

■ Command series

AR22/DR22



AF94-320



AF94-310



AF98-88

- 22mm diameter hole
- Mountable even on panel cutout 25mm in diameter.
- Provided with newly developed release arm
- Provided with terminal cover for safety and security
- UL, CSA, TÜV and CCC approved

AH164, 165



SK-1103



SK-1138

- 16mm diameter hole, finger-sized button
- Incandescent, neon and LED lamps are available.
- Block type contact
- AH165 series is oil-tight
- UL, CSA, TÜV and CCC approved

AR30/DR30



AF95-4



AF95-6



AF98-195

- 30mm diameter hole
- Provided with terminal cover for safety and security
- UL, CSA, TÜV and CCC approved

AH165-2



AF87-211



AF87-208

- 16mm diameter hole
- AH165-2 series are about twice as large as the AH165 series
- Incandescent, neon and LED lamps are available.
- Block type contact
- AH165-2 series is oil-tight
- UL, CSA, TÜV and CCC approved

AR22 and DR22

General information

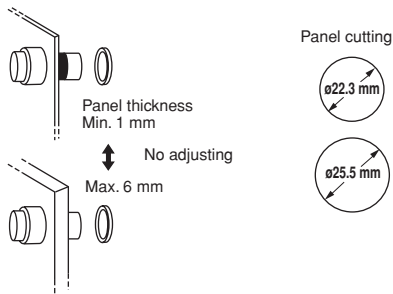
The AR22 now uses a release arm with a wedge mechanism developed by Fuji Electric FA. This enables you to mount or remove the operator and contact block without using any tools. When fitting the switch to a panel, you can ignore the panel thickness.

You have only to secure the operator with a locking nut from behind the panel without any need for adjustment. The improved locking nut is capable of mounting the operator in both 22.3mm and 25.5mm dia. panel cutout holes.

■ Features

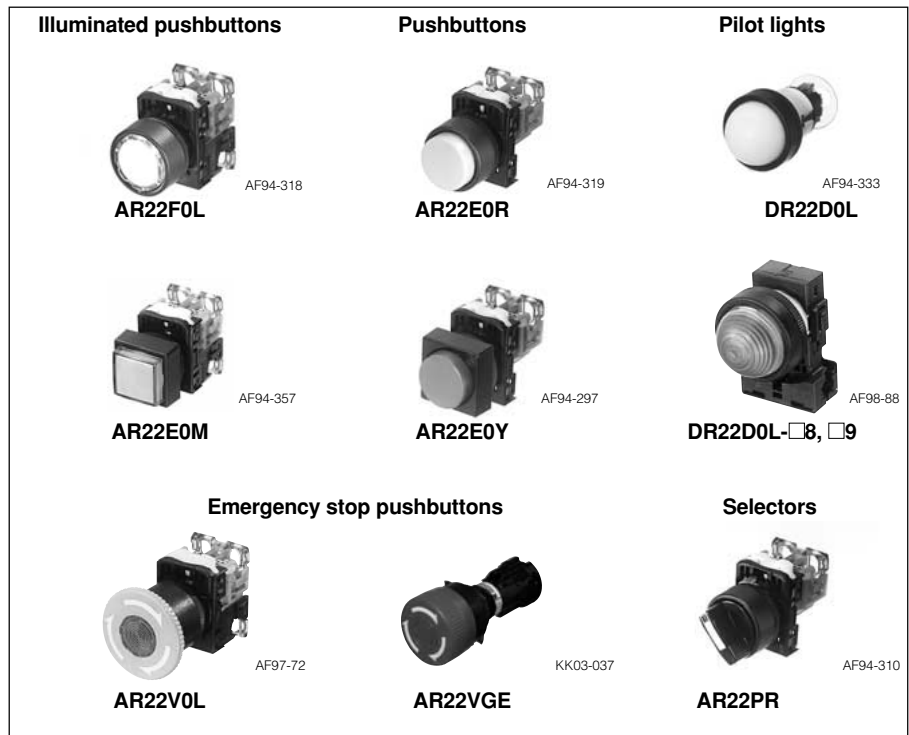
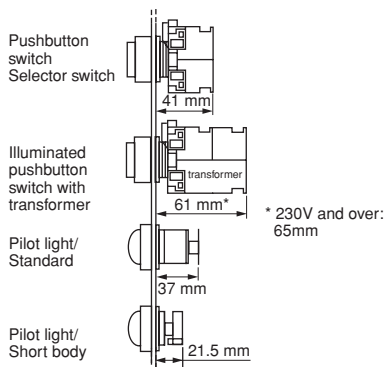
Facilitated mounting

- No adjusting of panel thickness is necessary.
- The button and lens can be mounted on a panel while the operator is engaged.
- Mountable even on a panel cutout 25.5mm in diameter.



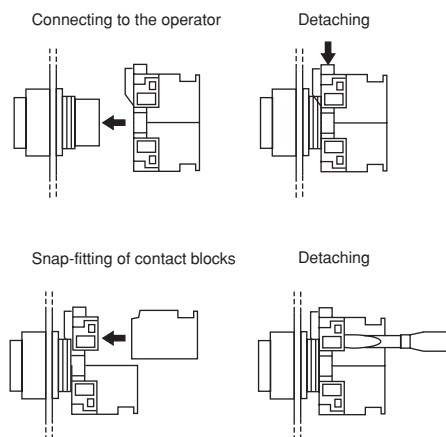
Miniaturization

- Pushbuttons and selector switches with 1NO+1NC: 41mm deep
- Pilot lights: 37mm deep
- The transformer now occupies far less space.



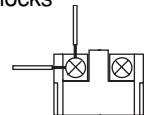
Easy replacing contact block and transformer

- Because of a snap-on mounting, replacement or addition of the contact block and transformer unit is very simple.
- The contact block is common to all the pushbuttons of this series.
- Contact block is easily replaced even when the pushbuttons are mounted closely together.
- Replacement of the contact block can be done with a screwdriver, without the need for any special tool.



Wiring

- Wiring from two directions is possible.
- Wiring in both vertical and lateral directions facilitates wiring in narrow spaces.
- Color coding of contact blocks makes wiring easy. 1NO: Blue, 1NC: Red
- Lamp terminal and transformer unit: Black



Safety

- A terminal cover is provided, assuring safety and security.
- FUJI's original Trigger Action mechanism is used in the emergency stop pushbuttons. They are suitable for emergency stop and safety. This mechanism prevents the contacts from moving until the button is pushed and locked.
- Reliability of safety functions increased by integrated operator and contact block construction. (AR22VG)

Protection

- Excellent oil-tight construction (IP65) of the operator.
- Closure of the contact block has been improved.

■ Approvals



For further information related to approved type, see page 04/3 to 04/06.



Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22







Quick reference guide

04

■ Illuminated pushbutton switches

Operator	Type	Operator	Type	Operator	Type
Flush round head <i>See page 04/17, 04/42</i>	AR22F0L, F5L  AF94-318	Extended with full guard (24mm dia. with openings) <i>See page 04/17, 04/42</i>	AR22G2L, G7L  AF99-319	Flush round head with square bezel <i>See page 04/18, 04/42</i>	AR22F0P, F5P  AF94-315
Extended round head <i>See page 04/17, 04/42</i>	AR22E0L, E5L  AF94-317	Extended with full guard (24mm dia.) <i>See page 04/18, 04/42</i>	AR22G1L, G6L  AF02-70	Extended round head with square bezel <i>See page 04/18, 04/42</i>	AR22E0P, E5P  AF94-314
Mushroom head (40mm dia.) <i>See page 04/17, 04/42</i>	AR22M0L, M5L  AF94-367	Push-lock, turn-reset (40mm dia. with white arrow) <i>See page 04/18, 04/42</i>	AR22V5L  AF97-72	Mushroom head with square bezel (29mm dia.) <i>See page 04/19, 04/42</i>	AR22M4P  AF94-440
Mushroom head (29mm dia.) <i>See page 04/17, 04/42</i>	AR22M4L, M9L  AF94-369	Flush square head <i>See page 04/18, 04/42</i>	AR22F0M, F5M  AF97-68		
Extended with transparent full guard (24mm dia.) <i>See page 04/17, 04/42</i>	AR22G4L, G9L  AF94-294	Extended square head <i>See page 04/18, 04/42</i>	AR22E0M, E5M  AF94-357		

■ Pushbutton switches

Operator	Type	Operator	Type	Operator	Type
Flush round head <i>See page 04/20, 04/43</i>	AR22F0R, F5R  AF94-320	Flush round head Symbol mark type <i>See page 04/20, 04/43</i>	AR22FAR, FBR  AF98-193	Mushroom head (40mm dia.) <i>See page 04/20, 04/43</i>	AR22M0R, M5R  AF94-293
Extended round head <i>See page 04/20, 04/43</i>	AR22E0R, E5R  AF94-319	Extended round head Symbol mark type <i>See page 04/20, 04/43</i>	AR22EAR, EBR  AF98-192	Mushroom head (29mm dia.) <i>See page 04/20, 04/43</i>	AR22M4R, M9R  AF94-321

Note (CCC) : *See page 04/242*

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

Quick reference guide

■ Pushbutton switches

Operator	Type	Operator	Type	Operator	Type
Extended with full guard (24mm dia.) <i>See page 04/20, 04/43</i> 	AR22G3R, G8R  AF94-292	Pushbutton with selector ring (2-position) <i>See page 04/22, 04/43</i> 	AR22S1R, S2R, S3R, S6R  AF97-507	Flush round head with square bezel <i>See page 04/20, 04/43</i> 	AR22F0Y, F5Y  AF94-295
Flush with full guard (24mm dia.) <i>See page 04/20, 04/43</i> 	AR22G2R, G7R  AF02-68	Push-lock, turn-reset (40mm dia. with white arrow) <i>See page 04/20, 04/43</i> 	AR22V5R  AF97-70	Extended round head with square bezel <i>See page 04/21, 04/43</i> 	AR22E0Y, E5Y  AF94-297
Extended with half guard <i>See page 04/20, 04/43</i> 	AR22G0R, G5R  AF96-236	Flush square head <i>See page 04/20, 04/43</i> 	AR22F0S, F5S  AF94-316	Mushroom head with square bezel (29mm dia.) <i>See page 04/21, 04/43</i> 	AR22M4Y  AF94-298
Mushroom head with full guard (40mm dia.) <i>See page 04/20, 04/43</i> 	AR22M3R, M8R  AF94-372	Extended square head <i>See page 04/20, 04/43</i> 	AR22E0S, E5S  AF94-296		













