

Industrial Automation Catalog Section - U906





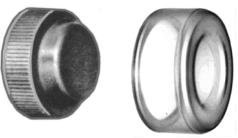

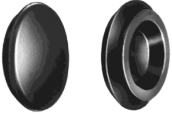




Switches & Pilot Devices

Switches & Pilot Devices

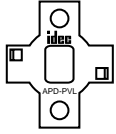
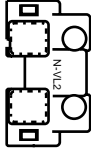
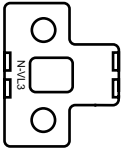
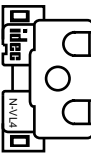
TWTD Series Oiltight Switches & Pilot Devices

- Accessories
- Nameplates
- Dimensions
- Instructions

Accessories — TWTD Series

Locking Ring Wrench		Wrench used to tighten round bezels from the front of the panel. Units with round bezels, will not work with octagonal bezels.	OR-12	
Lamp Removal Tool		Tool used to install LED's and incandescent lamps.	OR-55	
Metal Bezel		Replacement locking ring/bezel	Standard octagonal units (chrome-pl.).	OG-81
			Extended, non-illuminated (chrome-pl.).	OG-82
			Extended, illuminated (chrome-pl.).	OG-83L
			Jumbo Mushroom Shallow Shroud	ABN4G
			Jumbo Mushroom Deep Shroud	ABN4F
Plastic Bezel		Black plastic locking ring/bezel	OGP-11B	
Boot/Cover		Used to cover and protect push-buttons.	In place of ①, specify neoprene Rubber Boot color: B (black), G (green), R (red), Y (yellow)	OC-11 ①
			Flush units (clear plastic -40° to +60°C).	OC-121
			Extended units (clear plastic -40° to +60°C).	OC-122
Anti-Rotation Ring		Plastic washer For nameplates or panels that should not be scratched..		OGL-D1T
		Thrust washer/Anti-rotation ring for use with notched panel cutout..		OGL-D1S
Mounting Hole Plug		Plugs used to fill unused 30mm panel cutouts.	Plastic with locking nut attached.	OBP-11
			Metal with locking nut attached	OB-11
			Black rubber (-5° to +60°C)	OB-13
Terminal Tab Adaptor		Tab #250 17/64" x 3/64" (6.35mm x 0.8mm): Single tab		TW-FA1
		Tab #110 1/8" x 3/64" (2.8mm x 0.8mm): Double tab		TW-FA2
		Tab #187 3/16" x 1/32" (4.75mm x 0.5mm): Single tab		TW-FA3
Full Voltage Adaptor		Used on all full voltage illuminated units. Two required per unit. (M3.5 screw and saddle)	APD-F	
Lock Out Adaptor		Used to provide lockout protection for TWTD pushbuttons and knob selectors. Ø 1-13/64" (30mm)	OL-KL1	
Replacement Keys		Pair of Keys (#0)	TW-SK	

Accessories con't
Part Numbers: Fingersafe Covers for TWTD Series

Appearance	Description	Used with	Part Number
	Fingersafe terminal cover, adds 3mm to overall depth	APO LED and incandescent full voltage pilot lights	APD-PVL
	Fingersafe terminal cover, adds 3mm to overall depth	Illuminated pushbutton switches: ALD, AOLD, ALGD, ALFD, AOLFD, and AVLD	N-VL2
	Fingersafe terminal cover, adds 1.5mm to overall depth	Transformer/AC Adaptor pilot lights and illuminated units	N-VL3
	Fingersafe terminal cover, adds 4 mm to depth	Full voltage illuminated pushbuttons	N-VL4



Dimensions on page A-188.

Nameplates — TWTD Series

Part Numbers: Nameplates

		NALD	NAKD	NAQD
Dimensions				
Description		Part Number	Part Number	Part Number
Namplate (blank)	Black	NALD-0B	NAKD-B	NAQD-B
	Red	NALD-0R	NAKD-R	NAQD-R
Namplate (engraved)		NALD-①	NAKD-①	NAQD-①



- Nameplates are made of 0.031" aluminum. Lettering is white letters engraved on black background.
- In place of ①, insert either the standard legend code from table below or custom engraving delimited by " ".

