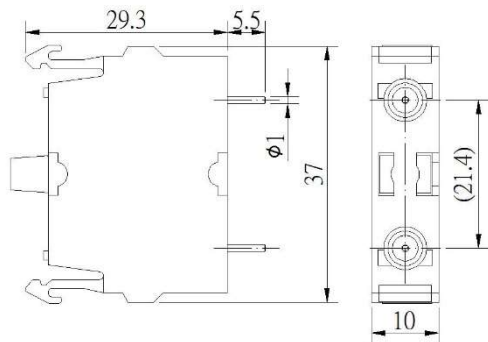
Control Box (M22B2) – 2 holes



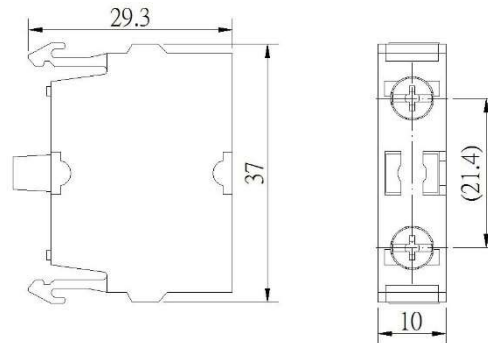
Control Box (M22B3) – 3 holes



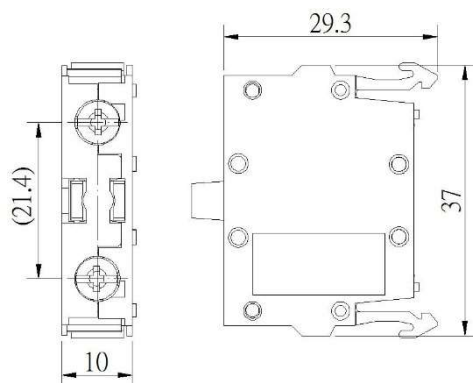
Contact Block (PF) -
PCB terminal, Front facing



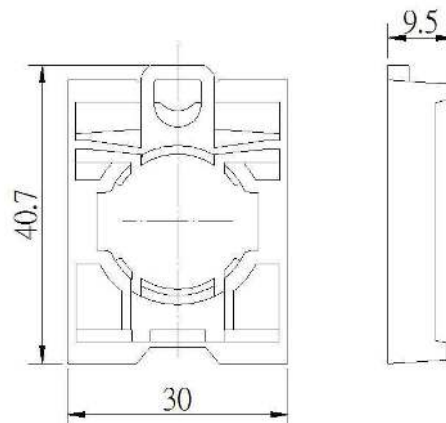
Contact Block (SF) -
Screw terminal, Front facing

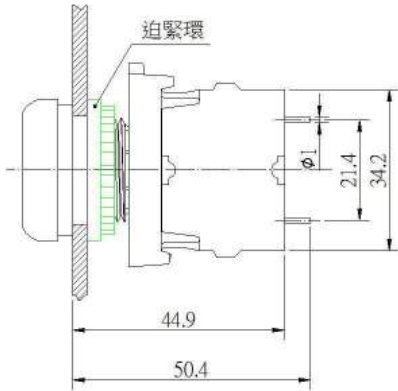
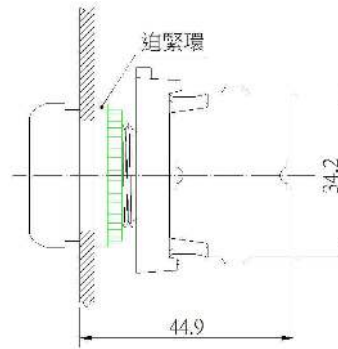


Contact Block (SB) -
Screw terminal, Back facing (for M22 Box)



Adapter for front facing buckle
contact blocks (A3)