Note: AR22M8R: Not approved standard


■ Emergency stop pushbutton switches (conform to EN418)

Operator	Type	Operator	Type	Operator	Type
Push-lock, turn-reset (Soft-touch 40mm dia. with white arrow) <i>See page 04/23, 04/44</i> 	AR22V0R  AF97-70	Push-lock, turn-reset (29mm dia.) <i>See page 04/23, 04/44</i> 	AR22V4R  AF95-53	Unibody push-lock, turn-reset (Soft-touch 40mm dia. with white arrow) <i>See page 04/23, 04/44</i> 	AR22VGE  KK03-037
Push-lock, turn-reset (40mm dia.) <i>See page 04/23, 04/44</i> 	AR22V2R  AF94-432	Key release push-lock, turn-reset (40mm dia.) <i>See page 04/23, 04/44</i> 	AR22V7R  AF98-37		
Push-lock, turn-reset (Soft-touch 29mm dia. with white arrow) <i>See page 04/23, 04/44</i> 	AR22VSR  AF99-317	Push-lock, pull-reset (35mm dia.) <i>See page 04/23, 04/44</i> 	AR22Q2R  AF95-52		

Notes: Provided with the  (Direct opening action)  : See page 04/242

■ **Emergency stop illuminated pushbutton switches** (conform to EN418)





Operator	Type	Operator	Type	Operator	Type
Push-lock, turn-reset (Soft-touch 40mm dia. with white arrow) See page 04/24, 04/45 	AR22V0L  AF97-72	Push-lock, turn-reset (Soft-touch 40mm dia. transparent in all colors with white arrow) See page 04/24, 04/45 	AR22VDL  AF97-77	Push-lock, turn-reset (Soft touch 29mm dia. with white arrow) See page 04/24, 04/45 	AR22VSL  AF99-316
Push-lock, turn-reset (40mm dia.) See page 04/24, 04/45 	AR22V2L  AF94-307	Push-lock, turn-reset (40mm dia. transparent in all colors) See page 04/24, 04/45 	AR22VAL  AF94-365	Unibody push-lock, turn-reset (Soft-touch 40mm dia. with white arrow) See page 04/24, 04/45 	AR22VGF  KK03-036

Note: Provided with the  (Direct opening action)

■ **Selector switches**

Operator	Type	Operator	Type	Operator	Type
Knob See page 04/25, 04/46 	AR22PR, PCR  AF94-310	Key See page 04/25, 04/46 	AR22JR, JCR  AF94-311	Lever with square bezel See page 04/25, 04/46 	AR22WY, WCY  AF94-323
Lever See page 04/25, 04/46 	AR22WR, WCR  AF94-324	Key (Long durability) See page 04/25, 04/46 	AR22JAR  AF94-311	Cylindrical knob with square bezel See page 04/25, 04/46 	AR22RY, RCY  AF94-362
Cylindrical knob See page 04/25, 04/46 	AR22RR, RCR  AF94-308	Knob with square bezel See page 04/25, 04/46 	AR22PY, PCY  AF94-309	Key with square bezel See page 04/25, 04/46 	AR22JY, JCY  AF94-322

■ **Illuminated selector switches**

Operator	Type	Operator	Type
Knob See page 04/32, 04/47 	AR22PL  AF94-306	Knob with square bezel See page 04/32, 04/47 	AR22PP  AF94-318

Note  : See page 04/242

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22







Quick reference guide

■ Pilot lights






Lens	Type	Lens	Type	Lens	Type
Dome	DR22D0L  AF94-333	Flush square	DR22F3M  AF94-330	Extended square	DR22E3M  AF94-380
<i>See page 04/34, 04/47</i>		<i>See page 04/34, 04/49</i>		<i>See page 04/34, 04/48</i>	
					
Extended round	DR22E3L  AF94-332	Flush square (Transparent lens)	DR22F4M  AF94-443	Flush rectangular	DR22E3N  AF96-237
<i>See page 04/34, 04/48</i>		<i>See page 04/34, 04/49</i>		<i>See page 04/34, 04/50</i>	
					
Faceted	DR22K0L  AF96-189	Flush square (12mm high frame)	DR22F5M  AF95-658	Extended round with square bezel	DR22E3P  AF94-331
<i>See page 04/34, 04/48</i>		<i>See page 04/34, 04/49</i>		<i>See page 04/34, 04/48</i>	
					

Note: With resistor unit type: Not approved standard

■ Joy stick selector switches



Handle	Type	Handle	Type	Handle	Type
Ball type	AR22A0, A5  AF97-49	Ball type with lock	AR22A1, A6  AF97-45	Rubber cap type	AR22A2, A7  AF97-56
<i>See page 04/38, 04/50</i>		<i>See page 04/38, 04/50</i>		<i>See page 04/38, 04/51</i>	
					

■ Buzzers

Sound	Type	Sound	Type	Sound	Type
Electronic sound	DR22B5 *  AF96-377	Magnetic sound	DR22B3  AF96-376	Electronic sound (IP54)	DR22B8 *  AF96-244
<i>See page 04/39, 04/51</i>		<i>See page 04/39, 04/51</i>		<i>See page 04/39, 04/51</i>	
					

Note: * 6V AC, 110V DC types: Not approved standard

■ Numerical indicators

Display	Type	Display	Type
One-digit	DR22N1  KK02-548	Two-digit	DR22N2  KK02-16B
<i>See page 04/40, 04/52</i>		<i>See page 04/40, 04/52</i>	

Note (CC): See page 04/242

Illuminated pushbuttons

AR22 E0L – 10 E3 R □

① ② ③ ④ ⑤ ⑥

① **Product category**

AR22: 22mm-dia. illuminated pushbutton
 22mm-dia. emergency stop illuminated pushbutton

② **Operator**

- Illuminated pushbutton
- F0L: Flush round head
- F5L: Flush round head (Alternate)
- E0L: Extended round head
- E5L: Extended round head (Alternate)
- M0L: Mushroom head (40mm dia.)
- M5L: Mushroom head (40mm dia. alternate)
- M4L: Mushroom head (29mm dia.)
- M9L: Mushroom head (29mm dia. alternate)
- G4L: Extended with transparent full guard (24mm dia.)
- G9L: Extended with transparent full guard (24mm dia. alternate)
- G2L: Extended with full guard (24mm dia. with openings)
- G7L: Extended with full guard (24mm dia. with openings, alternate)
- G1L: Extended with full guard (24mm dia.)
- G6L: Extended with full guard (24mm dia. alternate)
- V5L: Push-lock, turn-reset (40mm dia. with white arrow) *1
- F0M: Flush square head
- F5M: Flush square head (Alternate)
- E0M: Extended square head
- E5M: Extended square head (Alternate)
- F0P: Flush round head with square bezel
- F5P: Flush round head with square bezel (Alternate)
- E0P: Extended round head with square bezel
- E5P: Extended round head with square bezel (Alternate)
- M4P: Mushroom head with square bezel (29mm dia.)
- Emergency stop illuminated pushbutton
- V0L: Push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)
- V2L: Push-lock, turn-reset (40mm dia.)
- VDL: Push-lock, turn-reset (Soft-touch 40mm dia. transparent in all colors with white arrow)
- VAL: Push-lock, turn-reset (40mm dia. transparent in all colors)
- VSL: Push-lock, turn-reset (Soft-touch 29mm dia. with white arrow)
- VGF: Unibody push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)

③ **Contact arrangement**

- | | |
|-------------|---------|
| 10: 1NO | 30: 3NO |
| 01: 1NC | 03: 3NC |
| 11: 1NO+1NC | 40: 4NO |
| 20: 2NO | 04: 4NC |
| 02: 2NC | 50: 5NO |
| 22: 2NO+2NC | 05: 5NC |

④ **Lamp voltage**

- Incandescent lamp
- 54: 5.5V AC/DC, without transformer
- C4: 15V AC/DC, without transformer
- D4: 20V AC/DC, without transformer
- E4: 24V AC/DC, without transformer
- H4: 100-110V AC, with transformer
- L4: 115-127V AC, with transformer
- M4: 200-220V AC, with transformer
- Q4: 230-254V AC, with transformer
- S4: 350-380V AC, with transformer
- T4: 400-440V AC, with transformer
- V4: 480V AC, with transformer
- W4: 500-550V AC, with transformer
- LED lamp
- A3: 6V AC, without transformer
- 63: 6V DC, without transformer
- B3: 12V AC/DC, without transformer
- C3: 15V AC/DC, without transformer
- E3: 24V AC/DC, without transformer
- H3: 100-110V AC, with transformer
- L3: 115-127V AC, with transformer
- M3: 200-220V AC, with transformer
- Q3: 230-254V AC, with transformer
- S3: 350-380V AC, with transformer
- T3: 400-440V AC, with transformer
- V3: 480V AC, with transformer
- W3: 500-550V AC, with transformer

- Neon lamp (For AR22VGF)
- H1: 110V AC, without transformer
- K1: 120V AC, without transformer
- M1: 220V AC, without transformer
- P1: 240V AC, without transformer

⑤ **Color of lens**

- | | |
|-----------|-----------|
| G: Green | Y: Yellow |
| R: Red *2 | A: Orange |
| W: White | S: Blue |

⑥ **Special product**

- Z9: Resisting water-soluble cutting oils and heat
- Z8: With a contact protection cover
- Z4: Resisting sulfuration gas
- ZB: Meeting IP2X finger-protection standards

Notes: *1 Products with no trigger action mechanism. These products cannot be used as emergency stop switches that comply with EN standards.

