

TW Series — 22mm NEMA Style Pushbuttons



A

TW NEMA Style Switches with snap-on contacts

Key features include:

- Corrosion resistant octagonal chrome plated locking bezel
- Snap-on 10A contact blocks
- Transformer or full voltage
- Incandescent or LED illumination
- Slow make, double break, self cleaning contacts
- Modular construction for maximum flexibility
- NEMA 4X and IP65 watertight/oiltight panel
- Available assembled or as sub-components
- Large M3.5 screw terminals with captive sems plate

IDEC has your 22mm switching needs covered.

Button styles include flush, extended, mushroom, or square and all bodies are crafted from fracture-resistant nylon.

All illuminated units feature two lense styles, one that maximizes light dispersion, the other accomodates direct lense engraving.

Self cleaning contact mechanisms allow for a wide current rating, 5mA to 10A, which reduces the need for various contact materials.

When looking for a 22mm switch that is durable, easy to use, and versatile, then IDEC's TW series is your solution.



UL Listed
File No. E70646



File No. 9561116E01
Applicable when using HW
series contact blocks.



CSA Certified
File No. LR48366



File No. DK95-01696



TW Series Oiltight Switches and Pilot Devices Ø 7/8" (22mm)

Series Model	AΔW...	AΔLW...	ASW...	ASLW...	APW...
See Page	A-99	A-108	A-115	A-120	A-104
Appearance	Flush 	Extended 			
	Extended 	Extended/Shroud 	Knob Operator 	Knob Operator (w/transformer) 	Dome Lens
	Mushroom 	Mushroom 	Lever Operator 		Flush Lens
	Square Flush 	Square Extended 	Key Operator 	Knob Operator (full voltage) 	Square Flush
	Square Extended 	Push-Pull 			Square Flush (w/transformer)
	Pushlock Turn Reset 	Pushlock Turn Reset 			
Operator Types	Non-illuminated Pushbuttons: • Momentary • Maintained • E-Stop	Illuminated Pushbuttons: • Momentary • Maintained • E-Stop • LED/Incandescent	Selector Switches: • 2, 3, 4, 5-position • Maintained • Spring Return • Colored knobs/inserts	Illuminated Selectors: • Full Voltage/Transformer • LED/Incandescent	Pilot Lights: • Full Voltage/Transformer • LED/Incandescent
Contact Configuration	Modular: NO,NC, NO-EM, NC-LB (maximum 6 contacts)		See Contact Arrangement Charts page A-128.		—
Contact Ratings	10A thermal current				
Electrical Life	600V maximum				
Mechanical Life	Momentary Pushbuttons: 5,000,000 operations minimum; Others: 500,000 operations minimum Selector Switches: 500,000 operations minimum				
Degree of Protection	NEMA Type 1, 2, 3, 3R, 4, 4X, 5, 12, 13; Waterproof/Oiltight/Corrosion Resistant: IP65				
Termination	M3.5 Screw Terminals with captive sems plate				
Approvals	UL Listed File No. E70646		CSA Certified File No. LR48366		when used with HW series contact blocks
	File No. 9561116E01 when used with HW series contact blocks		File No. DK95-01696		



1. Illuminated units include lamp.
2. Available as assembled or sub-assembled components.

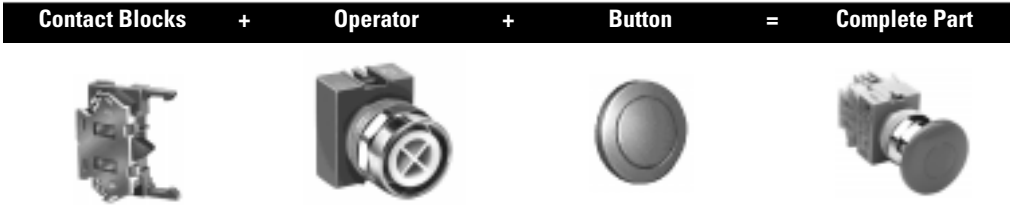


Specifications

Contact Ratings

Conforming to Standards		EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14							
Approvals		 File No. E70646 File No. LR48366 TÜV Rheinland (applicable with HW contacts) Registration No: J9551802 (E-Stops) Registration No: J9551803 (All other switches) Registration No: J9551804 (Pilot Lights)							
Operating Temperature		Operation: -25 to +50°C (without freezing) Storage: -40 to +70°C (without freezing)							
Vibration Resistance		10 to 55Hz, 98m/sec ² (10g) conforming to IEC6068-2-6							
Shock Resistance		980m/sec ² (100g) conforming to IEC6068-2-7							
Electric Shock Protection		Class 0 conforming to IEC60536							
Degree of Protection (conforming to IEC60529) (conforming to NEMA ICS6-110)		IP65 (from front of the panel) IP20 (Type HW-F contact block) NEMA 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13							
Mechanical Life		Momentary pushbuttons: 5,000,000 (900 operations per hour) All other switches: 500,000							
Pollution Degree (conforming to IEC60947-1)		3 for switches not using a transformer 2 for switches using a transformer							
Rated Operational Characteristics		~AC-15: A600 or Ue = 250V, Ie = 3A (NO, NC, NO-EM, NC-LB) DC-13: P600 or Ue = 125V, Ie = 1.1A (NO, NC) DC-13: Q600 or Ue = 125V, Ie = 0.9A (NO-EM, NC-LB)							
Rated Insulation Voltage		600V							
Rated Switching Over-Voltage		Less than 4kV, conforming to IEC60947-1							
Rated Impulse Withstanding Voltage		4kV for contact circuit 2.5kV for lamp circuit							
Rated Thermal Current		10 Amp							
Minimum Switching Capacity		5 mA at 3V AC/DC							
Contact Operation		Slow break NC or slow make NO, self-cleaning							
Recommended Terminal Torque		0.8 N m (7.1 in lb.)							
External Short-Circuit Protection		10A 250V fuse conforming to IEC60269-1							
Applicable Wire Size		Minimum 1 x 22 AWG, max. 2 x 14 AWG or 1 x 12 AWG							
Contact Resistance		Initial contact resistance of 50mΩ or less							
Contact Gap		4mm (NO and NC) 2mm (NO-EM and NC-LB)							
Electrical Reliability		MTBF < 1 fault for 10 million operation cycles (3V DC, 5mA)							
Lamp Ratings		Incandescent: 1 W LEDs: 0.5 W							
Horsepower Rating		1/4 HP @ 120V (single-phase, non-reversing motor); 1 HP @ 240V (3 phase, non-reversing motor)							
Maximum Inrush Current		40 A (40 ms)							
Contact Material		Silver							
		Break Values				Make Values			
		AC		DC		AC		DC	
		Inductive	Resistive	Inductive	Resistive	Inductive	Resistive	Inductive	Resistive
Rated Operating Current	120V: 6A 240V: 3A 480V: 1.5A 600V: 1.2 A	120V: 10A 240V: 6A 480V: 2A	120V: 1.1A 240V: 0.6A 12V: 4A 24V: 4A	120V: 2A 240V: 1.1A 480V: 0.4A 12V: 4A 24V: 4A	120V: 60A 240V: 30A 480V: 15A 600V: 12 A	120V: 100A 240V: 60A 480V: 20A	120V: 11A 240V: 6A 12V: 40A 24V: 40A	120V: 20A 240V: 11A 480V: 4A 12V: 40A, 24V: 40A	

Non-Illuminated Pushbuttons (Assembled)



Assembled Pushbuttons

A B () W 1 10 () - B

Degrees of Protection
A: IP65/NEMA4X

Function
B: Momentary
O: Alternate
V: Pushlock Turn Reset
Y: Push-Pull
K: Key On/Off Lock
X: Pushlock Key Reset

Bezel Shape
Blank: Octagonal
F: Full Shroud
G: Mushroom Shroud
Q: Square

Button Color
B: Black G: Green W: White
R: Red S: Blue Y: Yellow

Contact Style
Blank: Standard
N: Fingersafe, CE marked

Contact Arrangement
10: 1NO 01: 1NC
20: 2NO 02: 2NC
11: 1NO-1NC 22: 2NO-2NC

Button Shape
1: Flush
2: Extended
3: Mushroom
 Ø 1-13/64" (Ø 29mm)
4: Mushroom
 Ø 1-37/64" (Ø 40mm)




Series Type
W: TW Ø 7/8" (Ø 22mm)



To be used for interpreting part numbers only, not for part number development.

Non-Illuminated Pushbuttons (Assembled), continued

Part Numbers: Non-illuminated Pushbuttons

Style	Contacts	Momentary Action	Maintained Action
		Part Number	Part Number
Flush * 	1NO 1NC 1NO-1NC 2NO 2NC	ABW110-B,G,R ABW101-B,G,R ABW111-B,G,R ABW120-B,G,R ABW102-B,G,R	AOW110-B,G,R AOW101-B,G,R AOW111-B,G,R AOW120-B,G,R AOW102-B,G,R
Extended 	1NO 1NC 1NO-1NC 2NO 2NC	ABW210-① ABW201-① ABW211-① ABW220-① ABW202-①	AOW210-① AOW201-① AOW211-① AOW220-① AOW202-①
Extended with Full Shroud 	1NO 1NC 1NO-1NC 2NO 2NC	ABFW210-① ABFW201-① ABFW211-① ABFW220-① ABFW202-①	AOFW210-① AOFW201-① AOFW211-① AOFW220-① AOFW202-①
Ø 1-37/64" (40mm) Mushroom 	1NO 1NC 1NO-1NC 2NO 2NC	ABW410-① ABW401-① ABW411-① ABW420-① ABW402-①	AOW410-① AOW401-① AOW411-① AOW420-① AOW402-①
Ø 1-37/64" (40mm) Mushroom with Full Shroud 	1NO 1NC 1NO-1NC 2NO 2NC	ABGW410-① ABGW401-① ABGW411-① ABGW420-① ABGW402-①	AOGW410-① AOGW401-① AOGW411-① AOGW420-① AOGW402-①
Square Flush 	1NO 1NC 1NO-1NC 2NO 2NC	ABQW110-① ABQW101-① ABQW111-① ABQW120-① ABQW102-①	AQQW110-① AQQW101-① AQQW111-① AQQW120-① AQQW102-①
Square Extended 	1NO 1NC 1NO-1NC 2NO 2NC	ABQW210-① ABQW201-① ABQW211-① ABQW220-① ABQW202-①	AQQW210-① AQQW201-① AQQW211-① AQQW220-① AQQW202-①



1. In place of ①, specify the button color code from table on next page.
2. * Flush units include one each of Red, Green, and Black buttons.
3. For sub-assembled part numbers, see page A-102.
4. Small mushroom pushbutton Ø 1-5/32" (29mm) is available by ordering a button separately (part no. A
5. For accessories, see page A-136.
6. For dimensions, see page A-138.

Non-Illuminated Pushbuttons (Assembled), continued

Part Numbers: Non-Illuminated Special Function Pushbuttons

Style	Contacts	Part Number
Ø 1-37/64" (40mm) Pushlock Turn Reset 	1NO 1NC 1NO-1NC 2NO 2NC	AVW410-R* AVW401-R* AVW411-R* AVW420-R* AVW402-R*
Ø 1-37/64" (40mm) Push-Pull 	1NO 1NC 1NO-1NC 2NO 2NC	AYW410-① AYW401-① AYW411-① AYW420-① AYW402-①
Keylock Push On/Off 	1NO 1NC 1NO-1NC 2NO 2NC	AKW210 AKW201 AKW211 AKW220 AKW202
Ø 1-37/64" (40mm) Pushlock Key Reset * 	1NO 1NC 1NO-1NC 2NO 2NC	AXW410- R* AXW401- R* AXW411- R* AXW420- R* AXW402- R*



1. * Available in Red only.
2. In place of ①, specify the color code from table below.
3. Keyed switches are supplied with two keys. All units are keyed alike. For custom keys, contact IDEC.
4. For sub-assembled part numbers, see page A-102.
5. For accessories, see page A-136.
6. For dimensions, see page A-138.

① Button Color Code

Color	Code
Black	B
Blue	S
Green	G
Red	R
Yellow	Y
White	W



Non-Illuminated Pushbuttons (Sub-Assembled)

Contact Blocks + Operator + Button = Complete Part



A

Part Numbers: Operators

Style	Momentary Action	Maintained Action
	Part Number	Part Number
Round Flush/Extended 	ABW-100	AOW-100
Round with Full Shroud 	ABFW-200	AOFW-200
Ø 1-37/64" (Ø 40mm) Ø 1-5/32" (Ø 29mm) Mushroom 	ABW-300	AOW-300
Ø 1-37/64" (Ø 40mm) Mushroom with Full Shroud 	ABGW-400	—
Square Flush/Extended 	ABQW-100	AQQW-100

Part Numbers: Special Function Operators

Style	Part Number
Ø 1-37/64" (40mm) Pushlock Turn Reset 	AVW-300
Ø 1-37/64" (40mm) Push-Pull 	AYW-400
Ø 1-37/64" (40mm) Pushlock Key Reset* 	AXW-300
Keylock Push On/Off 	AKW-200



* Pushlock Key Reset operator uses AXW4B-R button.






