

Switches & Pilot Devices

Accessories

TW Series Accessories

Item	Appearance	Description/Usage	Part Number	
Lamp Removal Tool		Rubber tool used to install or remove LED's	OR-55	
Contact Block Remover		Used to remove contact blocks, transformers, lenses, and adaptors. Can also be used to determine panel thickness adjustment.	TW-KC1	
Nut Locking Wrench		Used in OR-14 locking wrench to tighten locking nuts inside square bezel	TW-KQ2	
Metal Bezel		Chrome plated bezels tighten onto operator (replacement for damaged bezels)	Standard octagonal units (chrome-pl.)	AW-R8
			Full shroud octagonal units (chrome-pl.)	AW-RF8
			Full shroud mushroom head units Ø 40mm	AW-G4
Plastic Bezel		Black plastic bezels for square buttons (replacement for damaged bezels)	Round flush units (black plastic)	AW-RP1B
			Round extended units (black plastic)	AW-FP1B
			Square units (black plastic)	AW-Q1B
			Square units with full shroud (black plastic)	AW-QF1B
Boot/Cover		Used to cover and protect pushbuttons	Waterproof lens cover for square pilot lights	APW00LN
			Waterproof lens cover for square illuminated buttons	APW00L
			Clear boot for round flush units	OC-31
			Clear boot for round extended units	OC-32
			In place of asterisk, specify Rubber Boot color: B (black), G (green), R (red), Y (yellow) - (nitril rubber)	OCW-11
Anti-Rotation Ring		Ring to prevent operator base from rotating in the mounting hole. Used when nameplate is not used	OGL-31	
Mounting Hole Plug		Black rubber plug fills unused mounting holes in panel.	OB-31	
Metallic Mounting Hole Plug		For plugging unused mounting holes in the panel. Tighten the attached locking ring to a torque of 12 kfg-cm maximum Degree of protection: IP66	LW9Z-BM	
Replacement Keys		Replacement keys (#0)	TW-SK	
Replacement Black Sleeve for Keyswitch			AKW2B-B	

Signaling Lights

Relays & Sockets

Timers

Contactors

Terminal Blocks

Circuit Breakers

Item	Appearance	Description/Usage		Part Number	
Metal Button Guard		Used on flush buttons to prevent inadvertent actuation		OLW-C	
Terminal Tab Adaptor		Quick- connect terminals	#250 (17/64" x 3/64") single tab	TW-FA4	
Lock-out Adaptor		Used to provide lock-out protection for pushbuttons and knob selector switches: • Up to Ø 40mm mushroom head size (Padlock not included.) Not applicable for e-stops.		HW9Z-KL1	
22mm to 30mm Adaptor		Used to mount TW series control unit (except square units) Ø 7/8" (22mm) into a Ø 1-13/64" (30mm) panel cut-out.		TWN-A1R8	
Contact Blocks (with side entry)		These contacts are applicable for wires terminated by ring, fork, not recommended for bare wire connections.		1NC	1NO
				HW-U01 HW-U01-MAU HW-U01R HW-U01R-MAU (with side entry)	HW-U10 HW-U10-MAU HW-U10R HW-U10R-MAU (with side entry)
Contact Blocks (without side entry)		These contacts are applicable for wires terminated by ring, fork, or ferule terminals, and also bare wire connections.		HW-U01-F HW-U01-MAU-F HW-U01R-F HW-U01R-MAU-F (no side entry)	HW-U10-F HW-U10-MAU-F HW-U10R-F HW-U10R-MAU-F (no side entry)

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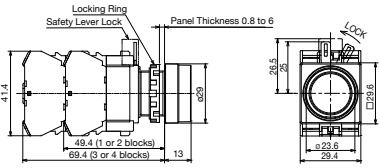
Terminal Blocks

