

ø30 Series Diecast Zinc Switches & Pilot Lights

Heavy duty switches for tough industrial usage

- Degree of protection: IP65 (IEC 60529)
- UL, CSA approved, and EN compliant

Applicable Standards	Mark	File No. or Organization
UL 508		UL Listing File No. E68961
CSA C22.2 No.14		CSA File No. LR21451
EN60947-5-1		EU Low Voltage Directive
GB14048.5		CCC No. 200501030514650



Specifications and Ratings

Contact Ratings

Pushbuttons Illuminated Pushbuttons Selector Switches Illuminated Selector Switches Selector Pushbuttons	Contact Block	BST (ø30 series)
	Rated Insulation Voltage	600V
	Rated Continuous Current	10A
	Contact Ratings by Utilization Category IEC 60947-5-1	AC-15 (A600) DC-13 (P600)

Weight (Examples)

Weight (approx.)	135g (ABD 122N)
	71g (APD122DN)
	116g (ALD22211DN)
	125g (ASD222N)
	168g (ASD2K22N)
	147g (ASLD2222DN)
	116g (ASBD211N-A03)

Characteristics

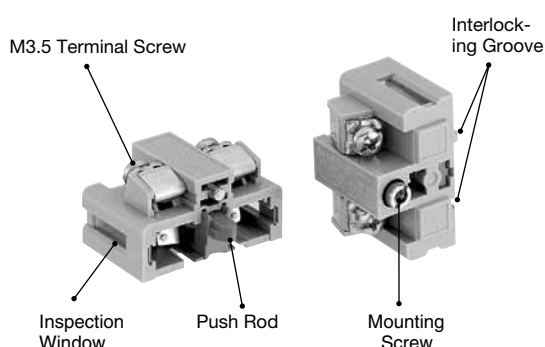
Contact Ratings by Utilization Category

Operational Voltage			24V	48V	50V	110V	220V	440V
Operational Current	AC 50/60 Hz	AC-12 Control of resistive loads and solid state loads	10A	—	10A	10A	6A	2A
		AC-15 Control of electromagnetic loads (> 72 VA)	10A	—	7A	5A	3A	1A
	DC	DC-12 Control of resistive loads and solid state loads	10A	5A	—	2.2A	1.1A	—
		DC-13 Control of electromagnets	5A	2A	—	1.1A	0.6A	—

Note: The operational current represents the classification by making and breaking currents (IEC 60947-5-1).

Minimum applicable load: 3V AC/DC, 5 mA (applicable range may vary with operating conditions and load types)

BST Contact Block (Light Gray)



Contact Blocks

		Single-pole Contact Block			
Contact		 1NO	 1NC	 1NO (early make)	 1NC (late break)
Part No.	BST	BST010	BST001	BST010S	BST001S
Push Rod		Green	Red	Black	White

Note: BST contact blocks are not interchangeable with dark gray BS contact blocks used for ø30 switches & pilot lights.

Specifications, ratings, and mounting hole layouts are the same as ø30 switches & pilot lights.
See "ø30 Series Switches & Pilot Lights" on page 16.

Ordering Information

Standard Units

- Specify an operator or lens color code in the Part No.
- Black, green, and red colored buttons are included with flush pushbuttons.
- Terminal covers, nameplates, and accessories are ordered separately.

Terminal Cover

- When a terminal cover is required, order an applicable terminal cover referring to page 67.

The Part No. development charts shown below can be used to specify switches & pilot lights other than those listed on the following pages.

ø30 Series Diecast Zinc Pushbuttons

ABD2 11 N R

Button color code

Contact arrangement code

10: 1NO	01: 1NC
11: 1NO-1NC	20: 2NO
02: 2NO	22: 2NO-2NC
40: 4NO	04: 4NO
13: 1NO-3NC	31: 3NO-1NC
30: 3NO	03: 3NC
12: 1NO-2NC	21: 2NO-1NC

Note:

- Mushroom pull AZD3 can have a maximum of two contact blocks.
- Mushroom push pull AYD31 can have a maximum of two contact blocks.

ø30 Series Diecast Zinc Illuminated Pushbuttons

ALDE 2 16 11 D N R

Lens color code

Contact arrangement code

11: 1NO-1NC	20: 2NO
02: 2NC	31: 3NO-1NC
22: 2NO-2NC	13: 1NO-3NC
40: 4NO	04: 4NC

Operating voltage code

Lamp receptacle

E: E12 (LETD-6② LED or 2W incandescent lamps)
(blank): BA9S (LSTD-6② LED or 1W incandescent lamps)

Note:

- Illuminated pushbuttons cannot have an odd number of contact blocks, such as 1NO, 1NC, 3NO, 2NO-1NC, 1NO-2NC, and 3NC.

ø30 Series Diecast Zinc Pilot Lights

APDE 1 99 D N R

Lens color code

Operating voltage code

Lamp receptacle:

E: E12 (LETD-6② LED or 2W incandescent lamps)
(blank): BA9S (LSTD-6② LED or 1W incandescent lamps)

ø30 Series Diecast Zinc Switches & Pilot Lights ø30

ø30 Series Diecast Zinc Selector Switch

ASD 2 L 11 N

Contact arrangement code
 Operator
 (blank): Knob
 L: Lever
 Number of positions

ø30 Series Diecast Zinc Illuminated Selector Switch

ASLD 2 16 22 D N R

Lens color code
 Contact arrangement code
 Operating voltage code
 Number of positions