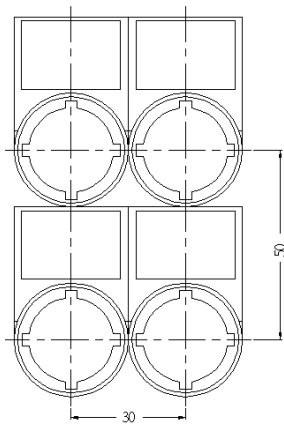


Dimensions with front facing
PCB terminal contact block installation

 Dimensions with front facing
Screw terminal contact block installation


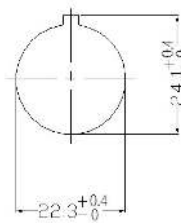
◆ Panel cut-outs

*Measurements in *millimeters*

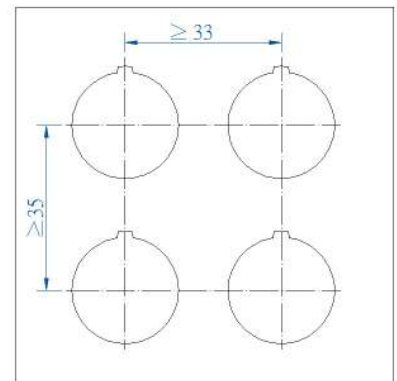
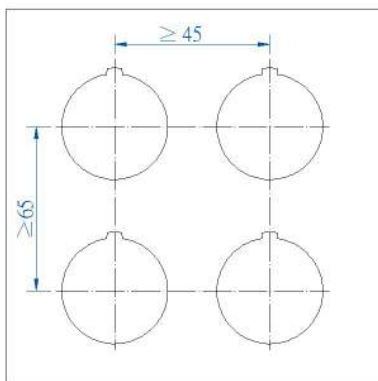
△ All M22-series products fits best in a circular panel cut out that measures 22.3mm in diameter, with a thickness of 1~4.5mm. Panels thicker than this may cause products to be secured improperly. Damage and bad operation may occur if installed onto incorrect through-holes or with incorrect tightening forces.



Multiple labeling (excl. M22DP)



Single unit panel cut-out


 Multiple units
panel cut-out (excl. M22DP)

 Multiple units
panel cut-out (for M22DP)

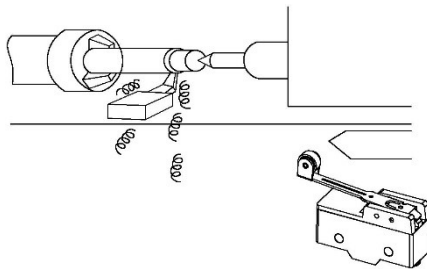
Precautions for Safe Use

- Be sure to ground. Otherwise electric shock may result.
- Do not touch charged switch terminals while the switch is carrying current, otherwise electric shock may result.
- Do not disassemble or touch the inside while the power is turned on, otherwise electric shock may result.
- Do not handle products without proper protective gears; doing so may result in injury.
- Connect a fuse which has 1.5 to 2 times higher breaking current than the product, in order to prevent products from short-circuit damage.
- On the occasion when using the switch with EN/IEC/GB ratings, use a 10 A fuse that complies IEC60269, either type gG or gL.
- Operating conditions will affect product durability. Be sure to check with actual using conditions before usage.
- Do not drop the switch.
- Do not connect a Single Limit Switch to two power supplies that are different in polarity or type. This may increase the risk of interference.
- Be sure to keep the load current less than the rated value. Otherwise, there is the possibility that the switch may be damaged and/or burnout.
- Do not use the Switch by itself in atmospheres containing flammable or explosive gases. Arcs and heat resulted from constant actuating may cause fire or explosion.
- Be sure to prevent foreign materials such as scrapped cable intrusion into the switch when wiring. Otherwise, there is the possibility of spoiling normal operations.
- Do not wire to the wrong terminals.
- Using the Switch in a pressed-in state for an extended period of time can accelerate part deterioration and also lead to failure to return to the original position. Check the Switch beforehand, and perform periodic inspection and replacement.
- Do not store or use the switch at the following places: (i)where the temperature fluctuates greatly. (ii)where the humidity is very high and condensation may occur. (iii)Where the vibration is great. (iv)Where there is direct sun light. (v)Where exposed to salty winds. (vi)Where exposed to cutting powder, machining chips, oil, and chemicals inside the protective doors. (vii)Where exposed to cleansers, thinners, and other solvents.
- Do not use or store the Switch in locations with corrosive gas, such as sulfuric gas (H₂S or SO₂), ammonium gas (NH₃), nitric gas (HNO₃), or chlorine gas (Cl₂), or high temperature and humidity. Otherwise, contact failure or corrosion damage may result.
- Do not disassemble and/or modify the switch at any time. Otherwise, there is the possibility of spoiling the normal operation.
- Do not apply deformative and/or degenerative forces to products.
- If products have been used over an extended period of time or uses stated in products datasheets, contact reliability may still degrade due to natural oxidation; resulting in inadequate conductivity, which may lead to an accident. Please swiftly preform inspections and insure proper replacements are carried out.
- Only allow certified professionals to preform installing and maintenance tasks.

