

## TW Series — 22mm NEMA Style Pushbuttons

A3

Switches &amp; 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 Pushbuttons (Assembled)**

**A3**

**Switches & Pilot Devices**



**Assembled Pushbuttons**

**A B ( ) W 1 10 ( ) - B**

**Function**

- B: Momentary
- O: Maintained
- K: Key On/Off Lock

**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

**Terminal Style**

- Blank: Standard
- N: Fingersafe (IP20)

**Contact Arrangement**

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

**Button Shape**

- 1: Flush
- 2: Extended
- 3: Mushroom Head Ø 29mm
- 4: Mushroom Head Ø 40mm

**Series Designation**

- W: TW Series



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

## Non-Illuminated Pushbuttons (Assembled) con't

### Part Numbers: Non-illuminated Pushbuttons

Style	Contacts	Momentary Action	Maintained Action
Flush	1NO 1NC 1NO-1NC 2NO 2NC	ABW110-① ABW101-① ABW111-① ABW120-① ABW102-①	AOW110-① AOW101-① AOW111-① AOW120-① AOW102-①
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
Recessed	1NO 1NC 1NO-1NC 2NO 2NC	ABFW110-① ABFW101-① ABFW111-① ABFW120-① ABFW102-①	AOFW110-① AOFW101-① AOFW111-① AOFW120-① AOFW102-①
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 29mm Mushroom Head	1NO 1NC 1NO-1NC 2NO 2NC	ABW310-① ABW301-① ABW311-① ABW320-① ABW302-①	AOW310-① AOW301-① AOW311-① AOW320-① AOW302-①
Ø 40mm Mushroom Head	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 40mm Mushroom Head 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
Keylock Push On/Off	1NO 1NC 1NO-1NC 2NO 2NC	AKW210 AKW201 AKW211 AKW220 AKW202	-

### ① Button Color Code

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



Switches & Pilot Devices

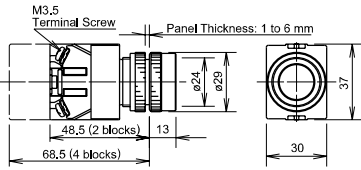


- In place of ①, specify the Button Color Code from table.
- For sub-assembled part numbers, see page A3-130.
- For accessories, see page A3-156.
- For dimensions, see page A3-158.
- Keyed switches are supplied with two keys. All units are keyed alike. For custom keys, contact IDEC.

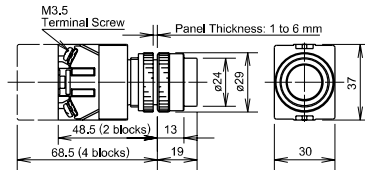
**Dimensions — TW Series**

**Pushbuttons**

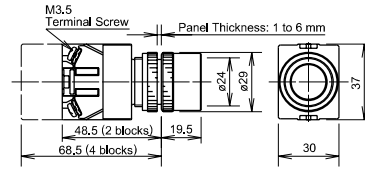
**Flush**



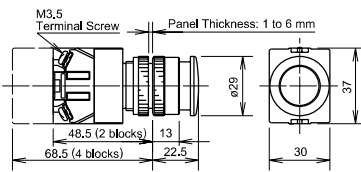
**Extended**



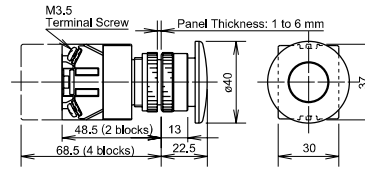
**Extended with Full Shroud**



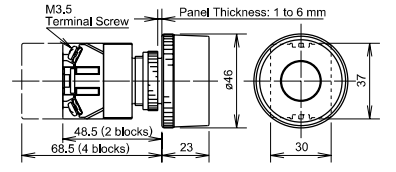
**29mm Mushroom**



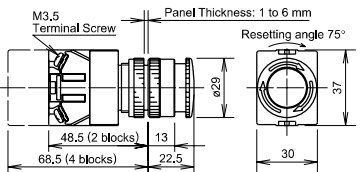
**40mm Mushroom**



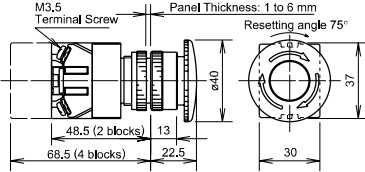
**Mushroom with Full Shroud**



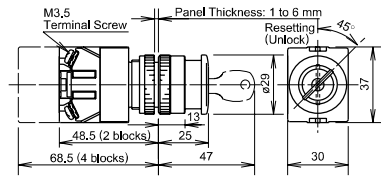
**29mm Push-Lock-Turn-Reset**



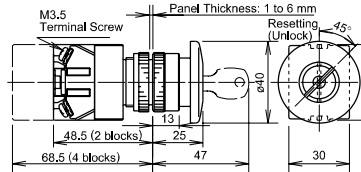
**40mm Push-Lock-Turn-Reset**



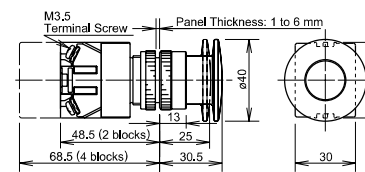
**Keylock Push On/Off**



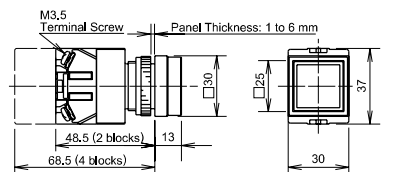
**40mm Pushlock Key Reset**



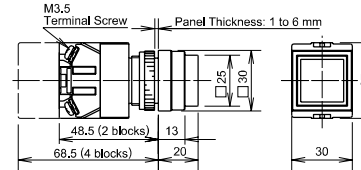
**40mm Push-Pull**



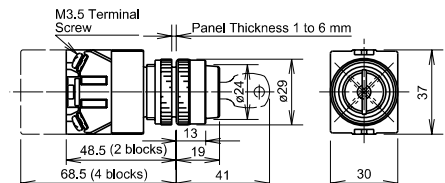
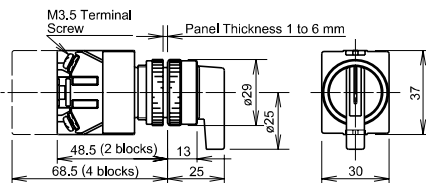
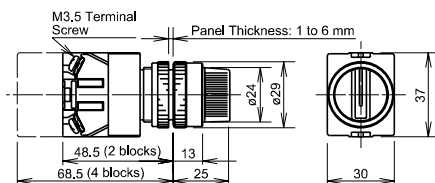
**Square Flush**



**Square Extended**



**Selector Switches**



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