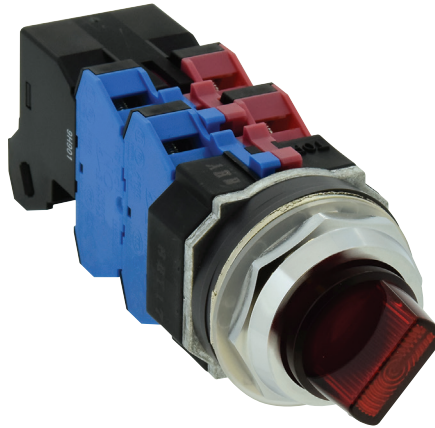


Illuminated Selector Switches (Assembled)



Assembled Illuminated Selector Switches

A SL D 2 (2) 22 11 DN U - 111 - R

Function

SL: Illuminated Selector Switch

Series Designation

D: TWND series

Number of Positions

2: 2-Position
3: 3-Position

Spring Return Action

Blank: Maintained
1: Spring return from Right
2: Spring return from Left
3: Two-Way spring return from Left and Right

Rated Operational Voltage (Primary)

Transformer Type	Full Voltage Type
136: 120V AC	66: 6VAC/DC
256: 240V AC	11: 12VAC/DC
486: 480V AC	22: 24VAC/DC
	QH2: 120VAC/DC
	QM4: 240VAC

Contact Arrangement Code

20: 2NO 02: 2NC
40: 4NO 04: 4NC
11: 1NO-1NC 22: 2NO-2NC

Lens Color Code

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

Circuit Code Number

See Circuit # column of Selector Switch Contact Arrangement Charts on page 820.

D: LED Lamp



Use only when interpreting part numbers. Do not use for developing part numbers.

Illuminated Selector Switches (Assembled)

Illuminated 2-Position Selector Switches

Style					Part Number		
Contact	Mounting	Operator Position		Lamp Circuit Type	Maintained	Spring Return from Right	Spring Return from Left
		L	R				
1NO	1	O	X	Transformer Full Voltage	ASLD2 ④11DNU②-104	ASLD21 ④11DNU②	ASLD22 ④11DNU②
1NC	2	X	O	Transformer Full Voltage	ASLD2③11DNU②	ASLD21③11DNU②	ASLD22③11DNU②
2NO	1	O	X	Transformer Full Voltage	ASLD2 ④20DNU②	ASLD21 ④20DNU②	ASLD22 ④20DNU②
	2	O	X	Transformer Full Voltage	ASLD2③20DNU②	ASLD21③20DNU②	ASLD22③20DNU②
2NC	1	X	O	Transformer Full Voltage	ASLD2 ④02DNU-104-②	ASLD21 ④02DNU-104-②	ASLD22 ④02DNU-104-②
	2	X	O	Transformer Full Voltage	ASLD2③02DNU-104-②	ASLD21③02DNU-104-②	ASLD22③02DNU-104-②
2NO	1	O	X	Transformer Full Voltage	ASLD2 ④22DNU②	ASLD21 ④22DNU②	ASLD22 ④22DNU②
2NC	2	X	O	Transformer Full Voltage	ASLD2③22DNU②	ASLD21③22DNU②	ASLD22③22DNU②
	3	O	X	Transformer Full Voltage			
	4	X	O	Transformer Full Voltage			
2NO	1	O	X	Transformer Full Voltage	ASLD2 ④22DNU-111-②	ASLD21 ④22DNU-111-②	ASLD22 ④22DNU-111-②
2NC	2	O	X	Transformer Full Voltage	ASLD2③22DNU-111-②	ASLD21③22DNU-111-②	ASLD22③22DNU-111-②
	3	X	O	Transformer Full Voltage			
	4	X	O	Transformer Full Voltage			

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	66
12V AC/DC	11
24V AC/DC	22
120V AC	QH2
240V AC	QM4