*2 Button color of emergency stop illuminated switches are Red only.



- The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

Type number nomenclature

Pushbuttons

AR22 E0R – 10 R  

① ② ③ ④ ⑤ ⑥

① Product category

AR22: 22mm-dia. pushbutton
22mm-dia. emergency stop pushbutton

② Operator

- Pushbutton switch
- F0R: Flush round head
- F5R: Flush round head (Alternate)
- E0R: Extended round head
- E5R: Extended round head (Alternate)
- FAR: Flush round head (Symbol mark type)
- FBR: Flush round head (Symbol mark type, alternate)
- EAR: Extended round head (Symbol mark type)
- EBR: Extended round head (Symbol mark type, alternate)
- M0R: Mushroom head (40mm dia.)
- M5R: Mushroom head (40mm dia. Alternate)
- M4R: Mushroom head (29mm dia.)
- M9R: Mushroom head (29mm dia. Alternate)
- G3R: Extended with full guard (24mm dia.)
- G8R: Extended with full guard (24mm dia. Alternate)
- G2R: Flush with full guard (24mm dia.)
- G7R: Flush with full guard (24mm dia. Alternate)
- G0R: Extended with half guard
- G5R: Extended with half guard (Alternate)
- M3R: Mushroom head with full guard (40mm dia.)
- M8R: Mushroom head with full guard (40mm dia. Alternate)
- S1R: Push-button with selector ring (2-position)
- S2R: Push-button with selector ring (2-position)
- S3R: Push-button with selector ring (2-position)
- S6R: Push-button with selector ring (2-position)
- V5R: Push-lock, turn-reset (40mm dia. with white arrow) *1
- F0S: Flush square head
- F5S: Flush square head (Alternate)
- E0S: Extended square head
- E5S: Extended square head (Alternate)
- F0Y: Flush round head with square bezel
- F5Y: Flush round head with square bezel (Alternate)
- E0Y: Extended round head with square bezel
- E5Y: Extended round head with square bezel (Alternate)
- M4Y: Mushroom head with square bezel (29mm dia.)
 - Emergency stop pushbutton switch
- V0R: Push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)
- V2R: Push-lock, turn-reset (40mm dia.)
- VSR: Push-lock, turn-reset (Soft-touch 29mm dia. with white arrow)
- V4R: Push-lock, turn-reset (29mm dia.)
- V7R: Key-release push-lock, turn-reset (40mm dia.)
- Q2R: Push-lock, pull-reset (35mm dia.)
- VGE: Unibody push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)

③ Contact arrangement

10: 1NO	30: 3NO
01: 1NC	03: 3NC
11: 1NO+1NC	33: 3NO+3NC
20: 2NO	40: 4NO
02: 2NC	04: 4NC
22: 2NO+2NC	50: 5NO
	05: 5NC

④ Color of button

G: Green	Y: Yellow
R: Red ²	A: Orange
B: Black	S: Blue
W: White	C: Clear
T: Green, Red, Black (For AR22F0R)	(For AR22FAR, FBR, EAR, EBR)

⑤ Symbol mark (For AR22FAR, FBR, EAR, EBR)

Symbol mark	○	I	Ⓢ	○	I	Ⓢ	
Color of button	White	Black	White	Black	White	Black	Clear
Color of mark	Red		Green		Green		Black
Code	01	02	03	04	11	12	02B 04B 12B

⑥ Special product

Z9: Resisting water-soluble cutting oils and heat
Z8: With a contact protection cover
Z4: Resisting sulfuration gas
ZB: Meeting IP2X finger-protection standards

Notes: *1 Products with no trigger action mechanism. These products cannot be used as emergency stop switches that comply with EN standards.

*2 Button color of emergency stop switches are Red only.

• The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.

Selector and illuminated selector switches

AR22 PL – 2 □ **10 E3 G** □ □

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Product category**

AR22: 22mm dia. selector switch and illuminated selector switch

② **Operator**

- Selector switch
- PR: Knob
- PCR: Knob operated control type
- WR: Lever
- WCR: Lever operated control type
- RR: Cylindrical knob
- RCR: Cylindrical knob operated control type
- JR: Key
- JCR: Key operated control type
- JAR: Key (Long durability)
- PY: Knob with square bezel
- PCY: Knob operated control type with square bezel
- WY: Lever with square bezel
- WCY: Lever operated control type with square bezel
- RY: Cylindrical knob with square bezel
- RCY: Cylindrical knob operated control type with square bezel
- JY: Key with square bezel
- JCY: Key operated control type with square bezel
- Illuminated selector switch
- PL: Knob
- PP: Knob with square bezel

③ **Operation**

- 2: 2-position, maintained
- 0: 2-position, spring return
- 3: 3-position, maintained
- 6: 3-position, spring/manual return (Left to center)
- 7: 3-position, spring/manual return (Right to center)
- 1: 3-position, spring return
- 4: 4-position, maintained (For AR22PCR, WCR, RCR)
- 5: 5-position, maintained (For AR22PCR, WCR, RCR)

④ **Key removable position**

- A: Left
- B: Left and right
- C: Left, right and center
- D: Right
- E: Center
- F: Right and center
- G: Left and center

⑤ **Contact arrangement**

- | | |
|-------------|-------------|
| 10: 1NO | 30: 3NO |
| 01: 1NC | 03: 3NC |
| 11: 1NO+1NC | 33: 3NO+3NC |
| 20: 2NO | 40: 4NO |
| 02: 2NC | 04: 4NC |
| 22: 2NO+2NC | 50: 5NO |
| | 05: 5NC |

Note: Control type: See page 04/29 to 04/31

⑥ **Lamp voltage**

- Incandescent lamp
- 54: 5.5V AC/DC, without transformer
- C4: 15V AC/DC, without transformer
- D4: 20V AC/DC, without transformer
- E4: 24V AC/DC, without transformer
- H4: 100-110V AC, with transformer
- L4: 115-127V AC, with transformer
- M4: 200-220V AC, with transformer
- Q4: 230-254V AC, with transformer
- S4: 350-380V AC, with transformer
- T4: 400-440V AC, with transformer
- V4: 480V AC, with transformer
- W4: 500-550V AC, with transformer
- LED lamp
- A3: 6V AC, without transformer
- 63: 6V DC, without transformer
- B3: 12V AC/DC, without transformer
- C3: 15V AC/DC, without transformer
- E3: 24V AC/DC, without transformer
- H3: 100-110V AC, with transformer
- L3: 115-127V AC, with transformer
- M3: 200-220V AC, with transformer
- Q3: 230-254V AC, with transformer
- S3: 350-380V AC, with transformer
- T3: 400-440V AC, with transformer
- V3: 480V AC, with transformer
- W3: 500-550V AC, with transformer

⑦ **Color of knob**

- B: Black (Not available for illuminated selector switch)
- G: Green
- R: Red
- W: White (Not available for selector switch)
- Y: Yellow (Not available for selector switch)
- A: Orange (Not available for selector switch)
- S: Blue (Not available for selector switch)

⑧ **Key type No.**

- A, B, C, D, E or F
- ("A" is standard)

⑨ **Special product**

- Z9: Resisting water-soluble cutting oils and heat
- Z8: With a contact protection cover
- Z4: Resisting sulfuration gas
- ZB: Meeting IP2X finger-protection standards

Note: • The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.

AR22 and DR22

Type number nomenclature

Pilot lights

DR22 D0L – E3 W □

① ② ③ ④ ⑤

① Product category

DR22: 22mm dia. pilot light

② Lens

D0L: Dome

E3L: Extended round

K0L: Faceted

F3M: Flush square

F4M: Flush square (Transparent lens)

F5M: Flush square (12mm high frame)

E3M: Extended square

E3N: Flush rectangular

E3P: Extended round with square bezel

③ Lamp voltage

• Incandescent lamp

54: 5.5V AC/DC, without transformer

C4: 15V AC/DC, without transformer

D4: 20V AC/DC, without transformer

E4: 24V AC/DC, without transformer

H4: 100-110V AC, with transformer

L4: 115-127V AC, with transformer

M4: 200-220V AC, with transformer

Q4: 230-254V AC, with transformer

S4: 350-380V AC, with transformer

T4: 400-440V AC, with transformer

V4: 480V AC, with transformer

W4: 500-550V AC, with transformer

• LED lamp

A3: 6V AC, without transformer

B3: 6V DC, without transformer

B3: 12V AC/DC, without transformer

C3: 15V AC/DC, without transformer

E3: 24V AC/DC, without transformer

H3: 100-110V AC, with transformer

L3: 115-127V AC, with transformer

M3: 200-220V AC, with transformer

Q3: 230-254V AC, with transformer

S3: 350-380V AC, with transformer

T3: 400-440V AC, with transformer

V3: 480V AC, with transformer

W3: 500-550V AC, with transformer

H7: 110V DC, with resistor unit

58: 5.5V AC/DC, short-body without transformer

C8: 15V AC/DC, short-body without transformer

D8: 20V AC/DC, short-body without transformer

E8: 24V AC/DC, short-body without transformer

H8: 100-110V AC, short-body with transformer

L8: 115-127V AC, short-body with transformer

M8: 200-220V AC, short-body with transformer

A9: 6V AC, short-body without transformer

B9: 6V DC, short-body without transformer

B9: 12V AC/DC, short-body without transformer

C9: 15V AC/DC, short-body without transformer

E9: 24V AC/DC, short-body without transformer

H9: 100-110V AC, short-body with transformer

L9: 115-127V AC, short-body with transformer

M9: 200-220V AC, short-body with transformer

④ Color of lens

G: Green

Y: Yellow

R: Red

A: Orange

W: White

S: Blue

⑤ Special product

Z9: Resisting water-soluble cutting oils and heat

Z4: Resisting sulfuration gas

ZB: Meeting IP2X finger-protection standards

Note: • The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.

