TWTD Series — Full Size NEMA Pushbuttons



TWTD Series: Heavy duty switches built to last

Key features:

- Variety of button sizes up to 2 9/16" (65mm)
- Rugged construction includes chrome plated zinc locking ring die cast zinc mounting threads, screw mounted contact blocks
- LED or incandescent illumination
- Transformer or full voltage
- Transparent contact windows
- Slow make, double break self-cleaning contacts
- · Modular construction for maximum flexibility
- Double nickel plated terminal screws
- Available assembled or as sub-components
- Type 4x and IP65 watertight/oiltight panel
- Large M3.5 screw terminals with captive sems plate

The rugged series of TWTD switches offers both variety and durability in an attractive design.

With button sizes up to $2\,9/16''$ (65mm), chrome plated zinc locking rings, die cast zinc mounting threads, steel anti-rotation rings, and self cleaning contacts, the TWTDs are here to stay.

The TWTD series also offers either LED or incandescent illumination in full voltage and transformer models.

Transparent contact windows allow the viewing of IDEC's self cleaning slow-make/slow-break contacts.

Regardless of your switching needs, the TWTD series provides the kind of long lasting, industrial strength quality you've come to expect from IDEC.













Specifications				
Conforming to Standards	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14			
Approvals	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) 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) TÜV: pushbuttons and selector switches: A600=P600 (NO, NC)/0600 (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 +70°C (without freezing)			
Vibration Resistance	10 to 55Hz, 98m/sec ² (10g) conforming to IEC6068-2-6			
Shock Resistance	980m/sec ² (100g) conforming to IEC6068-2-7			
Electric Shock Protection	Class 0 conforming to IEC60536			
Degree of Protection	IP65 (from front of the panel) (conforming to IEC60529) IP54 (key switches) Type 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (conforming to NEMA ICS6-110)			
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			

Mechanical-Electrical Specifications

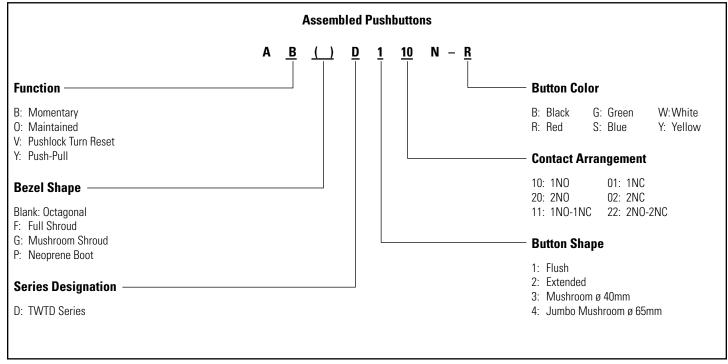
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Rated Operational Characteristics	AC-15: A600 or Ue = 250V, Ie = 3A (NO, NC, NO-EM, NC-LB) DC-13: P600 or Ue = 125V, Ie = 1.1A (NO, NC) DC-13: Q600 or Ue = 125V, Ie = 0.9A (NO-EM, NC-LB)		
Rated Insulation Voltage	600V		
Rated Switching Overvoltage	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 NO, self-cleaning		
Operating Force	Flush and extended pushbuttons—with 1NO or 1NC contact: 6.2±2N (momentary), 7.0±2N (maintained) Additional contacts—1NO or 1NC: +3.2N (momentary), + 3.3N (maintained)		
Terminal Referencing	Conforming to CENELEC EN50005		
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 $50m\Omega$ or less		
Contact Gap	4mm (NO and NC) 2mm (NO-EM and NC-LB)		
Lamp Ratings	Incandescent: 1 W LEDs: 6V: 17mA, 12V: 11mA, 24V: 11mA, / 120, 240V: 10mA		
Maximum Inrush Current	40 A (40 msec)		
Contact Material	Silver		

Contact Ratings

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		
Operation Current DC	AC E0/60 H-	AC-12 Control of resistive loads & solid state loads		10A	_	10A	10A	6A	2A
	AC 50/60 HZ	AC-15 Control of electromagnetic loads (> 72VA)		10A	_	7A	5A	3A	1A
	DC	DC-12 Control of resistive loads & solid s	tate loads	8A	5A	_	2.2A	1.1A	_
		DC-13 Control of electromagnets		5A	2A	_	1.1A	0.6A	_

Non-Illuminated Pushbuttons (Assembled)







- 1. Use only when interpreting part numbers. Do not use for developing part numbers.
- 2. Custom contact configurations available, contact IDEC for details.