1. Bezel or shroud included with each pushbutton operator.
2. Contact blocks and buttons are ordered separately.



Non-Illuminated Pushbuttons (Sub-Assembled), continued

Part Numbers: Buttons

Style	Part Number
Round Flush 	ABW1B-①
Round Extended 	ABW2B-①
Square Flush 	ABQW1B-①
Square Extended 	ABQW2B-①
Ø 1-37/64" (40mm) Mushroom 	ABW4B-①
Ø 1-5/32" (29mm) Mushroom 	ABW3B-①
Ø 1-37/64" (40mm) Pushlock Turn Reset 	AVW4B-R*
Ø 1-37/64" (40mm) Push-Pull 	AYW4B-①
Pushlock Key Reset 	AXW4B-R*


Part Numbers: Contact Blocks

Description	Part Number	
	1NO	1NC
Standard Exposed Screw 	TW-C10 TW-C10R (early make)	TW-C01 TW-C01R (late break)
Fingersafe (IP20), CE marked 	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
Dummy Block 	TW-DB	

-  1. Dummy blocks (no contacts) are used with an odd number of contact blocks.
-  2. Use of early and late break contacts creates a make before break function

① Button Color Code

Color	Code
Black	B
Blue	S
Green	G
Red	R
Yellow	Y
White	W

-  1. In place of ①, specify the button color code from table above.
2. * Available in Red only

Pilot Lights (Assembled)

Transformer/Adaptor* + Operator + Lamp + Lens = Complete Part



- * Not required for full voltage types.
- AC adaptor is used with LED and transformer is used with incandescent.

Assembled Pilot Lights

A P () W 1 () 126 D - R - ()

Degree of Protection

A: IP65

Function

P: Pilot Light

Bezel Shape

Blank: Octagonal

Q: Square

Series Type

W: TW Ø 7/8" (Ø 22mm)

Lens Shape

1: Flush

2: Dome

Lens Type

Blank: Non-Marking

B: Marking (engravable insert included)

Rated Operational Voltage (Primary)

Transformer/AC Adaptor Type Full Voltage Type

126:120V AC

99:Full Voltage

246:240V AC

486:480V AC (Transformer type only)

Lamp Voltage

(Full Voltage Only)

Incandescent

6: 6V AC/DC

12: 12V AC/DC

24: 24V AC/DC

LED

6: 6V DC

12: 12V AC/DC

24: 24V AC/DC

120:120V AC

Lens Color Code

A: Amber

G: Green

R: Red

S: Blue

W: White

C: Clear (square only)

Y: Yellow (LED only)

Lamp Type

Blank: Incandescent Lamp




D: LED Lamp






- Use only when interpreting part numbers. Do not use for developing part numbers.
- All transformers step down to 6V.

Pilot Lights (Assembled), continued

Part Numbers: LED Pilot Lights

Style		Operating Voltage	Part Number
 Dome	AC Adaptor	120VAC 240VAC	APW2126D-② APW2246D-②
	Full Voltage	—	APW299D-②-③
 Round Flush	AC Adaptor	120VAC 240VAC	APW1126D-② APW1246D-②
	Full Voltage	—	APW199D-②-③
 Square Flush	AC Adaptor	120VAC 240VAC	APQW1B126D-② APQW1B246D-②
	Full Voltage	—	APQW1B99D-②-③

Part Numbers: Incandescent Pilot Lights

Style		Operating Voltage	Part Number
 Dome	Transformer	120VAC 240VAC 480VAC	APW2126-② APW2246-② APW2486-②
	Full Voltage	—	APW299-②-③
 Round Flush	Transformer	120VAC 240VAC 480VAC	APW1126-② APW1246-② APW1486-②
	Full Voltage	—	APW199-②-③
 Square Flush	Transformer	120VAC 240VAC 480VAC	APQW1B126-② APQW1B246-② APQW1B486-②
	Full Voltage	—	APQW1B99-②-③



1. In place of ②, specify the LensLED color code from table below.
2. In place of ③, specify the full voltage code from table below.
3. Add \$1.50 to list price for 120V LED.
4. For accessories, see page A-136.
5. For dimensions, see page A-138.
6. For sub-assembly part numbers, see next page.

② Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue*	S
White	W
Yellow [†]	Y

* Blue LEDs are available in 24V only. Add \$10.00 to list for blue.
[†] Yellow available in LED only.

③ Full Voltage Code

LED	Incandescent
6 = 6V AC/DC	6 = 6V AC/DC
12 = 12V AC/DC	12 = 12V AC/DC
24 = 24V AC/DC	24 = 24V AC/DC
120 = 120V AC	—

Add \$1.50 to list for 120V LED.



Pilot Lights (Sub-Assembled)

Transformer/Adaptor* + Operator + Lamp + Lens = Complete Part



A



* Transformer/Adaptor not required for full voltage units.

Part Numbers: Pilot Light Operators

Style	Part Number
Round Dome/Flush 	APW-199
Square 	UPQW-199



1. Bezel included with operator.
2. Lens, lamp, transformer, and/or AC adaptor must be ordered separately when applicable.
3. Same operator is used for full voltage as for transformer completed units.

Part Numbers: Pilot Light Lenses

Style	Non-Marking	Marking
	Part Number	Part Number
Dome (Incandescent)	APW2L-②	—
Dome (LED)	APW2LD-②	—
Round Flush (Incandescent)	APW1LN-②	APW1BLN-②
Round Flush (LED)	APW1LD-②	APW1BLD-②
Square Flush	—	APQW1BL-②





1. In place of ②, specify the lens color code from table on the right.
2. Non-marking lenses have a ribbed lens to enhance light dispersion. Marking lenses include an engravable insert.
3. LED lenses are lighter in color than incandescent lenses in order to compensate for the inherent color of the LED.
4. Use incandescent lens when using blue LED.

② Lens Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y (LED only)
Clear (white)	C (square only)

Pilot Lights (Sub-Assembled), continued

Part Numbers: Lamps

Type	Voltage	Current	Part Number
LED 	6V AC	52mA	LSPD-6-②
	12V AC/DC	26mA	LSPD-1-②
	24V AC/DC	13mA	LSPD-2-②
	120V AC	8mA	LSPD-120-②
Incandescent 	6.3V AC/DC, 1W		IS-6
	12V AC/DC, 1W		IS-12
	24V AC/DC, 1W		IS-24
	30V AC/DC, 1W		IS-30

② LED Color Code




Color	Code
Amber	A
Green	G
Red	R
Blue [†]	S
White	W
Yellow [‡]	Y

[†] Blue available in 24V only.
Add \$10.00 to list price for blue.
[‡] Yellow available in LED only.



1. In place of ②, specify the LED color code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.

Part Numbers: AC Adaptors and Transformers

Description	Appearance	Primary Voltage (50/60Hz)	Part Number
LED Snap-Fit AC Adaptor		120V AC	TW-T126D
		240V AC	TW-T246D
Incandescent Snap-Fit Transformers	Full Size 	120V	TW-T126
		240V	TW-T246
		480V	TW-T486
	Half Size 	120V	TW-T126S
		240V	TW-T246S



All AC Adaptors and Transformers step down to 6V.

Illuminated Pushbuttons (Assembled)

Transformer/Adaptor* + Contact Block + Operator + Lamp Holder + Lamp + Lens + Complete Part



A

AC adaptor is used with LED, and transformer is used with incandescent.
* Not required for full voltage units.

Assembled Illuminated Pushbuttons

A L () W 2 126 11 (D) (N) - R - ()

Degree of Protection

A: IP65

Function

L: Momentary Action
OL: Alternate Action
VL: Pushlock Turn Reset
YL: Push-Pull

Bezel Shape

Blank: Octagonal
F: Full Shroud
Q: Square

Series Type

W: TW Ø 7/8" (Ø 22mm)

Lens Shape

2: Extended Non-Marking
2B: Extended Marking
4: Mushroom Ø 1-37/64" (Ø 40mm)
4B: Mushroom Marking Ø 1-37/64" (Ø 40mm)

Rated Operational Voltage (Primary)

Transformer/AC Adaptor Type	Full Voltage Type
126:120V AC	99:Full Voltage
246:240V AC	
486:480V AC (Transformer type only)	

Lamp Voltage

(Full Voltage Only)

Incandescent
6: 6V AC/DC
12: 12V AC/DC
24: 24V AC/DC
LED
6: 6V AC/DC
12: 12V AC/DC
24: 24V AC/DC
120:120V AC

Lens Code

A: Amber
G: Green
R: Red
S: Blue
C: Clear (square only)
W: White
Y: Yellow (LED only)

Contact Style

Blank: Standard
N: Fingersafe CE marked

Lamp Type

Blank: Incandescent Lamp
D: LED Lamp









Contact Arrangement

10: 1NO	01: 1NC
20: 2NO	02: 2NC
11: 1NO-1NC	22:2NO-2NC

1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. All AC Adaptors/Transformers step down to 6V.

LED Illuminated Pushbuttons (Assembled)

Part Numbers: LED Illuminated Pushbuttons

Style	Contacts	Momentary Action	Maintained Action
		Part Number	Part Number
Extended Lens AC Adaptor Type 	1NO-1NC 2NO 2NC	ALW2 ④ 611D-② ALW2 ④ 620D-② ALW2 ④ 602D-②	AOLW2 ④ 611D-② AOLW2 ④ 620D-② AOLW2 ④ 602D-②
Extended Lens Full Voltage 	1NO-1NC 2NO 2NC	ALW29911D-②-③ ALW29920D-②-③ ALW29902D-②-③	AOLW29911D-②-③ AOLW29920D-②-③ AOLW29902D-②-③
Extended Lens with Full Shroud AC Adaptor Type 	1NO-1NC 2NO 2NC	ALFW2 ④ 611D-② ALFW2 ④ 620D-② ALFW2 ④ 602D-②	AOLFW2 ④ 611D-② AOLFW2 ④ 620D-② AOLFW2 ④ 602D-②
Extended Lens with Full Shroud Full Voltage 	1NO-1NC 2NO 2NC	ALFW29911D-②-③ ALFW29920D-②-③ ALFW29902D-②-③	AOLFW29911D-②-③ AOLFW29920D-②-③ AOLFW29902D-②-③
Ø 1-37/64" (40mm) Mushroom Lens AC Adaptor Type 	1NO-1NC 2NO 2NC	ALW4 ④ 611D-② ALW4 ④ 620D-② ALW4 ④ 602D-②	AOLW4 ④ 611D-② AOLW4 ④ 620D-② AOLW4 ④ 602D-②
Ø 1-37/64" (40mm) Mushroom Lens Full Voltage 	1NO-1NC 2NO 2NC	ALW49911D-②-③ ALW49920D-②-③ ALW49902D-②-③	AOLW49911D-②-③ AOLW49920D-②-③ AOLW49902D-②-③
Square Extended AC Adaptor Type 	1NO-1NC 2NO 2NC	ALQW2B ④ 611D-② ALQW2B ④ 620D-② ALQW2B ④ 602D-②	AOLQW2B ④ 611D-② AOLQW2B ④ 620D-② AOLQW2B ④ 602D-②
Square Extended Full Voltage 	1NO-1NC 2NO 2NC	ALQW2B9911D-②-③ ALQW2B9920D-②-③ ALQW2B9902D-②-③	AOLQW2B9911D-②-③ AOLQW2B9920D-②-③ AOLQW2B9902D-②-③





1. In place of ②, specify the LED color code. (see next page).
2. In place of ③, specify the full voltage code (lamp voltage) (see next page).
3. In place of ④, specify the transformer voltage code (see next page).
4. Small mushroom pushbutton lens, Ø 1-5/32" (29mm), is available by ordering Part No. ALW3L-② (non-marking) or ALW3BL-② (marking) separately.
5. For sub-assembly part numbers, see page A-113.
6. For accessories, see page A-136.
7. For dimensions, see page A-138.



LED Illuminated Pushbuttons (Assembled), continued

Part Numbers: LED Special Function

Style	Contacts	Part Number
 Ø 1-37/64" (40mm) Pushlock Turn Reset AC Adaptor Type  (available in Red Only)	1NO-1NC 2NO 2NC	AVLW4 ④ 611D-R AVLW4 ④ 620D-R AVLW4 ④ 602D-R
Ø 1-37/64" (40mm) Pushlock Turn Reset Full Voltage  (available in Red Only)	1NO-1NC 2NO 2NC	AVLW49911D-R-③ AVLW49920D-R-③ AVLW49902D-R-③
Ø 1-37/64" (40mm) Push-Pull AC Adaptor Type  (available in Red Only)	1NO-1NC 2NO 2NC	AYLW4 ④ 611D-② AYLW4 ④ 620D-② AYLW4 ④ 602D-②
Ø 1-37/64" (40mm) Push-Pull Full Voltage 	1NO-1NC 2NO 2NC	AYLW49911D-②-③ AYLW49920D-②-③ AYLW49902D-②-③

-  In place of ②, specify the LED color code. (see next page).
- In place of ③, specify the full voltage code (lamp voltage) (see next page).
- In place of ④, specify the transformer voltage code. (see next page).
- Small mushroom pushbutton lens, Ø 1-5/32" (29mm), is available by ordering Part No. ALW3L-② (non-marking) or ALW3BL-② (marking) separately.
- For sub-assembly part numbers, see page A-113.
- For accessories, see page A-136.
- For dimensions, see page A-138.