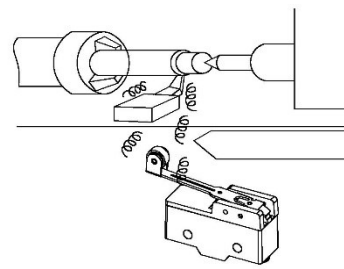
Precautions for Correct Use

Operating Environment

- This switch is only for indoor use. If it is used in outdoor, it may cause switch failure.
- Take special care if products are to be used at places where there is fine powder, mud and/or foreign materials accumulating. Check actual using conditions before using. If this is unavoidable, highly recommend integrating protective equipment. This is considered not Moujen's obligations.
- Seal material may deteriorate if a Switch is used outdoor or where subject to special cutting oils, solvents, or chemicals. Always appraise performance under actual application conditions and set suitable maintenance and replacement periods. This is considered not Moujen's obligations.
- Install Switches where they will not be directly subject to cutting chips, dust, or dirt. The Actuator and Switch must also be protected from the accumulation of cutting chips or sludge.



✓ Correct



✗ Incorrect

- Constantly subjecting a Switch to vibration or shock can result in wear, which can lead to contact interference with contacts, operation failure, reduced durability, and other problems. Excessive vibration or shock can lead to false contact operation or damage. Install Switches in locations not subject to shock and vibration and in orientations that will not produce resonance.
- The Switches have physical contacts. Using them in environments containing silicon gas will result in the formation of silicon oxide (SiO_2) due to arc energy. If silicon oxide accumulates on the contacts, contact interference can occur. If silicon oil, silicon filling agents, silicon cables, or other silicon products are present near the Switch, suppress arcing with contact protective circuits (surge suppressor) or remove the source of silicon gas.
- If the Switch will be left in a location outside the storage environment conditions, if condensation has formed, or after long term storage exceeding one year, at the minimum, check the operating characteristics, contact resistance, insulation resistance, and dielectric strength. And conduct a check under the operating conditions.

Handling & Usage

- Do not remove or replace any built-in switches. Doing so may damage the product, resulting in increased risk of malfunctioning.
- Do not use excessive force to insert, remove or twist keys of key-selector products. Doing so may damage the product, resulting in increased risk of malfunctioning.
- Do not actuate products and hold its position for excessive amounts of time. Doing so will reduce the life of the internal spring as well as structural integrity; thus, increase risk of malfunctioning.
- Do not bend or twist cables with excessive force. When bending is required, provide a bending radius of 45 mm min. so as not to damage the cable insulation or sheath. Excessive bending may cause fire or leakage current.
- To change the installation position of the actuator: By loosening the Allen-head bolt on the actuator lever, the position of the actuator can be set anywhere within 360°.
- To change the orientation of the head: By removing the head screws (two or four screws), mounting in any of four orientations is possible. Be sure to change the plunger for internal operations at the same time. The roller plunger can be set in either of two positions at 90°.
- Flipping the roller to a different side: Loosen the Allen-head bolt, allows flipping the roller to the opposite side.
- Adjusting the length of the rod or lever: The length of the rod or lever can be adjusted by loosening the Allen-head bolt.
- Adjusting the rolling arm lever: (i) The roller arm can be set freely within a range of 225° after loosening the nut. (ii) The roller arm mounting bracket can be set in any direction after loosening the nut.