Joy stick selector switches

AR22A 0 N – A0A0 B

① ②③ ④ ⑤

① **Product category**

AR22A: 22mm-dia. Joy stick selector switch

② **Handle**

- 0: Ball type (without lock, manual return)
- 1: Ball type with lock (manual return)
- 2: Rubber cap type (without lock, manual return)
- 5: Ball type (without lock, spring return)
- 6: Ball type with lock (spring return)
- 7: Rubber cap type (without lock, spring return)

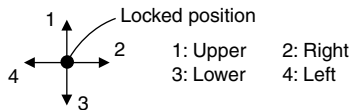
③ **Terminal**

- N: Screw
- H: Solder/tab

④ **Contact arrangement**

Contact arrangement	Blank	1NO	1NC	1NO+1NC	2NO	2NC	2NO+2NC
Code	Screw	0	A	B	1	D	E
	Solder/tab	0	-	-	1	-	2

Operating direction code of contacts



Ex. AR22A0N-A 0 A 0 B
1 2 3 4

⑤ **Handle color**

- B: Black

■ **Ordering information**

Specify the following:

1. Type number
 For the CCC approved product, add the suffix **(CCC)** to the type number

Example: Pushbutton switch **AR22F0R-11B(CCC)**

Buzzers

DR22B 5 – E B

① ② ③④

① **Product category**

DR22B: 22mm-dia. buzzer

② **Sound**

- 5: Electronic sound
- 3: Magnetic sound
- 8: Electronic sound (IP54)

③ **Operating voltage**

- A: 6V AC (Type "5", "8")
- 6: 6V DC (Type "5", "8")
- E: 12-24V AC/DC (Type "3": 24V AC/DC)
- F: 35-48V AC/DC (Type "5", "8")
- H: 100-110V AC
- M: 200-220V AC
- 1: 100-110V DC (Type "5", "8")

④ **Color of head**

- B: Black

Numerical indicators

DR22N 1 – N E R □

① ② ③④⑤⑥

① **Product category**

DR22N: 22mm-dia. numerical indicators

② **Display**

- 1: One-digit
- 2: Two-digit

③ **Input logic**

- N: Negative logic
- P: Positive logic

④ **Operating voltage**

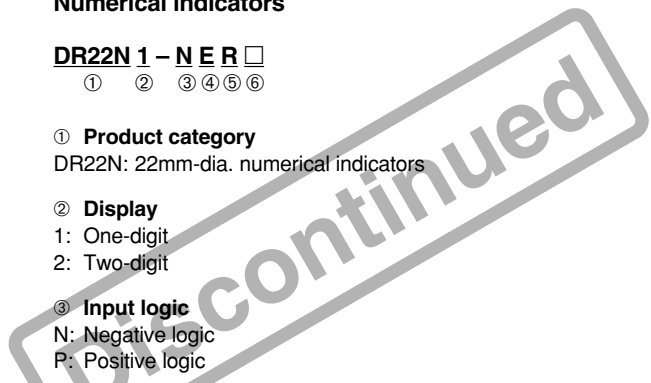
- B: 12V DC
- E: 24V DC

⑤ **Luminous color**

- R: Red
- G: Green

⑥ **Terminal**

- Blank: Solder
- C: Solder (with connector)
- R: With right angle connector



Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

Ratings and specifications

■ Standards approved

UL508	File No. E44592
CSA C22.2 No.14	File No. LR20479 cUL File No. E44592 (For AR22VG)
TÜV: EN60947-5-1	Pushbutton, Illuminated pushbutton: R9551062, Selector, Illuminated selector: R9551060 Pilot lights: R9551061 Joy stick selector switch: R2050803 (Lever switch) Buzzer: J9950091
TÜV: EN60947-5-1 EN60947-5-5	Emergency stop pushbutton Emergency stop illuminated pushbutton : R50028146, R50028137 (For AR22VG)

■ Specifications (Indoor use)

Description	Pushbutton switch Illuminated pushbutton switch Emergency stop pushbutton switch Emergency stop illuminated pushbutton switch Selector switch Illuminated selector switch	Joy stick selector (Lever switch)	Pilot light	Numerical indicator
Rated insulation voltage	600V AC/DC *1	250V AC/DC	250V AC/DC *2	32V AC/DC
Mechanical durability	See page 04/13	250,000 operations	—	—
Electrical durability	500,000 operations at 220V AC 6A 1 million operations at 220V AC 3A (AR22VG type: 100,000 operations)	100,000 operations at 220V AC 1A (Res. load)	—	—
Operating frequency	1200 operations/hour (On-load factor: 40%) AR22VG type: 1800 operations/hour (On-load factor: 40%)	—	—	—
Dielectric strength	2500V AC, 1 minute *3	2000V AC, 1 minute *4	—	1000V AC, 1 minute
Insulation resistance	100MΩ or more (500V DC megger)			
Rated impulse dielectric strength	6kV (AR22VG type: 4kV)	—	6kV	—
Conditional short-circuit current	1000A	1000A	—	—
Short-circuit protective device	Fuse 15A	Fuse 1A	—	—
Pollution degree	3			
Vibration	Resonance: 10 to 55Hz, double amplitude 0.1mm *5 Constant: 16.7Hz, double amplitude 3mm			
Shock	Malfunction durability: 100m/s ² *6 Mechanical durability: 500m/s ²		Mechanical durability: 500m/s ²	
Ambient temperature (No condensation or no icing)	-20 to +70°C *7	-5 to +70°C	-20 to +50°C	-20 to +40°C
Storage temperature	-40 to +80°C			-30 to +85°C
Humidity	45 to 85% RH (within -5 to +40°C)			
Degree of protection	IP65			

Notes: *1 Illuminated type without transformer and AR22VG type: 250V AC/DC

*2 Pilot light with transformer: 600V AC

*3 Illuminated type without transformer: 2000V AC, 1 minute (except AR22VGF type)

*4 Pilot light with transformer: 2500V AC, 1 minute

*5 Emergency stop type: 10 to 500Hz, double amplitude 0.7mm (acceleration 50m/s²), according to the test condition of EN60947-5-5 (1998)

*6 Emergency stop type: 150m/s²

*7 AR22VGE type: -20 to +60°C, illuminated type: -20 to +50°C

Pushbuttons/Selectors/Pilot Lights/Buzzers AR22 and DR22 Ratings and specifications

● Mechanical durability

Description		Operations
Pushbutton switch	Momentary action	5 million
Illuminated pushbutton switch	Alternate action	1 million
Emergency stop pushbutton switch	With selector ring	100,000
Emergency stop illuminated pushbutton	Push-lock, turn-reset	100,000
	Push-lock, pull-reset	30,000
Selector switch	Maintained 1, 2, 3, 4-contact	1 million
	Maintained 5, 6-contact	500,000
	Control type, spring return, spring/manual return	200,000
Illuminated selector switch	Maintained	
	Without transformer 1, 2, 3-contact	1 million
	4-contact	500,000
	With transformer 1, 2-contact	1 million
	3-contact	500,000
	Spring return, spring/manual return	200,000

Note: Key insertion/removal durability for selector switch key types
 • Key type 10,000
 • Key (Long durability) type 20,000

● Buzzers

Item	DR22B5	DR22B3	DR22B8
Rated insulation voltage	Without transformer: 60V AC/DC With transformer: 250V AC		
Sound level	90dB (0.1m) 70dB (1m)	80 to 90dB (0.1m) 60 to 70dB (1m)	80dB (0.1m) 60dB (1.0m)
Durability	1000h	200h	1000h
Frequency	2.4 to 3.3kHz		
Intermittent cycle	Approx. 170-cycle/min		
Current consumption	See the table below		
Dielectric strength	Without transformer: 1000V AC 1 minute With transformer: 2000V AC 1 minute		
Insulation resistance	100MΩ or more (500V DC megger)		
Pollution degree	3		
Vibration	Resonance: 10 to 55Hz, double amplitude 0.1mm Constant: 16.7Hz, double amplitude 3.0mm		
Shock	Mechanical durability: 500m/s ²		
Ambient temperature	-20 to +60°C (No condensation or no icing) (with resistor unit: -20 to +40°C)		
Storage temperature	-30 to +70°C		
Humidity	45 to 85%RH (within -5 to 40°C)		
Degree of protection	IP00		IP54

● Current consumption

Operational voltage	Current consumption	
	DR22B5, DR22B8	DR22B3
6V AC	70mA AC	—
6V DC	35mA DC	—
24V AC/DC	40mA AC, 25mA DC	30mA AC, 20mA DC
48V AC/DC	65mA AC, 20mA DC	—
110V AC	30mA AC	30mA AC
110V DC	30mA DC	—
220V AC	15mA AC	15mA AC

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

Ratings and specifications

■ **Contact ratings**
 ● **UL/CSA standards**
AC (COS $\phi=0.35$)

Contact rated code	120V		240V		480V		600V	
	Making current	Breaking current	Making current	Breaking current	Making current	Breaking current	Making current	Breaking current
A600	60A	6.0A	30A	3.0A	15A	1.5A	12A	1.2A
B300 (AR22VG)	30A	3.0A	15A	1.5A	–	–	–	–

DC $T_{0.95}=6P$ (Max. 300ms)

Description	Contact rated code	Making current · Breaking current		
		125V	250V	301V–600V
Illuminated pushbutton switch Pushbutton (Ring type selector switch: AR22S2R only) Emergency stop pushbutton switch	P600	1.1A	0.55A	0.2A
Emergency stop illuminated pushbutton switch (Except the overlap contact types)	Q300 (AR22VG)	0.55A	0.27A	–
Overlap contact types of products shown above Pushbutton (Ring type selector switch: AR22S1R, S6R only) Selector switch (2-position only, except the overlap contact types) Illuminated selector switch (2-position only, except the overlap contact types)	Q600	0.55A	0.27A	0.1A
Pushbutton (Ring type selector switch: AR22S3R only) Selector switch (2-pos./overlap contact type, 3-, 4-, 5-pos. type) Illuminated selector switch (2-pos./overlap contact type, 3-pos. type)	R300	0.22A	0.11A	–

Note: Joy stick selector switches (Lever switches): 250V AC, 5A (Res. load) 125V DC, 0.2A 24V DC, 1A (Res. load)