Illuminated 3-Position Selector Switches, Maintained and Spring Return

Style					Part Number			
Contact	Mounting	Operator Position			Lamp Circuit Type	Maintained	Spring Return From Right	Spring Return from Left
		L	C	R				
2NO	1	X	O	O	Transformer Full Voltage	ASLD3 ④ 20DNU②	ASLD31 ④ 20DNU②	ASLD32 ④ 20DNU②
	2	O	O	X	Transformer Full Voltage	ASLD3③20DNU②	ASLD31③20DNU②	ASLD32③20DNU②
2NC	1	O	X	X	Transformer Full Voltage	ASLD3 ④ 02DNU②	ASLD31 ④ 02DNU②	ASLD32 ④ 02DNU②
	2	X	X	O	Transformer Full Voltage	ASLD3③02DNU②	ASLD31③02DNU②	ASLD32③02DNU②
2NO	1	X	O	O	Transformer Full Voltage	ASLD3 ④ 22DNU②	ASLD31 ④ 22DNU②	ASLD32 ④ 22DNU②
2NC	2	O	O	X	Transformer Full Voltage	ASLD3③22DNU②	ASLD31③22DNU②	ASLD32③22DNU②
	3	O	X	X	Transformer Full Voltage			
	4	X	X	O	Transformer Full Voltage			
2NO	1	X	O	X	Transformer Full Voltage	ASLD3 ④ 22DNU-309-②	ASLD31 ④ 22DNU-309-②	ASLD32 ④ 22DNU-309-②
2NC	2	X	X	O	Transformer Full Voltage	ASLD3③22DNU-309-②	ASLD31③22DNU-309-②	ASLD32③22DNU-309-②
	3	O	X	O	Transformer Full Voltage			
	4	O	O	X	Transformer Full Voltage			
2NO	1	O	X	O	Transformer Full Voltage	ASLD3 ④ 22DNU-310-②	ASLD31 ④ 22DNU-310-②	ASLD32 ④ 22DNU-310-②
2NC	2	O	O	X	Transformer Full Voltage	ASLD3③22DNU-310-②	ASLD31③22DNU-310-②	ASLD32③22DNU-310-②
	3	O	X	O	Transformer Full Voltage			
	4	O	O	X	Transformer Full Voltage			
4NO	1	X	O	O	Transformer Full Voltage	ASLD3 ④ 40DNU②	ASLD31 ④ 40DNU②	ASLD32 ④ 40DNU②
	2	O	O	X	Transformer Full Voltage	ASLD3③40DNU②	ASLD31③40DNU②	ASLD32③40DNU②
	3	X	O	O	Transformer Full Voltage			
	4	O	O	X	Transformer Full Voltage			
4NC	1	O	X	X	Transformer Full Voltage	ASLD3 ④ 04DNU②	ASLD31 ④ 04DNU②	ASLD32 ④ 04DNU②
	2	X	X	O	Transformer Full Voltage	ASLD3③04DNU②	ASLD31③04DNU②	ASLD32③04DNU②
	3	O	X	X	Transformer Full Voltage			
	4	X	X	O	Transformer Full Voltage			

④ Transformer Voltage Codes

Voltage	Code
120VAC	136
240VAC	256
480VAC	486



Transformers step down to 6V (use 6V LED).



- In place of ②, specify the Lens/LED Color Code, in place of ③, specify the Full Voltage (LED voltage) Code, in place of ④, specify the Transformer Voltage Code.
- The truth table indicates the operating position of contact block when the operator is switched to that position.
X = On (Closed Contacts) O = Off (Open Contacts)
X—X = Overlapping Contacts: Remain on (closed contacts) when switch is moved between these positions
- Yellow selector switch comes with white LED.

Illuminated Selector Switches (Sub-Assembled)

Transformer*	+	Contact Block	+	Operator	+	LED	+	Lens	=	Complete Part
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*Not required for full voltage units.

Operators

Style	Position	Description	Part Number
	2	Maintained	ASLD0201T8
	3	Maintained, Cam 1	ASLD0302T8
		Maintained, Cam 2	ASLD0306T8
	2	Spring return from right	ASLD0213T8
		Spring return from left	ASLD0224T8
	3	Spring return from right, Cam 1	ASLD0314T8
		Spring return from right, Cam 2	ASLD0310T8
		Spring return from left, Cam 1	ASLD0323T8
		Spring return from left, Cam 2	ASLD0328T8
		Spring return from left/right, Cam 1	ASLD0335T8
		Spring return from left/right, Cam 2	ASLD0339T8

Lenses

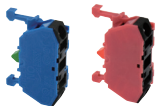
Style	Part Number
Knob	ASLNHU-⊙-K

Lamps

Style	Voltage	Part Number
	6V AC/DC	LSRD-6
	12V AC/DC	LSRD-1
	24V AC/DC	LSRD-2
	120V AC/DC	LSRD-H2
	240V AC	LSRD-M4

1. In place of ⊙, specify the lens color code.
2. The LED contains a current-limiting resistor and a protection diode.

Contact Blocks

Style		Part Number	
		1NO	1NC
All Control Units		HW-U10-F	HW-U10-F
		HW-U10R-F (early make)	HW-U10R-F (late break)
Dummy Block		HW-DB	

1. Dummy blocks (no contacts) are used with an odd number of contact blocks.
2. Combining HW-U10R-F and HW-U01R-F result in overlapping contacts (remain on, or closed, when switch is moved between two positions).

Lamp Circuit Components

Style	Application	Part Number
Long Lamp Holder	Used with Full-size Transformer and two contact blocks	TW-LH2
Lead Holder	Used with Full Voltage Adaptor and two contact blocks	
	Used with TW-LH2 holder when using four contact blocks	HW-LH3

Full Voltage Modules

Style	Description	Part Number
Dummy Block with Full Voltage Adaptor	For use with odd number of contacts.	HW-DA1FBN
Full Voltage Adaptor	For use with even number of contacts.	TW-DA1FB



All Transformers step down to 6V (use 6V lamp).

Transformers

Style	Primary Voltage (50/60Hz)	Part Number
	120V AC	TW-F126B
	240V AC	TW-F246B
	480V AC	TW-F486B



6V secondary voltage.