ø30 Series Diecast Zinc Key Selector Switch

ASD 2 K 20 N B

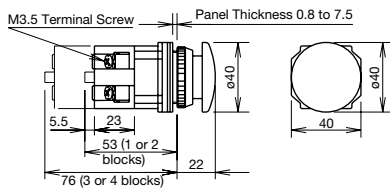
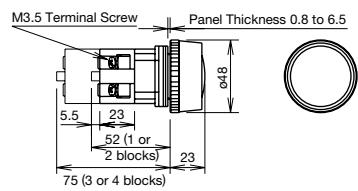
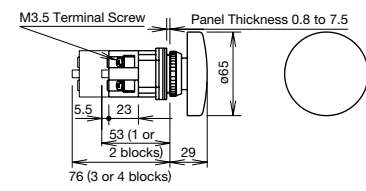
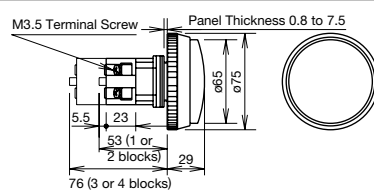
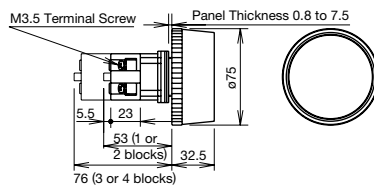
Key removable position code
 2-position
 • Maintained
 (blank): Removable in all positions
 B: Removable in left only
 C: Removable in right only
 • Spring return from right
 (blank): Removable in left only
 • Spring return from left
 (blank): Removable in right only
 3-position
 • Maintained
 (blank): Removable in all positions
 B: Removable in left and center
 C: Removable in right and center
 D: Removable in center only
 E: Removable in right and left
 G: Removable in left only
 H: Removable in right only
 • Spring return from right
 (blank): Removable in left and center
 D: Removable in center only
 G: Removable in left only
 • Spring return from left
 (blank): Removable in right and center
 D: Removable in center only
 H: Removable in right only
 • Spring return two-way
 (blank): Removable in center only
 Contact arrangement code
 Number of positions

Note:

- The key cannot be removed in the return position.

ø30 Diecast Zinc Series Pushbuttons ø30

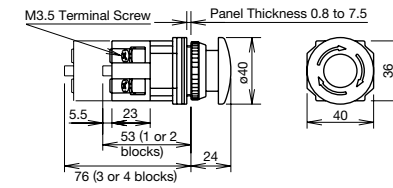
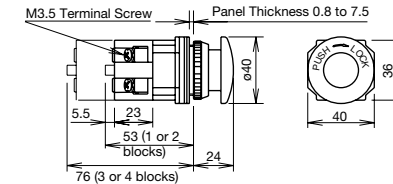
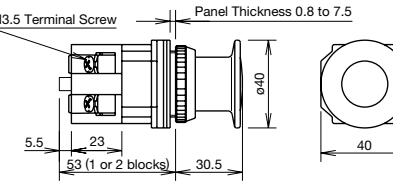
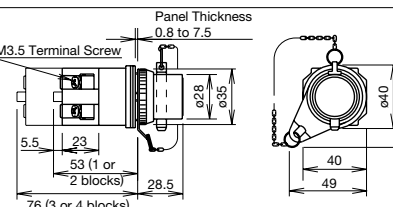
Mushroom / Jumbo Mushroom Pushbuttons

Shape	Operation	Contact	Part No.	① Button Color Code	Dimensions (mm)
Mushroom ABD3     	Momentary	1NO	ABD310N①	B: black G: green R: red W: white Y: yellow	
		1NC	ABD301N①		
		1NO-1NC	ABD311N①		
		2NO	ABD320N①		
		2NC	ABD302N①		
		2NO-2NC	ABD322N①		
Mushroom AOD3     	Maintained	1NO	AOD310N①		
		1NC	AOD301N①		
		1NO-1NC	AOD311N①		
		2NO	AOD320N①		
		2NC	AOD302N①		
		2NO-2NC	AOD322N①		
Mushroom with Full Shroud ABGD3     	Momentary	1NO	ABGD310N①		
		1NC	ABGD301N①		
		1NO-1NC	ABGD311N①		
		2NO	ABGD320N①		
		2NC	ABGD302N①		
		2NO-2NC	ABGD322N①		
Mushroom with Full Shroud AOGD3     	Maintained	1NO	AOGD310N①		
		1NC	AOGD301N①		
		1NO-1NC	AOGD311N①		
		2NO	AOGD320N①		
		2NC	AOGD302N①		
		2NO-2NC	AOGD322N①		
Jumbo Mushroom ABD4     	Momentary	1NO	ABD410N①	B: black DG: dark green DR: dark red G: green R: red Y: yellow	
		1NC	ABD401N①		
		1NO-1NC	ABD411N①		
		2NO	ABD420N①		
		2NC	ABD402N①		
		2NO-2NC	ABD422N①		
Jumbo Mushroom with Shallow Shroud ABGD4     	Momentary	1NO	ABGD410N①		
		1NC	ABGD401N①		
		1NO-1NC	ABGD411N①		
		2NO	ABGD420N①		
		2NC	ABGD402N①		
		2NO-2NC	ABGD422N①		
Jumbo Mushroom with Deep Shroud ABFD4     	Momentary	1NO	ABFD410N①		
		1NC	ABFD401N①		
		1NO-1NC	ABFD411N①		
		2NO	ABFD420N①		
		2NC	ABFD402N①		
		2NO-2NC	ABFD422N①		

- Specify a button color code in place of ① in the Part No.
- Round bezel and shroud (metal): Chrome-plated
- Pushbuttons with one or three contact blocks contain a dummy block
- Other contact arrangements are also available. See page 80.

ø30 ø30 Diecast Zinc Series Pushbuttons

Pushlock Turn Reset / Push Turn Lock / Pull / Push-Pull / Pin Lock Pushbuttons

Shape	Contact	Part No.	① Button Color Code	Dimensions (mm)
Mushroom Pushlock Turn Reset AVD3  	1NO	AVD310N①	R: red Y: yellow	
	1NC	AVD301N①		
	1NO-1NC	AVD311N①		
	2NO	AVD320N①		
	2NC	AVD302N①		
	2NO-2NC	AVD322N①		
Mushroom Push Turn Lock AJD3  	1NO	AJD310N①	B: black G: green R: red Y: yellow	
	1NC	AJD301N①		
	1NO-1NC	AJD311N①		
	2NO	AJD320N①		
	2NC	AJD302N①		
	2NO-2NC	AJD322N①		
Mushroom Pull AZD3  	1NO	AZD310N①		
	1NO-1NC	AZD311N①		
	2NO	AZD320N①		
	2NC	AZD302N①		
Mushroom Push-Pull AYD31  	1NO-1NC	AYD3111N①	B: black G: green R: red S: blue Y: yellow	
	2NO	AYD3120N①		
	2NC	AYD3102N①		
Pin Lock ABD8P  	1NO	ABD8P10N①		
	1NC	ABD8P01N①		
	1NO-1NC	ABD8P11N①		
	2NO	ABD8P20N①		
	2NC	ABD8P02N①		
	2NO-2NC	ABD8P22N①		

- Specify a button color code in place of ① in the Part No.
 - Round bezel (metal): Chrome-plated
 - Pushbuttons with one or three contact blocks contain a dummy block.
 - Other contact arrangements are also available. See page 80.
 - **Pushlock Turn Reset:** Button is maintained when pressed and is reset when turned clockwise. Red buttons only.
- Note:** AVD3 pushlock turn reset switches cannot be used as emergency stop switches. When emergency stop switches are required, use XN or HN series emergency stop switches (ISO 13850 and IEC 60947-5-5 compliant).