* Standard Legend Codes

Pushbuttons				Pushbuttons/Selector Switches				Selector Switches	
Legend	Code	Legend	Code	Legend	Code	Legend	Code	Legend	Code
AUTO	101	OPEN	116	AUTO-MAN	201			AUTO-MAN-OFF	301
CLOSE	102	OUT	117	CLOSE-OPEN	202			AUTO-OFF-MAN	302
DOWN	103	RAISE	118	DOWN-UP	203			CLOSE-OFF-OPEN	303
*EMERG.STOP	104	RESET	119	FAST-SLOW	204			DOWN-OFF-SLOW	304
FAST	105	REVERSE	120	FOR-REV	205	REV-FOR	216	FAST-OFF-SLOW	305
FORWARD	106	RUN	121	HAND-AUTO	206	RUN-JOG	217	FOR-OFF-REV	306
HAND	107	SLOW	122	HIGH-LOW	207	RUN-SAFE	218	LEFT-OFF-RIGHT	307
HIGH	108	START	123	JOG-RUN	208	SAFE-RUN	219	LOWER-OFF-RAISE	308
IN	109	*STOP	124	LEFT-RIGHT	209	SLOW-FAST	220	OFF-MAN-AUTO	309
INCH	110	STOP	125	LOWER-RAISE	210	START-STOP	221	OFF-SLOW-FAST	310
JOG	111	TEST	126	MAN-AUTO	211	STOP-START	222	OFF-1-2	311
LOW	112	UP	127	OFF-ON	212	UP-DOWN	223	OPEN-OFF-CLOSE	312
LOWER	113	I (Int'l On)	150	ON-OFF	213			SLOW-OFF-FAST	313
OFF	114	O (Int'l Off)	151	OPEN-CLOSE	214			SUMMER-OFF-WINTER	314
ON	115	EMO	152	RAISE-LOWER	215			UP-OFF-DOWN	315
								1-OFF-2	316
								HAND-OFF-AUTO	317

- *Available in Red as standard legend code 104 and 124. To order engraved nameplate and codes, add legend code to nameplate part number. Character height based on the number of characters, space and size of nameplate. Standard character size is 3/16".
- Nameplates with standard legends are the same list price as blank nameplates. Special engravings, additional cost.

To specify engraving instructions, use the Nameplate order form on next page.

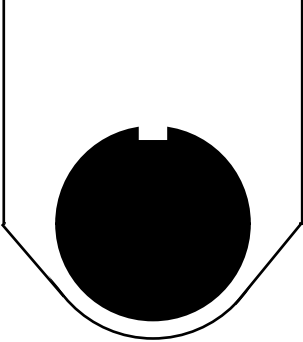
Nameplates Order Form — TWTD Series

Copy this order form and use it to specify Letter Height, Custom Engravings, Location of Engraving on Nameplate, and Quantity Desired. To insure engraving accuracy, fax it to your IDEC representative.

Your Company Name: _____
 Your Name: _____
 Telephone: _____

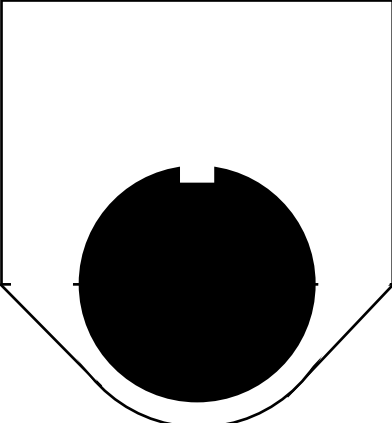
IDEC Representative(if known): _____
 PO number (if known): _____

NALD Nameplate

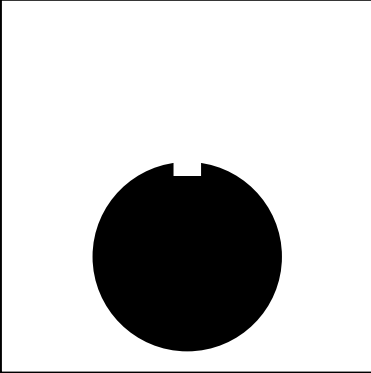
<p>Step 1. Specify letter height and custom engraving. Maximum of 2 lines of engraving.</p> <p>1/8" SAMPLE LETTERING Size (13 characters maximum per line)</p> <p>----- -----</p> <hr/> <p>7/64" SAMPLE LETTERING (13 characters maximum)</p> <p>----- -----</p>	<p>Step 2. Specify location of engraving on NVAL namePlate.</p> 	<p>Step 3. Specify Quantity. Enter the number of nameplates desired with the specifications defined to the left.</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>
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A

