

TW Series – 22mm NEMA Style Pushbuttons



TW NEMA Style Switches with snap-on contacts

Key features include:

- 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. E70646



TUV Rheinland



CSA Approved
File No. LR21451



File No. DK95-01696

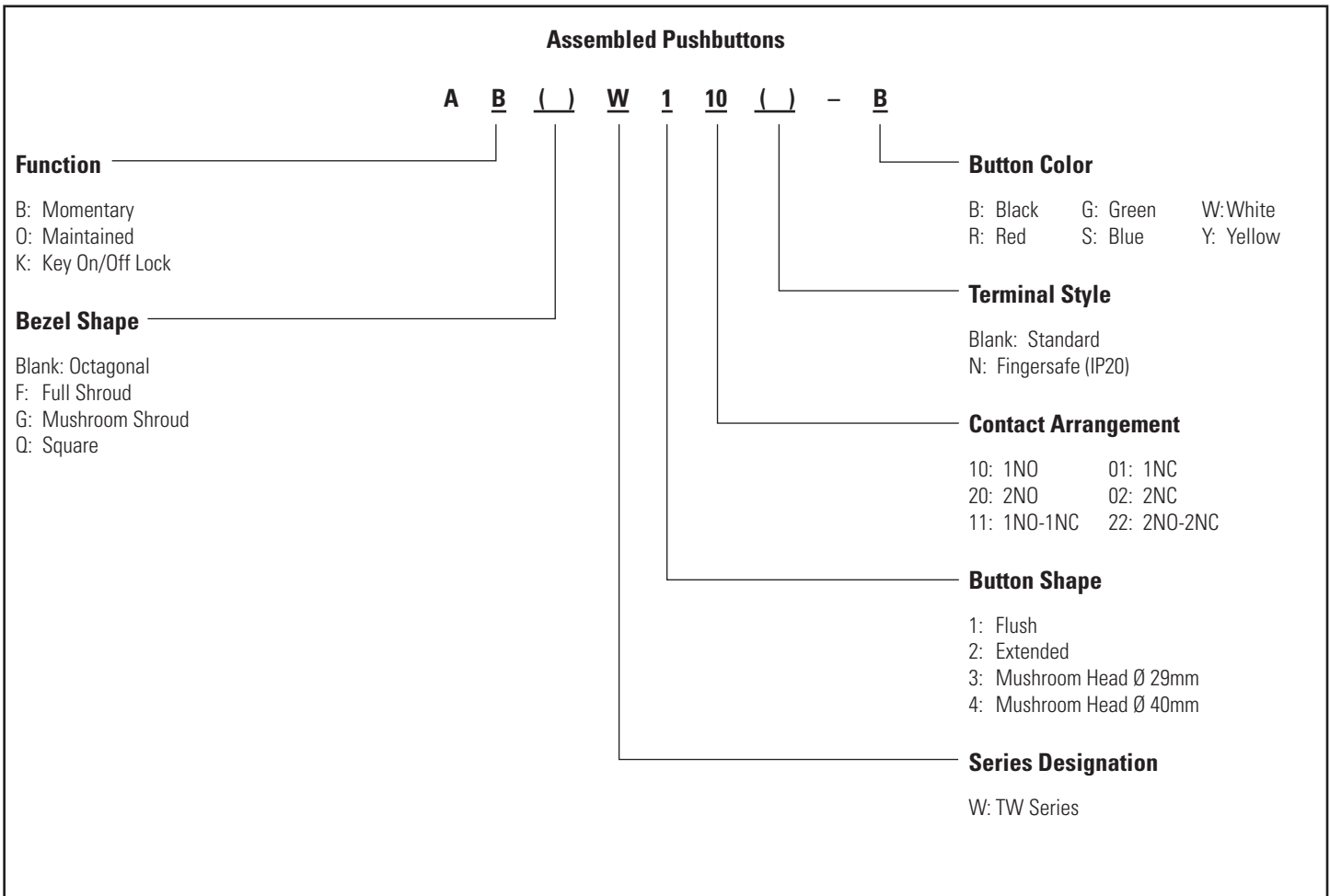


| | | | |
|--|--|---|--|
| Conforming to Standards | | EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14 | |
| Approvals | |    File No. E70646 File No. LR21451 Certificate No. 2030010305027380   TÜV Rheinland Registration No: J9551802 (E-Stops) Registration No: J9551803 (All other switches) Registration No: J9551804 (Pilot Lights) | |
| 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) 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 | 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 | | | | | | |
|---------------------|-----------|--|-----|-----|-----|------|------|------|
| 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 |

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers



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 593.
4. For dimensions, see page 595.
5. Keyed switches are supplied with two keys. All units are keyed alike.