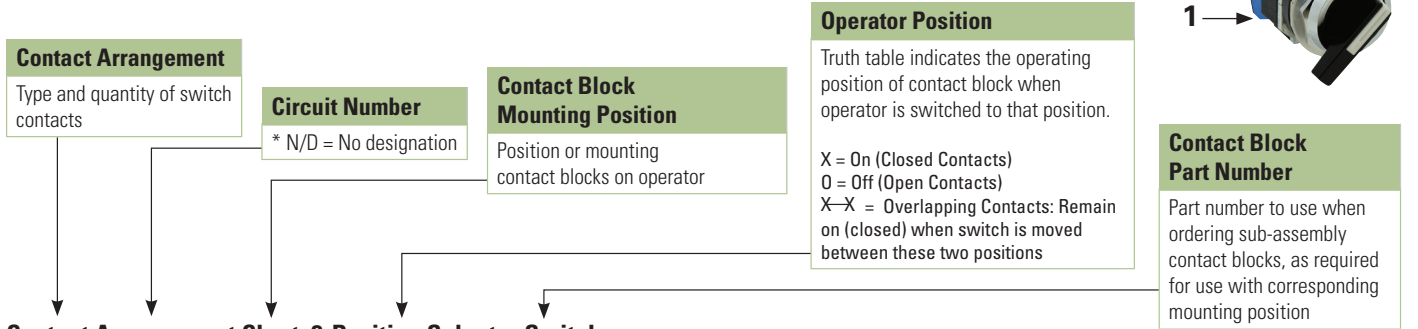
② Lens Color Codes

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

Contact Arrangement Charts

How to Read Contact Arrangement Charts

To determine contact block mounting position, first make sure the selector switch is oriented as shown on the right



Contact Arrangement Chart: 2-Position Selector Switches

Style		Mounting Position	Operator Position		Contact Block Part Number	Description	Operator Part Number		
Contact	Circuit Number		L 	R 			Maintained	Spring Return from Right	Spring Return from Left
									
1NO	N/D	1	O	X	HW-U10-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	O	HW-DB	Illuminated Knob			
1NC	116	1	X	O	HW-U01-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	O	HW-DB	Illuminated Knob			
1NO 1NC	N/D	1	O	X	HW-U10-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	X	O	HW-U01-F	Illuminated Knob			
	103	1	X	O	HW-U01-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	X	HW-U10-F	Illuminated Knob			
1NO-EM 1NC-LB	600	1	O	X	HW-U10R-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	X	O	HW-U01R-F	Illuminated Knob			
	601	1	X	O	HW-U01R-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	X	HW-U10R-F	Illuminated Knob			
2NO	N/D	1	O	X	HW-U10-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	X	HW-U10-F	Illuminated Knob			
2NC	104	1	X	O	HW-U01-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	X	O	HW-U01-F	Illuminated Knob			
2NO 2NC	N/D	1	O	X	HW-U10-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	X	O	HW-U01-F	Illuminated Knob			
		3	O	X	HW-U10-F	Illuminated Knob			
		4	X	O	HW-U01-F	Illuminated Knob			
	110	1	X	O	HW-U01-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	X	HW-U10-F	Illuminated Knob			
		3	X	O	HW-U01-F	Illuminated Knob			
		4	O	X	HW-U10-F	Illuminated Knob			
	111	1	O	X	HW-U10-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	X	HW-U10-F	Illuminated Knob			
		3	X	O	HW-U01-F	Illuminated Knob			
		4	X	O	HW-U01-F	Illuminated Knob			
4NO	N/D	1	O	X	HW-U10-F	Knob/Lever Key	ASD0201T8 ASD0201KT8 ASLD0201T8	ASD0213T8 ASD0213KT8 ASLD0213T8	ASD0224T8 ASD0224KT8 ASLD0224T8
		2	O	X	HW-U10-F	Illuminated Knob			
		3	O	X	HW-U10-F	Illuminated Knob			
		4	O	X	HW-U10-F	Illuminated Knob			

Contact Arrangement Chart: 3-Position Selector Switches

Style		Mounting Position	Operator Position			Contact Block Part Number	Description	Operator Part Number			
Contact	Circuit Number		L 	C 	R 			Maintained	Spring Return from Right	Spring Return from Left	Two-Way
											