NAKD Nameplate

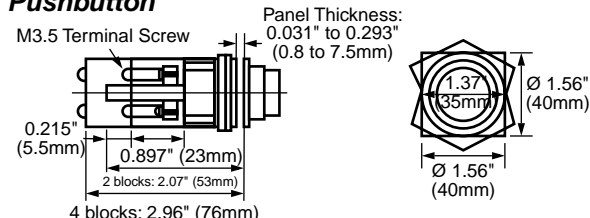
<p>Step 1. Specify letter height and custom engraving. Maximum of 4 lines of engraving.</p> <p>1/8" SAMPLE LETTERING Size (16 characters maximum per line)</p> <p>----- ----- ----- -----</p>	<p>Step 2. Specify location of engraving on NWAQL namePlate.</p> 	<p>Step 3. Specify Quantity. Enter the number of nameplates desired with the specifications defined to the left.</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>
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NAQD Nameplate

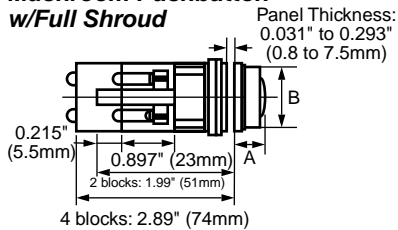
<p>Step 1. Specify letter height and custom engraving. Maximum of 2 lines of engraving.</p> <p>1/8" SAMPLE LETTERING Size (15 characters maximum)</p> <p>----- -----</p> <hr/> <p>7/64" SAMPLE LETTERING (16 characters maximum)</p> <p>----- -----</p>	<p>Step 2. Specify location of engraving on NAQD nameplate.</p> 	<p>Step 3. Specify Quantity. Enter the number of nameplates desired with the specifications defined to the left.</p> <div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;"></div>
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Dimensions — TWTD Series

Pushbutton



Mushroom Pushbutton w/Full Shroud



Pushbuttons

Flush Extended w/Full Shroud

	Dimension A	Dimension B
Flush Extended w/Full Shroud	0.351" (9mm) 0.566" (14.5mm) 0.663" (17mm)	Ø 0.975" (25mm) Ø 0.975" (25mm) Ø 1.11" (28.5mm)

Mushroom w/Full Shroud Jumbo Mushroom Ø 1.56" (40mm)

Mushroom w/Full Shroud Jumbo Mushroom Ø 1.56" (40mm)	0.858" (22mm) 0.936" (24mm) 1.13" (29mm)	Ø 1.56" (40mm) Ø 1.87" (48mm) Ø 2.54" (65mm)
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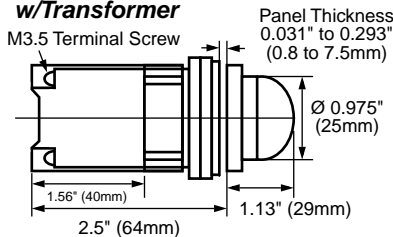
Mushroom, Pushlock Turn Reset, Push-Pull Ø 1.56" (40mm)

Mushroom, Pushlock Turn Reset, Push-Pull Ø 1.56" (40mm)	*0.975" (25mm) **0.975" (25mm)	Ø 1.56" (40mm) Ø 1.56" (40mm)
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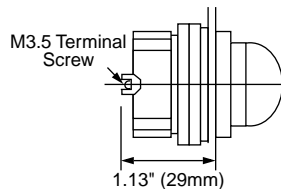
Note: *Dimension when operator is in reset position.
**Dimension when operator is in pull position.

Pilot Lights

w/AC Adapter w/Transformer



Full Voltage



Illuminated Pushbuttons

Flush w/Full Shroud

	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

Extended w/Full Shroud	0.741" (19mm) 0.761" (19.5mm)	Ø 0.936" (24mm) Ø 0.936" (24mm)
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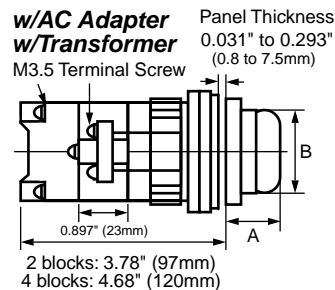
Ø 1.56" (40mm) Mushroom Pushlock Turn Reset, Push-Pull

Ø 1.56" (40mm) Mushroom Pushlock Turn Reset, Push-Pull	*0.975" (25mm) **0.975" (25mm)	Ø 1.56" (40mm) Ø 1.56" (40mm)
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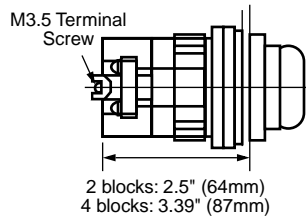
Note: *Dimension when operator is in reset position.
**Dimension when operator is in pull position.

