

**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>Specifications</b>	<b>Conforming to Standards</b>		EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14					
	<b>Approvals</b>		   <p>File No. E68961    File No. LR21451    Certificate No. 2030010305027380</p>   <p>TÜV Rheinland Registration No: J9551802 (E-Stops) Registration No: J9551803 (All other switches) Registration No: J9551804 (Pilot Lights)</p> <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>TUV:</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)			

		Contact Ratings by Utilization Category							
Operational Voltage		24V	48V	50V	110V	220V	440V		
<b>Characteristics</b>	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	—	

## Pilot Lights (Assembled)



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**Assembled Pilot Lights**

A P (Q) W 1 (B) 99 (D) - R - (24V)

<p><b>Function</b> _____</p> <p>P: Pilot Light</p> <p><b>Bezel Shape</b> _____</p> <p>Blank: Octagonal (round lenses) Q: Square</p> <p><b>Series Designation</b> _____</p> <p>W: TW Series</p> <p><b>Lens Shape</b> _____</p> <p>1: Flat 2: Dome</p> <p><b>Lens Type</b> _____</p> <p>Blank: Standard (ribbed) B: Engravable (smooth with insert included)</p> <p><b>Illumination Circuit</b> _____</p> <p>99: Full Voltage (lamp determines voltage) 126:120V AC Step Down Transformer 246:240V AC Step Down Transformer 486:480V AC Step Down Transformer</p>	<p><b>Lamp Voltage</b> (Full Voltage Units Only) 6V: 6V AC/DC 12V: 12V AC/DC 24V: 24V AC/DC 120V: 120V AC (LED only) 240V: 240V AC (LED only)</p> <p><b>Lens Color Code</b> A: Amber G: Green R: Red S: Blue W: White Y: Yellow</p> <p><b>Lamp Type</b> Blank: Incandescent D: LED</p>
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1. Use only when interpreting part numbers. Do not use for developing part numbers.
2. All transformers step down to 6V.

**Pilot Lights (Assembled) con't**

**Part Numbers: Pilot Lights**

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Style		Operating Voltage	Part Number
 Round Flat	Transformer	120VAC 240VAC 480VAC	APW1126 <sup>④-②</sup> APW1246 <sup>④-②</sup> APW1486 <sup>④-②</sup>
	Full Voltage	—	APW199 <sup>④-②-③</sup>
 Dome	Transformer	120VAC 240VAC 480VAC	APW2126 <sup>④-②</sup> APW2246 <sup>④-②</sup> APW2486 <sup>④-②</sup>
	Full Voltage	—	APW299 <sup>④-②-③</sup>
 Square Flat	Transformer	120VAC 240VAC 480VAC	APQW1B126 <sup>④-②</sup> APQW1B246 <sup>④-②</sup> APQW1B486 <sup>④-②</sup>
	Full Voltage	—	APQW1B99 <sup>④-②-③</sup>

- 1. In place of ②, specify the Lens Color Code from table below.
- 2. In place of ③, specify the Full Voltage Code from table below.
- 3. In place of ④, specify the Lamp Type Code from table below.
- 4. For accessories, see page A3-156.
- 5. For dimensions, see page A3-158.
- 6. For sub-assembly part numbers, see next page.

**② Lens Color Code**

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

**③ Full Voltage Code**

Voltage	Code
6V AC/DC	6V
12V AC/DC	12V
24V AC/DC	24V
120V AC	120V (LED only)
240V AC	240V (LED only)

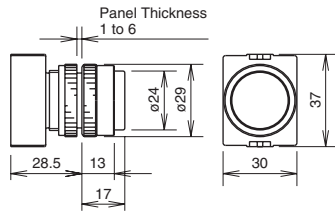
**④ Lamp Type Code**

Lamp	Code
Incandescent	Blank
LED	D

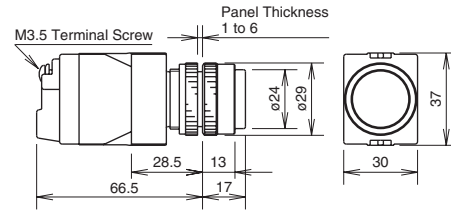
**Dimensions con't**

**Pilot Lights**

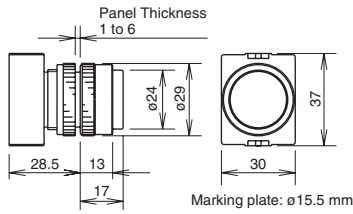
**Round Flush APW1 Full Voltage**



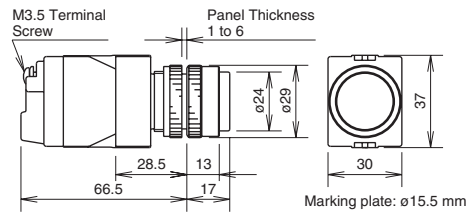
**Round Flush APW1 Transformer**



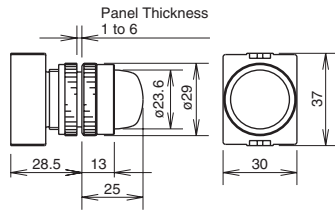
**Round Flush Marking Type APW1B Full Voltage**



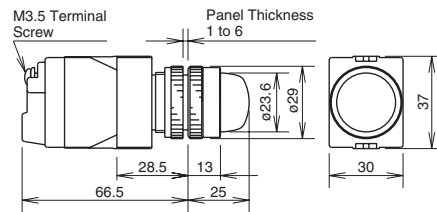
**Round Flush Marking Type APW1B Transformer**



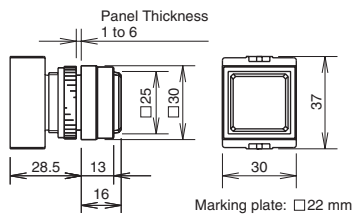
**Dome APW2 Full Voltage**



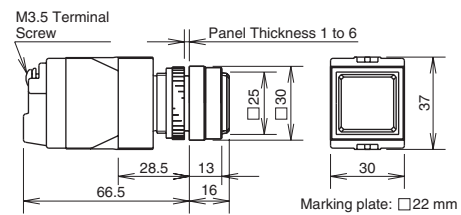
**Dome APW2 Transformer**



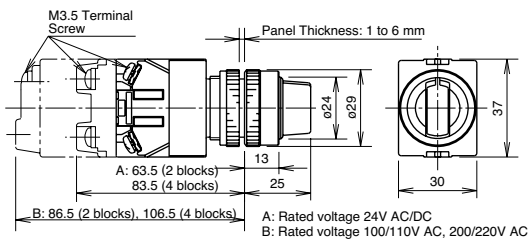
**Square Flush Marking Type APQW1B Full Voltage**



**Square Flush Marking Type APQW1B Transformer**



**Illuminated Selector Switches**



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