Mounting and Tightening

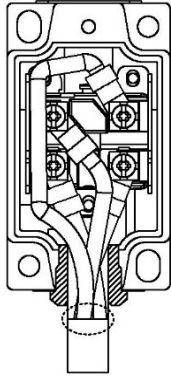
- Please view each individual product page's allowed parameters for details.
- Please follow these parameters diligently. Otherwise products may not function properly.

Wiring & Cabling

- Use M3.5-nylon insulation covered crimp terminals (round type)
- Appropriate wire size is AWG18.
- Do not supply electric power when wiring. Otherwise electric shock may result.
- Do not pull on the wires with excessive force.
- Avoid connecting the wires directly to the terminal. Instead, attach using a crimp terminal.
- Grounding is only installed on models with ground terminals.
- In the case of prewired connector and direct connector: Holding the connector certainly when pulling connector. Do not pull the cable with excessive force.

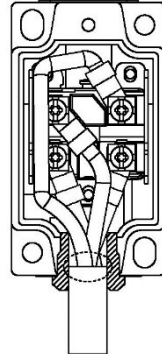
Conduit Installation

- The connector must be tightened at a suitable tightening torque. Tightening with excessive torque could damage the case.
- Select the connector based on the sealed rubber inner diameter for matching the cable outer diameter.
- When mounting the connector, use seal tape (not needed if the connector includes an O-ring) on the threaded section of the connector to ensure sealing performance.
- To ensure compliance of this Switch with the CSA standards, use of a waterproof connector compliant to CSA regulations.
- Using an inappropriate connector or assembling Switches incorrectly (assembly, tightening torque) can result in malfunction, leakage current, or fire. Be sure to read the connector instruction manual thoroughly beforehand.
- Even when the connector is assembled and set correctly, ends of the cable inside the Switch may come in contact. This can lead to malfunction, leakage current, or fire. Thus, be sure to protect the end of the cable from splashes of oil or water and corrosive gases.
- The following wiring is recommended for preventing the entry of fluids from the conduit opening.



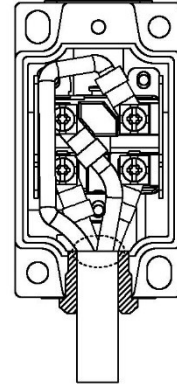
No envelopment of cable jacket in conduit. Exposed single wires.

✗ **Incorrect**



Partial/loose envelopment of cable jacket in conduit

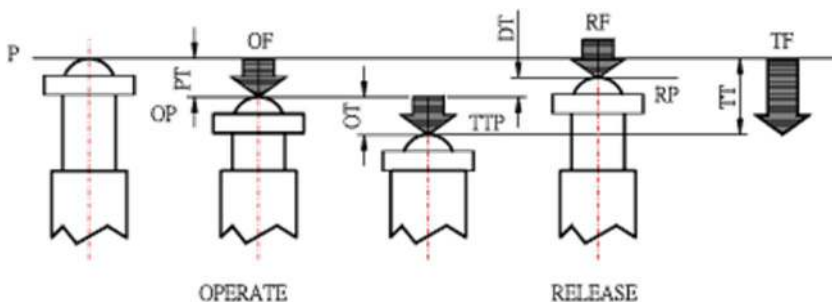
✗ **Incorrect**



Full envelopment of cable jacket in conduit.