② LED/Lens Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue*	S*
White	W
Yellow†	Y

* Blue LEDs are available in 24V only. Add \$10.00 to list for blue.


③ Full Voltage Code

Voltage	Code
6V DC	6
12V AC/DC	12
24V AC/DC	24
120V AC	120

 Add \$1.50 to list price for 120V.

④ AC Adaptor and Transformer Voltage Codes

Voltage	Code
120VAC	12
240VAC	24
480VAC	48

 AC Adaptor and Transformers step down to 6V.

Incandescent Illuminated Pushbuttons (Assembled)

Part Numbers: Incandescent Illuminated Pushbuttons

Style	Contacts	Momentary Action	Maintained Action
		Part Number	Part Number
Extended Lens Transformer Type 	1NO-1NC 2NO 2NC	ALW2 ④ 611-② ALW2 ④ 620-② ALW2 ④ 602-②	AOLW2 ④ 611-② AOLW2 ④ 620-② AOLW2 ④ 602-②
Extended Lens Full Voltage 	1NO-1NC 2NO 2NC	ALW29911-②-③ ALW29920-②-③ ALW29902-②-③	AOLW29911-②-③ AOLW29920-②-③ AOLW29902-②-③
Extended Lens with Full Shroud Transformer Type 	1NO-1NC 2NO 2NC	ALFW2 ④ 611-② ALFW2 ④ 620-② ALFW2 ④ 602-②	AOLFW2 ④ 611-② AOLFW2 ④ 620-② AOLFW2 ④ 602-②
Extended Lens with Full Shroud Full Voltage 	1NO-1NC 2NO 2NC	ALFW29911-②-③ ALFW29920-②-③ ALFW29902-②-③	AOLFW29911-②-③ AOLFW29920-②-③ AOLFW29902-②-③
Ø 1-37/64" (40mm) Mushroom Lens* Transformer Type 	1NO-1NC 2NO 2NC	ALW4 ④ 611-② ALW4 ④ 620-② ALW4 ④ 602-②	AOLW4 ④ 611-② AOLW4 ④ 620-② AOLW4 ④ 602-②
Ø 1-37/64" (40mm) Mushroom Lens* Full Voltage 	1NO-1NC 2NO 2NC	ALW49911-②-③ ALW49920-②-③ ALW49902-②-③	AOLW49911-②-③ AOLW49920-②-③ AOLW49902-②-③
Square Extended Transformer Type 	1NO-1NC 2NO 2NC	ALQW2B ④ 611-② ALQW2B ④ 620-② ALQW2B ④ 602-②	AOLQW2B ④ 611-② AOLQW2B ④ 620-② AOLQW2B ④ 602-②
Square Extended Full Voltage 	1NO-1NC 2NO 2NC	ALQW2B9911-②-③ ALQW2B9920-②-③ ALQW2B9902-②-③	AOLQW2B9911-②-③ AOLQW2B9920-②-③ AOLQW2B9902-②-③



1. In place of ②, specify the LED color code. (see next page).
2. In place of ③, specify the full voltage code (lamp voltage) (see next page).
3. In place of ④, specify the transformer voltage code. (see next page).
4. Round lenses are non-marking in the assembled pushbuttons. Square lenses are marking.
5. Small mushroom pushbutton lens, Ø 1-5/32" (29mm), is available by ordering Part No. ALW3L-* (non-marking) or ALW3BL-* (marking) separately.
6. For sub-assembly part numbers, see page A-113.
7. For accessories, see page A-136.
8. For dimensions, see page A-138.



Incandescent Illuminated Pushbuttons (Assembled), continued

Part Numbers: Incandescent Special Function

Style	Contacts	Part Number
Ø 1-37/64" (40mm) Pushlock Turn Reset Transformer Type (available in Red only)	1NO-1NC 2NO 2NC	AVLW4 ④ 611-R AVLW4 ④ 620-R AVLW4 ④ 602-R
Ø 1-37/64" (40mm) Pushlock Turn Reset Full Voltage (available in Red only)	1NO-1NC 2NO 2NC	AVLW49911-R-③ AVLW49920-R-③ AVLW49902-R-③
Ø 1-37/64" (40mm) Push-Pull Transformer Type 	1NO-1NC 2NO 2NC	AYLW4 ④ 611-② AYLW4 ④ 620-② AYLW4 ④ 602-②
Ø 1-37/64" (40mm) Push-Pull Full Voltage 	1NO-1NC 2NO 2NC	AYLW49911-②-③ AYLW49920-②-③ AYLW49902-②-③

- 1. In place of ②, specify the color code.
- 2. In place of ③, specify the full voltage code (lamp voltage).
- 3. In place of ④, specify the transformer voltage code.
- 4. For sub-assembly part numbers, see page A-113.
- 5. For accessories, see page A-136.
- 6. For dimensions, see page A-138.

② Lens Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Clear* (White)	C*

- 1. All round lenses are non-marking.
- 2. Clear color code for square pushbuttons only.

③ Full Voltage Code (Lamp Voltage)

Voltage	Code
6V AC/DC	6
12V AC/DC	12
24V AC/DC	24

④ Transformer Voltage Code (Incandescent)

Voltage	Code
120VAC	12
240VAC	24
480VAC	48

- 6V secondary voltage

Illuminated Pushbuttons (Sub-Assembled)

Transformer/ Adaptor* + Contacts + Lamp Holder + Operator + Lamp + Lens = Complete Part







* Not applicable for full voltage units






Part Numbers: Operators

Style	Momentary Action	Maintained Action
	Part Number	Part Number
Extended	ALW-0600	AOLW-0600
Extended with Full Shroud	ALFW-0600	AOLFW-0600
Ø 1-37/64 (40mm) Mushroom	ALW3-0600	AOLW3-0600
Square Flush/Extended	ALQW-2B0600	AOLQW-2B0600
Ø 1-37/64" (40mm) Pushlock Turn Reset	—	AVLW3-0600
Ø 1-37/64" (40mm) Push-Pull	—	AYLW4-0600

Part Numbers: Lamp Circuit Components

Style	Application	Part Number
 Short Lamp Holder	Used with a Half-size Transformer, or AC Adaptor and one contact block	TW-LH1
 Long Lamp Holder	Used with an AC Adaptor or Full-size Transformer and two contact blocks Used with Half-size Transformer and three contact blocks Used with Direct Voltage Adaptor and two contact blocks	TW-LH2
 Lead Holder	Used with TW-LH2 holder when using four contact blocks	TW-LH3
 Full Voltage Adaptor	All full voltage units.	TW-DA1

Part Numbers: Contact Blocks

Description	Part Number	
	1NO	1NC
 Standard Exposed Screw	TW-C10 TW-C10R (early make)	TW-C01 TW-C01R (late break)
 Fingersafe (IP20), CE marked	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
 Dummy Block	TW-DB	

Part Numbers: Adaptors and Transformers

Description	Primary Voltage (50/60HZ)	Part Number
AC Adaptors (LED)	120V AC	TW-T126D
	240V AC	TW-T246D
Transformers (incandescent)	120V	TW-T126 Full size TW-T126S Half size
	240V	TW-T246 Full size TW-T246S Half size
	480V	TW-T486 Full Size



- Dummy blocks (no contacts) are used with an odd number of contact blocks.
- Use of early and late break contacts creates a make before break function

Illuminated Pushbuttons (Sub-Assembled), continued

Part Numbers: Lenses

Style	Non-Marking	Marking
	Part Number	Part Number
Round Extended (Incandescent)	ALW2L-①	ALW2BL-②
Round Extended (LED)	ALW2LD-①	ALW2BLD-②
Square Extended	—	ALQW2BL-②
∅ 1-37/64 (∅ 40mm) Mushroom	ALW4L-①	ALW4BL-②
∅ 1-5/32 (∅ 29mm) Mushroom	ALW3L-①	ALW3BL-②
∅ 1-37/64 (∅ 40mm) Pushlock Turn Reset	AVLW4L-R	AVLW4BL-R
∅ 1-37/64 (∅ 40mm) Push Pull	AYLW4L-①	AYLW4BL-②



In place of ②, specify the lens color code from table on the bottom right. When using blue LED, select blue incandescent lens.

Part Numbers: Lamps (LED)

Type	Voltage	Current	Part Number
LED	6V AC	52mA	LSPD-6-②
	12V AC/DC	26mA	LSPD-1-②
	24V AC/DC	13mA	LSPD-2-②
	120V AC	8mA	LSPD-120-②
Incandescent	6.3V AC/DC, 1W		IS-6
	12V AC/DC, 1W		IS-12
	24V AC/DC, 1W		IS-24
	30V AC/DC, 1W		IS-30



- In place of ②, specify the LED color code from table at right.
- The LED contains a current-limiting resistor and reverse polarity protection diodes.

② LED/Lens Color Code

Color	Code
Green	G
Red	R
Blue [†]	S
White	W
Yellow [‡]	Y (LED only)
Clear (white)	C (square only)

[†] Blue available in 24V only. Add \$10.00 to list price for blue.
[‡] Yellow available in LED only.

Non-Illuminated Selector Switches (Assembled)

Contact Blocks + **Operator** + **Knob or Lever*** + **Color Insert*** = **Complete Part[†]**



1. * Not needed with key type switches.
2. † Knob type shown.

Assembled Selector Switches

A S W 3 1 L 20(N) -304

<p>Degree of Protection _____ A: IP65 (IP40 for Key Type operators)</p> <p>Function _____ S: Selector Switch</p> <p>Series Type _____ W: TW Ø 7/8" (Ø 22mm)</p> <p>Number of Positions _____ 2: 2-Position 3: 3-Position (4- and 5- position available sub-assembled; consult IDEC representative)</p> <p>Spring Return Action _____ Blank: Maintained 1: Spring return from Right 2: Spring return from Left 3: 2-Way spring return from Left and Right</p>	<p>Circuit Number _____ (Standard circuits shown on following pages and A-128.)</p> <p>Contacts Type _____ Blank: standard N: Fingersafe, CE Marked</p> <p>Contact Arrangement Code _____ 10: 1NO 01: 1NC 20: 2NO 02: 2NC 40: 4NO 04: 4NC 11: 1NO-1NC 22: 2NO-2NC</p> <p>Operator Style Code _____ Blank: Knob Operator L: Lever Operator K: Key Operator</p>
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1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. Custom contact configurations available, contact IDEC for details.

Non-Illuminated Selector Switches (Assembled), continued

Part Numbers: 2-Position Selector Switches

Style					Part Number	Part Number	Part Number
Contact	Mounting	Operator Position		Knob Lever Key	Maintained	Spring Return from Right	Spring Return from Left
		L	R				
1NO	1	0	X	Knob Lever Key	ASW210 ASW2L10 ASW2K10	ASW2110 ASW21L10 ASW21K10	ASW2210 ASW22L10 ASW22K10
	2	0	0				
1NC	1	X	0	Knob Lever Key	ASW201-116 ASW2L01-116 ASW2K01-116	ASW2101-116 ASW21L01-116 ASW21K01-116	ASW2201-116 ASW22L01-116 ASW22K01-116
	2	0	0				
1NO 1NC	1	X	0	Knob Lever Key	ASW211 ASW2L11 ASW2K11	ASW2111 ASW21L11 ASW21K11	ASW2211 ASW22L11 ASW22K11
	2	0	X				
2NO	1	0	X	Knob Lever Key	ASW220 ASW2L20 ASW2K20	ASW2120 ASW21L20 ASW21K20	ASW2220 ASW22L20 ASW22K20
	2	0	X				
2NC	1	X	0	Knob Lever Key	ASW202-104 ASW2L02-104 ASW2K02-104	ASW2102-104 ASW21L02-104 ASW21K02-104	ASW2202-104 ASW22L02-104 ASW22K02-104
	2	X	0				
2NO 2NC	1	0	X	Knob Lever Key	ASW222 ASW2L22 ASW2K22	ASW2122 ASW21L22 ASW21K22	ASW2222 ASW22L22 ASW22K22
	2	X	0				
2NO 2NC	3	0	X	Knob Lever Key	ASW222-111 ASW2L22-111 ASW2K22-111	ASW2122-111 ASW21L22-111 ASW21K22-111	ASW2222-111 ASW22L22-111 ASW22K22-111
	4	X	0				