- **Push Turn Lock:** Button is locked when turned clockwise in the depressed position and is reset when turned counterclockwise.

- **Pull:** Pulling the button operates the contacts. Up to 2 contact blocks (1 layer) can be mounted on pull switches.
- **Push-Pull:** Button is maintained in both depressed and reset positions. Up to 2 contact blocks (1 layer) can be mounted on AYD31 push-pull switches.

Note: AYD31 push-pull switches cannot be used as emergency stop switches. When emergency stop switches are required, use the HN1E series emergency stop switches (ISO 13850 and IEC 60947-5-5 compliant).

- **Pin Lock:** Button can be locked in either depressed or reset position by inserting the pin. Pad lock with a $\varnothing 5\text{mm}$ pin can also be used to lock the button.

Contact Operation

Pull Switch (Spring Return)

Contact	AZD3	
	Normal	Pull
1NO		
1NC		
1NO-1NC		
2NO		
2NC		

Push-Pull Switch (Maintained)

Contact	AYD31	
	Push	Pull
1NO-1NC	 	 
2NO	 	 
2NC	 	 

Note: Pull and push-pull switches can have a maximum of two contact blocks.

ø30 Diecast Zinc series Pilot Lights ø30

APD1 / APDE1 Dome Pilot Lights

Shape	Lamp	Lamp Receptacle	Part No.	② Lens/LED Color Code	Applicable Lamp
Dome APD1 APDE1    	Without Lamp	BA9S	APD199N②	A: amber C: clear G: green R: red S: blue W: white DNY: yellow	See page 75 for lamps.
		E12	APDE199N②		
	LED	BA9S	APD1③DN②	A: amber G: green PW: pure white R: red S: blue W: white Y: yellow	LSTD-*②
		E12	APDE1③DN②	A: amber G: green R: red S: blue W: white Y: yellow	LETD-*②
	Incandescent	BA9S	APD1③N②	A: amber C: clear G: green R: red S: blue W: white	LS-*
		E12	APDE1③N②		LE-*

Operating Voltage Code

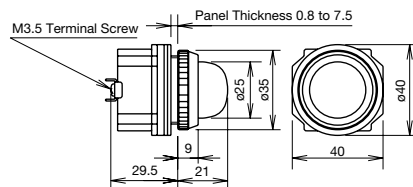
Specify an operating voltage code in place of ③ in the Part No.

③ Operating Voltage Code			Input
LED	Incandescent (BA9S)	Incandescent (E12)	
66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC		Full Voltage
16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC	16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC 486: 480V AC	18: 100/110V AC 128: 120V AC 238: 200/220V AC 248: 240V AC 388: 380V AC 48: 400/440V AC 488: 480V AC	Transformer

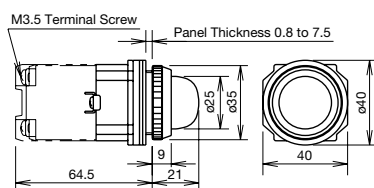
- Specify a lens/LED color code in place of ② in the Part No.
- Use a pure white LED lamp for yellow illumination.

Dimensions

Full Voltage



Transformer



All dimensions in mm.

ø30 ø30 Diecast Zinc Series Illuminated Pushbuttons

ALD2 / AOLD2 Round Extended Illuminated Pushbuttons

Shape	Lamp Recep- tacle	Operation	Lamp	Contact	Part No.	Applicable Lamp
Round Extended ALD2 AOLD2    	BA9S	Momentary	Without Lamp	1NO-1NC	ALD29911N②	See page 75 for lamps.
				2NO	ALD29920N②	
				2NC	ALD29902N②	
			LED	1NO-1NC	ALD2③11DN②	LSTD-*②
				2NO	ALD2③20DN②	
				2NC	ALD2③02DN②	
		Maintained	Incandescent	1NO-1NC	ALD2③11N②	LS-*
				2NO	ALD2③20N②	
				2NC	ALD2③02N②	
			Without Lamp	1NO-1NC	AOLD29911N②	See page 75 for lamps.
				2NO	AOLD29920N②	
				2NC	AOLD29902N②	
			LED	1NO-1NC	AOLD2③11DN②	LSTD-*②
				2NO	AOLD2③20DN②	
				2NC	AOLD2③02DN②	
			Incandescent	1NO-1NC	AOLD2③11N②	LS-*
				2NO	AOLD2③20N②	
				2NC	AOLD2③02N②	

Color Code and Operating Voltage Code

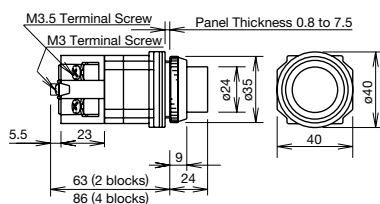
Specify a code in place of ② and ③ in the Part No.

② Lens/LED Color Code			③ Operating Voltage Code		Input
Without Lamp	LED	Incandescent	LED	Incandescent (BA9S)	
A: amber C: clear G: green R: red S: blue W: white DNY: yellow	A: amber G: green PW: pure white R: red S: blue W: white Y: yellow	A: amber C: clear G: green R: red S: blue W: white	66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC 16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC 16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC 486: 480V AC	Full Voltage Transformer

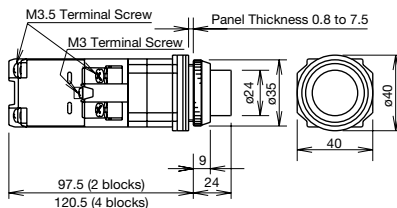
- Use a pure white LED lamp for yellow illumination.

Dimensions

ALD2/AOLD2
Full Voltage



ALD2/AOLD2
BA9S/Transformer



All dimensions in mm.