Circuit Breakers

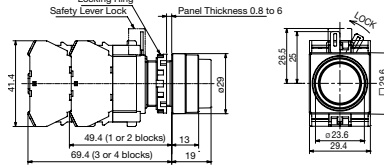
Dimensions

Pushbuttons

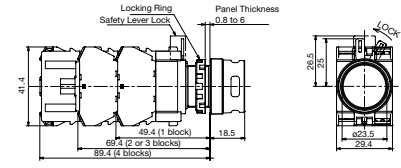
Flush



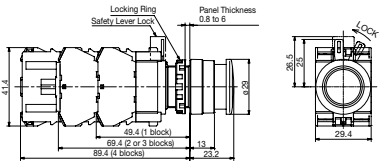
Extended



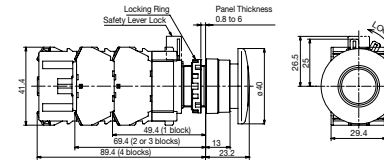
Extended with Full Shroud



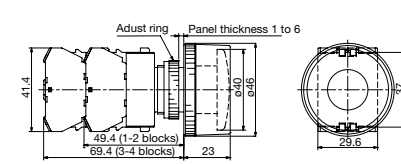
29mm Mushroom



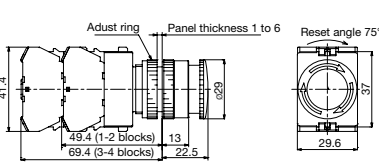
40mm Mushroom



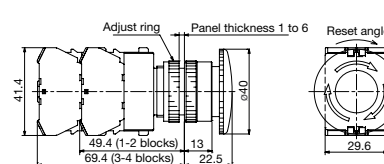
Mushroom with Full Shroud



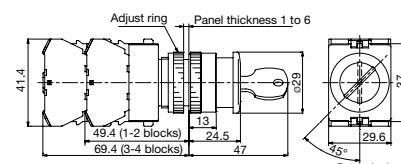
29mm Push-Lock-Turn-Reset



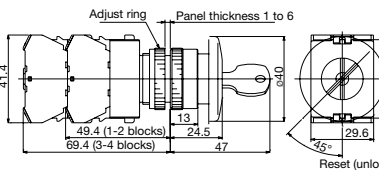
40mm Push-Lock-Turn-Reset



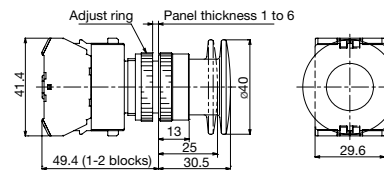
Keylock Push On/Off



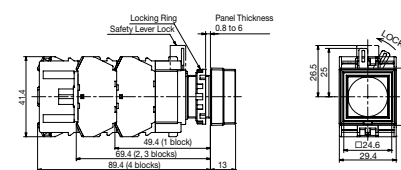
40mm Pushlock Key reset



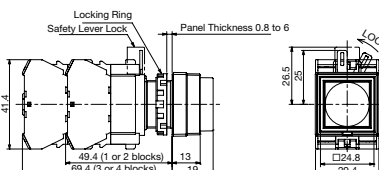
40mm Push-Pull



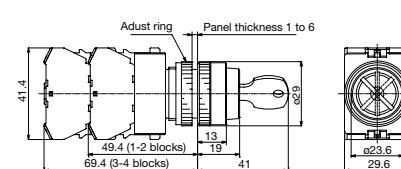
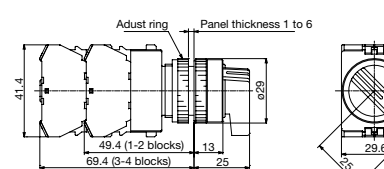
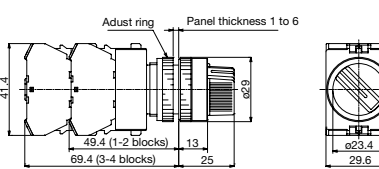
Square Flush