● **EN standard/TÜV approved**

Description	Rated operational current			
	Rated thermal current	Rated operational voltage	AC15 (Ind. load)	DC13 (Ind. load)
			Rated operational current	Rated operational current
Illuminated pushbutton switch Pushbutton (Except the selector ring type) Emergency stop pushbutton switch Emergency stop illuminated pushbutton switch Selector switch (2-position) Illuminated selector switch (2-position)	10A	24V	6.0A	4.0A (AR22VG: 1.5A)
		120V	6.0A (AR22VG: 3A)	–
		125V	–	1.3A (AR22VG: 0.3A)
		240V	6.0A (AR22VG: 3A)	–
		250V	–	0.45A (AR22VG: 0.15A)
		480V	2.5A (AR22VG: –)	–
		600V	2.0A (AR22VG: –)	–
Selector switch (3, 4, 5-position) Illuminated selector switch (3-position) Pushbutton with selector ring	10A	24V	6.0A	2.0A
		120V	6.0A	–
		125V	–	0.65A
		240V	6.0A	–
		250V	–	0.23A
		480V	2.5A	–
		600V	2.0A	–
Joy stick selector switch (Lever switch)	5A	24V	–	0.7A
		120V	0.3A	–
		125V	–	0.15A
		240V	0.3A	–

Lamp rated voltage UL/CSA standards, TÜV approved

	LED lamp	Incandescent lamp	Neon lamp
Full-voltage (without transformer)	Max. 24V AC/DC	Max. 30V AC/DC	Max. 240V AC
With transformer	Max. 550V AC (Short-body type: Max. 220V AC)		–

Pushbuttons/Selectors/Pilot Lights/Buzzers AR22 and DR22 Ratings and specifications

■ Operating characteristic (1NO+1NC)

Description	Pushbutton Illuminated pushbutton	Emergency stop pushbutton		Selector *2		
		Emergency stop illuminated pushbutton		Illuminated selector		
		Push-lock type	Push-pull type	Maintained	Spring/manual return	Spring return
Ave. required operating force	9N (Push-lock type: 20N)	30N (AR22VG: 22N)*1	45N	0.15N•m	0.13N•m	0.1N•m
Operating travel	Approx. 6mm (Push-lock type: Approx. 9mm, operation angle: Approx. 45°)	Approx. 9mm (AR22VG: Approx. 10mm, operation angle: Approx. 45°)	Approx. 9mm	2-position: Approx. 90° 3-position: Approx. 45° 4-position: Approx. 40° 5-position: Approx. 30°	3-position: Approx. 45°	2-position: Approx. 60° 3-position: Approx. 45°
Required return force	– (Push-lock type: 0.6N•m)	0.6N•m (AR22VG: 0.2N•m)	30N (pull)	0.15N•m	0.13N•m	–

Notes: *1 AR22V2R, V4R, V7R, VAL types: 45N

*2 4-position, 5-position: 2NO+2NC

04

■ Lamp ratings

• Illuminated pushbuttons, illuminated selectors, pilot lights

Transformer	Lamp voltage	LED			Incandescent		
		Type	Rated voltage	Consumption	Type	Rated voltage	Consumption
Without transformer	5.5V AC/DC	–	–	–	AHX135	6.3V AC/DC	0.9W
	6V AC	APX510-6□	6V AC	Green, red, orange, amber: 7mA AC Yellow: 26mA AC Blue: 16mA AC	–	–	–
	6V DC	APX510-D6□	6V DC	Green, red, orange, amber: 11mA DC Yellow: 33mA DC Blue: 22mA DC	–	–	–
	12V AC/DC	APX510-12□	12V AC/DC	14mA AC, 11mA DC	–	–	–
	15V AC/DC	APX510-15□	15V AC/DC	13mA AC, 11mA DC	AHX279	18V AC/DC	0.8W
	20V AC/DC	–	–	–	AHX144	24V AC/DC	0.9W
With transformer (Standard type: AR9T511)	24V AC/DC	APX510-24□	24V AC/DC	12mA AC, 11mA DC	AHX129	30V AC/DC	0.8W
	110V AC	APX510-6□	6V AC	1.5VA	AHX135	6.3V AC/DC	2VA
	127V AC	–	–	–	–	–	2VA
	220V AC	–	–	–	–	–	2VA
	254V AC	APX510-6□	6V AC	2.5VA	AHX135	6.3V AC/DC	2.5VA
	380V AC	–	–	–	–	–	2.5VA
With resistor unit (AR9T519-H)	440V AC	–	–	–	–	–	2.5VA
	480V AC	–	–	–	–	–	2.5VA
	550V AC	–	–	–	–	–	2.5VA
	110V DC	APX510-24□	24V AC/DC	1.2W	–	–	–

Notes: • Short body pilot lights: 110V AC, 127V AC, 220V AC only

• Replace the □ mark by the lamp luminous color code, see page 04/16

• Except AR22VGF type

• Emergency stop illuminated pushbuttons (AR22VGF type)

Transformer	Lamp	Voltage	Type	Rated voltage	Consumption
Without transformer	LED	24V AC/DC	AR9L002-ER	24V AC/DC	12mA AC 11mA DC
	Neon	110V AC	AR9N001-HA	110V AC	0.19VA
		120V AC	AR9N001-KA	120V AC	0.21VA
		220V AC	AR9N001-MA	220V AC	0.30VA
		240V AC	AR9N001-PA	240V AC	0.30VA

Notes: Lamp base: BA9S/13

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

Ratings and specifications

• Numerical indicators

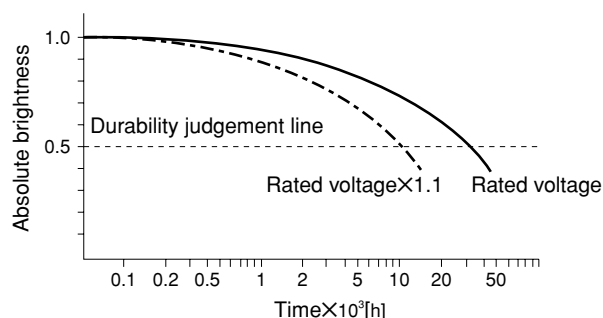
Operational voltage	Current consumption	
	One-digit	Two-digit
12V DC, 24V DC	100mA DC	200mA DC

■ Lamp durability

Lamp	Durability	Judgement criterion
LED	Approx. 30000h	When brightness is less than 50% of initial value
Incandescent	Approx. 5000h (AC)	When the bulb burns out
Neon	Approx. 5000h	When a remarkable blackening appears in the glass bulb and the using becomes improper

Note: The operating voltage for incandescent lamps is set at 80 to 90% of the lamp's rated voltage.

Estimated durability for LED lamps



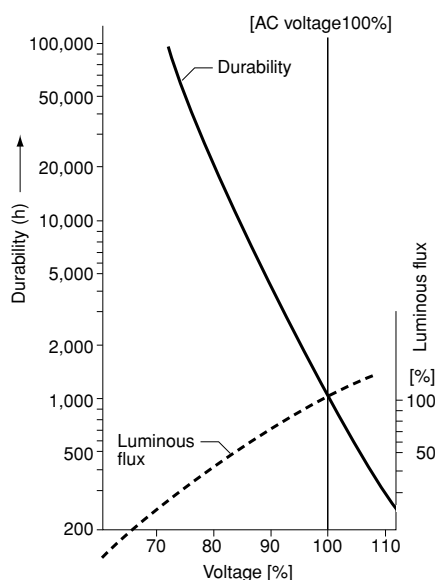
Notes: • Durability at $T_a=25^\circ\text{C}$
 • Durability is affected by temperature, humidity, and voltage fluctuation.

■ Combination of lens color and LED or neon lamp luminous color







Lens Color	Code	LED or neon lamp	
		Luminous color	Type
Green	G	Green	APX510-■G
Red	R	Red	APX510-■R
White	W	Orange	APX510-■O
Yellow	Y	Yellow	APX510-■Y
Orange *	A	Amber	APX510-■A
Blue	S	Blue	APX510-■S
Red (AR22VGF)	R	Red	AR9L002-ER
		Orange (Neon lamp)	AR9N001-■A

Notes: * DR22F4M: LED lamp color is orange. (APX510-■O)
 • Replace the ■ mark by the lamp voltage code