1NO 1NC	202	1	X	O	O	HW-U10-F	Knob/Lever Key	ASD0302T8 ASD0302KT8 ASLD0302T8	ASD0314T8 ASD0314KT8 ASLD0314T8	ASD0323T8 ASD0323KT8 ASLD0323T8	ASD0335T8 ASD0335KT8 ASLD0335T8
		2	X	X	O	HW-U01-F	Illuminated Knob				
	203	1	O	X	X	HW-U01-F	Knob/Lever Key	ASD0302T8 ASD0302KT8 ASLD0302T8	ASD0314T8 ASD0314KT8 ASLD0314T8	ASD0323T8 ASD0323KT8 ASLD0323T8	ASD0335T8 ASD0335KT8 ASLD0335T8
		2	O	O	X	HW-U10-F	Illuminated Knob				
	302	1	X	O	X	HW-U10-F	Knob/Lever Key	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0328T8	ASD0339T8 ASD0339KT8 ASLD0339T8
		2	X	X	O	HW-U01-F	Illuminated Knob				
	303	1	O	X	O	HW-U01-F	Knob/Lever Key	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0323T8	ASD0339T8 ASD0339KT8 ASLD0339T8
		2	O	O	X	HW-U10-F	Illuminated Knob				
2NO	N/D	1	X	O	O	HW-U10-F	Knob/Lever Key	ASD0302T8 ASD0302KT8 ASLD0302T8	ASD0314T8 ASD0314KT8 ASLD0314T8	ASD0323T8 ASD0323KT8 ASLD0323T8	ASD0335T8 ASD0335KT8 ASLD0335T8
		2	O	O	X	HW-U10-F	Illuminated Knob				
	301	1	X	O	X	HW-U10-F	Knob/Lever Key	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0328T8	ASD0339T8 ASD0339KT8 ASLD0339T8
		2	O	O	X	HW-U10-F	Illuminated Knob				
2NC	304	1	O	X	O	HW-U01-F	Knob/Lever Key	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0328T8	ASD0339T8 ASD0339KT8 ASLD0339T8
		2	X	X	O	HW-U01-F	Illuminated Knob				
	N/D	1	O	X	X	HW-U01-F	Knob/Lever Key	ASD0302T8 ASD0302KT8 ASLD0302T8	ASD0314T8 ASD0314KT8 ASLD0314T8	ASD0323T8 ASD0323KT8 ASLD0323T8	ASD0335T8 ASD0335KT8 ASLD0335T8
		2	X	X	O	HW-U01-F	Illuminated Knob				
2NO 2NC	N/D	1	X	O	O	HW-U10-F	Knob/Lever Key Illuminated Knob	ASD0302T8 ASD0302KT8 ASLD0302T8	ASD0314T8 ASD0314KT8 ASLD0314T8	ASD0323T8 ASD0323KT8 ASLD0323T8	ASD0335T8 ASD0335KT8 ASLD0335T8
		2	O	O	X	HW-U10-F					
		3	O	X	X	HW-U01-F					
		4	X	X	O	HW-U01-F					
	210	1	O	X	X	HW-U01-F	Knob/Lever Key Illuminated Knob	ASD0302T8 ASD0302KT8 ASLD0302T8	ASD0314T8 ASD0314KT8 ASLD0314T8	ASD0323T8 ASD0323KT8 ASLD0323T8	ASD0335T8 ASD0335KT8 ASLD0335T8
		2	O	O	X	HW-U10-F					
		3	O	X	X	HW-U01-F					
		4	O	O	X	HW-U10-F					
	308	1	X	O	X	HW-U10-F	Knob/Lever Key Illuminated Knob	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0328T8	ASD0339T8 ASD0339KT8 ASLD0339T8
		2	X	X	O	HW-U01-F					
		3	X	O	X	HW-U10-F					
		4	X	X	O	HW-U01-F					
	309	1	X	O	X	HW-U10-F	Knob/Lever Key Illuminated Knob	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0328T8	ASD0339T8 ASD0339KT8 ASLD0339T8
		2	X	X	O	HW-U01-F					
		3	O	X	O	HW-U01-F					
		4	O	O	X	HW-U10-F					
310	1	O	X	O	HW-U01-F	Knob/Lever Key Illuminated Knob	ASD0306T8 ASD0306KT8 ASLD0306T8	ASD0310T8 ASD0301KT8 ASLD0310T8	ASD0328T8 ASD0328KT8 ASLD0328T8	ASD0339T8 ASD0339KT8 ASLD0339T8	
	2	O	O	X	HW-U10-F						
	3	O	X	O	HW-U01-F						
	4	O	O	X	HW-U10-F						

-  1. Each operator sub-assembly is available as an "02" and an "06" for 3-position selector switches. The internal cam of an "02" is different from that of an "06". This results in designated combinations of open and closed contacts in the various operator positions.
2. N/D = No circuit number designation required in assembled part number.
3. X = On (closed contacts) O = Off (open contacts). X-X Overlapping contacts remain on (closed) when switch is moved between these two positions.

Contact Arrangement Chart: 3-Position Selector Switches

Style		Mounting Position	Operator Position			Contact Block Part Number	Description	Operator Part Number			
Contact	Circuit Number		L 	C 	R 			Maintained	Spring Return from Right	Spring Return from Left	Two-Way
											
4NO	N/D	1	X	O	O	HW-U10-F	Knob/Lever Key Illuminated Knob	ASD0302T8	ASD0314T8	ASD0323T8	ASD0335T8
		2	O	O	X	HW-U10-F		ASD0302KT8	ASD0314KT8	ASD0323KT8	ASD0335KT8
		3	X	O	O	HW-U10-F		ASLD0302T8	ASLD0314T8	ASLD0323T8	ASD0335T8
		4	O	O	X	HW-U10-F					
	305	1	X	O	X	HW-U10-F	Knob/Lever Key Illuminated Knob	ASD0306T8	ASD0310T8	ASD0328T8	ASD0339T8
		2	O	O	X	HW-U10-F		ASD0306KT8	ASD0301KT8	ASD0328KT8	ASD0339KT8
		3	X	O	X	HW-U10-F		ASLD0306T8	ASLD0310T8	ASLD0328T8	ASLD0339T8
4NC	N/D	1	O	X	X	HW-U01-F	Knob/Lever Key Illuminated Knob	ASD0302T8	ASD0314T8	ASD0323T8	ASD0335T8
		2	X	X	O	HW-U01-F		ASD0302KT8	ASD0314KT8	ASD0323KT8	ASD0335T8
		3	O	X	X	HW-U01-F		ASLD0302T8	ASLD0314T8	ASLD0323T8	ASD0335T8
		4	X	X	O	HW-U01-F					
	314	1	O	X	O	HW-U01-F	Knob/Lever Key Illuminated Knob	ASD0306T8	ASD0310T8	ASD0328T8	ASLD0339T8
		2	X	X	O	HW-U01-F		ASD0306KT8	ASD0301KT8	ASD0328KT8	ASD0339KT8
		3	O	X	O	HW-U01-F		ASLD0306T8	ASLD0301T8	ASLD0328T8	ASLD0339T8
		4	X	X	O	HW-U01-F					