Square Extended



Selector Switches



Switches & Pilot Devices

Signaling Lights

Relays & Sockets

Timers

Contactors

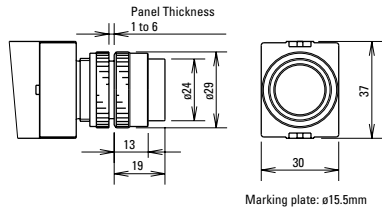
Terminal Blocks

Circuit Breakers

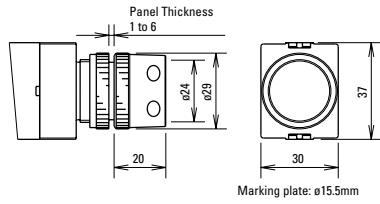
Dimensions continued

Illuminated Pushbuttons

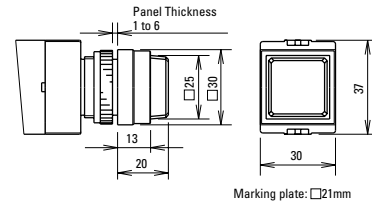
Extended



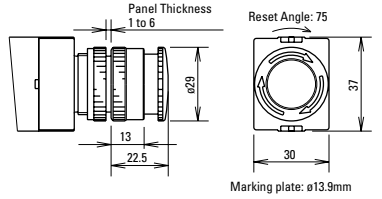
Extended with Full Shroud



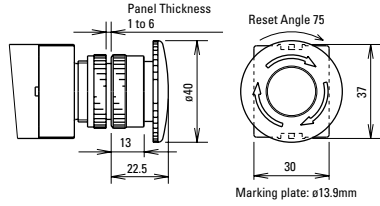
Square Extended



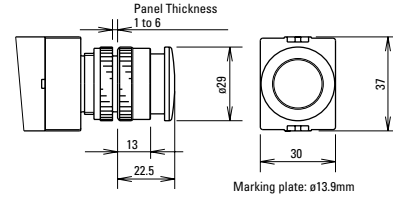
29mm Push-Turn-Reset



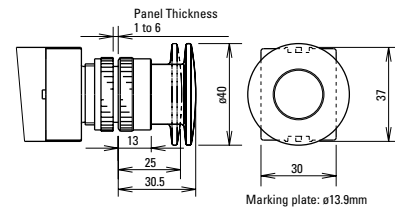
40mm Push-Turn-Reset



Mushroom

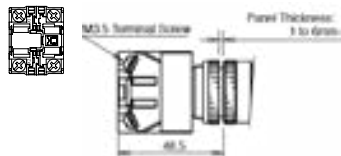


Push-Pull

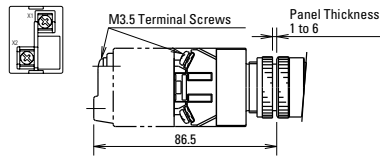


Illuminated Selector Switches

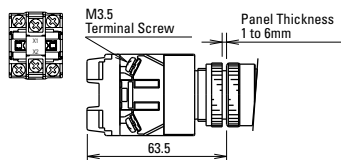
1 Contact Block with Full Voltage Adaptor



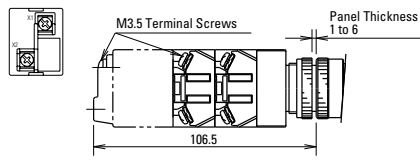
Transformer (2 blocks)



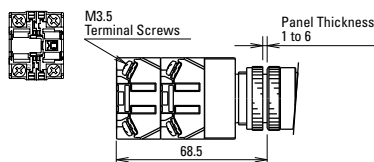
2 Contact Blocks with Full Voltage Adaptor



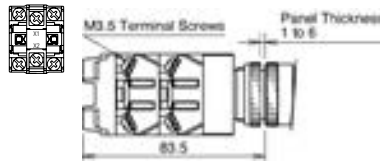
Transformer (4 blocks)



3 Contact Blocks with Full Voltage Adaptor



4 Contact Blocks with Full Voltage Adaptor



Switches & Pilot Devices

Signaling Lights

Relays & Sockets

Timers

Contactors

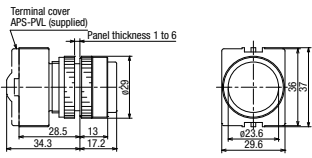
Terminal Blocks

Circuit Breakers

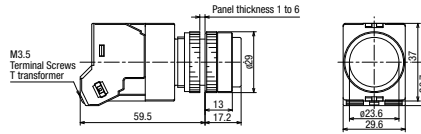
Dimensions continued

Pilot Lights

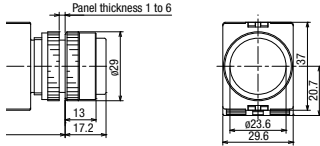
Round Flush APW1 Full Voltage



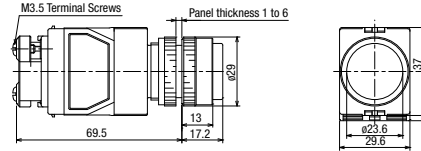
Round Flush APW1 Transformer



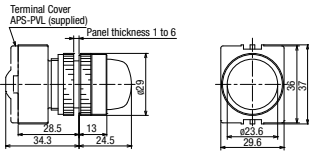
Round Flush Marking Type APW1B Full Voltage