Part Numbers: 3-Position Selector Switches

Style					Part Number	Part Number	
Contact	Mounting	Operator Position			Knob Lever Key	Maintained	Spring Return from Right
		L	C	R			
2NO	1	X	0	0	Knob Lever Key	ASW320 ASW3L20 ASW3K20	ASW3120 ASW31L20 ASW31K20
	2	0	0	X			
2NC	1	0	X	X	Knob Lever Key	ASW302 ASW3L02 ASW3K02	ASW3102 ASW31L02 ASW31K02
	2	X	X	0			
2NO 2NC	1	X	0	0	Knob Lever Key	ASW322 ASW3L22 ASW3K22	ASW3122 ASW31L22 ASW31K22
	2	0	0	X			
2NO 2NC	3	0	X	X	Knob Lever Key	ASW322-309 ASW3L22-309 ASW3K22-309	ASW3122-309 ASW31L22-309 ASW31K22-309
	4	X	X	0			
2NO 2NC	1	0	X	0	Knob Lever Key	ASW322-310 ASW3L22-310 ASW3K22-310	ASW3122-310 ASW31L22-310 ASW31K22-310
	2	0	0	X			
4NO	1	X	0	0	Knob Lever Key	ASW340 ASW3L40 ASW3K40	ASW3140 ASW31L40 ASW31K40
	2	0	0	X			
4NC	1	0	X	X	Knob Lever Key	ASW304 ASW3L04 ASW3K04	ASW3104 ASW31L04 ASW31K04
	2	X	X	0			
4NC	3	0	X	X	Knob Lever Key	ASW304 ASW3L04 ASW3K04	ASW3104 ASW31L04 ASW31K04
	4	X	X	0			

Non-Illuminated Selector Switches (Assembled), continued

Part Numbers: 3-Position Selector Switches

Style					Part Number	Part Number	
Contact	Mounting	Operator Position				Spring Return from Left	Spring Return Two-Way
		L	C	R			
2NO	1	X	0	0	Knob Lever Key	ASW3220 ASW32L20 ASW32K20	ASW3320 ASW33L20 ASW33K20
	2	0	0	X			
2NC	1	0	X	X	Knob Lever Key	ASW3202 ASW32L02 ASW32K02	ASW3302 ASW33L02 ASW33K02
	2	X	X	0			
2NO	1	X	0	0	Knob Lever Key	ASW3222 ASW32L22 ASW32K22	ASW3322 ASW33L22 ASW33K22
	2	0	0	X			
2NC	3	0	X	X	Knob Lever Key	ASW3222-309 ASW32L22-309 ASW32K22-309	ASW3322-309 ASW33L22-309 ASW33K22-309
	4	X	X	0			
2NO	1	X	0	X	Knob Lever Key	ASW3222-310 ASW32L22-310 ASW32K22-310	ASW3322-310 ASW33L22-310 ASW33K22-310
	2	0	0	X			
2NC	3	0	X	0	Knob Lever Key	ASW3240 ASW32L40 ASW32K40	ASW3340 ASW33L40 ASW33K40
	4	0	0	X			
4NO	1	X	0	0	Knob Lever Key	ASW3204 ASW32L04 ASW32K04	ASW3304 ASW33L04 ASW33K04
	2	0	0	X			
4NC	3	X	0	0	Knob Lever Key	ASW3204 ASW32L04 ASW32K04	ASW3304 ASW33L04 ASW33K04
	4	0	X	X			



1. The truth table indicates the operating position of contact block when the operator is switched to that position.

X = On (closed contacts) O = Off (open contacts)

X-X = Overlapping Contacts: Remain on (closed contacts) when switch is moved between these two positions.

2. All knob and lever selector switches come in black. Other colors are available by ordering the knob or lever separately.

3. Every key selector switch uses an identical key. The key is removable in any maintained position. If a different configuration is required, contact an IDEC representative for more information.

4. Custom contact configurations are available, see page A-128 or contact IDEC for details.

Non-Illuminated Selector Switches (Sub-Assembled)

Contact Blocks + Operator + Knob or Lever * + Color Insert * = Complete Part †





A



1. * Not needed with key type switches.

2. † Knob type shown.

Part Numbers: Operators

Style	Positions	Description	Part Number
 Knob/Lever	2	Maintained	ASW200
		Spring return from right	ASW2100
		Spring return from left	ASW2200
	3	Maintained, Cam 1	ASW300-1
		Maintained, Cam 2	ASW300-2
		Maintained, Cam 3	ASW300-3
		Spring return from right, Cam 1	ASW3100-1
	Spring return from right, Cam 2	ASW3100-2	
	Spring return from left, Cam 1	ASW3200-1	
		Spring return from left, Cam 2	ASW3200-2
Spring return from left/right, Cam 1	ASW3300-1		
	Spring return from left/right, Cam 2	ASW3300-2	
4	Maintained, Standard Cam	ASW400	
	Maintained, Cam 1	ASW400-1	
5	Maintained, Standard cam	ASW500	
	Maintained, Cam 1	ASW500-1	
 Key	2	Maintained	ASW2K00
		Spring return from right	ASW21K00
		Spring return from left	ASW22K00
	3	Maintained, Cam 1	ASW3K00-1
		Maintained, Cam 2	ASW3K00-2
		Spring return from right, Cam 1	ASW31K00-1
		Spring return from right, Cam 2	ASW31K00-2
	Spring return from left, Cam 1	ASW32K00-1	
		Spring return from left, Cam 2	ASW32K00-2
	Spring return from left/right, Cam 1	ASW33K00-1	
Spring return from left/right, Cam 2		ASW33K00-2	



1. Two keys are supplied with every switch, all are keyed alike, and removable from any maintained position. For other configurations, consult IDEC representative.

2. Locking rings are included with all operators. Order knobs, levers, and color inserts separately.

3. Different cams produce different contact actions. For details, see contact arrangement charts, page A-128.

Non-Illuminated Selector Switches (Sub-Assembled), continued

Part Numbers: Handles and Inserts

Style	Part Number
Knob 	ASWHHY-①
Lever 	ASWHHL-①
Color Insert 	TW-HC1-①




① Handle/Insert Color Code

Color	Code
Black*	B
Blue	S
Green	G
Red	R
Yellow	Y
White	W

* Color inserts not available in black.






Part Numbers: Contact Blocks

Style	Part Number	
	1NO	1NC
	TW-C10 TW-C10R (early make)	TW-C01 TW-C01R (late break)
Fingersafe (IP20), CE marked 	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
Dummy Block 	TW-DB	



1. Push rod color code: Green = NO contact block Red = NC contact block.
2. Dummy blocks (no contacts) are used with an odd number of contact blocks.

Part Numbers: Contact Blocks

Style	Application	Part Number	
		1NO	1C
Type L 	3- and 4-position selector switches	TW-C10L	TW-C01L
Type M 		TW-C10M	TW-C01M
Type T 		TW-C10T	TW-C01T



1. Type L, M, and T blocks have been discontinued. Their functionality has been replaced with a new cam for the 3-position selector switch operators (ASW300-3), and a new cam for the 4 position (ASW400-1). These new operators utilize only NO, NC, NO-EM, and NC-LB contacts.
2. For details of cam and contact block operation, see page A-128 or contact your IDEC representative.

Illuminated Selector Switches (Assembled)

Adaptor* + **Contact Block** + **Operator** + **Lamp/Lead Holder** + **Lamp** + **Lens** = **Complete Part**



A



*AC adaptor is used with LED units, and a transformer is used with incandescent units
Full voltage LED, or incandescent units require a full voltage adaptor (TW-DA1).

Assembled Illuminated Selector Switches

A SL W 2 2 126 11 D (N)- 202 - R - 24

Degree of Protection _____

A: IP65

Function _____

SL: Illuminated Selector Switch

Series Type _____

W: TW Ø 7/8" (Ø 22mm)

Number of Positions _____

2: 2-Position
3: 3-Position

Spring Return Action _____

Blank: Maintained
1: Spring return from Right
2: Spring return from Left
3: Two-Way spring return from Left & Right

Rated Operational Voltage (Primary) _____

Transformer/AC Adaptor Type	Full Voltage Type
126:120V AC	99:Full Voltage
246:240V AC	
486:480V AC (*Transformer type only)	

Lamp Voltage

(Full Voltage Only)

Incandescent	LED
6: 6V	6: 6V AC/DC
12: 12V	12: 12V AC/DC
24: 24V	24: 24V AC/DC
	120:120V AC

Lens Color Code

A: Amber
G: Green
R: Red
S: Blue
W: White
Y: Yellow (LED only)

Contact Circuit No.

Standard circuits are listed on the following pages and A-128.

Contacts Type

Blank: standard
N: Fingersafe, CE Marked

Lamp Type

Blank: Incandescent Lamp
D: LED Lamp

Contact Arrangement

20: 2NO	02: 2NC
40: 4NO	04: 4NC



1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. All transformers and AC Adaptors step down to 6V.

Illuminated Selector Switches (Assembled), continued

Part Numbers: LED Illuminated 2-Position Selector Switches

Style			Operator Position		Part Number	Part Number	Part Number
Contact	Mounting	Operator Position			Maintained	Spring Return from Right	Spring Return from Left
		L	R				
1NO 1NC	1	O	X	AC Adaptor Full Voltage	ASLW2 ① 611D-② ASLW29911D-②-③	ASLW21 ① 611D-② ASLW219911D-②-③	ASLW22 ① 611D-② ASLW229911D-②-③
	2	X	O				
2NO	1	O	X	AC Adaptor Full Voltage	ASLW2 ① 620D-② ASLW29920D-②-③	ASLW21 ① 620D-② ASLW219920D-②-③	ASLW22 ① 620D-② ASLW229920D-②-③
	2	O	X				
2NC	1	X	O	AC Adaptor Full Voltage	ASLW2 ① 602D-104-② ASLW29902D-104-②-③	ASLW21 ① 602D-104-② ASLW219902D-104-②-③	ASLW22 ① 602D-104-② ASLW229902D-104-②-③
	2	X	O				
2NO 2NC	1	O	X	AC Adaptor Full Voltage	ASLW2 ① 622D-② ASLW29922D-②-③	ASLW21 ① 622D-② ASLW219922D-②-③	ASLW22 ① 622D-② ASLW229922D-②-③
	2	X	O				
	3	O	X				
	4	X	O				
2NO 2NC	1	O	X	AC Adaptor Full Voltage	ASLW2 ① 622D-111-② ASLW29922D-111-②-③	ASLW21 ① 622D-111-② ASLW219922D-111-②-③	ASLW22 ① 622D-111-② ASLW229922D-111-②-③
	2	O	X				
	3	X	O				
	4	X	O				

Part Numbers: Incandescent Illuminated 2-Position Selector Switches

Style			Operator Position		Part Number	Part Number	Part Number
Contact	Mounting	Operator Position			Maintained	Spring Return from Right	Spring Return from Left
		L	R				
1NO 1NC	1	O	X	Transformer Full Voltage	ASLW2 ① 611-② ASLW29911-②-③	ASLW21 ① 611-② ASLW219911-②-③	ASLW22 ① 611-② ASLW229911-②-③
	2	X	O				
2NO	1	O	X	Transformer Full Voltage	ASLW2 ① 620-② ASLW29920-②-③	ASLW21 ① 620-② ASLW219920-②-③	ASLW22 ① 620-② ASLW229920-②-③
	2	O	X				
2NC	1	X	O	Transformer Full Voltage	ASLW2 ① 602-104-② ASLW29902-104-②-③	ASLW21 ① 602-104-② ASLW219902-104-②-③	ASLW22 ① 602-104-② ASLW229902-104-②-③
	2	X	O				
2NO 2NC	1	O	X	Transformer Full Voltage	ASLW2 ① 622-② ASLW29922-②-③	ASLW21 ① 622-② ASLW219922-②-③	ASLW22 ① 622-② ASLW229922-②-③
	2	X	O				
	3	O	X				
	4	X	O				
2NO 2NC	1	O	X	Transformer Full Voltage	ASLW2 ① 622-111-② ASLW29922-111-②-③	ASLW21 ① 622-111-② ASLW219922-111-②-③	ASLW22 ① 622-111-② ASLW229922-111-②-③
	2	O	X				
	3	X	O				
	4	X	O				



1. In place of ①, specify the voltage code. In place of ②, specify the color code. In place of ③, specify the Full Voltage code.

2. The truth table indicates the operating position of contact block when the operator is switched to that position.

X = On (Closed Contacts) O = Off (Open Contacts)

3. For custom contact configuration, see page A-128. Contact IDEC for details.

① Voltage Code

(AC Adaptor and Transformer Type only)

Type	Voltage	Code
LED	120V AC	12
	240V AC	24
Incandescent	120V AC	12
	240V AC	24
	480V AC	48



Transformers and AC Adaptors step down to 6V.

② Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue*	S*
White	W
Yellow†	Y

* Blue LEDs are available in 24V only.

† Yellow available in LED only.