1. Each operator sub-assembly is available as an "02" and an "06" for 3-position selector switches. The internal cam of an "02" is different from that of an "06". This results in designated combinations of open and closed contacts in the various operator positions.
2. N/D = No circuit number designation required in assembled part number.
3. X = On (closed contacts) O = Off (open contacts). X—X Overlapping contacts remain on (closed) when switch is moved between these two positions.

Operator Truth Tables

Use the following tables to build custom selector switches.

2 Position Selector Switches

	Contact	Mounting Position	Operator Position	
			Left	Right
ASLD0201T8	HW-U10-F (NO)	L	O	X
		R	O	X
	HW-U01-F (NC)	L	X	O
		R	X	O
	HW-U10R-F (NO-EM)	L	O	X—
		R	O	X—
	HW-U01R-F (NC-LB)	L	X—	O
		R	X—	O

3 Position Selector Switches

	Contact	Mounting Position	Operator Position		
			Left	Center	Right
ASD0302T8 ASLD0302T8 ASD0302KT8	HW-U10-F (NO)	L	X	O	O
		R	O	O	X
	HW-U01-F (NC)	L	O	X—X	
		R	X—X	O	
	HW-U10R-F (NO-EM)	L	X—	O	O
		R	O	O	X
	HW-U10R-F (NC-LB)	L	O	X—X	
		R	X—X	O	

	Contact	Mounting Position	Operator Position		
			Left	Center	Right
ASD0306T8 ASLD0306T8 ASD0306KT8	HW-U10-F (NO)	L	X	O	X
		R	O	O	X
	HW-U01-F (NC)	L	O	X	O
		R	X—X	O	
	HW-U10R-F (NO-EM)	L	X—	O	X—
		R	O	O	X
	HW-U01R-F (NC-LB)	L	O	X—	O
		R	X—X	O	

Accessories — TWND Series

Item	Appearance	Description/Usage		Part Number
Lamp Removal Tool		Rubber tool used to install or remove LED's		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		OGP11B
Boot/Cover		Used to cover and protect pushbuttons	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
			Grey 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-FA4
Long Lamp Holder		Used with Transformer and two contact blocks Used with Full Voltage Adaptor and two contact blocks		TW-LH2
Lead Holder		Used with TW-LH2 holder when using four contact blocks		HW-LH3
Lock Out Adaptor		Used to provide lockout protection for TWTD pushbuttons and knob selectors. ø 1-13/64" (30mm)		OL-KL1
Full Voltage Clips		Primary Voltage (50/60Hz) Required for all full voltage pilot lights. Two pieces each. 2 clips required for full voltage pilot lights.		APD-F
Replacement Keys		Pair of keys (#0)		TW-SK

Switches & Pilot Devices

Signaling Lights

Relays & Sockets

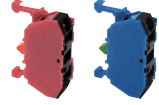
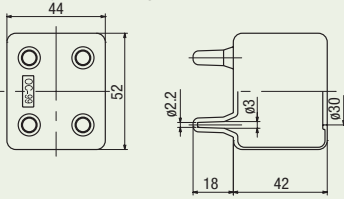
Timers

Contactors

Terminal Blocks

Circuit Breakers

Accessories TWND Series continued

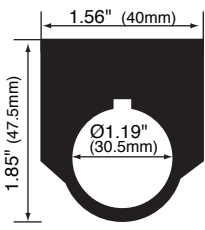
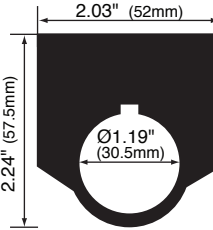
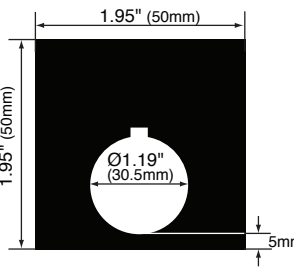
Item	Appearance	Description/Usage	Part Number	
			1NC	1NO
Contact Blocks (with side entry)		These contacts are applicable for wires terminated by ring, fork, terminals, not recommended for bare wire connections.	HW-U01 HW-U01-MAU HW-U01R HW-U01R-MAU (with side entry)	HW-U10 HW-U10-MAU HW-U10R HW-U10R-MAU (with side entry)
Contact Blocks (without side entry)		These contacts are applicable for wires terminated by ring, fork, or ferule terminals, and also bare wire connections.	HW-U01-F HW-U01-MAU-F HW-U01R-F HW-U01R-MAU-F (no side entry)	HW-U10-F HW-U10-MAU-F HW-U10R-F HW-U10R-MAU-F (no side entry)
Contact Block Rubber Boot		- For 1 layer (2 each) contact blocks. - Nitril rubber, black. - Used to prevent oil or dirt ingress into contact blocks. - Temperature range -5 to 60°.  - Cut tube projection in the rubber cover to match the diameter of the wires.	OC-99	