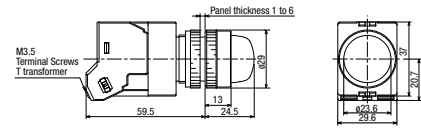
Round Flush Marking Type APW1B Transformer



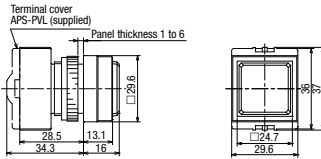
Dome APW2 Full Voltage



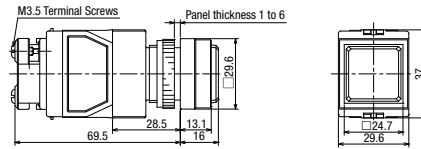
Dome APW2 Transformer



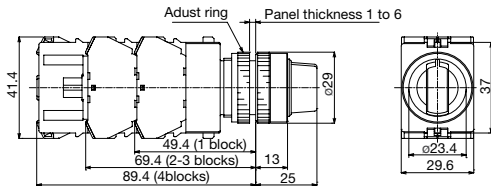
Square Flush Marking Type APQW1B Full Voltage



Square Flush Marking Type APQW1B Transformer



Illuminated Selector Switches



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Signaling Lights

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Timers

Contactors

Terminal Blocks

Circuit Breakers

Dimensions continued

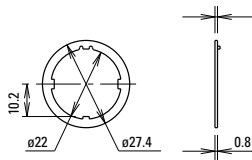
Panel Cut-Out

Diagram	Part	Dimension
	Pushbuttons	<ul style="list-style-type: none"> The minimum mounting centers are applicable to switches with one layer of contact blocks (one to two contact blocks). When two layers of contact blocks are mounted, determine the minimum mounting centers in consideration of convenience for wiring. 1*) ø40 mm mushroom button type: 40 mm minimum 1*) 2-position, 3-position lever selector switch: 39 mm minimum 1*) 4-position, 5-position lever selector switch: 50 mm minimum When high temperature is expected, take necessary measures such as securing sufficient mounting centers or using a cooling fan. The ☆3.2^{+0.2}₀ mm recess is for preventing rotation and is not necessary when the nameplate or anti-rotation ring is used. <p>All dimensions in mm.</p>
	Pilot Light	
	Illuminated Pushbuttons	
	Selector Switches	
	Illuminated Selector Switches	

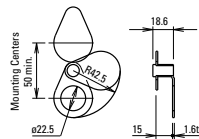
- 1. The Ø 0.137" (Ø 3.5mm) recess is necessary when either the nameplate or anti-rotation ring is used.
- 2. * >1.404" (36mm) for 2- or 3-position.
>1.95" (50mm) for 4- or 5-position.

