

TW Series – 22mm NEMA Style Pushbuttons

**Key features:**

- TW NEMA Style Switches with snap-on contacts
- Corrosion resistant octagonal chrome plated locking bezel
- Snap-on 10A contact blocks
- 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 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. E68961



TÜV Rheinland



CSA Approved
File No. LR21451



File No. DK95-01696

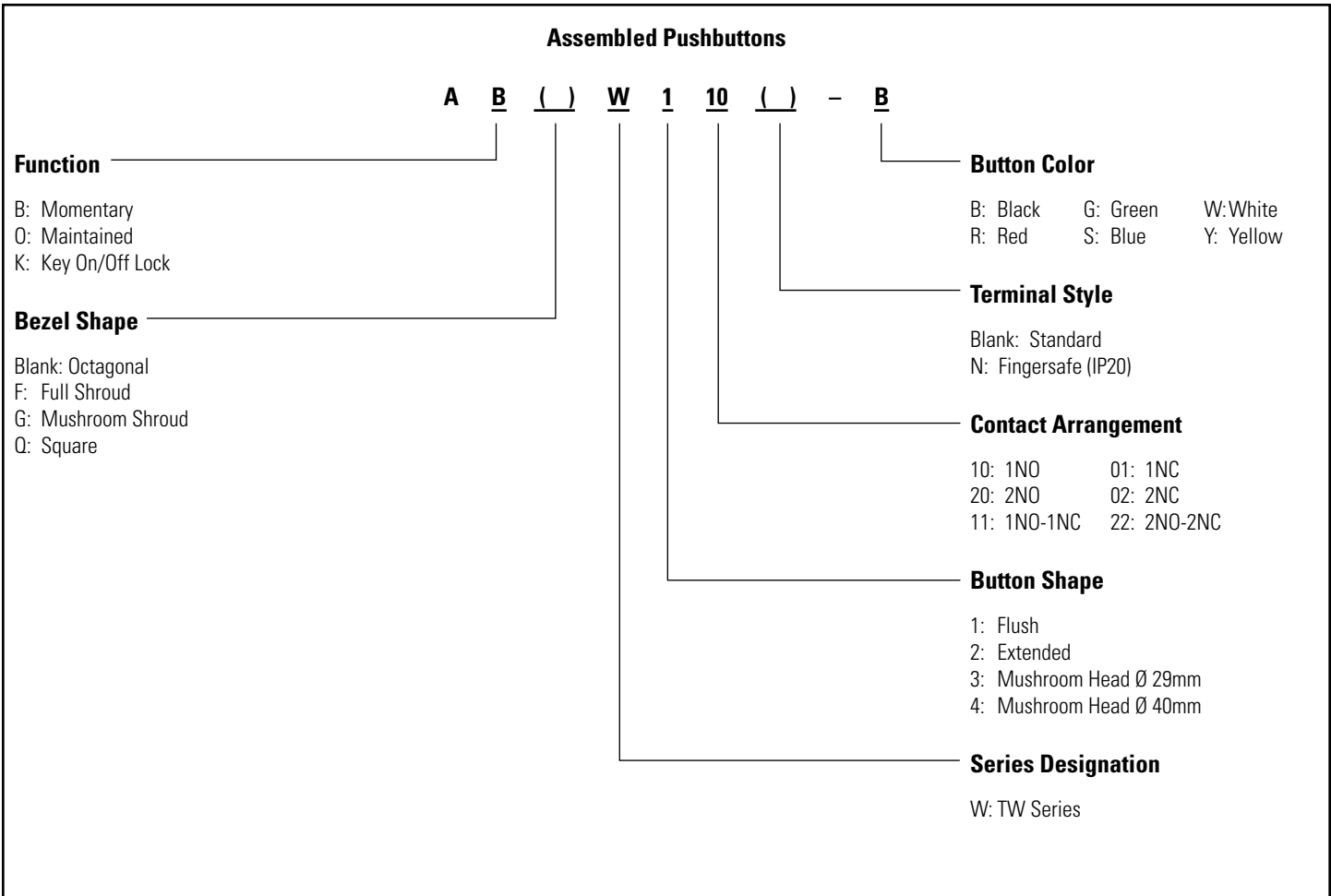


Conforming to Standards		EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14
Approvals		
   <p>File No. E68961 File No. LR21451 Certificate No. 2030010305027380</p>   <p>TÜV Rheinland</p> <p>Registration No: J9551802 (E-Stops) Registration No: J9551803 (All other switches) Registration No: J9551804 (Pilot Lights)</p>		<p>CSA: 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)</p> <p>UL: 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)</p> <p>TÜV: 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>
Operating Temperature		Operation: -25 to +50°C (without freezing), Storage: -40 to +80°C (without freezing)
Vibration Resistance		5 to 55Hz, 100m/sec ² (10g) conforming to IEC6068-2-6
Shock Resistance		1000m/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; (IP54 for key switches) IP20 (Type HW-F contact block) Type 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (Type 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	Contact Block	Type HW-C/HW-F
	Illuminated Pushbuttons	Rated Insulation Voltage	600V
	Selector Switches	Rated Continuous Current	10A
	Illuminated Selector Switches	Contact Ratings by Utilization Category	AC-15 (A600) DC-13 (P600)
	Pushbutton Selectors	IEC 60947-5-1	

		Contact Ratings by Utilization Category							
Characteristics	Operational Voltage		24V	48V	50V	110V	220V	440V	
	Operational Current	AC50/60Hz	AC-12 Control of resistive loads and 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 and solid state loads	8A	5A	—	2.2A	1.1A	—
			DC-13 Control of electromagnets	5A	2A	—	1.1A	0.6A	—

Non-Illuminated Pushbuttons (Assembled)










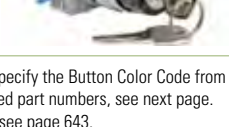


To be used for interpreting part numbers only, not for part number development.