Incandescent lamp voltage characteristics



■ Illuminated pushbutton switches

Operator	Transformer	Contact	LED lamp Momentary action Type	Alternate action Type	Incandescent lamp Momentary action Type	Alternate action Type
Flush round head  AF94-318	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22F0L-10■3□ AR22F0L-01■3□ AR22F0L-11■3□ AR22F0L-22■3□	AR22F5L-10■3□ AR22F5L-01■3□ AR22F5L-11■3□ —	AR22F0L-10■4□ AR22F0L-01■4□ AR22F0L-11■4□ AR22F0L-22■4□	AR22F5L-10■4□ AR22F5L-01■4□ AR22F5L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22F0L-10■3□ AR22F0L-01■3□ AR22F0L-11■3□	AR22F5L-10■3□ AR22F5L-01■3□ AR22F5L-11■3□	AR22F0L-10■4□ AR22F0L-01■4□ AR22F0L-11■4□	AR22F5L-10■4□ AR22F5L-01■4□ AR22F5L-11■4□
Extended round head  AF94-317	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22E0L-10■3□ AR22E0L-01■3□ AR22E0L-11■3□ AR22E0L-22■3□	AR22E5L-10■3□ AR22E5L-01■3□ AR22E5L-11■3□ —	AR22E0L-10■4□ AR22E0L-01■4□ AR22E0L-11■4□ AR22E0L-22■4□	AR22E5L-10■4□ AR22E5L-01■4□ AR22E5L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22E0L-10■3□ AR22E0L-01■3□ AR22E0L-11■3□	AR22E5L-10■3□ AR22E5L-01■3□ AR22E5L-11■3□	AR22E0L-10■4□ AR22E0L-01■4□ AR22E0L-11■4□	AR22E5L-10■4□ AR22E5L-01■4□ AR22E5L-11■4□
Mushroom head (40mm dia.)  AF94-367	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22M0L-10■3□ AR22M0L-01■3□ AR22M0L-11■3□ AR22M0L-22■3□	AR22M5L-10■3□ AR22M5L-01■3□ AR22M5L-11■3□ —	AR22M0L-10■4□ AR22M0L-01■4□ AR22M0L-11■4□ AR22M0L-22■4□	AR22M5L-10■4□ AR22M5L-01■4□ AR22M5L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22M0L-10■3□ AR22M0L-01■3□ AR22M0L-11■3□	AR22M5L-10■3□ AR22M5L-01■3□ AR22M5L-11■3□	AR22M0L-10■4□ AR22M0L-01■4□ AR22M0L-11■4□	AR22M5L-10■4□ AR22M5L-01■4□ AR22M5L-11■4□
Mushroom head (29mm dia.)  AF94-369	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22M4L-10■3□ AR22M4L-01■3□ AR22M4L-11■3□ AR22M4L-22■3□	AR22M9L-10■3□ AR22M9L-01■3□ AR22M9L-11■3□ —	AR22M4L-10■4□ AR22M4L-01■4□ AR22M4L-11■4□ AR22M4L-22■4□	AR22M9L-10■4□ AR22M9L-01■4□ AR22M9L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22M4L-10■3□ AR22M4L-01■3□ AR22M4L-11■3□	AR22M9L-10■3□ AR22M9L-01■3□ AR22M9L-11■3□	AR22M4L-10■4□ AR22M4L-01■4□ AR22M4L-11■4□	AR22M9L-10■4□ AR22M9L-01■4□ AR22M9L-11■4□
Extended with transparent full guard (24mm dia.)  AF94-294	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22G4L-10■3□ AR22G4L-01■3□ AR22G4L-11■3□ AR22G4L-22■3□	AR22G9L-10■3□ AR22G9L-01■3□ AR22G9L-11■3□ —	AR22G4L-10■4□ AR22G4L-01■4□ AR22G4L-11■4□ AR22G4L-22■4□	AR22G9L-10■4□ AR22G9L-01■4□ AR22G9L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22G4L-10■3□ AR22G4L-01■3□ AR22G4L-11■3□	AR22G9L-10■3□ AR22G9L-01■3□ AR22G9L-11■3□	AR22G4L-10■4□ AR22G4L-01■4□ AR22G4L-11■4□	AR22G9L-10■4□ AR22G9L-01■4□ AR22G9L-11■4□
Extended with full guard (24mm dia. with openings)  AF99-319	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22G2L-10■3□ AR22G2L-01■3□ AR22G2L-11■3□ AR22G2L-22■3□	AR22G7L-10■3□ AR22G7L-01■3□ AR22G7L-11■3□ —	AR22G2L-10■4□ AR22G2L-01■4□ AR22G2L-11■4□ AR22G2L-22■4□	AR22G7L-10■4□ AR22G7L-01■4□ AR22G7L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22G2L-10■3□ AR22G2L-01■3□ AR22G2L-11■3□	AR22G7L-10■3□ AR22G7L-01■3□ AR22G7L-11■3□	AR22G2L-10■4□ AR22G2L-01■4□ AR22G2L-11■4□	AR22G7L-10■4□ AR22G7L-01■4□ AR22G7L-11■4□


Note: ■ □ See page 04/19

Illuminated Pushbuttons

AR22

Operator	Transformer	Contact	LED lamp		Incandescent lamp	
			Momentary action Type	Alternate action Type	Momentary action Type	Alternate action Type
Extended with full guard (24mm dia.)  KK02-127A	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22G1L-10■3□ AR22G1L-01■3□ AR22G1L-11■3□ AR22G1L-22■3□	AR22G6L-10■3□ AR22G6L-01■3□ AR22G6L-11■3□ —	AR22G1L-10■4□ AR22G1L-01■4□ AR22G1L-11■4□ AR22G1L-22■4□	AR22G6L-10■4□ AR22G6L-01■4□ AR22G6L-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22G1L-10■3□ AR22G1L-01■3□ AR22G1L-11■3□	AR22G6L-10■3□ AR22G6L-01■3□ AR22G6L-11■3□	AR22G1L-10■4□ AR22G1L-01■4□ AR22G1L-11■4□	AR22G6L-10■4□ AR22G6L-01■4□ AR22G6L-11■4□
Push-lock, turn-reset (40mm dia. with white arrow)  AF97-72	Without	1NO 1NC 1NO+1NC 3NC	— — — —	AR22V5L-10■3□ AR22V5L-01■3□ AR22V5L-11■3□ AR22V5L-03■3□	— — — —	AR22V5L-10■4□ AR22V5L-01■4□ AR22V5L-11■4□ AR22V5L-03■4□
	With	1NO 1NC 1NO+1NC	— — —	AR22V5L-10■3□ AR22V5L-01■3□ AR22V5L-11■3□	— — —	AR22V5L-10■4□ AR22V5L-01■4□ AR22V5L-11■4□
Flush square head  AF97-68	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22F0M-10■3□ AR22F0M-01■3□ AR22F0M-11■3□ AR22F0M-22■3□	AR22F5M-10■3□ AR22F5M-01■3□ AR22F5M-11■3□ —	AR22F0M-10■4□ AR22F0M-01■4□ AR22F0M-11■4□ AR22F0M-22■4□	AR22F5M-10■4□ AR22F5M-01■4□ AR22F5M-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22F0M-10■3□ AR22F0M-01■3□ AR22F0M-11■3□	AR22F5M-10■3□ AR22F5M-01■3□ AR22F5M-11■3□	AR22F0M-10■4□ AR22F0M-01■4□ AR22F0M-11■4□	AR22F5M-10■4□ AR22F5M-01■4□ AR22F5M-11■4□
Extended square head  AF94-357	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22E0M-10■3□ AR22E0M-01■3□ AR22E0M-11■3□ AR22E0M-22■3□	AR22E5M-10■3□ AR22E5M-01■3□ AR22E5M-11■3□ —	AR22E0M-10■4□ AR22E0M-01■4□ AR22E0M-11■4□ AR22E0M-22■4□	AR22E5M-10■4□ AR22E5M-01■4□ AR22E5M-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22E0M-10■3□ AR22E0M-01■3□ AR22E0M-11■3□	AR22E5M-10■3□ AR22E5M-01■3□ AR22E5M-11■3□	AR22E0M-10■4□ AR22E0M-01■4□ AR22E0M-11■4□	AR22E5M-10■4□ AR22E5M-01■4□ AR22E5M-11■4□
Flush round head with square bezel  AF94-315	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22F0P-10■3□ AR22F0P-01■3□ AR22F0P-11■3□ AR22F0P-22■3□	AR22F5P-10■3□ AR22F5P-01■3□ AR22F5P-11■3□ —	AR22F0P-10■4□ AR22F0P-01■4□ AR22F0P-11■4□ AR22F0P-22■4□	AR22F5P-10■4□ AR22F5P-01■4□ AR22F5P-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22F0P-10■3□ AR22F0P-01■3□ AR22F0P-11■3□	AR22F5P-10■3□ AR22F5P-01■3□ AR22F5P-11■3□	AR22F0P-10■4□ AR22F0P-01■4□ AR22F0P-11■4□	AR22F5P-10■4□ AR22F5P-01■4□ AR22F5P-11■4□
Extended round head with square bezel  AF94-314	Without	1NO 1NC 1NO+1NC 2NO+2NC	AR22E0P-10■3□ AR22E0P-01■3□ AR22E0P-11■3□ AR22E0P-22■3□	AR22E5P-10■3□ AR22E5P-01■3□ AR22E5P-11■3□ —	AR22E0P-10■4□ AR22E0P-01■4□ AR22E0P-11■4□ AR22E0P-22■4□	AR22E5P-10■4□ AR22E5P-01■4□ AR22E5P-11■4□ —
	With	1NO 1NC 1NO+1NC	AR22E0P-10■3□ AR22E0P-01■3□ AR22E0P-11■3□	AR22E5P-10■3□ AR22E5P-01■3□ AR22E5P-11■3□	AR22E0P-10■4□ AR22E0P-01■4□ AR22E0P-11■4□	AR22E5P-10■4□ AR22E5P-01■4□ AR22E5P-11■4□

Note: ■ □ See page 04/19

Operator	Trans- former	Contact	LED lamp		Incandescent lamp	
			Momentary action Type	Alternate action Type	Momentary action Type	Alternate action Type
Mushroom head with square bezel (29mm dia.)  AF94-440	Without	1NO	AR22M4P-10■3□	—	AR22M4P-10■4□	—
		1NC	AR22M4P-01■3□	—	AR22M4P-01■4□	—
		1NO+1NC	AR22M4P-11■3□	—	AR22M4P-11■4□	—
		2NO+2NC	AR22M4P-22■3□	—	AR22M4P-22■4□	—
With	1NO	1NO	AR22M4P-10■3□	—	AR22M4P-10■4□	—
		1NC	AR22M4P-01■3□	—	AR22M4P-01■4□	—
		1NO+1NC	AR22M4P-11■3□	—	AR22M4P-11■4□	—

• **Lens color**

Replace the □ mark by the lens color code

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

Note: AR22V5L type: Red, yellow only

• **Contact arrangements**

Contact arrangements other than above are available

Contact arrangement	1NO	1NC	1NO+1NC	2NO	2NC	3NO
Code	10	01	11	20	02	30

Contact arrangement	3NC	2NO+2NC	4NO	4NC	5NO	5NC
Code	03	22	40	04	50	05

Available numbers of contact blocks

Operation	Without transformer	With transformer
Momentary action	5-contact block	3-contact block
Alternate action Push-lock, turn-reset	3-contact block	2-contact block