Accessory Dimensions

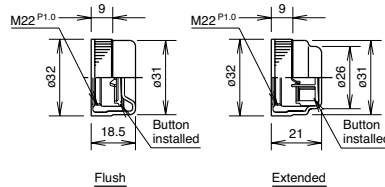
OGL-31
Anti-Rotation Ring



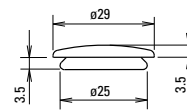
OLW-C
Metal Button Guard



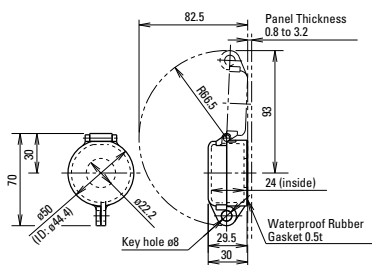
OCW-11
Pushbutton Rubber Boot



OB-31
Mounting Hole Rubber Plug



HW9Z-KL1
Lock-out Adaptor



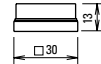
AW-RP1B
Round Plastic Bezel



AW-FP1B
Round Plastic w/Full Shroud

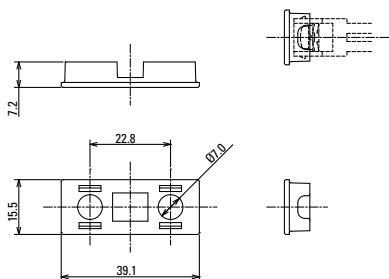


AW-QF1B
Square Full Shroud



Finger-Safe Cover Dimensions

APS-PVL



Switches & Pilot Devices

Signaling Lights

Relays & Sockets

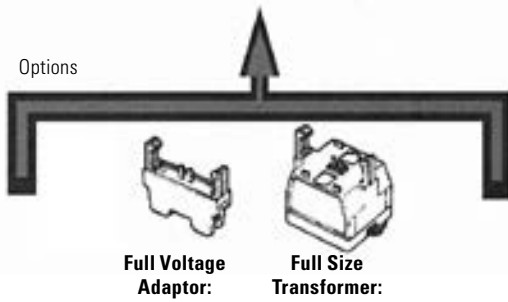
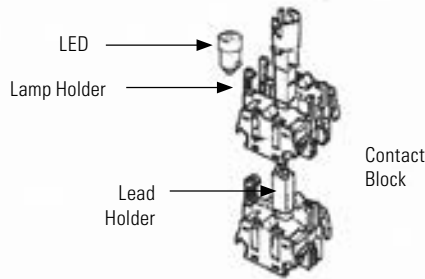
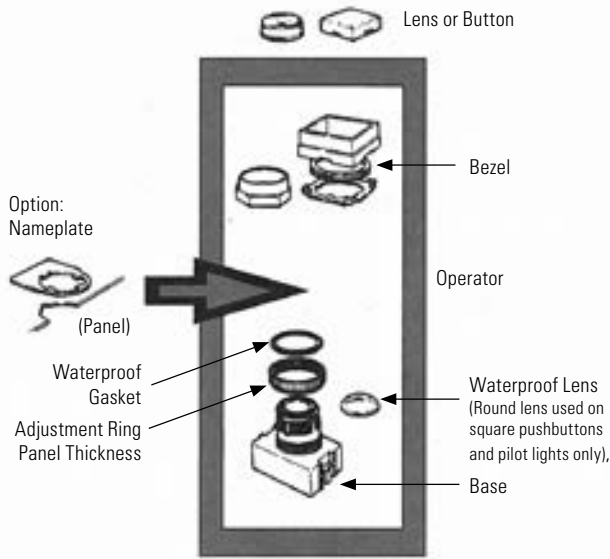
Timers

Contactors

Terminal Blocks

Circuit Breakers

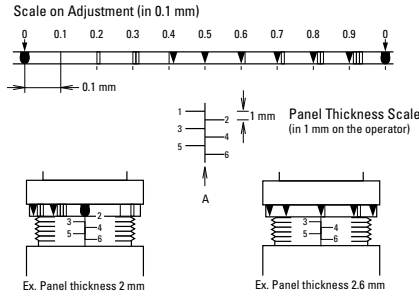
Component Construction and General Instructions – TW Series



Instructions for Switches and Pilot Devices

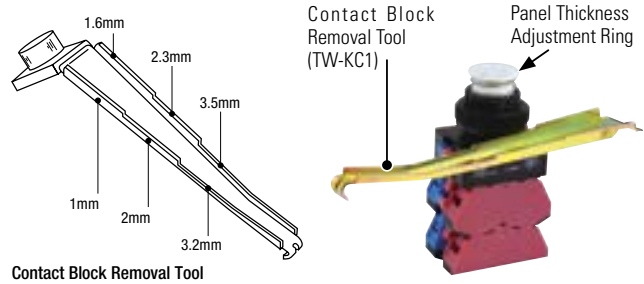
TW Series: Adjustment for Panel Thickness

The panel thickness ring provides adjustment from 0.04" to 0.24" (1 to 6mm) in 0.004" (0.1mm) increments. Rotate the ring until the markings around the periphery are aligned for the desired thickness, as shown below.



Note: When a nameplate or an anti-rotation ring is used, add 0.03" (0.8mm) to the panel thickness dimension.

An adjustment for panel thicknesses shown below can be made quickly by using the contact block remover tool.



Instructions continued

Pilot Lights and Pushbuttons

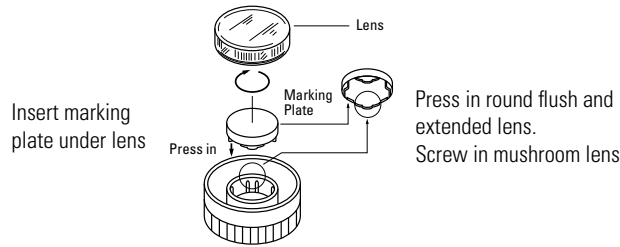
IMPORTANT: Install the body of the TW control unit with the panel thickness scale facing up.

