

**A3**

**Switches & Pilot Devices**



## 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 accommodates 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








CSA Certified  
File No. LR48366



File No. DK95-01696



Certificate No.  
2030010305027380

<b>Conforming to Standards</b>		EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14							
<b>Approvals</b>		<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">               File No. E68961         </div> <div style="text-align: center;">               File No. LR21451         </div> <div style="text-align: center;">               Certificate No. 2030010305027380         </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 10px;"> <div style="text-align: center;">               TÜV Rheinland              Registration No: J9551802 (E-Stops)              Registration No: J9551803 (All other switches)              Registration No: J9551804 (Pilot Lights)         </div> <div style="text-align: center;">  </div> </div> <p><b>CSA:</b> pushbuttons and selector switches: A600              pilot lights and illuminated pushbuttons, direct supply              pilot lights and illuminated pushbuttons with integral transformer              (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)  <b>UL:</b> pushbuttons and selector switches: A600              pilot lights and illuminated pushbuttons, direct supply              pilot lights and illuminated pushbuttons with integral transformer              (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)  <b>TÜV:</b> pushbuttons and selector switches: A600=P600 (NO, NC)/Q600 (NO-EM, NC-LB)              pilot lights and illuminated pushbuttons, direct supply              pilot lights and illuminated pushbuttons with integral transformer              (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)</p>							
<b>Operating Temperature</b>		Operation: -25 to +50°C (without freezing) Storage: -40 to +80°C (without freezing)							
<b>Vibration Resistance</b>		5 to 55Hz, 100m/sec <sup>2</sup> (10g) conforming to IEC6068-2-6							
<b>Shock Resistance</b>		1000m/sec <sup>2</sup> (100g) conforming to IEC6068-2-7							
<b>Electric Shock Protection</b>		Class 0 conforming to IEC60536							
<b>Degree of Protection (conforming to IEC60529) (conforming to NEMA ICS6-110)</b>		IP65 from front of the panel; (IP54 for key switches) IP20 (Type HW-F contact block) NEMA 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (NEMA 1, 2, 3R, 5, 12, 13 for key switches)							
<b>Mechanical Life</b>		Momentary pushbuttons: 5,000,000 (900 operations per hour) All other switches: 500,000							
<b>Pollution Degree (conforming to IEC60947-1)</b>		3 for switches not using a transformer 2 for switches using a transformer							
<b>Rated Operational Characteristics</b>		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)							
<b>Rated Insulation Voltage</b>		600V							
<b>Rated Switching Over-Voltage</b>		Less than 4kV, conforming to IEC60947-1							
<b>Rated Impulse Withstanding Voltage</b>		4kV for contact circuit 2.5kV for lamp circuit							
<b>Rated Thermal Current</b>		10 Amp							
<b>Minimum Switching Capacity</b>		5 mA at 3V AC/DC							
<b>Contact Operation</b>		Slow break NC or slow make NO, self-cleaning							
<b>Recommended Terminal Torque</b>		0.8 N m (7.1 in lb.)							
<b>External Short-Circuit Protection</b>		10A 250V fuse conforming to IEC60269-1							
<b>Applicable Wire Size</b>		Minimum 1 x 22 AWG, max. 2 x 14 AWG or 1 x 12 AWG							
<b>Contact Resistance</b>		Initial contact resistance of 50mΩ or less							
<b>Contact Gap</b>		4mm (NO and NC) 2mm (NO-EM and NC-LB)							
<b>Electrical Reliability</b>		MTBF < 1 fault for 10 million operation cycles (3V DC, 5mA)							
<b>Lamp Ratings</b>		Incandescent: 1 W LEDs: 6V: 17mA max, 12/24V: 11mA max, 120/240V: 10mA max							
<b>Horsepower Rating</b>		1/4 HP @ 120V (single-phase, non-reversing motor); 1 HP @ 240V (3 phase, non-reversing motor)							
<b>Maximum Inrush Current</b>		40 A (40 ms)							
<b>Contact Material</b>		Silver							
<b>Contact Ratings</b>	Pushbuttons Illuminated Pushbuttons Selector Switches Illuminated Selector Switches Pushbutton Selectors		Contact Block			Type HW-C/HW-F			
			Rated Insulation Voltage			600V			
			Rated Continuous Current			10A			
			Contact Ratings by Utilization Category IEC 60947-5-1			AC-15 (A600) DC-13 (P600)			
<b>Characteristics</b>	<b>Contact Ratings by Utilization Category</b>								
	Operational Voltage			24V	48V	50V	110V	220V	440V
	Operational Current	AC 50/60 Hz	AC-12 Control of resistive loads & solid state loads	10A	—	10A	10A	6A	2A
			AC-15 Control of electromagnetic loads (> 72VA)	10A	—	7A	5A	3A	1A
	Operational Current	DC	DC-12 Control of resistive loads & solid state loads	8A	5A	—	2.2A	1.1A	—
DC-13 Control of electromagnets			5A	2A	—	1.1A	0.6A	—	