③ Full Voltage Code

Type	Voltage	Code
LED	6V DC	6
	12V AC/DC	12
	24V AC/DC	24
	120V AC	120
Incandescent	6V AC/DC	6
	12V AC/DC	12
	24V AC/DC	24

Add \$1.50 to list price for 120V LED.



Illuminated Selector Switches (Assembled), continued

Part Numbers: LED Illuminated 3-Position Selector Switches Maintained and Spring Return from Right

Style					Part Number	Part Number	
Contact	Mounting	Operator Position			AC Adaptor Full Voltage	Maintained	Spring Return From Right
		L	C	R			
2NO	1	X	0	0	AC Adaptor Full Voltage	ASLW3 ① 620D-② ASLW39920D-②-③	ASLW31 ① 620D-② ASLW319920D-②-③
	2	0	0	X			
2NC	1	0	X	X	AC Adaptor Full Voltage	ASLW3 ① 602D-② ASLW39902D-②-③	ASLW31 ① 602D-② ASLW319902D-②-③
	2	X	X	0			
2NO 2NC	1	X	0	0	AC Adaptor Full Voltage	ASLW3 ① 622D-② ASLW39922D-②-③	ASLW31 ① 622D-② ASLW319922D-②-③
	2	0	0	X			
	3	0	X	X			
	4	X	X	0			
2NO 2NC	1	X	0	X	AC Adaptor Full Voltage	ASLW3 ① 622D-309-② ASLW39922D-309-②-③	ASLW31 ① 622D-309-② ASLW319922D-309-②-③
	2	X	X	0			
	3	0	X	0			
	4	0	0	X			
2NO 2NC	1	0	X	0	AC Adaptor Full Voltage	ASLW3 ① 622D-310-② ASLW39922D-310-②-③	ASLW31 ① 622D-310-② ASLW319922D-310-②-③
	2	0	0	X			
	3	0	X	0			
	4	0	0	X			
4NO	1	X	0	0	AC Adaptor Full Voltage	ASLW3 ① 640D-② ASLW39940D-②-③	ASLW31 ① 640D-② ASLW319940D-②-③
	2	0	0	X			
	3	X	0	0			
	4	0	0	X			
4NC	1	0	X	X	AC Adaptor Full Voltage	ASLW3 ① 604D-② ASLW39904D-②-③	ASLW31 ① 604D-② ASLW319904D-②-③
	2	X	X	0			
	3	0	X	X			
	4	X	X	0			



- In place of ①, specify the voltage code. In place of ②, specify the Lens/LED color code. In place of ③, specify the Full Voltage code.
- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (Closed Contacts) O = Off (Open Contacts)
- For custom contact configuration, see page A-128. Contact IDEC for details.

① Voltage Code (AC Adaptor)

Voltage	Code
120V AC	12
240V AC	24



AC Adaptors step down to 6V.

② Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue*	S*
White	W
Yellow†	Y (LED only)

* Blue LEDs are available in 24V only. Add \$10.00 to list for blue.

† Yellow available in LED only.

③ Full Voltage Code (LED)

Voltage	Code
6V DC	6
12V AC/DC	12
24V AC/DC	24
120V AC	120

Add \$1.50 to list price for 120V LED.

Illuminated Selector Switches (Assembled), continued

Part Numbers: LED Illuminated 3-Position Selector Switches Spring Return from Left and Two-way

Style				Part Number		Part Number	
Contact	Mounting	Operator Position			Spring Return from Left 	Spring Return Two-Way 	
		L	C	R			
2NO	1	X	O	O	AC Adaptor Full Voltage	ASLW32 ① 620D-② ASLW329920D-②-③	ASLW33 ① 620D-② ASLW339920D-②-③
	2	O	O	X			
2NC	1	O	X	X	AC Adaptor Full Voltage	ASLW32 ① 602D-② ASLW329902D-②-③	ASLW33 ① 602D-② ASLW339902D-②-③
	2	X	X	O			
2NO 2NC	1	X	O	O	AC Adaptor Full Voltage	ASLW32 ① 622D-② ASLW329922D-②-③	ASLW33 ① 622D-② ASLW339922D-②-③
	2	O	O	X			
	3	O	X	X			
	4	X	X	O			
2NO 2NC	1	X	O	X	AC Adaptor Full Voltage	ASLW32 ① 622D-309-② ASLW329922D-309-②-③	ASLW33 ① 622D-309-② ASLW339922D-309-②-③
	2	X	X	O			
	3	O	X	O			
	4	O	O	X			
2NO 2NC	1	O	X	O	AC Adaptor Full Voltage	ASLW32 ① 622D-310-② ASLW329922D-310-②-③	ASLW33 ① 622D-310-② ASLW339922D-310-②-③
	2	O	O	X			
	3	O	X	O			
	4	O	O	X			
4NO	1	X	O	O	AC Adaptor Full Voltage	ASLW32 ① 640D-② ASLW329940D-②-③	ASLW33 ① 640D-② ASLW339940D-②-③
	2	O	O	X			
	3	X	O	O			
	4	O	O	X			
4NC	1	O	X	X	AC Adaptor Full Voltage	ASLW32 ① 604D-② ASLW329904D-②-③	ASLW33 ① 604D-② ASLW339904D-②-③
	2	X	X	O			
	3	O	X	X			
	4	X	X	O			



- In place of ①, specify the voltage code. In place of ②, specify the Lens color code. In place of ③, specify the Full Voltage code.
- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (Closed Contacts) O = Off (Open Contacts)
- For custom contact configuration, see page A-128. Contact IDEC for details.

① Voltage Code (AC Adaptor)

Voltage	Code
120V AC	12
240V AC	24



AC Adaptors step down to 6V.

② Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue*	S*
White	W
Yellow†	Y (LED only)

* Blue LEDs are available in 24V only. Add \$10.00 to list for blue.
† Yellow available in LED only.

③ Full Voltage Code (LED)

Voltage	Code
6V DC	6
12V AC/DC	12
24V AC/DC	24
120V AC	120

Add \$1.50 to list price for 120V LED.



Illuminated Selector Switches (Assembled), continued

Part Numbers: Incandescent Illuminated 3-Position Selector Switches

Style					Part Number		Part Number		
Contact	Mounting	Operator Position			Transformer Full Voltage	Maintained		Spring Return from Right	
		L	C	R					
2NO	1	X	0	0	Transformer Full Voltage	ASLW3 ① 620-② ASLW39920-②-③	ASLW31 ① 620-② ASLW319920-②-③		
	2	0	0	X					
2NC	1	0	X	X	Transformer Full Voltage	ASLW3 ① 602-② ASLW39902-②-③	ASLW31 ① 602-② ASLW319902-②-③		
	2	X	X	0					
2NO	1	X	0	0	Transformer Full Voltage	ASLW3 ① 622-② ASLW39922-②-③	ASLW31 ① 622-② ASLW319922-②-③		
	2	0	0	X					
2NC	3	0	X	X	Transformer Full Voltage	ASLW3 ① 622-309-② ASLW39922-309-②-③	ASLW31 ① 622-309-② ASLW319922-309-②-③		
	4	X	X	0					
2NO	1	X	0	X	Transformer Full Voltage	ASLW3 ① 622-310-② ASLW39922-310-②-③	ASLW31 ① 622-310-② ASLW319922-310-②-③		
	2	0	0	X					
2NC	3	0	X	0	Transformer Full Voltage	ASLW3 ① 640-② ASLW39940-②-③	ASLW31 ① 640-② ASLW319940-②-③		
	4	0	0	X					
4NO	1	X	0	0	Transformer Full Voltage	ASLW3 ① 604-② ASLW39904-②-③	ASLW31 ① 604-② ASLW319904-②-③		
	2	0	0	X					
4NC	3	X	0	0	Transformer Full Voltage	ASLW3 ① 604-② ASLW39904-②-③	ASLW31 ① 604-② ASLW319904-②-③		
	4	0	X	X					

- In place of ①, specify the voltage code. In place of ②, specify the color code. In place of ③, specify the Full Voltage code.
- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (Closed Contacts) O = Off (Open Contacts)
- For custom contact configuration, see page A-128. Contact IDEC for details.

① Voltage Code (Transformer)

Voltage	Code
120V AC	12
240V AC	24
480V AC	48

② Lens Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W

③ Full Voltage Code (Incandescent)

Voltage	Code
6V AC/DC	6
12V AC/DC	12
24V AC/DC	24

Transformers step down to 6V.

Illuminated Selector Switches (Assembled), continued

Part Numbers: Incandescent Illuminated 3-Position Selector Switches

Style		Operator Position			Transformer Full Voltage	Part Number	Part Number
Contact	Mounting	L	C	R		Spring Return From Left	Spring Return Two-Way
2NO	1	X	0	0	Transformer Full Voltage	ASLW32 ① 620-② ASLW329920-②-③	ASLW33 ① 620-② ASLW339920-②-③
	2	0	0	X			
2NC	1	0	X	X	Transformer Full Voltage	ASLW32 ① 602-② ASLW329902-②-③	ASLW33 ① 602-② ASLW339902-②-③
	2	X	X	0			
2NO	1	X	0	0	Transformer Full Voltage	ASLW32 ① 622-② ASLW329922-②-③	ASLW33 ① 622-② ASLW339922-②-③
	2	0	0	X			
2NC	3	0	X	X	Transformer Full Voltage	ASLW32 ① 622-309-② ASLW329922-309-②-③	ASLW33 ① 622-309-② ASLW339922-309-②-③
	4	X	X	0			
2NO	1	X	0	X	Transformer Full Voltage	ASLW32 ① 622-310-② ASLW329922-310-②-③	ASLW33 ① 622-310-② ASLW339922-310-②-③
	2	X	X	0			
2NC	3	0	X	0	Transformer Full Voltage	ASLW32 ① 640-② ASLW329940-②-③	ASLW33 ① 640-② ASLW339940-②-③
	4	0	0	X			
4NO	1	X	0	0	Transformer Full Voltage	ASLW32 ① 604-② ASLW329904-②-③	ASLW33 ① 604-② ASLW339904-②-③
	2	0	0	X			
4NC	3	X	0	0	Transformer Full Voltage	ASLW32 ① 604-② ASLW329904-②-③	ASLW33 ① 604-② ASLW339904-②-③
	4	0	X	X			



- In place of ①, specify the voltage code. In place of ②, specify the color code. In place of ③, specify the lamp voltage code.
- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (Closed Contacts) O = Off (Open Contacts)
- For custom contact configuration, see page A-128. Contact IDEC for details.

① Voltage Code (Transformer)

Voltage	Code
120V AC	12
240V AC	24
480V AC	48

② Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W

③ Full Voltage Code (Incandescent)

Voltage	Code
6V AC/DC	6
12V AC/DC	12
24V AC/DC	24



Transformers step down to 6V.



Illuminated Selector Switches (Sub-Assembled)

Adaptor* + Contact Block + Operator + Lamp/Lead Holder † + Lamp + Lens = Complete Part



A

- 1. * AC adaptor is used with LED units, and a transformer is used with incandescent units
Full voltage LED, or incandescent units require a full voltage adaptor (TW-DA1).
- 2. † Lamp holder is not included with operators, order separately.
Lead holder is used when using 3 or more contact blocks. Order separately.

Part Numbers: Operators

Positions	Description	Part Number
2	Maintained	ASLW200
	Spring return from right	ASLW2100
	Spring return from left	ASLW2200
3	Maintained, cam 1 Maintained, cam 2 Maintained, cam 3	ASLW300-1 ASLW300-2 ASLW300-3
	Spring return from right, cam 1 Spring return from right, cam 2	ASLW3100-1 ASLW3100-2
	Spring return from left, cam 1 Spring return from left, cam 2	ASLW3200-1 ASLW3200-2
	Spring return from left/right, cam 1 Spring return from left/right, cam 2	ASLW3300-1 ASLW3300-2

Part Numbers: Lamps (LED)

Type	Voltage	Current	Part Number
LED	6V AC	52mA	LSPD-6-②
	12V AC/DC	26mA	LSPD-1-②
	24V AC/DC	13mA	LSPD-2-②
	120V AC	8mA	LSPD-120-②
Incandescent	6.3V AC/DC, 1W		IS-6
	12V AC/DC, 1W		IS-12
	24V AC/DC, 1W		IS-24
	30V AC/DC, 1W		IS-30

- 1. In place of ②, specify the LED color code.
- 2. The LED contains a current-limiting resistor and a protection diode >

Different cams produce different contact action. For details, see Contact Arrangements on page A-128.

Part Numbers: Lenses (Knobs)

Description	Part Number
Knob (Incandescent)	ASLWLD-②
Knob (LED)	ASLWDDY-②

LED Knobs are lighter in color than incandescent knobs, in order to compensate for the inherent color of the LED. Use an incandescent lens, when using blue LEDs




② LED/Lens Color Code

Color	Code
Green	G
Red	R
Blue†	S
White	W
Yellow‡	Y (LED only)
Amber	A

† Blue LED available in 24V only. Add \$10.00 to list price for blue.
‡ Yellow available in LED only.

