

**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.



Switches & Pilot Devices

Signaling Lights

Relays & Sockets

Timers

Contactors

Terminal Blocks

Circuit Breakers

**Specifications**

Conforming to Standards	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14
Approvals	<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 +70°C (without freezing)
Vibration Resistance	10 to 55Hz, 98m/sec <sup>2</sup> (10g) conforming to IEC6068-2-6
Shock Resistance	980m/sec <sup>2</sup> (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

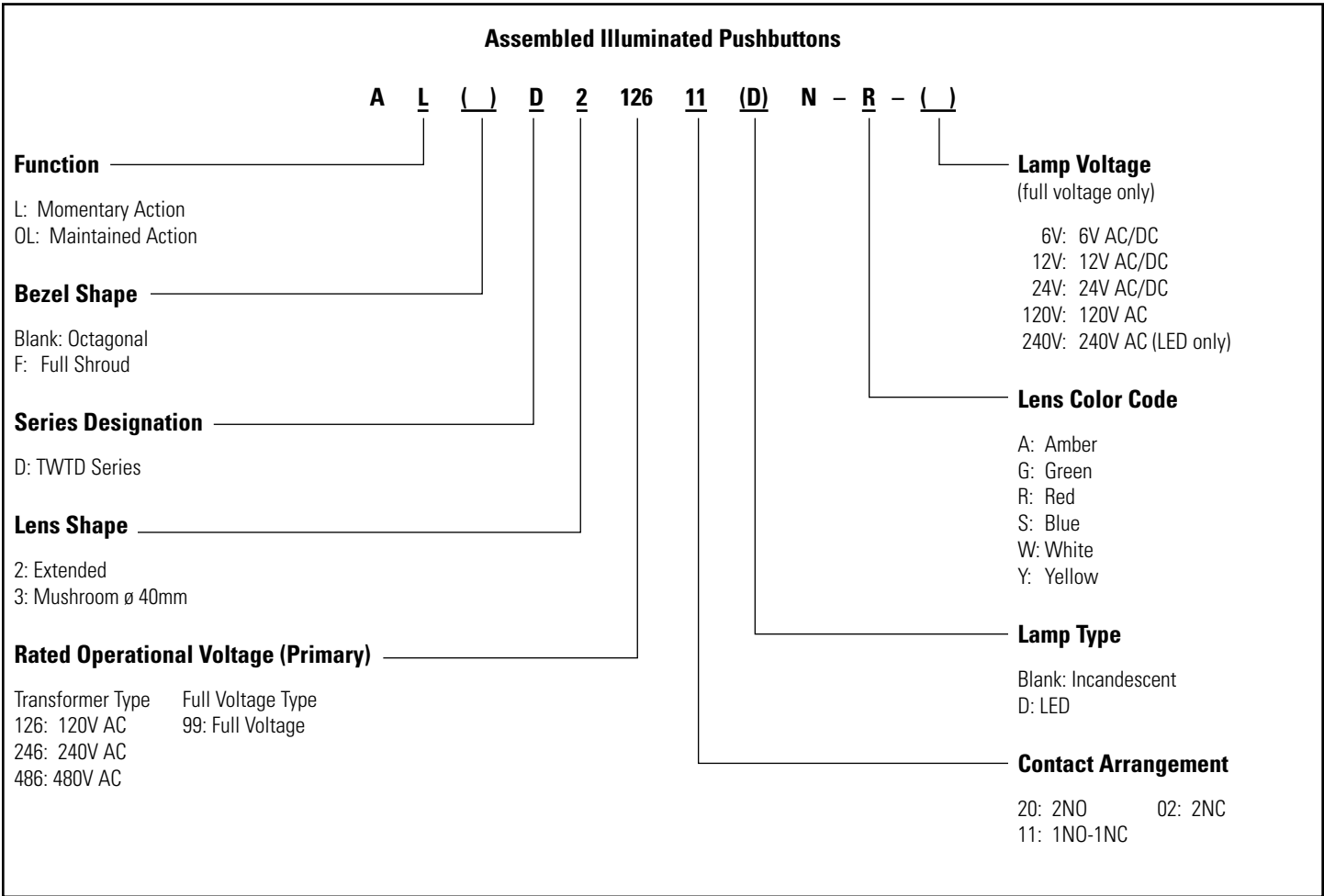
**Mechanical-Electrical Specifications**

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 50mΩ 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	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	—

**Illuminated Pushbuttons (Assembled)**



1. Use only when interpreting part numbers. Do not use for developing part numbers.  
2. All transformers step down to 6V.