ø30 Diecast Zinc Series Illuminated Pushbuttons ø30

ALFD2 / AOLFD2 Round Extended with Full Shroud Illuminated Pushbuttons

Shape	Lamp Receptacle	Operation	Lamp	Contact	Part No.	Applicable Lamp
Round Extended with Full Shroud ALFD2 AOLFD2   	BA9S	Momentary	Without Lamp	1NO-1NC	ALFD29911N②	See page 75 for lamps.
				2NO	ALFD29920N②	
				2NC	ALFD29902N②	
			LED	1NO-1NC	ALFD2③11DN②	LSTD-*②
				2NO	ALFD2③20DN②	
				2NC	ALFD2③02DN②	
		Maintained	Incandescent	1NO-1NC	ALFD2③11N②	LS-*
				2NO	ALFD2③20N②	
				2NC	ALFD2③02N②	
			Without Lamp	1NO-1NC	AOLFD29911N②	See page 75 for lamps.
				2NO	AOLFD29920N②	
				2NC	AOLFD29902N②	
			LED	1NO-1NC	AOLFD2③11DN②	LSTD-*②
				2NO	AOLFD2③20DN②	
				2NC	AOLFD2③02DN②	
			Incandescent	1NO-1NC	AOLFD2③11N②	LS-*
				2NO	AOLFD2③20N②	
				2NC	AOLFD2③02N②	

Color Code and Operating Voltage Code

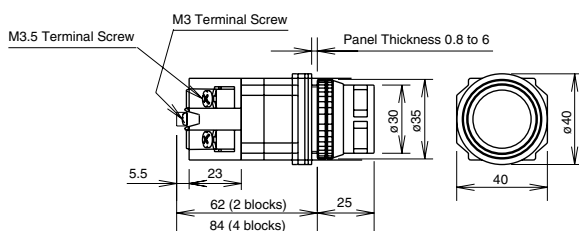
Specify a code in place of ② and ③ in the Part No.

② Lens/LED Color Code			③ Operating Voltage Code		Input
Without Lamp	LED	Incandescent	LED	Incandescent (BA9S)	
A: amber C: clear G: green R: red S: blue W: white DNY: yellow	A: amber G: green PW: pure white R: red S: blue W: white Y: yellow	A: amber C: clear G: green R: red S: blue W: white	66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC 16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC 16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC 486: 480V AC	Full Voltage Transformer

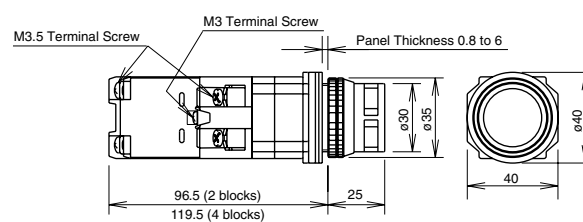
- Use a pure white LED lamp for yellow illumination.

Dimensions

ALFD2/AOLFD2 Full Voltage



ALFD2/AOLFD2 Transformer



All dimensions in mm.

ø30 ø30 Diecast Zinc Series Illuminated Pushbuttons

ALD3 / AOLD3 Mushroom (ø40) Illuminated Pushbuttons

Shape	Lamp Receptacle	Operation	Lamp	Contact	Part No.	Applicable Lamp
ø40 Mushroom ALD3 AOLD3 	BA9S	Momentary	Without Lamp	1NO-1NC	ALD39911DN②	See page 75 for lamps.
				2NO	ALD39920DN②	
				2NC	ALD39902DN②	
			LED	1NO-1NC	ALD3③11DN②	LSTD-*②
				2NO	ALD3③20DN②	
				2NC	ALD3③02DN②	
		Maintained	Without Lamp	1NO-1NC	AOLD39911DN②	See page 75 for lamps.
				2NO	AOLD39920DN②	
				2NC	AOLD39902DN②	
			LED	1NO-1NC	AOLD3③11DN②	LSTD-*②
				2NO	AOLD3③20DN②	
				2NC	AOLD3③02DN②	

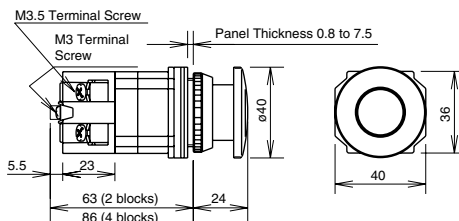
Color Code and Operating Voltage Code

Specify a code in place of ② and ③ in the Part No.

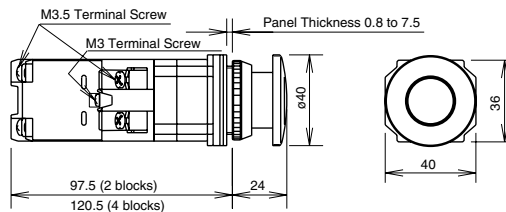
② Lens/LED Color Code	③ Operating Voltage Code	Input
A: amber G: green R: red W: white Y: yellow Use a pure white LED lamp for yellow illumination.	66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC 16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC	Full Voltage Transformer

Dimensions

ALD3/AOLD3
Full Voltage



ALD3/AOLD3
Transformer



All dimensions in mm.

ø30 Diecast Zinc Series Illuminated Pushbuttons ø30

AVLD3/ AVLDE3 Mushroom Pushlock Turn Reset Illuminated Pushbuttons

Shape	Lamp Receptacle	Lamp	Contact	Part No.	Applicable Lamp
Mushroom Pushlock Turn Reset AVLD3 AVLDE3 	BA9S	Without Lamp	1NO-1NC	AVLD39911NR	See page 75 for lamps.
			2NO	AVLD39920NR	
			2NC	AVLD39902NR	
		LED	1NO-1NC	AVLD3③11DNR	LSTD-*②
			2NO	AVLD3③20DNR	
			2NC	AVLD3③02DNR	
		Incandescent	1NO-1NC	AVLD3③11NR	LS-*
			2NO	AVLD3③20NR	
			2NC	AVLD3③02NR	
	E12	Without Lamp	1NO-1NC	AVLDE39911NR	See page 75 for lamps.
			2NO	AVLDE39920NR	
			2NC	AVLDE39902NR	
		LED	1NO-1NC	AVLDE3③11DNR	LETD-*②
			2NO	AVLDE3③20DNR	
			2NC	AVLDE3③02DNR	
		Incandescent	1NO-1NC	AVLD3③11NR (Note)	LE-*
			2NO	AVLD3③20NR (Note)	
			2NC	AVLD3③02NR (Note)	

Color Code and Operating Voltage Code

Specify a code in place of ② and ③ in the Part No.