Fingersafe Covers for TWND Series

Item	Description	Used with	Part Number
	Fingersafe terminal cover, for full voltage pilot lights, adds 3mm to overall depth	Full voltage pilot lights	APD-PVL
	Fingersafe terminal cover, adds 1.5mm to overall depth	Transformer pilot lights	N-VL3

Nameplates — TWND Series

Faceplates

	NALD	NAKD	NAQD
Dimensions			
Description	Part Number		
Nameplate (blank)	NALD-B (black) NALD-R (red)	NAKD-B (black) NAKD-R (red)	NAQD-B (black) NAQD-R (red)
Nameplate (engraved)	NALD-①	NAKD-①	NAQD-①



1. Nameplates are made of 0.031" aluminum. Lettering is white letters engraved on black background.
2. 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



1. *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".
2. 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.

Custom engraved Nameplates Order Form — TWND Series

Copy this order form and use it to specify Letter Height, Custom Engravings, Location of Engraving on Nameplate, and Quantity Desired.

To ensure engraving accuracy, fax it to your IDEC representative. or Distributor.

Your Company Name: _____

IDEC Rep/Distributor Contact: _____

Your Name: _____

PO number (if known): _____

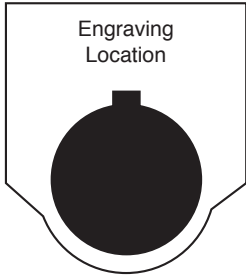
Telephone: _____

IDEC Rep/Distributor Phone: _____

Fax & Email: _____

IDEC Rep/Distributor Fax & Email: _____

NALD Nameplate



Step 1.

Choose Letter Size - 7/64" or 1/8".

Check the box for the letter size you want. Then write your lettering in box below checkboxes. Note: 1/8" size letters cannot exceed 13 characters.

Sample Letter Sizes

7/64" Letters: A B C D

1/8" Letters: A B C D

7/64"

Letter Size



16 characters max
(for 7/64" size letters)

1/8"

Letter Size



13 characters max
(for 1/8" size letters)

Step 2.

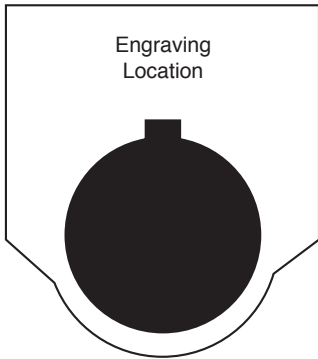
Specify Quantity.

Enter the number of nameplates desired in the box on the right.

Qty

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

NAKD Nameplate



Step 1.

Choose Letter Size - 7/64" or 1/8".

Check the box for the letter size you want. Then write your lettering in box below checkboxes. Note: 1/8" size letters cannot exceed 9 characters.

Step 2.

Specify Quantity.

Enter the number of nameplates desired in the box on the right.

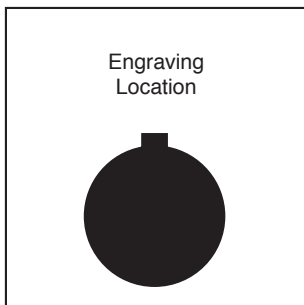
Qty

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----

Sample Letter Sizes

1/8" Letters: A B C D

NAQD Nameplate



Step 1.

Choose Letter Size - 7/64" or 1/8".

Check the box for the letter size you want. Then write your lettering in box below checkboxes.

Note: 1/8" size letters cannot exceed 16 characters.

7/64"

Letter Size



20 characters max
(for 7/64" size letters)

1/8"

Letter Size



16 characters max
(for 1/8" size letters)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

Step 2.

Specify Quantity.

Enter the number of nameplates desired in the box on the right.

Qty

Sample Letter Sizes

3/32" Letters: A B C D

1/8" Letters: A B C D

Switch Engraving Order Form – TWND Series

Copy this order form and use it to specify Letter Height, Maximum Number of Lines and Text to be engraved.

To insure engraving accuracy, fax it to your IDEC representative or Distributor.

Your Company: _____
 Name: _____
 Address: _____
 PO: _____

Telephone: _____
 Fax: _____
 Email: _____
 Part Number to be Engraved: _____

Please check one of the boxes below to indicate your choice of engraving options:

Square
Switch

	# of Lines	Letter Height	Max. Characters Per Line
☐	1	5/32	7
☐		1/8	8
☐	2	5/32	7
☐		1/8	8
☐	3	1/8	8
☐	4	Custom*	

*Engraving is possible, but character size will be smaller than standard sizes.