• **Voltage**



Replace the ■ mark by the lamp voltage code

Transformer		Code	
		LED	Incandescent
Without transformer	6V DC	6	—
	6V AC	A	—
	5.5V AC/DC	—	5
	12V AC/DC	B	—
	15V AC/DC	C	C
	20V AC/DC 24V AC/DC	— E	D E
With transformer	100-110V AC	H	H
	115-127V AC	L	L
	200-220V AC	M	M
	230-254V AC	Q	Q
	350-380V AC	S	S
	400-440V AC	T	T
	480V AC	V	V
	500-550V AC	W	W





Pushbuttons


AR22


■ Pushbutton switches

Operator	Contact	Momentary action Type	Alternate action Type
Flush round head  <small>AF94-320</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22F0R-10 □ AR22F5R-10 □ AR22F0R-01 □ AR22F5R-01 □ AR22F0R-11 □ AR22F5R-11 □ AR22F0R-20 □ AR22F5R-20 □ AR22F0R-02 □ AR22F5R-02 □ AR22F0R-22 □ AR22F5R-22 □	
Extended round head  <small>AF94-319</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22E0R-10 □ AR22E5R-10 □ AR22E0R-01 □ AR22E5R-01 □ AR22E0R-11 □ AR22E5R-11 □ AR22E0R-20 □ AR22E5R-20 □ AR22E0R-02 □ AR22E5R-02 □ AR22E0R-22 □ AR22E5R-22 □	
Flush round head symbol mark type  <small>AF98-193</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22FAR-10C ■ AR22FBR-10C ■ AR22FAR-01C ■ AR22FBR-01C ■ AR22FAR-11C ■ AR22FBR-11C ■ AR22FAR-20C ■ AR22FBR-20C ■ AR22FAR-02C ■ AR22FBR-02C ■ AR22FAR-22C ■ AR22FBR-22C ■	
Extended round head symbol mark type  <small>AF98-192</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22EAR-10C ■ AR22EBR-10C ■ AR22EAR-01C ■ AR22EBR-01C ■ AR22EAR-11C ■ AR22EBR-11C ■ AR22EAR-20C ■ AR22EBR-20C ■ AR22EAR-02C ■ AR22EBR-02C ■ AR22EAR-22C ■ AR22EBR-22C ■	
Mushroom head (40mm dia.)  <small>AF94-293</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22M0R-10 □ AR22M5R-10 □ AR22M0R-01 □ AR22M5R-01 □ AR22M0R-11 □ AR22M5R-11 □ AR22M0R-20 □ AR22M5R-20 □ AR22M0R-02 □ AR22M5R-02 □ AR22M0R-22 □ AR22M5R-22 □	
Mushroom head (29mm dia.)  <small>AF94-321</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22M4R-10 □ AR22M9R-10 □ AR22M4R-01 □ AR22M9R-01 □ AR22M4R-11 □ AR22M9R-11 □ AR22M4R-20 □ AR22M9R-20 □ AR22M4R-02 □ AR22M9R-02 □ AR22M4R-22 □ AR22M9R-22 □	
Extended with full guard (24mm dia.)  <small>AF94-292</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22G3R-10 □ AR22G8R-10 □ AR22G3R-01 □ AR22G8R-01 □ AR22G3R-11 □ AR22G8R-11 □ AR22G3R-20 □ AR22G8R-20 □ AR22G3R-02 □ AR22G8R-02 □ AR22G3R-22 □ AR22G8R-22 □	

Note: ■ □ See page 04/21

Operator	Contact	Momentary action Type	Alternate action Type
Flush with full guard (24mm dia.)  <small>AF02-68</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22G2R-10 □ AR22G7R-10 □ AR22G2R-01 □ AR22G7R-01 □ AR22G2R-11 □ AR22G7R-11 □ AR22G2R-20 □ AR22G7R-20 □ AR22G2R-02 □ AR22G7R-02 □ AR22G2R-22 □ AR22G7R-22 □	
Mushroom head with full guard (40mm dia.)  <small>AF94-372</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22M3R-10 □ AR22M8R-10 □ AR22M3R-01 □ AR22M8R-01 □ AR22M3R-11 □ AR22M8R-11 □ AR22M3R-20 □ AR22M8R-20 □ AR22M3R-02 □ AR22M8R-02 □ AR22M3R-22 □ AR22M8R-22 □	
Extended with half guard  <small>AF96-236</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22G0R-10 □ AR22G5R-10 □ AR22G0R-01 □ AR22G5R-01 □ AR22G0R-11 □ AR22G5R-11 □ AR22G0R-20 □ AR22G5R-20 □ AR22G0R-02 □ AR22G5R-02 □ AR22G0R-22 □ AR22G5R-22 □	
Push-lock, turn-reset (40mm dia. with white arrow)  <small>AF97-70</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	— — — — — —	AR22V5R-10 □ AR22V5R-01 □ AR22V5R-11 □ AR22V5R-20 □ AR22V5R-02 □ AR22V5R-22 □
Flush square head  <small>AF94-316</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22F0S-10 □ AR22F5S-10 □ AR22F0S-01 □ AR22F5S-01 □ AR22F0S-11 □ AR22F5S-11 □ AR22F0S-20 □ AR22F5S-20 □ AR22F0S-02 □ AR22F5S-02 □ AR22F0S-22 □ AR22F5S-22 □	
Extended square head  <small>AF94-296</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22E0S-10 □ AR22E5S-10 □ AR22E0S-01 □ AR22E5S-01 □ AR22E0S-11 □ AR22E5S-11 □ AR22E0S-20 □ AR22E5S-20 □ AR22E0S-02 □ AR22E5S-02 □ AR22E0S-22 □ AR22E5S-22 □	
Flush round head with square bezel  <small>AF94-295</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22F0Y-10 □ AR22F5Y-10 □ AR22F0Y-01 □ AR22F5Y-01 □ AR22F0Y-11 □ AR22F5Y-11 □ AR22F0Y-20 □ AR22F5Y-20 □ AR22F0Y-02 □ AR22F5Y-02 □ AR22F0Y-22 □ AR22F5Y-22 □	

Operator	Contact	Momentary action Type	Alternate action Type
Extended round head with square bezel  AF94-297	1NO	AR22E0Y-10 □	AR22E5Y-10 □
	1NC	AR22E0Y-01 □	AR22E5Y-01 □
	1NO+1NC	AR22E0Y-11 □	AR22E5Y-11 □
	2NO	AR22E0Y-20 □	AR22E5Y-20 □
	2NC	AR22E0Y-02 □	AR22E5Y-02 □
	2NO+2NC	AR22E0Y-22 □	AR22E5Y-22 □

Operator	Contact	Momentary action Type	Alternate action Type
Mushroom head with square bezel (29mm dia.)  AF94-298	1NO	AR22M4Y-10 □	—
	1NC	AR22M4Y-01 □	—
	1NO+1NC	AR22M4Y-11 □	—
	2NO	AR22M4Y-20 □	—
	2NC	AR22M4Y-02 □	—
	2NO+2NC	AR22M4Y-22 □	—

• **Button color**

Replace the □ mark by the button color code

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

Note: AR22V5R type: Red, yellow, black only

• **Available numbers of contact blocks**

Momentary action	Alternate action Push-lock, turn-reset
6-contact block	4-contact block

• **Contact arrangements**

Contact arrangements other than above are available

Contact arrangement	1NO	1NC	1NO+1NC	2NO	2NC	3NO	3NC
Code	10	01	11	20	02	30	03




Contact arrangement	2NO+2NC	4NO	4NC	5NO	5NC	3NO+3NC
Code	22	40	04	50	05	33

• **Symbol mark** (For AR22FAR, FBR, EAR, EBR)

Replace the ■ mark by the symbol mark code

Symbol mark	○	I	Ⓣ	○	I	Ⓣ
Color of button	White Black	White Black	White Black	Clear		
Color of mark	Red	Green	Green	Black		
Code	01 02	03 04	11 12	02B 04B	12B	

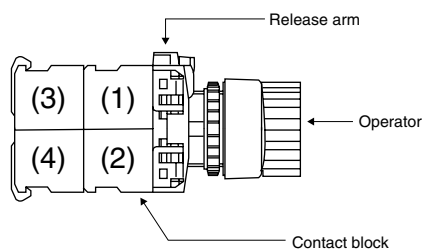
Pushbuttons AR22

Operator	Contact (The following contact is only available.)	Button color	Type	Contact operation					
				Contact block		Left 		Right 	
				Mounting position	Type	Free	Depressed	Free	Depressed
Pushbutton with selector ring (2-position)  AF94-355	2NO+2NC	Green Red Black White Yellow Orange Blue	AR22S1R-22G AR22S1R-22R AR22S1R-22B AR22S1R-22W AR22S1R-22Y AR22S1R-22A AR22S1R-22S	(1)	NC	—	—	●	—
				(2)	NC	—	—	●	—
				(3)	NO	—	●	—	●
				(4)	NO	—	●	—	●
	2NO	Green Red Black White Yellow Orange Blue	AR22S2R-20G AR22S2R-20R AR22S2R-20B AR22S2R-20W AR22S2R-20Y AR22S2R-20A AR22S2R-20S	(1)	NO	—	●	—	—
				(2)	NO	—	—	—	●
				(3)					
				(4)					
	2NO+2NC	Green Red Black White Yellow Orange Blue	AR22S2R-22G AR22S2R-22R AR22S2R-22B AR22S2R-22W AR22S2R-22Y AR22S2R-22A AR22S2R-22S	(1)	NC	●	—	■	
				(2)	NC	■		●	—
				(3)	NO	—	●	—	—
				(4)	NO	—	—	—	●
	2NO+2NC	Green Red Black White Yellow Orange Blue	AR22S3R-22G AR22S3R-22R AR22S3R-22B AR22S3R-22W AR22S3R-22Y AR22S3R-22A AR22S3R-22S	(1)	NC	—	—	■	
				(2)	NC	■		—	—
				(3)	NO	—	●	—	—
				(4)	NO	—	—	—	●
	2NO+2NC	Green Red Black White Yellow Orange Blue	AR22S6R-22G AR22S6R-22R AR22S6R-22B AR22S6R-22W AR22S6R-22Y AR22S6R-22A AR22S6R-22S	(1)	NC	●	—	—	Locked
				(2)	NC	●	—	—	
				(3)	NO	—	●	●	
				(4)	NO	—	●	●	