Illuminated Selector Switches (Sub-Assembled), continued




Part Numbers: Contact Blocks

Description	Part Number	
	1NO	1NC
Standard Exposed Screw 	TW-C10 TW-C10R (early make)	TW-C01 TW-C01R (late break)
Fingersafe (IP20), CE marked 	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
Dummy Block 	TW-DB	






- Dummy blocks (no contacts) are used with an odd number of contact blocks.
- Use of early and late break contacts creates a make before break function

Part Numbers: Lamp Circuit Components

Style	Application	Part Number
Short Lamp Holder 	Used with a Half-size Transformer, or AC Adaptor and one contact block	TW-LH1
Long Lamp Holder 	Used with an AC Adaptor or Full-size Transformer and two contact blocks Used w/Half-size Transformer and three contact blocks Used w/Direct Voltage Adaptor and two contact blocks	TW-LH2
Lead Holder 	Used w/TW-LH2 holder when using four contact blocks	TW-LH3





Discontinued Contact Blocks

Style	Application	Part Number	
		1NO	1NC
Type L 	3-, 4- and 5-position selector switches	TW-C10L	TW-C01L
Type M 		TW-C10M	TW-C01M
Type T 		TW-C10T	TW-C01T



Type L, M, and T blocks have been discontinued. Their functionality has been replaced with a new cam for the 3-position selector switch operators (ASLW300-3) which uses only NO, NC, NO-EM, and NC-LB contacts.

Part Numbers: AC Adaptors and Transformers

Description	Appearance	Primary Voltage (50/60Hz)	Part Number
AC Adaptor (LED)		120V AC 240V AC	TW-T126D TW-T246D
Transformers (Incandescent)	Full Size 	120V	TW-T126
		240V	TW-T246
	Half Size 	120V	TW-T126S
		240V	TW-T246S
Full Voltage Adaptor		Used with all full voltage units	TW-DA1



All AC Adaptors and Transformers step down to 6V.

Contact Arrangement Charts

How to Read Contact Arrangement Charts

To determine contact block mounting position, first make sure the selector switch is oriented as shown on the right

Contact Arrangement

Type and quantity of switch contacts

Circuit Number

* N/D = No designation required

Contact Block Mounting

Position or mounting contact blocks on operator

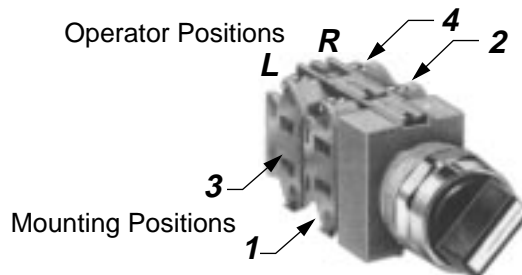
Operator Position

Truth table indicates the operating position of contact block when operator is switched to that position.

X = On (Closed Contacts)
O = Off (Open Contacts)
X-X = Overlapping Contacts: Remain on (closed) when switch is moved between these two positions

Contact Block Part Number

Part number to use when ordering sub-assembly contact blocks, as required for use with corresponding mounting position



Style		Mounting Position	Operator Position		Contact Block Part Number	Description	Operator Part Number		
Contact	Circuit Number		L	R			Maintained	Spring Ret. from Rt.	Spring Ret. form Lt.
			L	R					
			↙	↘		↙↘	↙↘	↙↘	
1NO	N/D	1	O	X	TW-C10	Knob/Lever Key	ASW200	ASW2100	ASW2200
		2	O	O	TW-D	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200
1NC	116	1	X	O	TW-C01	Knob/Lever Key	ASW200	ASW2100	ASW2200
		2	O	O	TW-D	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200
1NO 1NC	N/D	1	O	X	TW-C10	Knob/Lever Key	ASW200	ASW2100	ASW2200
		2	X	O	TW-C01	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200
	103	1	X	O	TW-C01	Knob/Lever Key	ASW200	ASW2100	ASW2200
		2	O	X	TW-C10	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200
EM LB	600	1	O	X	TW-C10R	Knob/Lever Key	ASW200	ASW2100	ASW2200
		2	X	O	TW-C01R	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200
	601	1	X	O	TW-C01R	Knob/Lever Key	ASW200	ASW2100	ASW2200
		2	O	X	TW-C10R	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200



1. NO-EM NC-LB = Early Make, Late Break.

N/D = No circuit number designation required in assembled selector switch part number.

2. X = On (closed contacts) O = Off (Open contacts)

Contact Arrangement Chart: 2-Position Selector Switches

Style	Contact	Circuit Number	Mounting Position	Operator Position		Contact Block Part Number	Description	Operator Part Number		
				L	R			Maintained	Spring Ret. from Rt.	Spring Ret. from Lt.
1NO	N/D	1	0	X	TW-C10	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	0	0	TW-DB	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
1NC	116	1	X	0	TW-C01	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	0	0	TW-DB	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
1NO 1NC	N/D	1	0	X	TW-C10	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	X	0	TW-C01	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
	103	1	X	0	TW-C01	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	0	X	TW-C10	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
EM LB	600	1	0	X	TW-C10R	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	X	0	TW-C01R	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
	601	1	X	0	TW-C01R	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	0	X	TW-C10R	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
2NO	N/D	1	0	X	TW-C10	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	0	X	TW-C10	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
2NC	104	1	X	0	TW-C01	Knob/Lever Key	ASW200	ASW2100	ASW2200	
		2	X	0	TW-C01	Illuminated Knob	ASW2K00 ASLW200	ASW21K00 ASLW2100	ASW22K00 ASLW2200	
2NO 2NC	N/D	1	0	X	TW-C10	Knob/Lever Key Illuminated Knob	ASW200 ASW2K00 ASLW200	ASW2100 ASW21K00 ASLW2100	ASW2200 ASW22K00 ASLW2200	
		2	X	0	TW-C01					
		3	0	X	TW-C10					
		4	X	0	TW-C01					
	110	1	X	0	TW-C01	Knob/Lever Key Illuminated Knob	ASW200 ASW2K00 ASLW200	ASW2100 ASW21K00 ASLW2100	ASW2200 ASW22K00 ASLW2200	
		2	0	X	TW-C10					
		3	X	0	TW-C01					
		4	0	X	TW-C10					
	111	1	0	X	TW-C10	Knob/Lever Key Illuminated Knob	ASW200 ASW2K00 ASLW200	ASW2100 ASW21K00 ASLW2100	ASW2200 ASW22K00 ASLW2200	
		2	0	X	TW-C10					
		3	X	0	TW-C01					
		4	X	0	TW-C01					
	117	1	X	0	TW-C01	Knob/Lever Key Illuminated Knob	ASW200 ASW2K00 ASLW200	ASW2100 ASW21K00 ASLW2100	ASW2200 ASW22K00 ASLW2200	
		2	0	X	TW-C10					
		3	0	X	TW-C10					
		4	X	0	TW-C01					
4NO	105	1	0	X	TW-C10	Knob/Lever Key Illuminated Knob	ASW200 ASW2K00 ASLW200	ASW2100 ASW21K00 ASLW2100	ASW2200 ASW22K00 ASLW2200	
		2	0	X	TW-C10					
		3	0	X	TW-C10					
		4	0	X	TW-C10					



1. NO-EM NC-LB = Early Make, Late Break.

N/D = No circuit number designation required in assembled selector switch part number.

2. X = On (closed contacts) O = Off (Open contacts)

Custom Selector Switch Building Guide

To build a custom selector switch, follow these steps.

Step 1: How many positions of the switch are needed?

of positions
(2, 3, 4, 5)

Step 2: How many contacts should there be?

of isolated contacts
(maximum 6)

Step 3: Fill in the Truth Table

(X = closed, 0 = open)

		Knob Position				
		1	2	3	4	5
C o n t a c t s	1					
	2					
	3					
	4					
	5					
	6					

Step 4: If building a 2 position selector, skip this step. (2 position selectors have only one cam)

If building a 3, 4, or 5 position selector, determine appropriate cam as follows:

Look at Row 1 from above table and locate an identical row in the operator truth tables (See next page).

Repeat for all rows. The user must find one operator that contains all rows from above table.

Record the operator cam version.

Operator CAM Version
(-1, -2, -3 for 3 position)
("blank", -1 for 4 position)
("blank", -1 for 5 position)

Step 5: Build by placing appropriate contact in appropriate mounting position for each desired row on operator cam truth table. "L" and "R" refer to mounting on left or right side of operator as viewed from the front of the panel.

Caution: Before putting any custom selector switch into use, the user should use an ohmmeter to test for desired performance.



1. For Operator Truth Tables, see next page.
2. For examples of how to assemble selector switches, see A-83.



Operator Truth Tables

Use the following tables to build custom selector switches.

2 Position Selector Switches

Contact	Mounting Position	Operator Position	
		Left	Right
TW-C10 (NO)	L	0	X
	R	0	X
TW-C01 (NC)	L	X	0
	R	X	0
TW-C10R NO-(EM)	L	0	X
	R	0	X
TW-C01R NC-(LB)	L	X	0
	R	X	0

**ASW200
ASLW200
ASW2K00**

3 Position Selector Switches

Contact	Mounting Position	Operator Position		
		Left	Center	Right
TW-C10 (NO)	L	X	0	0
	R	0	0	X
TW-C01 (NC)	L	0	X	X
	R	X	X	0
TW-C10R NO-(EM)	L	X	0	0
	R	0	0	X
TW-C01R NC-(LB)	L	0	X	X
	R	X	X	0

**ASW300-1
ASW3K00-1
ASLW300-1**

Contact	Mounting Position	Operator Position		
		Left	Center	Right
TW-C10 (NO)	L	X	0	X
	R	0	0	X
TW-C01 (NC)	L	0	X	0
	R	X	X	0
TW-C10R NO-(EM)	L	X	0	X
	R	0	0	X
TW-C01R NC-(LB)	L	0	X	0
	R	X	X	0

**ASW300-2
ASW3K00-2
ASLW300-2**

Contact	Mounting Position	Operator Position		
		Left	Center	Right
TW-C10 (NO)	L	X	0	0
	R	0	0	X
TW-C01 (NC)	L	0	X	0
	R	0	X	0
TW-C10R NO-(EM)	L	X	0	X
	R	X	0	X
TW-C01R NC-(LB)	L	0	X	X
	R	X	X	0

**ASW300-3
ASW3K00-3
ASLW300-3**



1. For Operator Truth Tables, see next page.
2. For examples of how to assemble selector switches, see A-83.

Operator Truth Tables, continued

4 Position Selector Switches



ASW400

Contact	Mounting Position	Operator Position			
		1	2	3	4
TW-C10 (NO)	L	X	0	0	0
	R	0	X	0	0
TW-C01 (NC)	L	0	X	X	X
	R	X	0	X	X
TW-C10R NO-(EM)	L	X	0	0	0
	R	0	X	0	0
TW-C01R NC-(LB)	L	0	X	X	X
	R	X	0	X	X

ASW400-1

Contact	Mounting Position	Operator Position			
		1	2	3	4
TW-C10 (NO)	L	X	0	0	0
	R	0	0	0	X
TW-C01 (NC)	L	0	0	X	0
	R	0	X	0	0
TW-C10R NO-(EM)	L	X	X	0	X
	R	X	0	X	X
TW-C01R NC-(LB)	L	0	X	X	X
	R	X	X	X	0

5 Position Selector Switches



1. For Operator Truth Tables, see next page.
2. For examples of how to assemble selector switches, see A-83.

ASW500

Contact	Mounting Position	Operator Position				
		1	2	3	4	5
TW-C10 (NO)	L	X	0	0	0	0
	R	0	X	0	0	0
TW-C01 (NC)	L	0	0	X	X	X
	R	0	0	0	X	X
TW-C10R NO-(EM)	L	X	0	0	0	0
	R	0	X	0	0	0
TW-C01R NC-(LB)	L	0	X	X	X	X
	R	X	0	X	X	X

ASW500-1

Contact	Mounting Position	Operator Position				
		1	2	3	4	5
TW-C10 (NO)	L	X	0	0	0	0
	R	0	0	0	0	X
TW-C01 (NC)	L	0	0	0	X	0
	R	0	X	0	0	0
TW-C10R NO-(EM)	L	X	X	X	0	X
	R	X	0	X	X	X
TW-C01R NC-(LB)	L	0	X	X	X	X
	R	X	X	X	X	0

Nameplates — TW Series

Part Numbers: Nameplates

	NWAL	NWAQL	NWAS	EMERGENCY STOP †
	Part Number	Part Number	Part Number	Part Number
Nameplate (blank)	NWAL-0B (black) NWAL-OR (red)	NWAQL-0B (black) NWAQL-OR (red)	NWAS-0B	NWAR-0
Nameplate (engraved)	NWAL-①	NWAQL-①	NWAS-①	NWAR-27†

- 1. In place of ①, insert either the standard legend code from table below or custom engraving delimited by “ ”.
- 2. Standard engravings are available at no charge. For custom engravings, add \$6.00 to list price.
- 3. NWAR-27 comes engraved “Emergency Stop” as shown in drawing.