✓ **Correct**

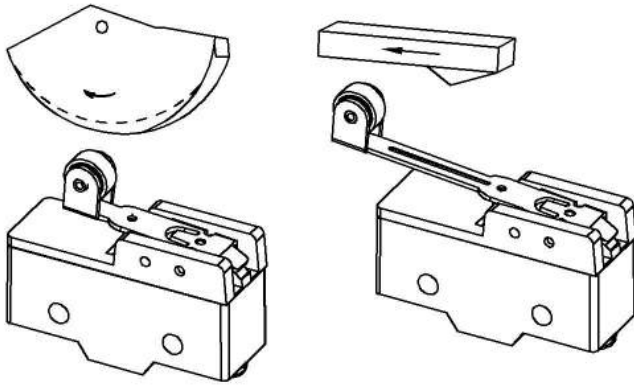
Actuating Terminology



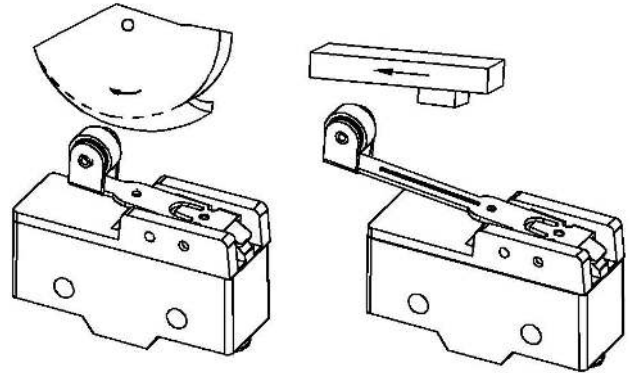
OF: Operating Force	TTP: Total Travel Position
RF: Releasing Force	PT: Pretravel
TF: Total Force	OT: Overtravel
FP: Free Position	DT: Travel Differential
OP: Operating Position	TT: Total Travel
RP: Releasing Position	

Integrating into systems – Limit Switches

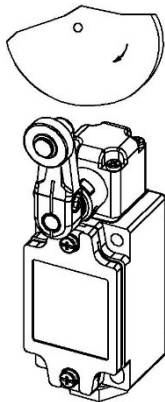
- Carefully determine the position and shape of the dog or cam so that the actuator will not abruptly snap back, thus causing shock. In order to operate the Limit Switch at a comparatively high speed, use a dog or cam that keeps the Limit Switch turned ON for a sufficient time so that the relay or valve will be sufficiently energized.
- The method of operation, the shape of the cam or dog, the operating frequency, and the travel after operation have a large influence on the durability and operating accuracy of the Limit Switch. The cam or dog must be smooth in shape.