**Non-Illuminated Selector Switches (Assembled)**

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**Assembled Selector Switches**

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

**Function**

S: Selector Switch

**Series Designation**

W: TW Series

**Number of Positions**

2: 2-Position

3: 3-Position

4: 4-Position

5: 5-Position

**Spring Return Action**

Blank: Maintained

1: Spring return from Right (2 or 3 position)

2: Spring return from Left (2 or 3 position)

3: 2-Way spring return from Left and Right (3 position only)

**Circuit Number**

(Standard circuits shown on following pages and A3-150.)

**Contacts Terminal Style**

Blank: standard

N: Fingersafe (IP20)

**Contact Arrangement Code**

10: 1NO      01: 1NC

20: 2NO      02: 2NC

40: 4NO      04: 4NC

11: 1NO-1NC    22: 2NO-2NC

**Operator Style Code**

Blank: Knob Operator

L: Lever Operator

K: Key Operator



1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. Custom contact configurations available, contact IDEC for details.
3. Portions of part number inside ( ) are optional.

## Non-Illuminated Selector Switches (Assembled) con't

### Part Numbers: 2-Position Selector Switches

Style		Operator Position			Part Number	Part Number	Part Number
Contact	Mounting	L	R		Maintained	Spring Return from Right	Spring Return from Left
		↙	↗	L	L	L	
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	1	0	X	Knob Lever Key	ASW222-111 ASW2L22-111 ASW2K22-111	ASW2122-111 ASW21L22-111 ASW21K22-111	ASW2222-111 ASW22L22-111 ASW22K22-111
	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				



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### Part Numbers: 3-Position Selector Switches

Style		Operator Position				Part Number	Part Number	Part Number	Part Number
Contact	Mounting	L	C	R		Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-Way
		↙	↑	↗	L	L	L	L	
2NO	1	X	0	0	Knob Lever Key	ASW320 ASW3L20 ASW3K20	ASW3120 ASW31L20 ASW31K20	ASW3220 ASW32L20 ASW32K20	ASW3320 ASW33L20 ASW33K20
	2	0	0	X					
2NC	1	0	X	X	Knob Lever Key	ASW302 ASW3L02 ASW3K02	ASW3102 ASW31L02 ASW31K02	ASW3202 ASW32L02 ASW32K02	ASW3302 ASW33L02 ASW33K02
	2	X	X	0					
2NO 2NC	1	X	0	0	Knob Lever Key	ASW322 ASW3L22 ASW3K22	ASW3122 ASW31L22 ASW31K22	ASW3222 ASW32L22 ASW32K22	ASW3322 ASW33L22 ASW33K22
	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	ASW3222-309 ASW32L22-309 ASW32K22-309	ASW3322-309 ASW33L22-309 ASW33K22-309
	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	ASW3222-310 ASW32L22-310 ASW32K22-310	ASW3322-310 ASW33L22-310 ASW33K22-310
	2	0	0	X					
4NO	1	X	0	0	Knob Lever Key	ASW340 ASW3L40 ASW3K40	ASW3140 ASW31L40 ASW31K40	ASW3240 ASW32L40 ASW32K40	ASW3340 ASW33L40 ASW33K40
	2	0	0	X					
4NO	3	X	0	0	Knob Lever Key	ASW340 ASW3L40 ASW3K40	ASW3140 ASW31L40 ASW31K40	ASW3240 ASW32L40 ASW32K40	ASW3340 ASW33L40 ASW33K40
	4	0	0	X					
4NC	1	0	X	X	Knob Lever Key	ASW304 ASW3L04 ASW3K04	ASW3104 ASW31L04 ASW31K04	ASW3204 ASW32L04 ASW32K04	ASW3304 ASW33L04 ASW33K04
	2	X	X	0					
4NC	3	0	X	X	Knob Lever Key	ASW304 ASW3L04 ASW3K04	ASW3104 ASW31L04 ASW31K04	ASW3204 ASW32L04 ASW32K04	ASW3304 ASW33L04 ASW33K04
	4	X	X	0					

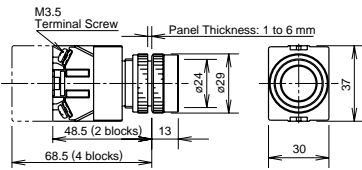


- The truth table indicates the operating position of contact block when the operator is switched to that position.  
X = On (closed contacts)  
O = Off (open contacts)  
X-X = Overlapping Contacts: Remain on (closed contacts) when switch is moved between these two positions.
- All knob and lever selector switches come in black. Other colors are available by ordering the knob or lever separately.
- 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.
- Custom contact configurations are available, see page A3-150 or contact IDEC for details.