③ Operating Voltage Code			Input
LED	Incandescent (BA9S)	Incandescent (E12)	
66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC	Full Voltage
16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC	16: 100/110V AC 126: 120V AC 26: 200/220V AC 246: 240V AC 386: 380V AC 46: 400/440V AC 486: 480V AC	18: 100/110V AC 128: 120V AC 238: 200/220V AC 248: 240V AC 388: 380V AC 48: 400/440V AC 488: 480V AC	Transformer

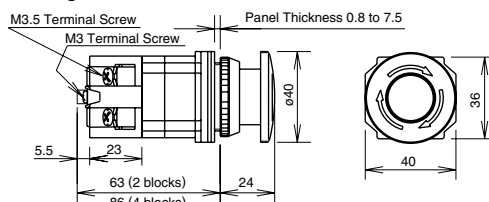
Note: When ordering 6V, 12V, 24V AC/DC units, specify "E" before the operating voltage code.
Example: AVLDE3③11NR

- Color code: R (red)
- **Pushlock Turn Reset:** Lens is maintained when pressed and is reset when turned clockwise. Red lens only.

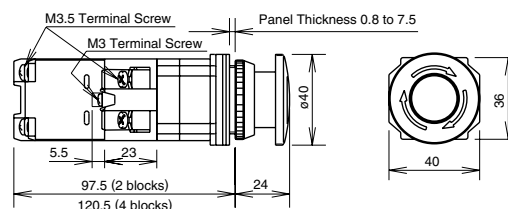
Note: AVLD3 and AVLDE3 pushlock turn reset switches cannot be used as emergency stop switches. When emergency stop switches are required, use XN or HN series emergency stop switches (ISO 13850 and IEC 60947-5-5 compliant).

Dimensions

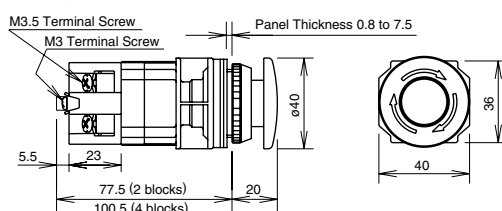
AVLD3 BA9S/Full Voltage



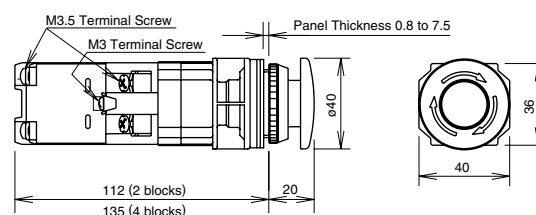
AVLD3 BA9S/Transformer



AVLDE3 E12/Full Voltage



AVLD3/AVLDE3 E12/Transformer



All dimensions in mm.

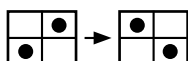
ø30 ø30 Diecast Zinc Series Selector Switches

ASD Selector Switches (Knob Operator)

No. of Positions	Shape					ASD					
	Contact Arrangement Chart					   					
90° 2-position	Contact Code	Contact Block		Operator Position			Maintained	Spring Return from Right	Spring Return from Left	—	
		Mounting Position	Contact	L	R						
	10 (1NO)	1	NO		●		ASD210N	ASD2110N	ASD2210N *		
		2	Dummy								
	11 (1NO-1NC)	1	NO		●		ASD211N	ASD2111N	ASD2211N *		
		2	NC	●							
	20 (2NO)	1	NO		●		ASD220N	ASD2120N	ASD2220N *		
		2	NO		●						
	22 (2NO-2NC)	1	NO		●		ASD222N	ASD2122N	ASD2222N *		
		2	NC	●							
3		NO		●							
4		NC	●								
45° 3-position	Contact Code	Contact Block		Operator Position			Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-way	
		Mounting Position	Contact	L	C	R					
	20 (2NO)	1	NO	●			ASD320N	ASD3120N	ASD3220N	ASD3320N	
		2	NO			●					
	40 (4NO)	1	NO	●			ASD340N	ASD3140N	ASD3240N	ASD3340N	
		2	NO			●					
		3	NO	●							
		4	NO			●					
	22 (2NO-2NC)	1	NO	●			ASD322N	ASD3122N	ASD3222N	ASD3322N	
		2	NO			●					
		3	NC								
		4	NC								
	02 (2NC)	1	NC				ASD302N	ASD3102N	ASD3202N	ASD3302N	
		2	NC								
	04 (4NC)	1	NC				ASD304N	ASD3104N	ASD3204N	ASD3304N	
		2	NC								
3		NC									
4		NC									

- Knob: Black
- Round bezel (metal): Chrome-plated
- Selector switches with one contact block contain a dummy block.
- On the 2-position selector switches marked with * above, the contact operation is reversed as follows.

[Example]

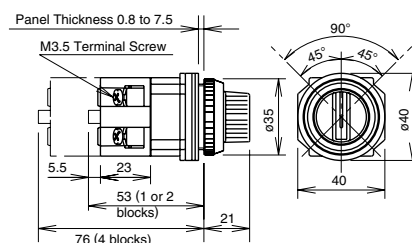


Contact Block Mounting Position and Contact Arrangement Chart



		Left	Center	Right	
		L	C	R	Operator Position
1	NO	●			
2	NO			●	
3	NC				
4	NC				

Dimensions



All dimensions in mm.

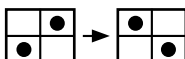
ø30 Diecast Zinc Series Selector Switches ø30

ASD□L Selector Switches (Lever Operator)

No. of Positions	Shape						ASD□L			
	Contact Arrangement Chart						   			
90° 2-position	Contact Code	Contact Block		Operator Position			Maintained	Spring Return from Right	Spring Return from Left	—
		Mounting Position	Contact	L	R					
	10 (1NO)	1	NO		●		ASD2L10N	ASD21L10N	ASD22L10N *	
		2	Dummy							
	11 (1NO-1NC)	1	NO		●		ASD2L11N	ASD21L11N	ASD22L11N *	
		2	NC	●						
	20 (2NO)	1	NO		●		ASD2L20N	ASD21L20N	ASD22L20N *	
		2	NO		●					
	22 (2NO-2NC)	1	NO		●		ASD2L22N	ASD21L22N	ASD22L22N *	
		2	NC	●						
3		NO		●						
4		NC	●							
45° 3-position	Contact Code	Contact Block		Operator Position			Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-way
		Mounting Position	Contact	L	C	R				
	20 (2NO)	1	NO	●			ASD3L20N	ASD31L20N	ASD32L20N	ASD33L20N
		2	NO			●				
	40 (4NO)	1	NO	●			ASD3L40N	ASD31L40N	ASD32L40N	ASD33L40N
		2	NO			●				
		3	NO	●						
		4	NO			●				
	22 (2NO-2NC)	1	NO	●			ASD3L22N	ASD31L22N	ASD32L22N	ASD33L22N
		2	NO			●				
		3	NC			■				
		4	NC	■						
	02 (2NC)	1	NC			■	ASD3L02N	ASD31L02N	ASD32L02N	ASD33L02N
		2	NC	■						
	04 (4NC)	1	NC			■	ASD3L04N	ASD31L04N	ASD32L04N	ASD33L04N
		2	NC	■						
		3	NC			■				
		4	NC	■						

- Lever: Black
- Round bezel (metal): Chrome-plated
- Selector switches with one contact block contain a dummy block.
- On the 2-position selector switches marked with * above, the contact operation is reversed as follows.