Round
Switch

	# of Lines	Letter Height	Max. Characters Per Line
☐	1	5/32	7
☐		1/8	8
☐	2	5/32	7
☐		1/8	8
☐	3	1/8	8
☐	4	Custom*	

*Engraving is possible, but character size will be smaller than standard sizes.

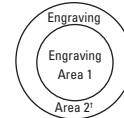
65mm
Jumbo
Mushroom

	# of Lines	Letter Height	Max. Characters Per Line
☐	1	3/4	4
☐		5/16	5
☐	2	5/16	5
☐		1/4	6
☐		5/32	8
☐	3	5/32	8
☐		1/8	9
☐	4	1/8	9

Enter text to be engraved:

Line 1: _____
 Line 2: _____
 Line 3: _____
 Line 4: _____

ø29mm, ø40mm Mushroom Head



	# of Lines	Letter Height	Max. Characters Per Line
☐	Engraving Area 1	5/32	5
☐		1/8	5
☐	Engraving Area 2	5/32	7
☐		1/8	7



- Above mentioned specifications hold true for standard size push-buttons (round and square).
- *Engraving Area 2 can be engraved for 40mm mushroom head non-illuminated pushbutton only.
- Engraving is done on the button itself for non-illuminated push buttons and on marking plate for illuminated push buttons and pilot lights.
- Please enter text exactly how you want it engraved, take care to emphasize capital or small letters.

Sample Letter Sizes

1/8 Letters: **OPEN**

5/32 Letters: **OPEN**



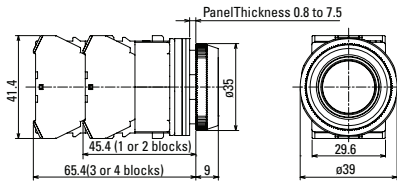
All engraving is 5/8mm wide.

For IDEC Internal Use Only:

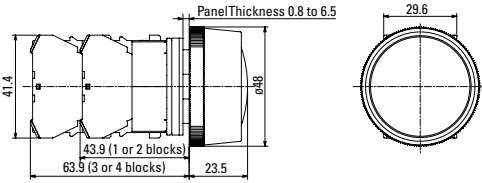
Work Order #: _____

Dimensions (mm)

Pushbutton



Mushroom Pushbutton w/Full Shroud



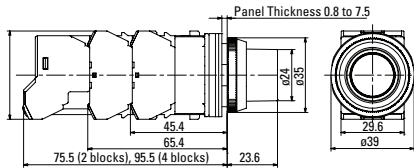
Pushbuttons	Dimension A	Dimension B
Flush	0.351" (9mm)	ø 0.975" (25mm)
Extended	0.566" (14.5mm)	ø 0.975" (25mm)
Extended w/Full Shroud	0.663" (17mm)	ø 1.11" (28.5mm)
Mushroom	0.858" (22mm)	ø 1.56" (40mm)
Mushroom w/Full Shroud	0.936" (24mm)	ø 1.87" (48mm)
Jumbo Mushroom	1.13" (29mm)	ø 2.54" (65mm)
Mushroom,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



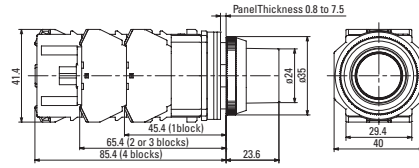
*Dimension when operator is in reset position.
**Dimension when operator is in pull position.

Illuminated Pushbuttons

w/Transformer



Full Voltage

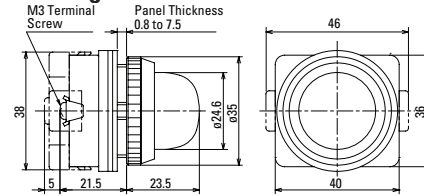


Illuminated Pushbuttons	Dimension A	Dimension B
Flush w/Full Shroud	0.975" (25mm) 0.995" (25.5mm)	ø 0.936" (24mm) ø 0.936" (24mm)
Extended w/Full Shroud	0.741" (19mm) 0.761" (19.5mm)	ø 0.936" (24mm) ø 0.936" (24mm)
ø 1.56" (40mm) Mushroom Pushlock Turn Reset, Push-Pull	*0.975" (25mm) **0.975" (25mm)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



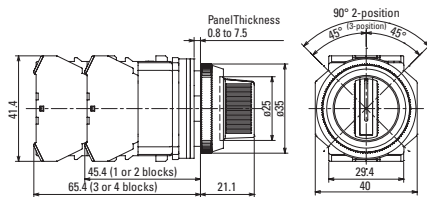
*Dimension when operator is in reset position.
**Dimension when operator is in pull position.