Illuminated Pushbuttons

w/AC Adapter w/Transformer

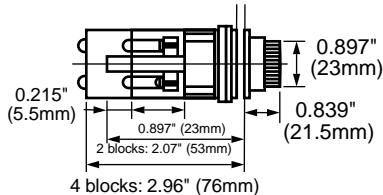


Full Voltage

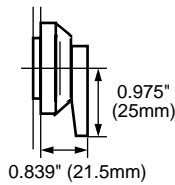


Selector Switches

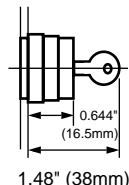
Knob



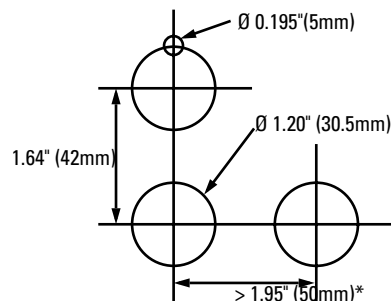
Lever



Key

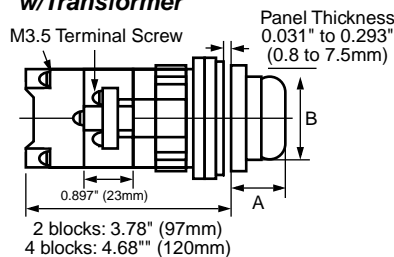


Panel Cut-Out

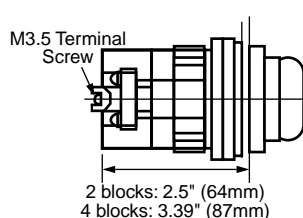


Illuminated Knob

w/AC Adapter w/Transformer



Full Voltage

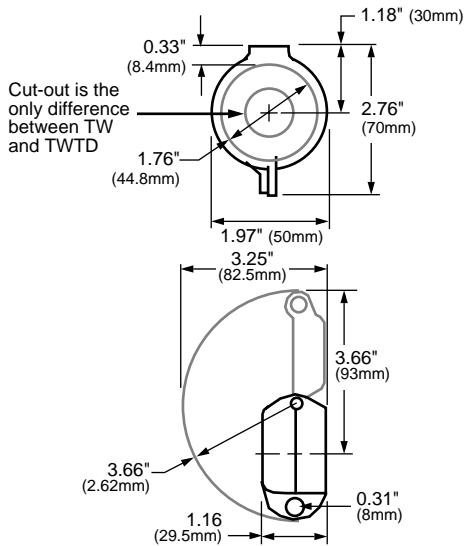


- * Jumbo Mushroom < 2.61" (66mm)
- Minimum mounting centers are applicable to switches with one stack of contact blocks. When mounting two stacks of contact blocks, minimum centers should allow for access to wiring.
- The Ø 0.195" (Ø 5mm) recess is necessary when either the nameplate or anti-rotation ring is used.