[Example]

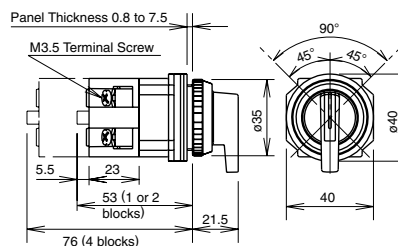


Contact Block Mounting Position and Contact Arrangement Chart



		Left	Center	Right	
		L	C	R	Operator Position
1	NO	●			
2	NO			●	
3	NC			■	
4	NC	■			

Dimensions



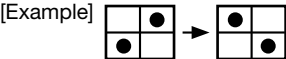
All dimensions in mm.

ø30 ø30 Diecast Zinc series Selector Switches

ASD□K Key Selector Switches

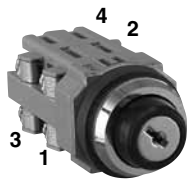
No. of Positions	Shape						ASD□K			
	Contact Arrangement Chart						   			
90° 2-position	Contact Code	Contact Block		Operator Position			Maintained	Spring Return from Right	Spring Return from Left	—
		Mounting Position	Contact	L	R					
	10 (1NO)	1	NO		●		ASD2K10N	ASD21K10N	ASD22K10N *	
		2	Dummy							
	11 (1NO-1NC)	1	NO		●		ASD2K11N	ASD21K11N	ASD22K11N *	
		2	NC	●						
	20 (2NO)	1	NO		●		ASD2K20N	ASD21K20N	ASD22K20N *	
		2	NO		●					
	22 (2NO-2NC)	1	NO		●		ASD2K22N	ASD21K22N	ASD22K22N *	
		2	NC	●						
		3	NO		●					
		4	NC	●						
45° 3-position	Contact Code	Contact Block		Operator Position			Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-way
		Mounting Position	Contact	L	C	R				
	20 (2NO)	1	NO	●			ASD3K20N	ASD31K20N	ASD32K20N	ASD33K20N
		2	NO			●				
	40 (4NO)	1	NO	●			ASD3K40N	ASD31K40N	ASD32K40N	ASD33K40N
		2	NO			●				
		3	NO	●						
		4	NO			●				
	22 (2NO-2NC)	1	NO	●			ASD3K22N	ASD31K22N	ASD32K22N	ASD33K22N
		2	NO			●				
		3	NC		■					
		4	NC	■						
	02 (2NC)	1	NC		■		ASD3K02N	ASD31K02N	ASD32K02N	ASD33K02N
		2	NC	■						
	04 (4NC)	1	NC		■		ASD3K04N	ASD31K04N	ASD32K04N	ASD33K04N
		2	NC	■						
		3	NC		■					
		4	NC	■						

- Cylinder: Black
- Round bezel (metal): Chrome-plated
- On the spring-returned, the keys can be released only from the maintained positions. On the maintained, the key can be released from every position. Key retained positions are also available. See page 81.
- Key selector switches are supplied with two standard keys.
- Key selector switches with one contact block contain a dummy block.
- On the 2-position selector switches marked with * above, the contact operation is reversed as follows.



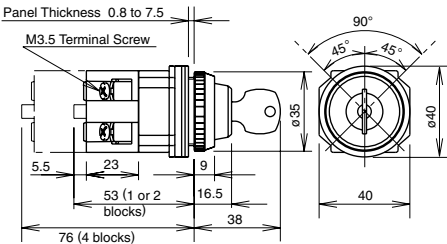
Contact Block Mounting Position and

Contact Arrangement Chart



		Left	Center	Right	
		L	C	R	Operator Position
1	NO	●			
2	NO			●	
3	NC		■		
4	NC	■			

Dimensions



All dimensions in mm.

ø30 Diecast Zinc Series Illuminated Selector Switches ø30

ASLD Illuminated Selector Switches

90° 2-position

Shape					ASLD (Base BA9S)			
								
Contact Arrangement Chart								
Contact Code	Contact Block		Operator Position		Lamp	Maintained 	Spring Return from Right 	Spring Return from Left 
	Mounting Position	Contact	L	R				
11 (1NO-1NC)	1	NO		●	Without Lamp	ASLD29911N②	ASLD219911N②	ASLD229911N② *
	2	NC	●		LED	ASLD2③11DN②	ASLD21③11DN②	ASLD22③11DN② *
					Incandescent	ASLD2③11N②	ASLD21③11N②	ASLD22③11N② *
20 (2NO)	1	NO		●	Without Lamp	ASLD29920N②	ASLD219920N②	ASLD229920N② *
	2	NO		●	LED	ASLD2③20DN②	ASLD21③20DN②	ASLD22③20DN② *
					Incandescent	ASLD2③20N②	ASLD21③20N②	ASLD22③20N② *
22 (2NO-2NC)	1	NO		●	Without Lamp	ASLD29922N②	ASLD219922N②	ASLD229922N② *
	2	NC	●					
	3	NO		●	LED	ASLD2③22DN②	ASLD21③22DN②	ASLD22③22DN② *
	4	NC	●					
				Incandescent	ASLD2③22N②	ASLD21③22N②	ASLD22③22N② *	

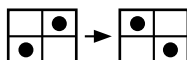
Color Code and Operating Voltage Code

Specify a code in place of ② or ③ in the Part No.