Standard Legend Codes

Pushbuttons				Pushbuttons/Selector Switches				Selector Switches	
Legend	Code	Legend	Code	Legend	Code	Legend	Code	Legend	Code
AUTO	101			AUTO-MAN	201			AUTO-MAN-OFF	301
CLOSE	102			CLOSE-OPEN	202			AUTO-OFF-MAN	302
DOWN	103	OPEN	116	DOWN-UP	203			CLOSE-OFF-OPEN	303
EMERG.STOP*	104	OUT	117	FAST-SLOW	204			DOWN-OFF-SLOW	304
FAST	105	RAISE	118	FOR-REV	205	REV-FOR	216	FAST-OFF-SLOW	305
FORWARD	106	RESET	119	HAND-AUTO	206	RUN-JOG	217	FOR-OFF-REV	306
HAND	107	REVERSE	120	HIGH-LOW	207	RUN-SAFE	218	LEFT-OFF-RIGHT	307
HIGH	108	RUN	121	JOG-RUN	208	SAFE-RUN	219	LOWER-OFF-RAISE	308
IN	109	SLOW	122	LEFT-RIGHT	209	SLOW-FAST	220	OFF-MAN-AUTO	309
INCH	110	START	123	LOWER-RAISE	210	START-STOP	221	OFF-SLOW-FAST	310
JOG	111	STOP*	124	MAN-AUTO	211	STOP-START	222	OFF-1-2	311
LOW	112	STOP	125	OFF-ON	212	UP-DOWN	223	OPEN-OFF-CLOSE	312
LOWER	113	TEST	126	ON-OFF	213			SLOW-OFF-FAST	313
OFF	114	UP	127	OPEN-CLOSE	214			SUMMER-OFF-WINTER	314
ON	115			RAISE-LOWER	215			UP-OFF-DOWN	315
								1-OFF-2	316
								HAND-OFF-AUTO	317

- 1. To order engraved nameplates, add legend code to nameplate part number.
Character height based on the number of characters and size of nameplate. Standard character size is 3/16".
- 2. Nameplates with standard legends are the same list price as blank nameplates. Special engravings, add \$6.00 to list price.
- 3. * Available in red as standard.

Nameplate Order Form on next page.

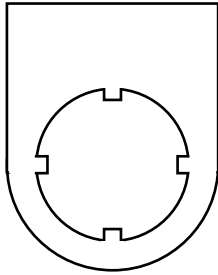
Custom Engraved Nameplates Order Form — TW Series

Copy this order form and use it to specify Letter Height, Custom Engravings, Location of Engraving on Nameplate, and Quantity Desired. To insure engraving accuracy, fax it to your IDEC representative.

Your Company Name: _____
 Your Name: _____
 Telephone: _____

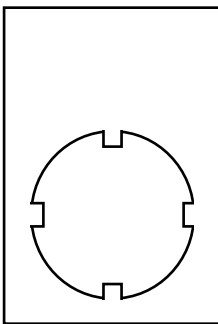
IDEC Representative(if known): _____
 PO number (if known): _____

NWAL

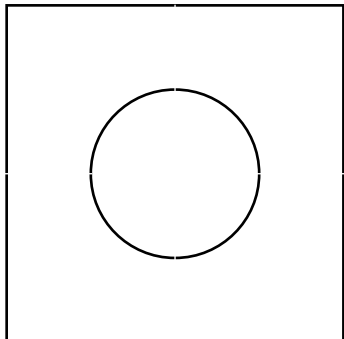
<p>Step 1. Specify letter height and custom engraving. Maximum of 2 lines of engraving.</p> <p>1/8" SAMPLE LETTERING Size (9 characters maximum)</p> <p>----- -----</p> <hr/> <p>7/64" SAMPLE LETTERING (11 characters maximum)</p> <p>----- ----- -----</p>	<p>Step 2. Specify location of engraving on NWAL namePlate.</p> 	<p>Step 3. Specify Quantity. Enter the number of nameplates desired with the specifications defined to the left.</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>
--	---	--



NWAQL

<p>Step 1. Specify letter height and custom engraving. Maximum of 2 lines of engraving.</p> <p>1/8" SAMPLE LETTERING Size (9 characters maximum)</p> <p>----- -----</p> <hr/> <p>7/64" SAMPLE LETTERING (11 characters maximum)</p> <p>----- ----- -----</p>	<p>Step 2. Specify location of engraving on NWAQL namePlate.</p> 	<p>Step 3. Specify Quantity. Enter the number of nameplates desired with the specifications defined to the left.</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>
--	---	--

NWAS

<p>Step 1. Specify letter height and custom engraving.</p> <p style="text-align: center;">Maximum of 1 line of engraving.</p>	<p>Step 2. Specify location of engraving on NWAS nameplate.</p> 
<p>1/8" SAMPLE LETTERING Size (14 characters maximum)</p> <p>-----</p> <hr/> <p>3/32" SAMPLE LETTERING Size (20 characters maximum)</p> <p>----- -----</p>	<p>Step 3. Specify Quantity Enter the number of nameplates desired with the specifications defined to the left.</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>

Accessories — TW Series

Part Numbers: TW Series Accessories




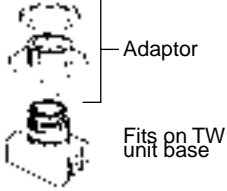
Appearance	Description/Usage	Part Number
	Rubber tool used to tighten round bezels from the front of the panel Units with round bezels, will not work with octagonal bezels	OR-14
	Rubber tool used to install LED's and incandescent lamps	OR-55
	Used to remove contact blocks, transformers, lenses, and adaptors. Can also be used to determine panel thickness adjustment.	TW-KC1
	Used in OR-14 locking wrench to tighten locking nuts inside square bezel	TW-KQ2
	Chrome plated bezels tighten onto operator (replacement for damaged bezels)	Standard octagonal units (chrome-pl.) AW-R8
		Full shroud octagonal units (chrome-pl.) AWR-F8
		Full shroud mushroom units Ø 1-37/64" (40mm) AW-G4
	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 bezel with round hole (black plastic) AW-H1B
		Square units with full shroud (black plastic) AW-QF1B
	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) OCW-11
	Ring to prevents operator base from rotating in the mounting hole	Used when nameplate is not used OGL-31
	Ø 7/8" (22mm) plug used for plugging unused mounting holes in panel	OB-31



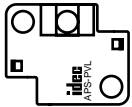
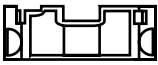
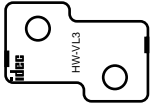



For information on replacement engraving inserts, see page A-143.

Accessories, continued

Part Numbers: TW Series Accessories

Appearance	Description/Usage	Part Number	
Metal Button Guard 	Used on flush buttons to prevent inadvertent actuation	0LW-C	
Terminal Tab Adaptor 	Quick- connect terminals	#250 (17/64" x 3/64") single tab	TW-FA1
		#110 (1/8" x 3/64") double tab	TW-FA2
		#187 (3/16" x 1/32") single tab	TW-FA3
Lock-out Adaptor 	Used to provide lock-out protection for pushbuttons and knob selector switches: • Up to Ø 1-37/64" (40mm) mushroom (Padlock not included.)	HW9Z-KL1	
TW to TWTD 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. Includes 2 pieces shown on the right	TWN-A1R8	

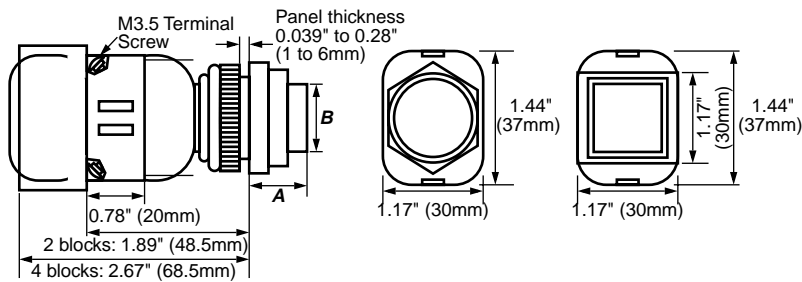
Part Numbers: Fingersafe Covers for TW Series

Appearance	Description	Used with	Part Number
	Fingersafe terminal cover, adds 6mm to overall depth	APW and UPQW full voltage pilot lights	APS-PVL
	Fingersafe terminal cover, adds 3.5mm to overall depth. One required for each contact, only for rear-most terminals	Non-illuminated pushbuttons and selectors	HW-VL2
	Fingersafe terminal cover, adds 3mm to overall depth	APW and UPQW transformer pilot lights, and illuminated pushbuttons and illuminated selectors	HW-VL3
	Fingersafe terminal cover for contacts.	Full voltage illuminated pushbuttons and selectors	HW-VL4
	Fingersafe terminal cover for full voltage adaptor, adds 3 mm to depth	Full voltage illuminated pushbuttons and selectors	HW-VL5
	Fingersafe terminal cover for full voltage adaptor, adds 3 mm to depth	Illuminated pushbuttons and selectors	HW-VL6



Dimensions — TW Series

Pushbuttons

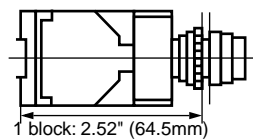


Pushbuttons	Dimension A	Dimension B
Flush	0.507" (13mm)	Ø 0.936" (Ø 24mm) □0.936" (□24mm)
Extended	0.741" (19mm)	Ø 0.936" (Ø 24mm) □0.936" (□24mm)
Mushroom Ø 1.13" (29mm) Ø 1.56" (40mm)	0.858" (22mm) 0.858" (22mm)	Ø 1.13" (29mm) Ø 1.56" (40mm)
Mushroom, Pushlock Key Reset	*0.936" (24mm)	Ø 1.56" (Ø 40mm)
Mushroom, Pushlock Turn-Reset	*0.936" (24mm)	Ø 1.56" (Ø 40mm)
Mushroom/ Push-Pull	† 0.975" (25mm)	Ø 1.56" (Ø 40mm)
Key ON/OFF	*0.936" (24mm)	Ø 0.936" (Ø 24mm)

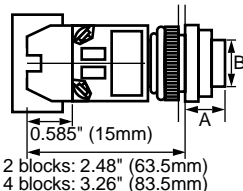
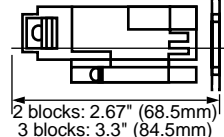
-
- * Dimension when operator is in reset position.
 - † Dimension when operator is in pull position.

Illuminated Pushbuttons

Illuminated Pushbutton with Full-Size Transformer



with Half-Size Transformer



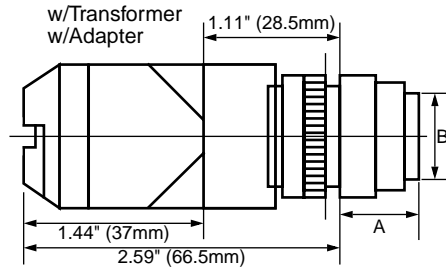
Illuminated Pushbuttons	Dimension A	Dimension B
Extended (Same for Square) w/Full Shroud	0.741" (19mm) 0.761" (19.5mm)	Ø 0.936" (Ø 24mm) □0.975" (□25mm)
Ø 1.13" (29mm) Mushroom Ø 1.56" (40mm) Mushroom, Pushlock Turn Reset, Push-Pull	0.858" (22mm) 0.858" (22mm) *0.936" (24mm) † 0.975" (25mm)	Ø 1.13" (29mm) Ø 1.56" (40mm) Ø 1.56" (40mm) Ø 1.56" (40mm)

-
- * Dimension when operator is in reset position.
 - † Dimension when operator is in pull position.

Dimensions, continued

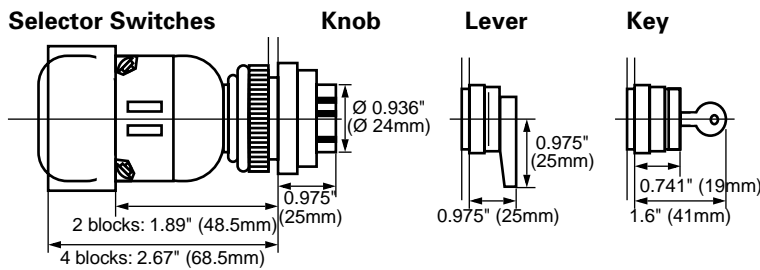
Pilot Light

Pilot Light



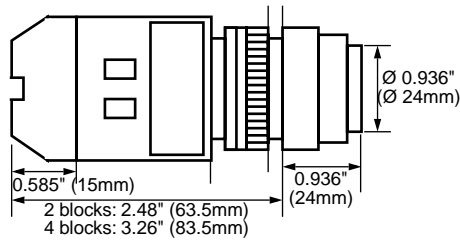
Pilot Lights	Dimension A	Dimension B
Dome	0.975" (25mm)	Ø 0.936" (Ø 24mm)
Flush	0.624" (16mm)	Ø 0.936" (Ø 24mm)
Square Flush	0.624" (16mm)	□0.936" (□24mm)

Selector Switches

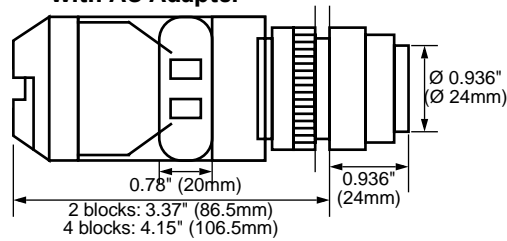


Illuminated Selector Switches

Illuminated Selector Switches Full Voltage



Knob with Full-Size Transformer with AC Adapter



Panel Cut-Out

Diagram	Part	Dimensions			
		A	B	C	D
	Pushbuttons	Ø 0.137" (3.5mm)	1.95" (50mm); 1.76" (45mm) minimum	Ø 0.878" (22.3mm)	1.17" (30mm) Std. Octagonal > 1.56" (40mm) Large Mushroom
	Pilot Light				
	Illuminated Pushbutton				
	Selector Switches				
	Illuminated Selector Switches				1.17" (30mm) *See note.