Octagonal and Round Bezels

Octagonal and round bezels screw into the operator. Use a locking ring wrench (optional) for secure tightening and easy removal. Round flush and extended buttons snap onto the operator base. Mushroom buttons screw onto the operator base.

Every round lens can be used with or without legend markings. Engraving can be done on a white translucent plate which is placed in the lens, or clear mylar can be printed and placed in the lens.

Round Marking Unit

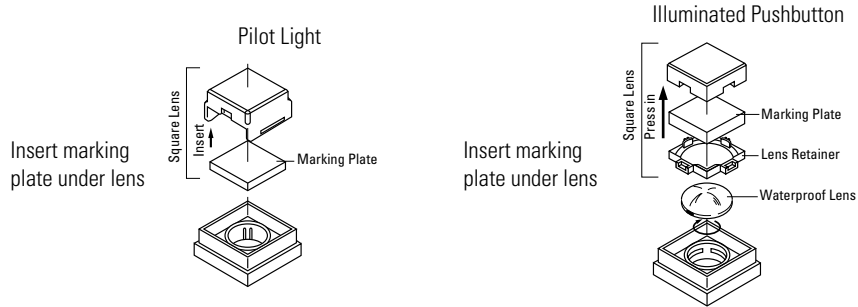


Square Bezels

Square bezels are installed in a 3-step procedure. First install the base plate from the front. Then install the lock nut using the nut locking wrench (optional). Finally, install the square bezel, which snap-fits onto the base plate. Square buttons also snap onto the operator base.

Every square lens can be used with or without legend markings. Engraving can be done on a white translucent plate which is placed in the lens, or clear mylar can be printed and placed in the lens. Square units include a round waterproof lens which screws into the operator. The square outer lens snaps on.

Square Marking Units



To remove square lens from operator, place a screwdriver under the indentation on the side of the lens. To remove the marking plate, place a screwdriver under the indentation and lift out the plate. The lens retainer can be removed by pressing a 3/16" screwdriver into one of the recesses.



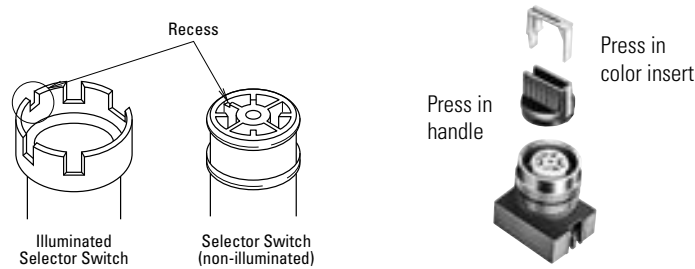
Marking Plate Engraving Area

Shape	Engraving Area	Used With	Part Number
Round	Ø 0.55" (14mm)	Illuminated pushbuttons	ALW2B
	Ø 0.55" (14mm)	Pilot lights	APW2B
Mushroom	Ø 0.55" (14mm)	Illuminated mushroom	ALW3B
Square	□ 0.83" (21mm)	Square pilot lights	APQW1B
Square	□ 0.83" (21mm)	Square illuminated pushbuttons	ALQW2B

Instructions, continued

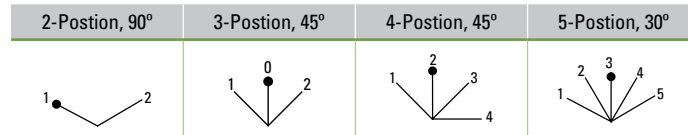
Selector Switches

The operator shaft of each unit has a recess to identify in which direction to install the handle. Align the handle with the recess. Press color insert (TW-HC1) into the handle and then press handle into the operator, as shown below.

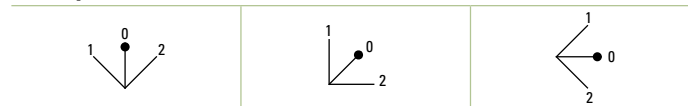


Remove color insert before pulling out the handle.

Standard Operating Positions



Positions: Non-Illuminated 3-Position Operators



Installation of LED Illuminated Units

Transformers are recommended for use in areas subjected to inductive noise. When using full voltage types, install a protection diode as shown below. (Diode with DC power supply to protect against surges and noise.)