② Lens/LED Color Code		③ Operating Voltage Code		Input
LED	Incandescent	LED	Incandescent	
A: amber G: green R: red S: blue W: white Y: yellow	A: amber G: green R: red S: blue W: white	66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC	Full voltage
Use a pure white LED lamp for yellow illumination		16: 100/110V AC 136: 120V AC 26: 200/220V AC 256: 240V AC 386: 380V AC 46: 400/440V AC	16: 100/110V AC 136: 120V AC 26: 200/220V AC 256: 240V AC 386: 380V AC 46: 400/440V AC 486: 480V AC	Transformer

- On the 2-position selector switches marked with * above, the contact operation is reversed as follows.

[Example]



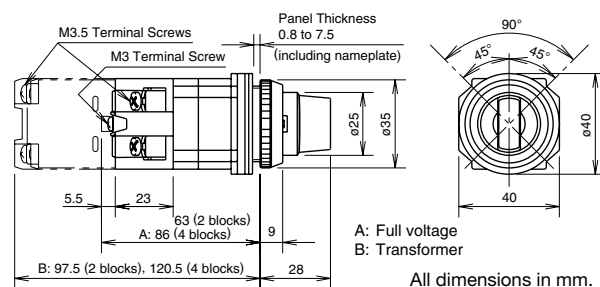
Contact Block Mounting Position and Contact Arrangement Chart



Diagram illustrating the grid structure and operator position:

		Left	Right	
				Operator Position
			L	R
1	NO			●
2	NC	●		
3	NO			●
4	NC	●		

Dimensions



ø30 ø30 Diecast Zinc Series Illuminated Selector Switches

ASLD Illuminated Selector Switches

45° 3-position

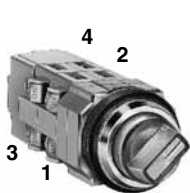
Contact Code	Contact Block		Operator Position			Lamp	Maintained	Spring Return from Right	Spring Return from left	Spring Return Two-way
	Mounting Position	Contact	L	C	R		L C R	L C R	L C R	L C R
20 (2NO)	1	NO	●			Without Lamp	ASLD39920N②	ASLD319920N②	ASLD329920N②	ASLD339920N②
	2	NO			●	LED	ASLD3③20DN②	ASLD31③20DN②	ASLD32③20DN②	ASLD33③20DN②
						Incandescent	ASLD3③20N②	ASLD31③20N②	ASLD32③20N②	ASLD33③20N②
02 (2NC)	1	NC		■		Without Lamp	ASLD39902N②	ASLD319902N②	ASLD329902N②	ASLD339902N②
	2	NC	■			LED	ASLD3③02DN②	ASLD31③02DN②	ASLD32③02DN②	ASLD33③02DN②
						Incandescent	ASLD3③02N②	ASLD31③02N②	ASLD32③02N②	ASLD33③02N②
22 (2NO-2NC)	1	NO	●			Without Lamp	ASLD39922N②	ASLD319922N②	ASLD329922N②	ASLD339922N②
	2	NO			●	Without Lamp	ASLD39922N②	ASLD319922N②	ASLD329922N②	ASLD339922N②
	3	NC		■		LED	ASLD3③22DN②	ASLD31③22DN②	ASLD32③22DN②	ASLD33③22DN②
	4	NC	■			LED	ASLD3③22DN②	ASLD31③22DN②	ASLD32③22DN②	ASLD33③22DN②
						Incandescent	ASLD3③22N②	ASLD31③22N②	ASLD32③22N②	ASLD33③22N②
40 (4NO)	1	NO	●			Without Lamp	ASLD39940N②	ASLD319940N②	ASLD329940N②	ASLD339940N②
	2	NO			●	Without Lamp	ASLD39940N②	ASLD319940N②	ASLD329940N②	ASLD339940N②
	3	NO	●			LED	ASLD3③40DN②	ASLD31③40DN②	ASLD32③40DN②	ASLD33③40DN②
	4	NO			●	LED	ASLD3③40DN②	ASLD31③40DN②	ASLD32③40DN②	ASLD33③40DN②
						Incandescent	ASLD3③40N②	ASLD31③40N②	ASLD32③40N②	ASLD33③40N②
04 (4NC)	1	NC		■		Without Lamp	ASLD39904N②	ASLD319904N②	ASLD329904N②	ASLD339904N②
	2	NC	■			Without Lamp	ASLD39904N②	ASLD319904N②	ASLD329904N②	ASLD339904N②
	3	NC		■		LED	ASLD3③04DN②	ASLD31③04DN②	ASLD32③04DN②	ASLD33③04DN②
	4	NC	■			LED	ASLD3③04DN②	ASLD31③04DN②	ASLD32③04DN②	ASLD33③04DN②
						Incandescent	ASLD3③04N②	ASLD31③04N②	ASLD32③04N②	ASLD33③04N②

Color Code and Operating Voltage Code

Specify a code in place of ② or ③ in the Part No.

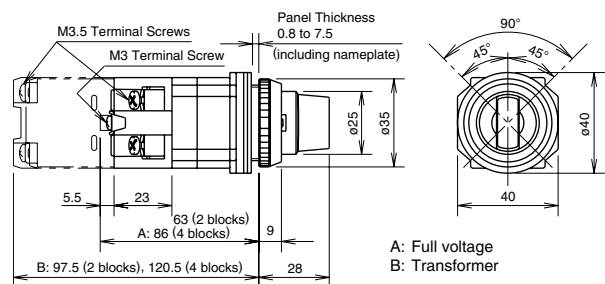
② Lens/LED Color Code		③ Operating Voltage Code		Input Type
LED	Incandescent	LED	Incandescent	
A: amber G: green R: red S: blue W: white Y: yellow	A: amber G: green R: red S: blue W: white	66: 6V AC/DC 11: 12V AC/DC 22: 24V AC/DC	66: 6V AC/DC 88: 12V AC/DC 33: 24V AC/DC	Full voltage
Use a pure white LED lamp for yellow illumination		16: 100/110V AC 136: 120V AC 26: 200/220V AC 256: 240V AC 386: 380V AC 46: 400/440V AC	16: 100/110V AC 136: 120V AC 26: 200/220V AC 256: 240V AC 386: 380V AC 46: 400/440V AC 486: 480V AC	Transformer