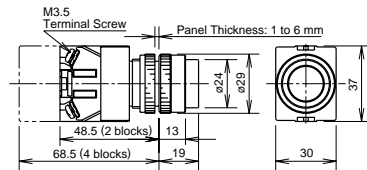
## Dimensions — TW Series

### Pushbuttons

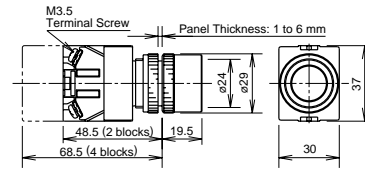
#### Flush



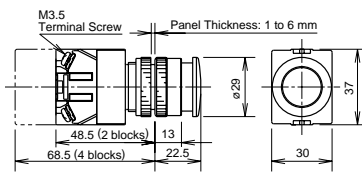
#### Extended



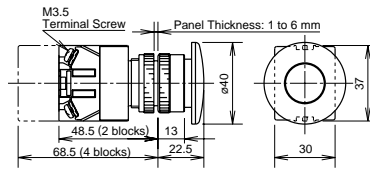
#### Extended with Full Shroud



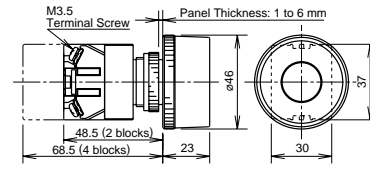
#### 29mm Mushroom



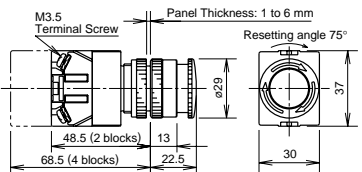
#### 40mm Mushroom



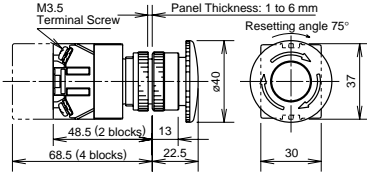
#### Mushroom with Full Shroud



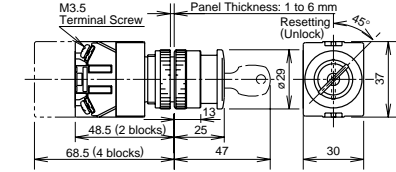
#### 29mm Push-Lock-Turn-Reset



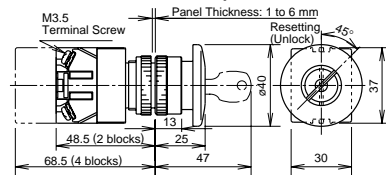
#### 40mm Push-Lock-Turn-Reset



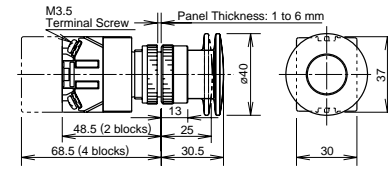
#### Keylock Push On/Off



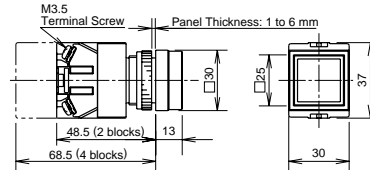
#### 40mm Pushlock Key Reset



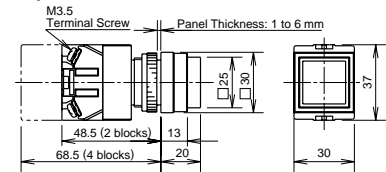
#### 40mm Push-Pull



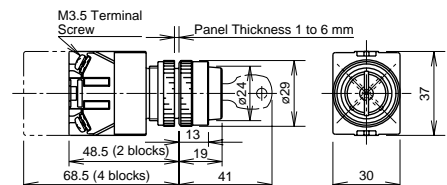
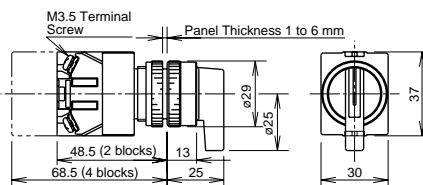
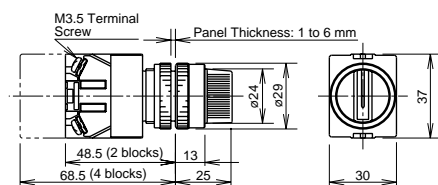
#### Square Flush



#### Square Extended



### Selector Switches



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