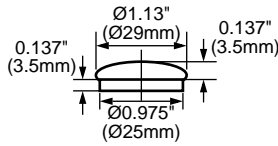
Dimensions — TWTD Series con't

Accessory Dimensions

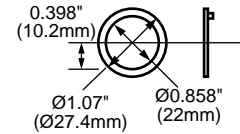
**OL-KL1
Lock-Out Adaptor**



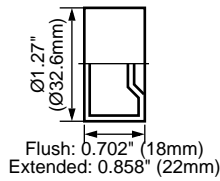
**OB-31
Mounting Hole Rubber Plug**



**OGL-31
Anti-Rotation Ring**

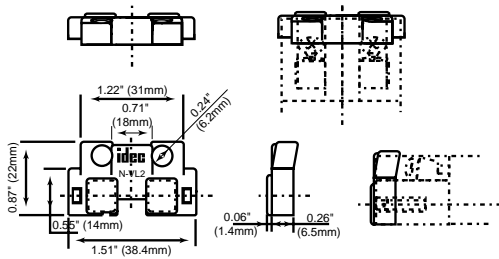


**OC-31
Pushbutton Clear Boot**

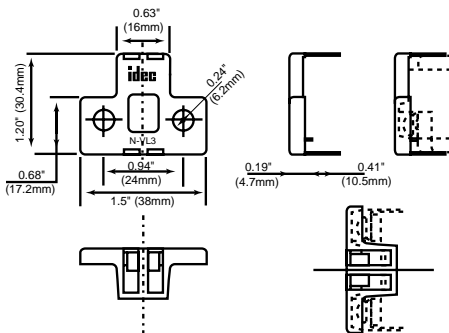


Finger-Safe Cover

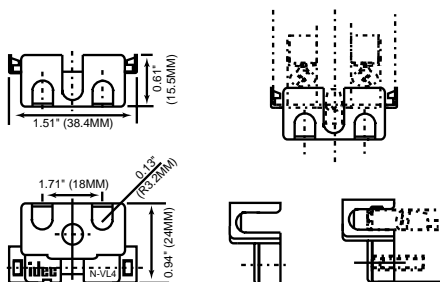
N-VL2



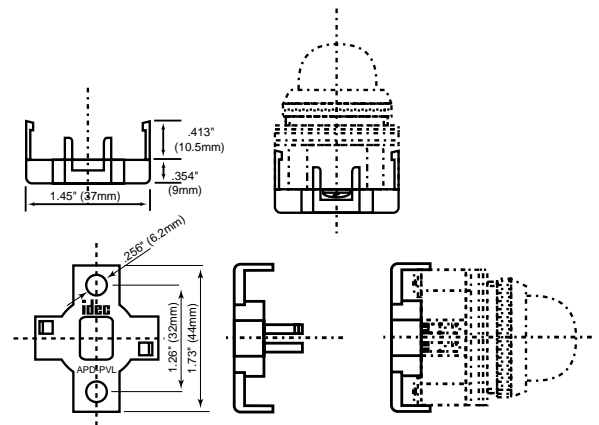
N-VL3



N-VL4



APD-PVL



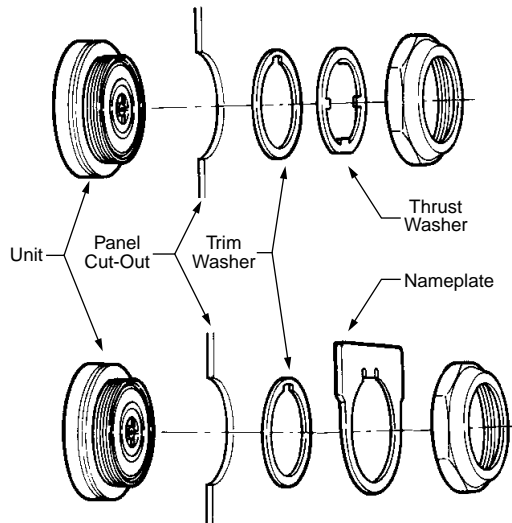
Instructions — TWTD Series

Adjustment for Panel Thickness

Each unit is shipped with several waterproof gaskets which are 0.06" (1.5mm) and 0.12" (3mm) thick. Combine the gaskets for a dimension approximately equal to panel thickness and install between the bezel and the body of the unit.

A

A trim washer must be used with a thrust washer or a nameplate to prevent the control unit from rotating in the mounting hole. When using anti-rotation rings (trim washer with thrust washer or nameplate), install as shown below.



Selector Switches

The operator shaft of each unit has a recess to identify in which direction to install the handle. Align the handle with the recess. Press color insert (TW-HC1) into the Standard Operating Positions.

Standard operation positions

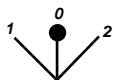
2-Position, 90°



3-Position, 45°

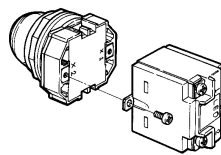


Non-Illuminated 3-Position Operators



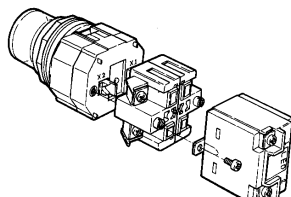
Installation of TWTD Series Units

TWTD Pilot Lights



TWTD Illuminated Pushbuttons,
TWTD Selector Switches
(AC Adaptor or Full Voltage)

Terminal X1 =
Positive
Terminal X2 =
Negative



Installation of LED Illuminated Units—AC adaptor units are recommended for use in areas subjected to inductive noise. When using full voltage types, install a protection diode as shown below. Use diode with AC power supply to protect against reverse polarity. Use with DC power supply to protect against surges and noise.

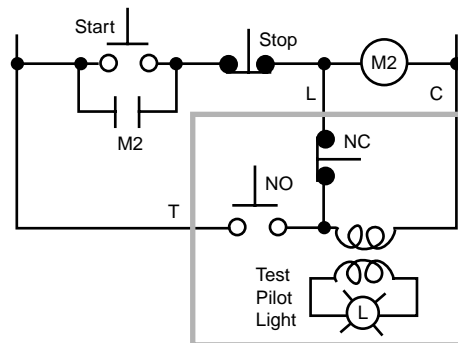


Make sure that LED illuminated units are installed with correct polarity, as indicated at the terminals.

Application Example For Push-To-Test Pilot Light

A typical application of illuminated pushbuttons is a push-to-test pilot light which can be used to check the lamp/LED circuit.

Transformer/AC-Adaptor Circuit



Full Voltage Circuit