Contact Block Mounting Position and Contact Arrangement Chart



	Left	Center	Right	
	L	C	R	Operator Position
1	NO	●		
2	NO		●	
3	NC		■	
4	NC	■		

Dimensions



ø30 Diecast Zinc Series Selector Pushbuttons ø30

ASBD2 Ring Operator / ASBD2L Lever Operator Selector Pushbuttons

Shape	Contact Code	Circuit Code	Contact Block		Ring/Lever				Ring Operator	Lever Operator	Color
					Mounting Position	Contact	Normal	Push	Normal	Push	
Ring Operator (90° 2-Position) ASBD2	11 (1NO-1NC)	A03	1	NO		●		●	ASBD211N-A03①	ASBD2L11N-A03①	B: black G: green R: red Y: yellow
			2	NC	●						
		G03	1	NO		●			ASBD211N-G03①	ASBD2L11N-G03①	
			2	NC	●		●	Blocked			
	22 (2NO-2NC)	A08	1	NO		●		●	ASBD222N-A08①	ASBD2L22N-A08①	
			2	NC	●						
			3	NO		●		●			
			4	NC	●						
		C10	1	NO		●		●	ASBD222N-C10①	ASBD2L22N-C10①	
			2	NO				●			
3			NC	●							
4			NC	■							
D10		1	NO		●			ASBD222N-D10①	ASBD2L22N-D10①		
		2	NO				●				
		3	NC	●		■					
		4	NC	■		●					
E10		1	NO		●			ASBD222N-E10①	ASBD2L22N-E10①		
		2	NO				●				
		3	NC			■					
		4	NC	■							
F10		1	NO				●	ASBD222N-F10①	ASBD2L22N-F10①		
		2	NO		●						
		3	NC			●					
		4	NC	●							
G10	1	NO		●			ASBD222N-G10①	ASBD2L22N-G10①			
	2	NO		●							
	3	NC	●		●	Blocked					
	4	NC	●		●						









- Specify a button color code in place of ① in the Part No.
- Ring/Lever (Metal): Chrome-plated

Notes:

1. Circuit Code G: The pushbutton does not operate when the ring or lever operator is turned to the right position.
2. Circuit Codes E and F: The right and left NC contact blocks on circuit code E or F may overlap each other while turning the ring or lever operator. The NO and NC contact blocks on circuit code F may overlap each other while pressing the button.
3. When using the selector pushbutton, do not turn the ring or lever operator with the pushbutton depressed. Otherwise, damage or failure may be caused.
4. When installing the lever operator, make sure that the lever is not in the horizontal position. Otherwise, shock resistance may be degraded.

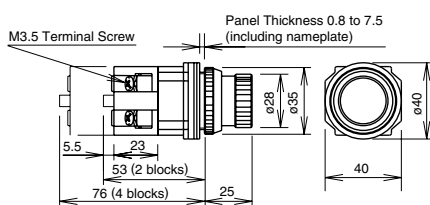
Contact Block Mounting Position and Contact Arrangement Chart



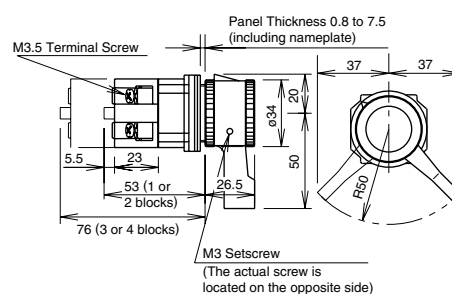
	Normal	Push
1		●
2	●	
3		●
4	●	

Dimensions

Ring Operator
(90° 2-position)
ASBD2



Lever Operator
(90° 2-position)
ASBD2L



ø30 ø30 Diecast Zinc Series Accessories and Replacement Parts

Accessories (For Diecast Zinc Series Only)

For other accessories, see pages 67 to 76.

Shape	Material	Part No.	Ordering No.	Package Quantity	Description
 Flush (Octagonal)  Extended (Octagonal)	Chrome-plated	OG-81	OG-81PN02	2	• Cannot be used with half-shrouds.
		OG-82	OG-82	1	
Spare Key 	Metal	TW-SK-0	TW-SK-0PN02	2	• For key selector switches

Maintenance Parts (For Diecast Zinc Series Only)

Shape	Specification	Part No.	Ordering No.	Package Quantity	Description
Button  ① Flush  ② Extended  ③ Mushroom  ④ Jumbo Mushroom	Plastic	① ABN1BN-①	ABN1BN-①PN05	5	Specify a color code in place of ①. B (black), G (green), R (red), S (blue), W (white), Y (yellow) • Above colors are used for ø30 diecast zinc switches & pilot lights (light colored operator units).
		② ABN2BN-①	ABN2BN-①PN05	5	
		③ ABN3BN-①	ABN3BN-①PN02	2	
		④ ABN4BN-①	ABN4BN-①	1	Specify a color code in place of ①. B (black), G (green), R (red), S (blue), Y (yellow)
Dummy Block  	Plastic	BST-D	BST-DPN10	10	• Used for 1NO or 1NC contact blocks. • Snaps on to the operator unit.
Selector Operator ① Knob ② Lever ③ Color Insert   	Plastic	① ASNHT-①	ASNHT-①PN02	2	Specify a color code in place of ①. B (blue), G (green), R (red)
	Plastic	② ASNHL-①	ASNHL-①PN02		
	Plastic	③ TW-HC1①	TW-HC1①PN05	5	Specify a color code in place of ①. B (black), G (green), R (red), S (blue), W (white), Y (yellow)

Safety Precautions

- Turn off the power to the ø30 diecast zinc switches & pilot lights before starting installation, removal, wiring, maintenance, and starting installation, removing, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid a burn on your hand, use the lamp holder tool when replacing lamps.
- For wiring, use wires of a proper size to meet the voltage and current requirements. Tighten the M3.5 terminal screws to a tightening torque of 1.0 to 1.3 N·m. Failure to tighten terminal screws may cause overheating and fire.

Instructions

Tightening Torque for Terminal Screws

Tighten the M3.5 terminal screws to a torque of 1.0 to 1.3 N·m.

Replacement of Lamps

Lamps can be replaced by using the lamp holder tool (OR-55) from the front of the panel.

- How to remove
To remove, slip the lamp holder tool onto the lamp head lightly. Then push slightly, and turn the lamp holder tool counterclockwise.
- How to install
To install, insert the lamp head into the lamp holder tool. Place the pins on the lamp base to the grooves in the lamp socket. Inset the lamp and turn it clockwise.

Installation of LED Illuminated Units

- When using full voltage LED illuminated units, provide protection against electrical noise, if necessary. See page 78 for notes on LED illuminated units.



OR-55



Specifications and other descriptions in this brochure are subject to change without notice.



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