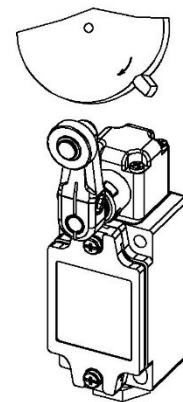
✓ Correct



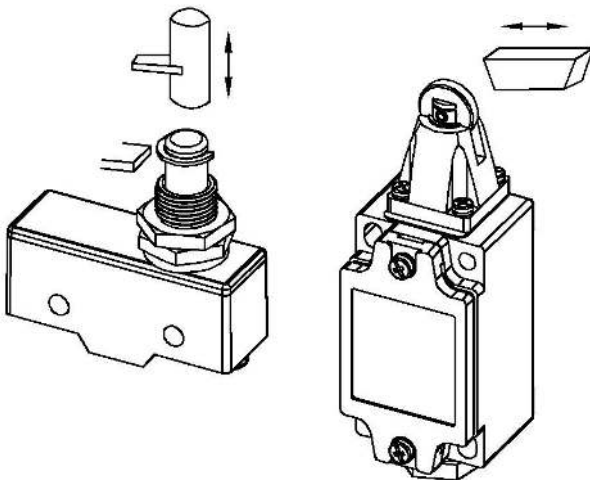
✗ Incorrect



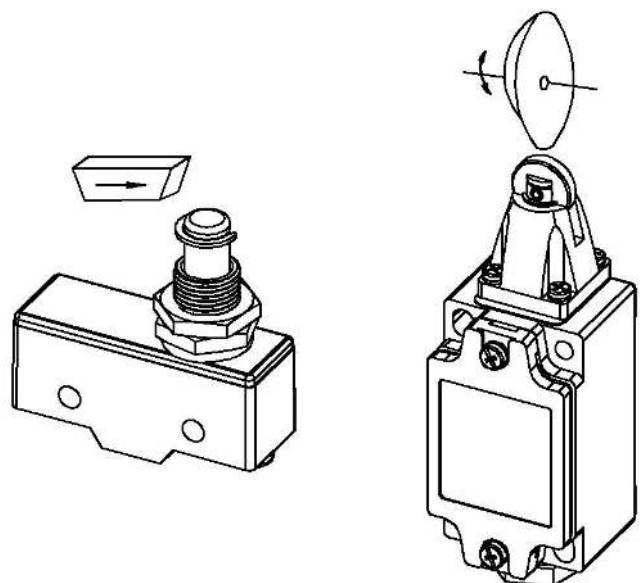
✓ Correct



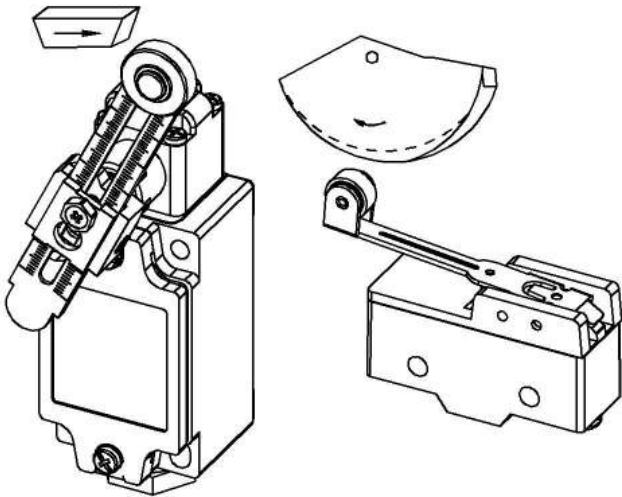
✗ Incorrect



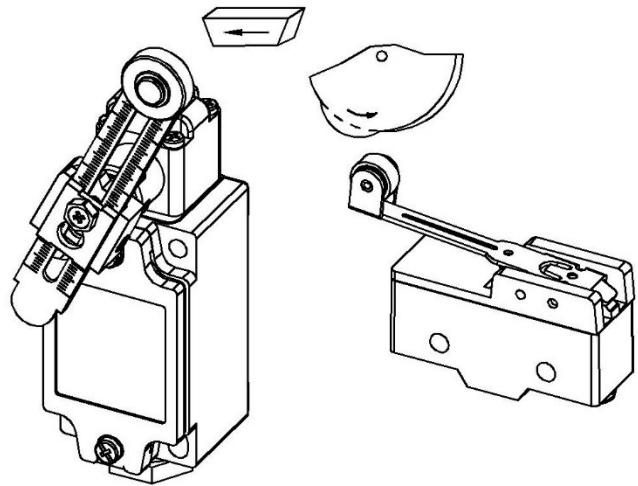
✓ Correct



✗ Incorrect

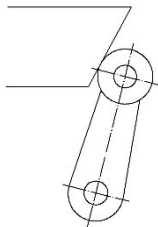


✓ Correct

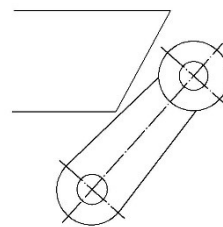


✗ Incorrect

- Appropriate force must be imposed on the actuator by the cam or dog in both rotary operation and linear operation. If the dog touches the lever as shown below, the operating position will not be stable.

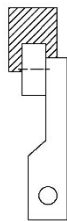


✓ Correct

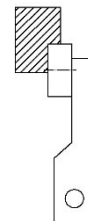


✗ Incorrect

- Unbalanced force must not be imposed on the actuator. Otherwise, wear and tear on the actuator may result.



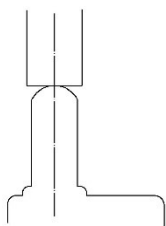
✓ Correct



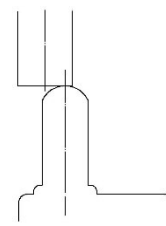
✗ Incorrect

- Mount so that the actuator travel after operation (OT) is not exceeded. If the travel after operation (OT) exceeds the limit, switch failure could result. When mounting the Limit Switch, be sure to adjust the Limit Switch carefully while considering the whole movement of the actuator.

- When using a pin-plunger actuator, make sure that the stroke of the actuator and the movement of the dog are located along a single straight line.



✓ Correct



✗ Incorrect

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