Non-Illuminated Pushbuttons (Assembled)

Switches & Pilot Devices

Non-Illuminated Pushbuttons

	Style	Contacts	Momentary	Maintained
Flush		1NO 1NC 1NO-1NC 2NO 2NC	ABD110N-① ABD101N-① ABD111N-① ABD120N-① ABD102N-①	AOD110N-① AOD101N-① AOD111N-① AOD120N-① AOD102N-①
Extended	==	1NO 1NC 1NO-1NC 2NO 2NC	ABD210N-① ABD201N-① ABD211N-① ABD220N-① ABD220N-①	AOD210N-① AOD201N-① AOD211N-① AOD220N-① AOD202N-①
Extended with Neoprene Boot [†]		1NO 1NC 1NO-1NC 2NO 2NC	ABPD210N-① ABPD201N-① ABPD211N-① ABPD220N-① ABPD202N-①	AOPD210N-① AOPD201N-① AOPD211N-① AOPD220N-① AOPD202N-①
Recessed	(40	1NO 1NC 1NO-1NC 2NO 2NC	ABFD110N-① ABFD101N-① ABFD111N-① ABFD120N-① ABFD102N-①	AOFD110N-① AOFD101N-① AOFD111N-① AOFD120N-① AOFD102N-①
Extended with Full Shroud		1NO 1NC 1NO-1NC 2NO 2NC	ABFD210N-① ABFD201N-① ABFD211N-① ABFD220N-① ABFD220N-①	A0FD210N-① A0FD201N-① A0FD211N-① A0FD220N-① A0FD202N-①
ø 40mm Mushroom Head		1NO 1NC 1NO-1NC 2NO 2NC	ABD310N-① ABD301N-① ABD311N-① ABD320N-① ABD302N-①	AOD310N-① AOD301N-① AOD311N-① AOD320N-① AOD302N-①
ø 40mm Mushroom Head with Full Shroud	===	1NO 1NC 1NO-1NC 2NO 2NC	ABGD310N-① ABGD301N-① ABGD311N-① ABGD320N-① ABGD302N-① ABGD302N-①	AOGD310N-① AOGD301N-① AOGD311N-① AOGD320N-① AOGD302N-①
ø 65mm Jumbo Mushroom Head		1NO 1NC 1NO-1NC 2NO 2NC	ABD410N-① ABD401N-① ABD411N-① ABD420N-① ABD402N-①	A0D410N-① A0D401N-① A0D411N-① A0D420N-① A0D402N-①
ø 65mm Jumbo Mushroom Head with Shallow Shroud		1NO 1NC 1NO-1NC 2NO 2NC	ABGD410N-① ABGD401N-① ABGD411N-① ABGD420N-① ABGD402N-① ABGD402N-①	A0GD410N-① A0GD401N-① A0GD411N-① A0GD420N-① A0GD402N-①
ø 65mm Jumbo Mushroom Head With Deep Shroud		1NO 1NC 1NO-1NC 2NO 2NC	ABFD410N-① ABFD401N-① ABFD411N-① ABFD420N-① ABFD402N-①	A0FD410N-① A0FD401N-① A0FD411N-① A0FD420N-① A0FD402N-①

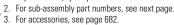
① Button Color Codes

Color	Code
Black	В
Green	G
Red	R
Blue	S
Yellow	Υ
White	W



- 1. 65mm Jumbo mushroom not available in white.
- 2. Neoprene boot is not available in blue or white.

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

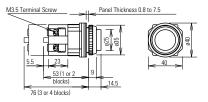


4. †Neoprene boot available only in Black (B), Green (G), Red (R) and Yellow (Y).

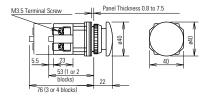
Dimensions (mm)

Switches & Pilot Devices

Pushbutton



Mushroom Pushbutton w/Full Shroud



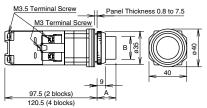
Pushbuttons Dimension A Dimension B Flush 0.351" (9mm) ø 0.975" (25mm) Extended 0.566" (14.5mm) ø 0.975"(25mm) Extended w/Full Shroud ø 1.11" (28.5mm) 0.663" (17mm) Mushroom 0.858" (22mm) ø 1.56" (40mm) Mushroom w/Full Shroud 0.936" (24mm) ø 1.87" (48mm) Jumbo Mushroom 1.13" (29mm) ø 2.54" (65mm) ø 1.56" (40mm) Mushroom, Pushlock Turn *0.975" (25mm) ø 1.56" (40mm) Reset and Push-Pull **0.975" (25mm) ø 1.56" (40mm) ø 1.56" (40mm)



- *Dimension when operator is in reset position.
- **Dimension when operator is in pull position.

Illuminated Pushbuttons



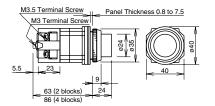


Illuminated Pushbuttons	Dimension A	Dimension B
Flush w/Full Shroud	0.975" (25mm) 0.995" (25.5mm)	ø 0.936" (24mm) ø 0.936" (24mm)
Extended w/Full Shroud	0.741" (19mm) 0.761" (19.5mm)	ø 0.936" (24mm) ø 0.936" (24mm)
ø 1.56" (40mm) Mushroom Pushlock Turn Reset, Push-Pull	*0.975" (25mm) **0.975" (25mm)	ø 1.56" (40mm) ø 1.56" (40mm)

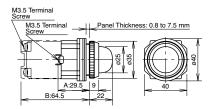


- *Dimension when operator is in reset position.
- **Dimension when operator is in pull position.

Full Voltage

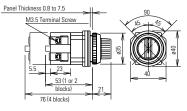


Pilot Lights

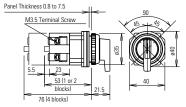


Selector Switches

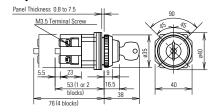
Knob



Lever



Key



Illuminated Knob