Pilot Lights

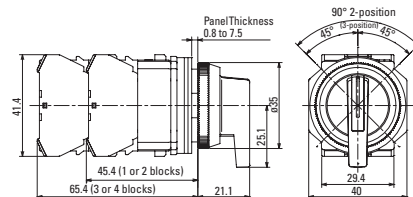


Selector Switches

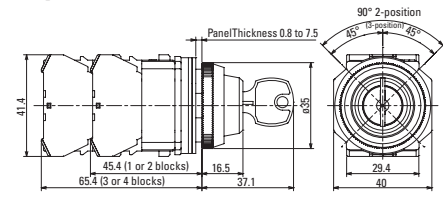
Knob



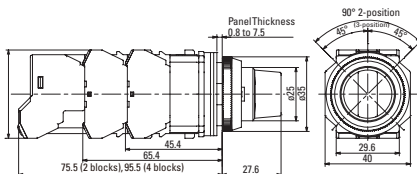
Lever



Key



Illuminated Knob



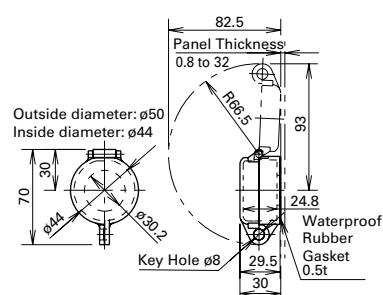
Technical drawing of a mechanical part with dimensions and tolerances:

- Top view: Round: 42 (*1), Square: 55
- Side view: 50 (*1)
- Dimensions and Tolerances:
 - Top radius: R0.8 max.
 - Top width: 4.8^{+0.2}₀ ☆
 - Top hole diameter: $\varnothing 30.5^{+0.5}_{-0.5}$
 - Bottom hole diameter: $\varnothing 33^{+0.5}_{-0.5}$

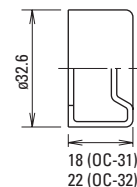


1. *Jumbo Mushroom < 2.61" (66mm)
2. Minimum mounting centers are applicable to switches with one stack of contact blocks. When mounting two stacks of contact blocks, minimum centers should allow for access to wiring.
3. The $\varnothing 0.195"$ ($\varnothing 5\text{mm}$) recess is necessary when either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

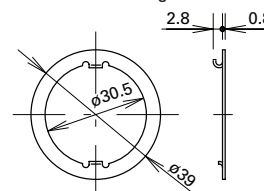
Lock-Out Adaptor



Pushbutton Clear Boot

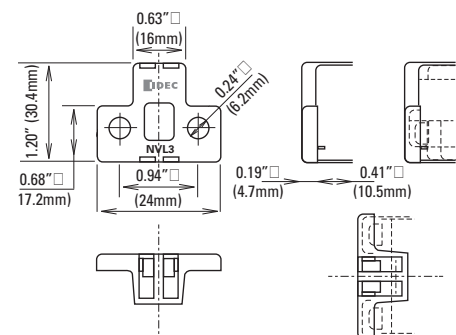


Anti-Rotation Ring

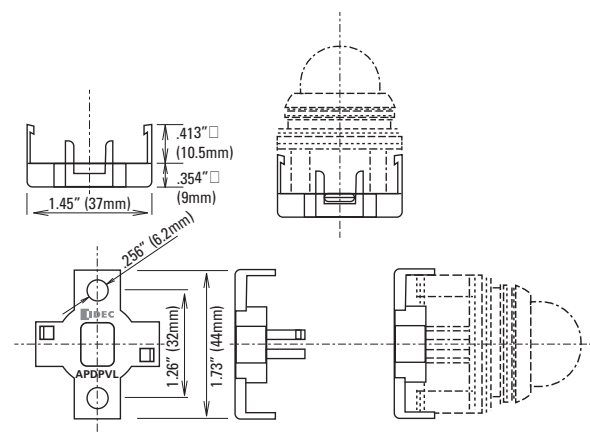


Mounting Hole Rubber Plug

N-VL3



APD-PVL



Switches & Pilot Devices

Signaling Lights

Relays & Sockets

Timers

Contactors

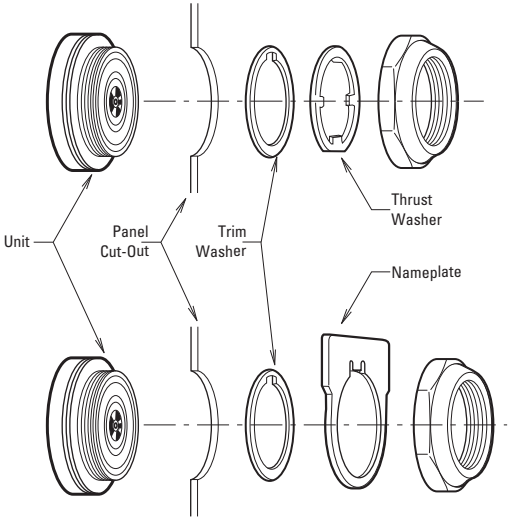
Terminal Blocks

Circuit Breakers

Operating Instructions

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 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

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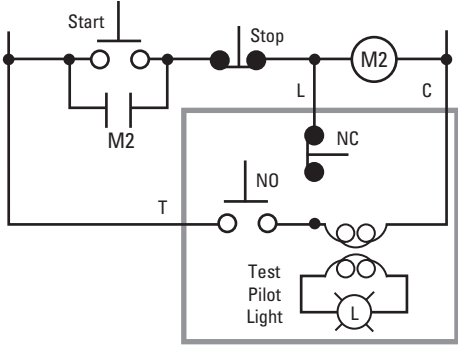
Insallation of LED Illuminated Units

Transformer units are recommended for use in areas subjected to inductive noise.

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-Adapter Circuit



Full Voltage Circuit

