

## 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 screws 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 lens styles, one that maximizes light dispersion, the other accommodates direct lens 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

Conforming to Standards		EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14									
Approvals		 File No. E68961  File No. LR21451  Certificate No. 2030010305027380									
 TÜV Rheinland Registration No: J9551802 (E-Stops) Registration No: J9551803 (All other switches) Registration No: J9551804 (Pilot Lights)		<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)									
Operating Temperature		Operation: -25 to +50°C (without freezing) Storage: -40 to +80°C (without freezing)									
Vibration Resistance		5 to 55Hz, 100m/sec <sup>2</sup> (10g) conforming to IEC6068-2-6									
Shock Resistance		1000m/sec <sup>2</sup> (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; (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)									
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: 6V: 17mA max, 12/24V: 11mA max, 120/240V: 10mA max									
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									
Contact Ratings	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>Contact Ratings by Utilization Category</b>										
Characteristics	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
	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	AOQW110-① AOQW101-① AOQW111-① AOQW120-① AOQW102-①
Square Extended	1NO 1NC 1NO-1NC 2NO 2NC	ABQW210-① ABQW201-① ABQW211-① ABQW220-① ABQW202-①	AOQW210-① AOQW201-① AOQW211-① AOQW220-① AOQW202-①
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

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Switches & Pilot Devices

 1. In place of ①, specify the Button Color Code from table.

2. For sub-assembled part numbers, see page A3-130.

3. For accessories, see page A3-156.

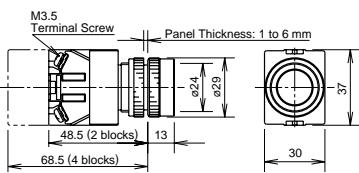
4. For dimensions, see page A3-158.

5. Keyed switches are supplied with two keys. All units are keyed alike. For custom keys, contact IDEC.

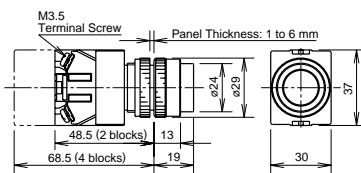
## Dimensions — TW Series

## Pushbuttons

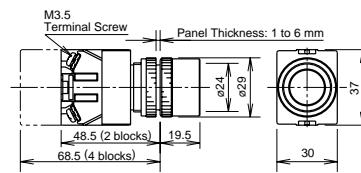
## Flush



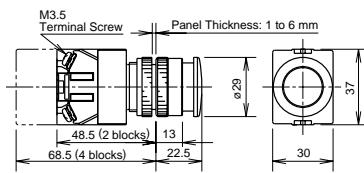
## Extended



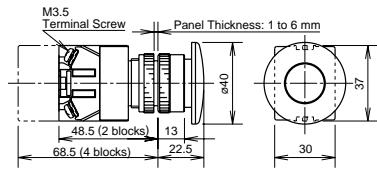
## Extended with Full Shroud



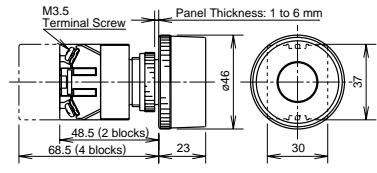
## 29mm Mushroom



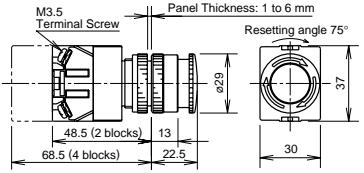
## 40mm Mushroom



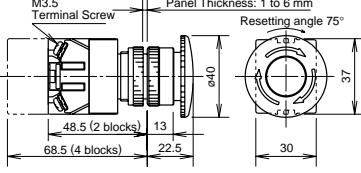
## Mushroom with Full Shroud



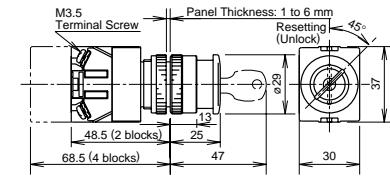
## 29mm Push-Lock-Turn-Reset



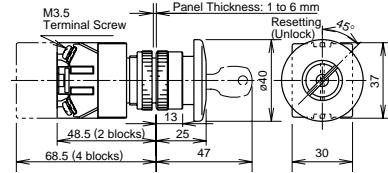
## 40mm Push-Lock-Turn-Reset



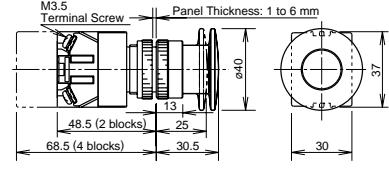
## Keylock Push On/Off



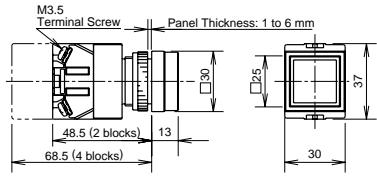
## 40mm Pushlock Key Reset



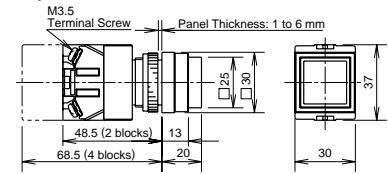
## 40mm Push-Pull



## Square Flush



## Square Extended



## Selector Switches