**Illuminated Pushbuttons (Assembled)**

**Illuminated Pushbuttons**

Style	Contacts	Part Number	
		Momentary	Maintained
Extended Lens 	Full Voltage	1NO-1NC 2NO 2NC	ALD29911ⓈN-Ⓜ-Ⓟ ALD29920ⓈN-Ⓜ-Ⓟ ALD29902ⓈN-Ⓜ-Ⓟ AOLD29911ⓈN-Ⓜ-Ⓟ AOLD29920ⓈN-Ⓜ-Ⓟ AOLD29902ⓈN-Ⓜ-Ⓟ
	Transformer	1NO-1NC 2NO 2NC	ALD2 Ⓞ 11ⓈN-Ⓜ ALD2 Ⓞ 20ⓈN-Ⓜ ALD2 Ⓞ 02ⓈN-Ⓜ AOLD2 Ⓞ 11ⓈN-Ⓜ AOLD2 Ⓞ 20ⓈN-Ⓜ AOLD2 Ⓞ 02ⓈN-Ⓜ
Extended Lens with Full Shroud 	Full Voltage	1NO-1NC 2NO 2NC	ALFD29911ⓈN-Ⓜ-Ⓟ ALFD29920ⓈN-Ⓜ-Ⓟ ALFD29902ⓈN-Ⓜ-Ⓟ AOLFD29911ⓈN-Ⓜ-Ⓟ AOLFD29920ⓈN-Ⓜ-Ⓟ AOLFD29902ⓈN-Ⓜ-Ⓟ
	Transformer	1NO-1NC 2NO 2NC	ALFD2 Ⓞ 11ⓈN-Ⓜ ALFD2 Ⓞ 20ⓈN-Ⓜ ALFD2 Ⓞ 02ⓈN-Ⓜ AOLFD2 Ⓞ 11ⓈN-Ⓜ AOLFD2 Ⓞ 20ⓈN-Ⓜ AOLFD2 Ⓞ 02ⓈN-Ⓜ
ø 40mm Mushroom Lens 	Full Voltage	1NO-1NC 2NO 2NC	ALD39911ⓈN-Ⓜ-Ⓟ ALD39920ⓈN-Ⓜ-Ⓟ ALD39902ⓈN-Ⓜ-Ⓟ AOLD39911ⓈN-Ⓜ-Ⓟ AOLD39920ⓈN-Ⓜ-Ⓟ AOLD39902ⓈN-Ⓜ-Ⓟ
	Transformer	1NO-1NC 2NO 2NC	ALD3 Ⓞ 11ⓈN-Ⓜ ALD3 Ⓞ 20ⓈN-Ⓜ ALD3 Ⓞ 02ⓈN-Ⓜ AOLD3 Ⓞ 11ⓈN-Ⓜ AOLD3 Ⓞ 20ⓈN-Ⓜ AOLD3 Ⓞ 02ⓈN-Ⓜ

**② Lens Color Codes**


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

**③ Full Voltage Codes**

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

**④ Transformer Voltage Codes**

Voltage	Code
120VAC	126
240VAC	246
480VAC	486

 6V secondary voltage (uses 6V lamp).

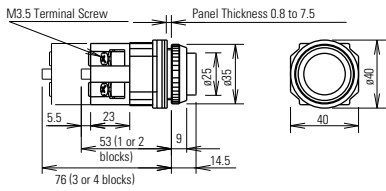
**⑤ Lamp Type Codes**

Lamp	Code
Incandescent	Blank
LED	D

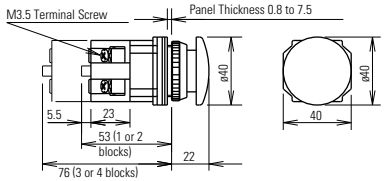
- 1. In place of ②, specify the Lens Color Code.
- 2. In place of ③, specify the Full Voltage Code (lamp voltage).
- 3. In place of ④, specify the Transformer Voltage Code.
- 4. In place of ⑤, specify the Lamp Type Code.
- 5. Light is independent of switch position.
- 6. Yellow pushbutton comes with white LED only.

Dimensions (mm)

Pushbutton



Mushroom Pushbutton w/Full Shroud



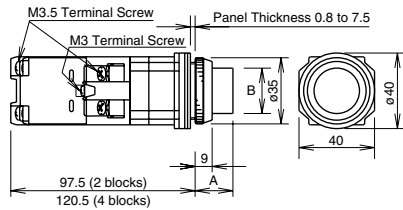
Pushbuttons	Dimension A	Dimension B
Flush	0.351" (9mm)	ø 0.975" (25mm)
Extended	0.566" (14.5mm)	ø 0.975" (25mm)
Extended w/Full Shroud	0.663" (17mm)	ø 1.11" (28.5mm)
Mushroom	0.858" (22mm)	ø 1.56" (40mm)
Mushroom w/Full Shroud	0.936" (24mm)	ø 1.87" (48mm)
Jumbo Mushroom	1.13" (29mm)	ø 2.54" (65mm)
Mushroom,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



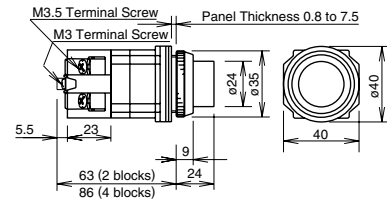
\*Dimension when operator is in reset position.  
\*\*Dimension when operator is in pull position.

Illuminated Pushbuttons

w/Transformer

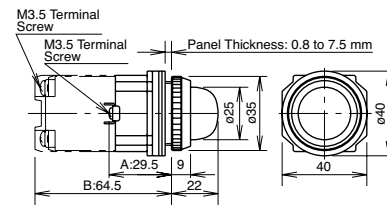


Full Voltage



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)

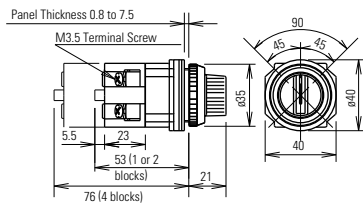
Pilot Lights



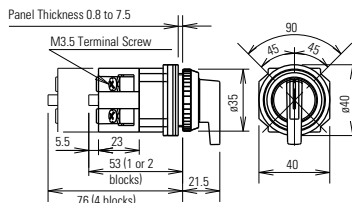
\*Dimension when operator is in reset position.  
\*\*Dimension when operator is in pull position.

Selector Switches

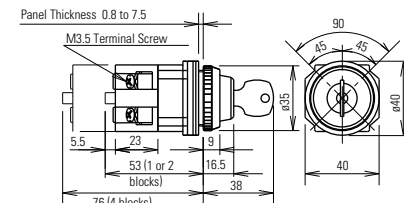
Knob



Lever



Key



Illuminated Knob