Non-Illuminated Pushbuttons (Assembled) continued

Non-Illuminated Pushbuttons

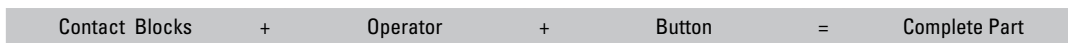
① Button Color Codes

Style	Contacts	Momentary Action	Maintained Action
Flush 	1NO	ABW110-①	AOW110-①
	1NC	ABW101-①	AOW101-①
	1NO-1NC	ABW111-①	AOW111-①
	2NO	ABW120-①	AOW120-①
	2NC	ABW102-①	AOW102-①
Extended 	1NO	ABW210-①	AOW210-①
	1NC	ABW201-①	AOW201-①
	1NO-1NC	ABW211-①	AOW211-①
	2NO	ABW220-①	AOW220-①
	2NC	ABW202-①	AOW202-①
Recessed 	1NO	ABFW110-①	AOFW110-①
	1NC	ABFW101-①	AOFW101-①
	1NO-1NC	ABFW111-①	AOFW111-①
	2NO	ABFW120-①	AOFW120-①
	2NC	ABFW102-①	AOFW102-①
Extended with Full Shroud 	1NO	ABFW210-①	AOFW210-①
	1NC	ABFW201-①	AOFW201-①
	1NO-1NC	ABFW211-①	AOFW211-①
	2NO	ABFW220-①	AOFW220-①
	2NC	ABFW202-①	AOFW202-①
Ø 29mm Mushroom Head 	1NO	ABW310-①	AOW310-①
	1NC	ABW301-①	AOW301-①
	1NO-1NC	ABW311-①	AOW311-①
	2NO	ABW320-①	AOW320-①
	2NC	ABW302-①	AOW302-①
Ø 40mm Mushroom Head 	1NO	ABW410-①	AOW410-①
	1NC	ABW401-①	AOW401-①
	1NO-1NC	ABW411-①	AOW411-①
	2NO	ABW420-①	AOW420-①
	2NC	ABW402-①	AOW402-①
Ø 40mm Mushroom Head with Full Shroud 	1NO	ABGW410-①	AOGW410-①
	1NC	ABGW401-①	AOGW401-①
	1NO-1NC	ABGW411-①	AOGW411-①
	2NO	ABGW420-①	AOGW420-①
	2NC	ABGW402-①	AOGW402-①
Square Flush 	1NO	ABQW110-①	AQQW110-①
	1NC	ABQW101-①	AQQW101-①
	1NO-1NC	ABQW111-①	AQQW111-①
	2NO	ABQW120-①	AQQW120-①
	2NC	ABQW102-①	AQQW102-①
Square Extended 	1NO	ABQW210-①	AQQW210-①
	1NC	ABQW201-①	AQQW201-①
	1NO-1NC	ABQW211-①	AQQW211-①
	2NO	ABQW220-①	AQQW220-①
	2NC	ABQW202-①	AQQW202-①
Keylock Push On/ Off 	1NO	AKW210	—
	1NC	AKW201	—
	1NO-1NC	AKW211	—
	2NO	AKW220	—
	2NC	AKW202	—

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

- 1. In place of ①, specify the Button Color Code from table.
- 2. For sub-assembled part numbers, see next page.
- 3. For accessories, see page 643.
- 4. For dimensions, see page 645.
- 5. Keyed switches are supplied with two keys. All units are keyed alike.

Non-Illuminated Pushbuttons (Sub-Assembled)



Operators

Style	Part Number	
	Momentary	Maintained
Round Flush/Extended 	ABW-100	AOW-100
Round with Full Shroud/ Recessed 	ABFW-200	AOFW-200
Ø 40mm, Ø 29mm Mushroom Head 	ABW-300	AOW-300
Ø 40mm Mushroom Head with Full Shroud 	ABGW-400	AOGW-400
Square Flush/Extended 	ABQW-100	AQW-100
Keylock Push On/Off 	—	AKW-200

Buttons

Style	Part Number
Round Flush 	ABW1B-Ⓢ
Round Extended 	ABW2B-Ⓢ
Ø 29mm Mushroom 	ABW3B-Ⓢ
Ø 40mm Mushroom 	ABW4B-Ⓢ
Square Flush 	ABQW1B-Ⓢ
Square Extended 	ABQW2B-Ⓢ



In place of Ⓢ specify the button color code from table

Contact Blocks

Style	Part Number	
	1NO	1NC
Standard Exposed Screw 	HW-C10 HW-C10R (early make)	HW-C01 HW-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

① Button Color Codes

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