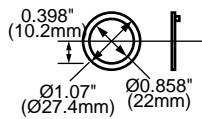


- The Ø 0.137" (Ø 3.5mm) recess is necessary when either the nameplate or anti-rotation ring is used.
- * >1.404" (36mm) for 2- or 3-position.
>1.95" (50mm) for 4- or 5-position.

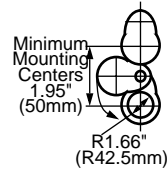
Dimensions, continued

Accessory Dimensions

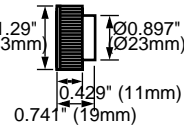
OGL-31
Anti-Rotation Ring



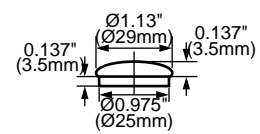
OLW-C
Metal Button Guard



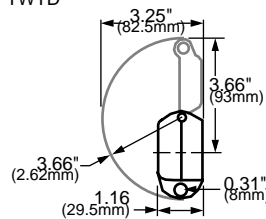
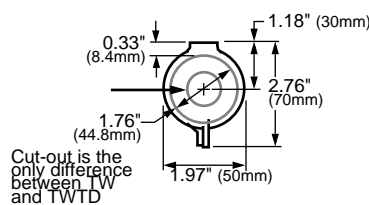
OCW-11
Pushbutton Rubber Boot



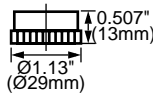
OB-31
Mounting Hole Rubber Plug



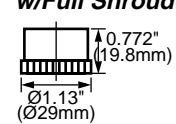
HW9Z-KL1 (TW)
Lock-out Adaptor



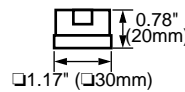
AW-RP1
Round Plastic Bezel



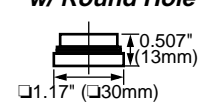
AW-FP1
Round Plastic w/Full Shroud



AW-QF1B
Square Full Shroud

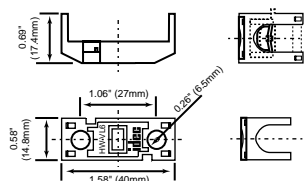


AW-H1
Square Bezel w/ Round Hole

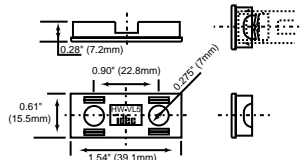


Finger-Safe Cover Dimensions

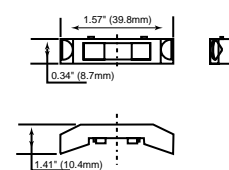
HW-VL6



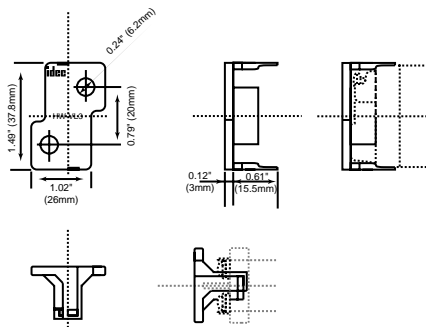
HW-VL5



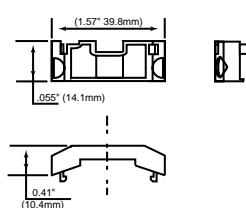
HW-VL4



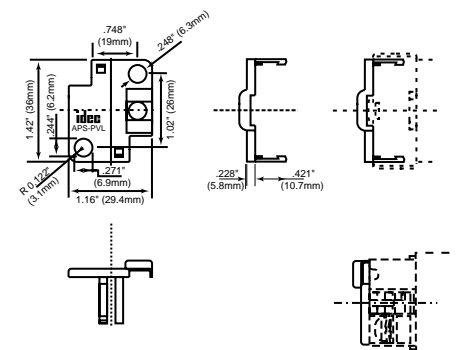
HW-VL3



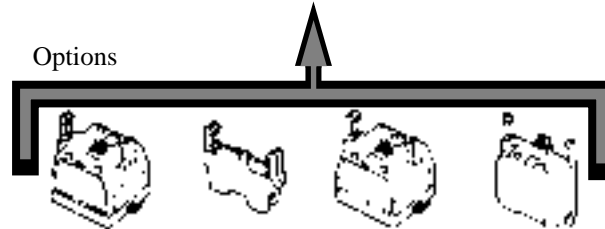
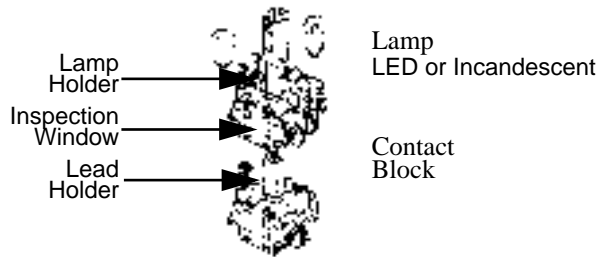
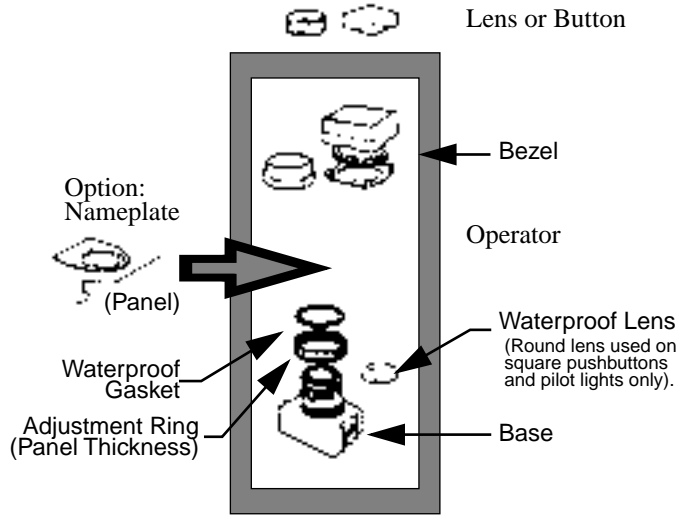
HW-VL2



APS-PVL



Component Construction — TW Series



AC Adaptor
Used with LED illuminated control units.

Full Voltage Adaptor:
Used with full voltage LED or incandescent.

Full-Size Transformer:
Used with incandescent – even number of contact blocks.

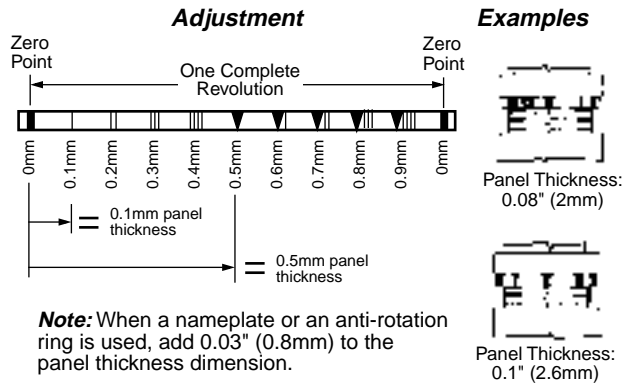
Half-Size Transformer:
Used with incandescent – odd number of contact blocks.

Instructions — TW Serie

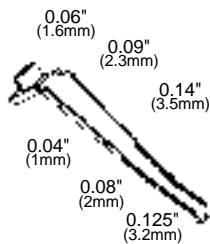
Instructions for Switches and Pilot Devices

TW Series: Adjustment for Panel Thickness

The panel thickness ring provides adjustment from 0.04" (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.



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



Instructions, continued

Pilot Lights and Pushbuttons

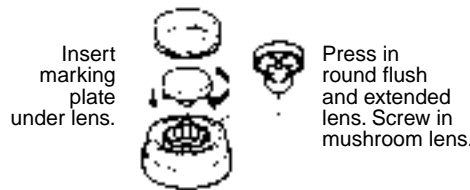
IMPORTANT: Install the body of the TW control unit with the panel thickness scale facing up.

Octagonal and Round Bezels

Octagonal and round bezels screw into the operator. Use the 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

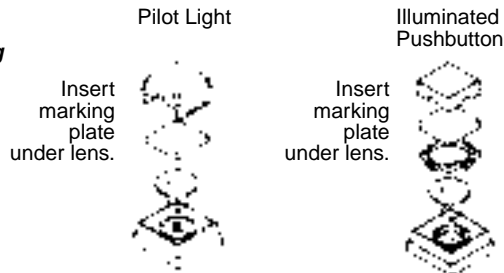


Square Bezels

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.



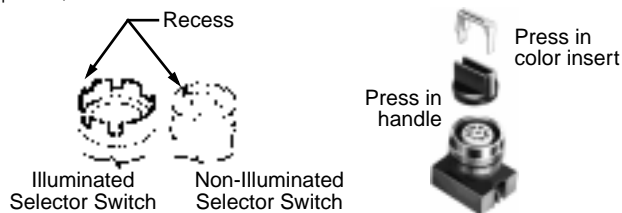
Marking Plate Engraving Area

Shape	Engraving Area	Used With	Part Number
Round	Ø 0.55" (14mm)	Illuminated pushbuttons	ALW2BP
	Ø 0.55" (14mm)	Pilot lights	APW2BP
Mushroom	Ø 0.55" (14mm)	Illuminated mushroom	ALW3BP
Square	□ 0.83" (21mm)	Square pilot lights	APQW1BP
Square	□ 0.83" (21mm)	Square illuminated pushbuttons	ALQW2BP

Instructions, continued

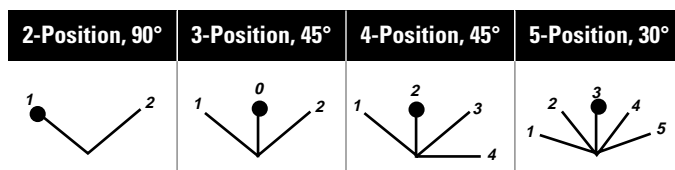
Selector Switches

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.



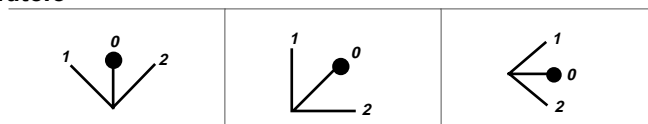
Remove color insert before pulling out the handle.

Standard Operating Positions

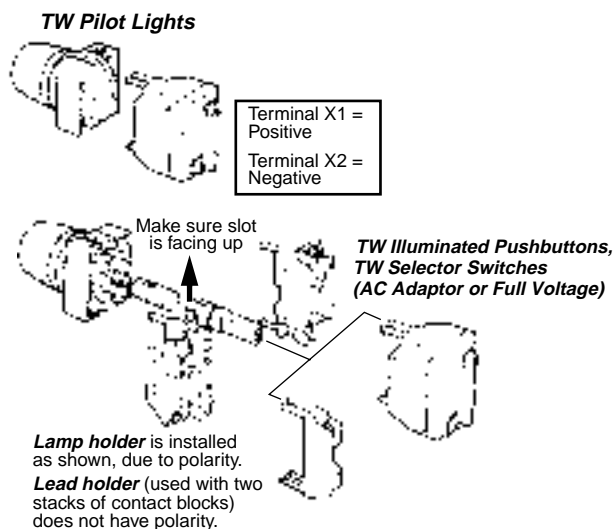


Positions:

Non-illuminated 3-Position Operators



Installation



Installation of LED Illuminated Units

AC adaptor units are recommended for use in areas subjected to inductive noise. When using full voltage types, install a protection diode as shown below. Use diode with AC power supply to protect against reverse polarity. Use with DC power supply to protect against surges and noise.



Make sure that LED illuminated units are installed with correct polarity, as indicated at the terminals.