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Switches & Pilot Devices



TWTD Series: Heavy duty switches built to last

Key features include:

- *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*
- *NEMA 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 TWTD's 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.



UL Listed
File No. E70646







SA® File No. LR48366



D Ref. No. 117617MC



Certificate No.
2005010305145658

Specifications	Conforming to Standards	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14
	Approvals	  UL Listed File No. E70646 File No. LR48366   Ref. No. 117617MC
	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) NEMA 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
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 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: 6, 12, 24V: 20mA / 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	—	

Non-Illuminated Pushbuttons (Assembled)

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Assembled Pushbuttons

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<p>Function _____</p> <p>B: Momentary O: Maintained V: Pushlock Turn Reset Y: Push-Pull</p> <p>Bezel Shape _____</p> <p>Blank: Octagonal F: Full Shroud G: Mushroom Shroud P: Neoprene Boot</p> <p>Series Designation _____</p> <p>D: TWTD Series</p>	<p>Button Color</p> <p>B: Black G: Green R: Red S: Blue W: White Y: Yellow</p> <p>Contact Arrangement</p> <p>10: 1NO 01: 1NC 20: 2NO 02: 2NC 11: 1NO-1NC 22: 2NO-2NC</p> <p>Button Shape</p> <p>1: Flush 2: Extended 3: Mushroom Ø 40mm 4: Jumbo Mushroom Ø 65mm</p>
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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) con't

Part Numbers: Non-Illuminated Pushbuttons

Style	Contacts	Part Number	
		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 ABD202N-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	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 ABFD202N-①	AOFD210N-① AOFD201N-① AOFD211N-① AOFD220N-① AOFD202N-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	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	AOD410N-① AOD401N-① AOD411N-① AOD420N-① AOD402N-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	AOGD410N-① AOGD401N-① AOGD411N-① AOGD420N-① AOGD402N-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	AOFD410N-① AOFD401N-① AOFD411N-① AOFD420N-① AOFD402N-①



1. In place of ①, specify the Button Color Code.
2. For sub-assembly part numbers, see next page.
3. For accessories, see page A4-188.
4. † Neoprene boot available only in Black (B), Green (G), Red (R) and Yellow (Y).

① Button Color Code

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



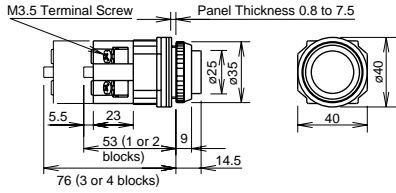
1. 65mm Jumbo mushroom not available in white.
2. Neoprene boot is not available in blue or white.

Dimensions — TWTD Series

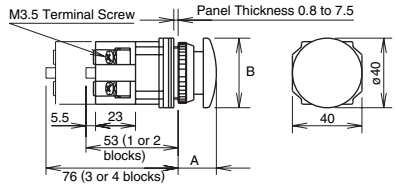
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Pushbutton



Mushroom Pushbutton w/Full Shroud

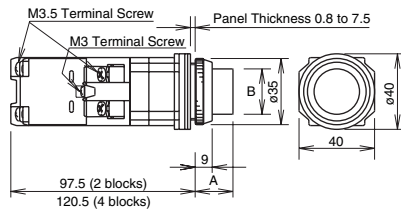


Pushbuttons	Dimension A	Dimension B
Flush	0.351" (9mm)	Ø 0.975" (25mm)
Extended	0.566" (14.5mm)	Ø 0.975" (25mm)
Extended w/Full Shroud	0.663" (17mm)	Ø 1.11" (28.5mm)
Mushroom	0.858" (22mm)	Ø 1.56" (40mm)
Mushroom w/Full Shroud	0.936" (24mm)	Ø 1.87" (48mm)
Jumbo Mushroom	1.13" (29mm)	Ø 2.54" (65mm)
Mushroom,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

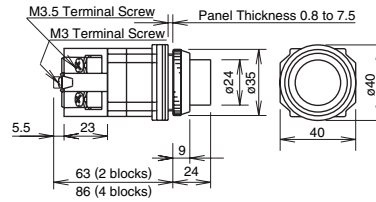
Note: *Dimension when operator is in reset position.
**Dimension when operator is in pull position.

Illuminated Pushbuttons

w/AC Adapter w/Transformer



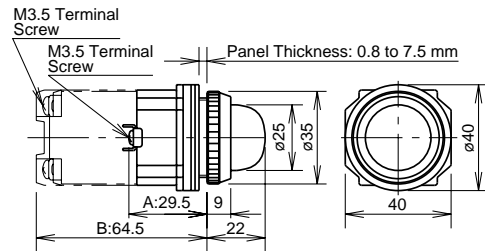
Full Voltage



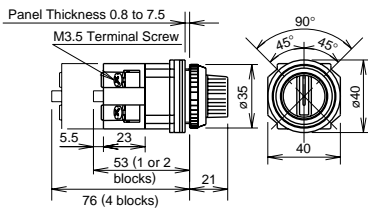
Illuminated Pushbuttons	Dimension A	Dimension B
Flush w/Full Shroud	0.975" (25mm) 0.995" (25.5mm)	Ø 0.936" (24mm) Ø 0.936" (24mm)
Extended w/Full Shroud	0.741" (19mm) 0.761" (19.5mm)	Ø 0.936" (24mm) Ø 0.936" (24mm)
Ø 1.56" (40mm) Mushroom Pushlock Turn Reset, Push-Pull	*0.975" (25mm) **0.975" (25mm)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

Note: *Dimension when operator is in reset position.
**Dimension when operator is in pull position.

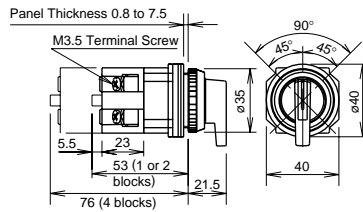
Pilot Lights



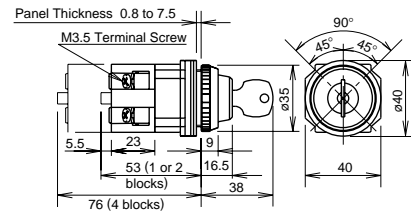
Selector Switches Knob



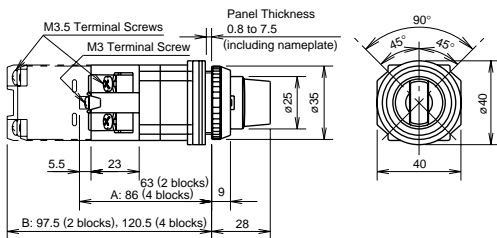
Lever



Key



Illuminated Knob



All measurements in mm.