Note: (1) to (4): Contact block mounting position





● Contact closed
— Contact open

• Position of contact block



■ Emergency stop pushbutton switches

☞ (Direct opening action), conform to EN418

Operator	Contact	Type
Push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)  <small>AF97-70</small>	1NC 1NO+1NC 2NC 2NO+2NC	AR22V0R-01R AR22V0R-11R AR22V0R-02R AR22V0R-22R
Push-lock, turn-reset (40mm dia.)  <small>AF94-432</small>	1NC 1NO+1NC 2NC 2NO+2NC	AR22V2R-01R AR22V2R-11R AR22V2R-02R AR22V2R-22R
Push-lock, turn-reset (Soft-touch 29mm dia. with white arrow)  <small>AF99-317</small>	1NC 1NO+1NC 2NC 2NO+2NC	AR22VSR-01R AR22VSR-11R AR22VSR-02R AR22VSR-22R
Push-lock, turn-reset (29mm dia.)  <small>AF95-53</small>	1NC 1NO+1NC 2NC 2NO+2NC	AR22V4R-01R AR22V4R-11R AR22V4R-02R AR22V4R-22R




Note: • Button color: Red only

• Contact arrangements

Contact arrangements other than above are available

Contact arrangement	1NO	1NO+1NC	2NC	3NC	2NO+2NC	4NC
Code	01	11	02	03	22	04

Note: • Except AR22Q2R and AR22VGE
 • For AR22Q2R and AR22VGE, up to 2-contact block.

Operator	Contact	Type
Key release push-lock, turn-reset (40mm dia.)  <small>AF98-37</small>	1NC 1NO+1NC 2NC 2NO+2NC	AR22V7R-01R AR22V7R-11R AR22V7R-02R AR22V7R-22R
Push-lock, pull-reset (35mm dia.)  <small>AF94-52</small>	1NC 1NO+1NC 2NC	AR22Q2R-01R AR22Q2R-11R AR22Q2R-02R
Unibody push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)  <small>KK03-037</small>	1NC 1NO+1NC 2NC	AR22VGE-01R AR22VGE-11R AR22VGE-02R

04

Emergency Stop Illuminated Pushbuttons AR22

Emergency stop illuminated pushbutton switches

☺ (Direct opening action), conform to EN418

Operator	Transformer	Contact	LED lamp Type	Incandescent lamp Type	Neon lamp Type
Push-lock, turn-reset (Soft-touch 40mm dia. with white arrow)  AF97-76	Without	1NC 1NO+1NC 2NC 3NC	AR22V0L-01■3R AR22V0L-11■3R AR22V0L-02■3R AR22V0L-03■3R	AR22V0L-01■4R AR22V0L-11■4R AR22V0L-02■4R AR22V0L-03■4R	— — — —
	With	1NC 1NO+1NC 2NC	AR22V0L-01■3R AR22V0L-11■3R AR22V0L-02■3R	AR22V0L-01■4R AR22V0L-11■4R AR22V0L-02■4R	— — —
Push-lock, turn-reset (40mm dia.)  AF94-307	Without	1NC 1NO+1NC 2NC 3NC	AR22V2L-01■3R AR22V2L-11■3R AR22V2L-02■3R AR22V2L-03■3R	AR22V2L-01■4R AR22V2L-11■4R AR22V2L-02■4R AR22V2L-03■4R	— — — —
	With	1NC 1NO+1NC 2NC	AR22V2L-01■3R AR22V2L-11■3R AR22V2L-02■3R	AR22V2L-01■4R AR22V2L-11■4R AR22V2L-02■4R	— — —
Push-lock, turn-reset (Soft-touch 40mm dia. transparent in all colors with white arrow)  AF97-76	Without	1NC 1NO+1NC 2NC 3NC	AR22VDL-01■3R AR22VDL-11■3R AR22VDL-02■3R AR22VDL-03■3R	AR22VDL-01■4R AR22VDL-11■4R AR22VDL-02■4R AR22VDL-03■4R	— — — —
	With	1NC 1NO+1NC 2NC	AR22VDL-01■3R AR22VDL-11■3R AR22VDL-02■3R	AR22VDL-01■4R AR22VDL-11■4R AR22VDL-02■4R	— — —
Push-lock, turn-reset (40mm dia. transparent in all colors)  AF94-364	Without	1NC 1NO+1NC 2NC 3NC	AR22VAL-01■3R AR22VAL-11■3R AR22VAL-02■3R AR22VAL-03■3R	AR22VAL-01■4R AR22VAL-11■4R AR22VAL-02■4R AR22VAL-03■4R	— — — —
	With	1NC 1NO+1NC 2NC	AR22VAL-01■3R AR22VAL-11■3R AR22VAL-02■3R	AR22VAL-01■4R AR22VAL-11■4R AR22VAL-02■4R	— — —
Push-lock, turn-reset (Soft-touch 29mm dia. with white arrow)  AF99-316	Without	1NC 1NO+1NC 2NC 3NC	AR22VSL-01■3R AR22VSL-11■3R AR22VSL-02■3R AR22VSL-03■3R	AR22VSL-01■4R AR22VSL-11■4R AR22VSL-02■4R AR22VSL-03■4R	— — — —
	With	1NC 1NO+1NC 2NC	AR22VSL-01■3R AR22VSL-11■3R AR22VSL-02■3R	AR22VSL-01■4R AR22VSL-11■4R AR22VSL-02■4R	— — —
Unibody push-lock, turn-reset (Soft-touch 40mm dia. with white arrow) 	Without	1NC 1NO+1NC 2NC	AR22VGF-01E3R AR22VGF-11E3R AR22VGF-02E3R	— — —	AR22VGF-01■1R AR22VGF-11■1R AR22VGF-02■1R

Notes: • Button color: Red only • AR22VGF type: Lamp circuit contacts are provided, see page 04/45. • Contact arrangements indicated in the table can be supplied.

• Voltage


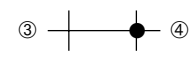
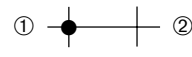



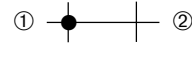



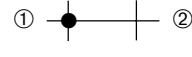


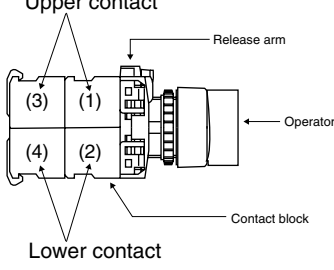

Replace the ■ mark by the lamp voltage code

Transformer	Code	Code		
		LED	Incandescent	Neon
Without	6V DC	6	—	—
	6V AC	A	—	—
	5V AC/DC	—	5	—
	12V AC/DC	B	—	—
	15V AC/DC	C	—	—
	20V AC/DC	—	D	—
	24V AC/DC	E	—	—
	110V AC	—	—	H
	120V AC	—	—	K
	220V AC	—	—	M
	240V AC	—	—	P

Notes: AR22VGF: LED 24V AC/DC and neon only

Transformer	Code	Code	
		LED	Incandescent
With	100-110V AC	H	H
	115-127V AC	L	L
	200-220V AC	M	M
	230-254V AC	Q	Q
	350-380V AC	S	S
	400-440V AC	T	T
	480V AC	V	V
	500-550V AC	W	W

■ Selector switches 2-position

Operator	Operation	Knob color or key removable position	Contact	Type		Contact operation (Example)		
				Switch with round bezel	Switch with square bezel	Contact arrangement	Operator position	
							Left	Right
 AF94-310	Maintained	Color code: B: Black (Standard) Color other than above are available (G: Green) (R: Red)	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22PR-210B AR22PR-201B AR22PR-211B AR22PR-220B AR22PR-202B AR22PR-222B	AR22PY-210B AR22PY-201B AR22PY-211B AR22PY-220B AR22PY-202B AR22PY-222B	1NO (1)	Upper contact 	
	each 90°						1NC (1)	Upper contact 
	Spring return  60°							1NO+1NC (1)
 AF94-324	Maintained		1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22WR-210B AR22WR-201B AR22WR-211B AR22WR-220B AR22WR-202B AR22WR-222B	AR22WY-210B AR22WY-201B AR22WY-211B AR22WY-220B AR22WY-202B AR22WY-222B	1NO (1)	Upper contact 	
	each 90°						(2)	Lower contact 
	Spring return  60°							2NO+2NC (1)
 AF94-308	Maintained		1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22RR-210B AR22RR-201B AR22RR-211B AR22RR-220B AR22RR-202B AR22RR-222B	AR22RY-210B AR22RY-201B AR22RY-211B AR22RY-220B AR22RY-202B AR22RY-222B	(3)	Upper contact 	
	each 90°						(2)	Lower contact 
	Spring return  60°							(4)
 AF94-311	Maintained	■: Key removable position (): Key type <i>See page 04/27</i>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AR22J□R-2■10() AR22J□R-2■01() AR22J□R-2■11() AR22J□R-2■20() AR22J□R-2■02() AR22J□R-2■22()	AR22JY-2■10() AR22JY-2■01() AR22JY-2■11() AR22JY-2■20() AR22JY-2■02() AR22JY-2■22()	(1)		
	each 90°							(2)
	Spring return  60°							

Notes: • (1) to (4): Contact block mounting position
 • ① - ②, ③ - ④: Contact block terminal No.
 • Contact arrangements: See page 04/27




● Contact closed


• Operator

Replace the □ mark by the cylinder key type code
 Standard type: Blank
 Long durability type: A

Selector Switches AR22

3-position

Operator	Operation	Knob color	Contact	Type Switch with round bezel	Switch with square bezel	Contact operation (Example)			
						Contact arrange- ment	Operation position		
							L	C	R
 AF94-310	Maintained each 45°	Color code: B: Black (Standard) Color other than above are available (G: Green) (R: Red)	1NO+1NC 2NO 2NC 2NO+2NC	AR22PR-311B AR22PR-320B AR22PR-302B AR22PR-322B	AR22PY-311B AR22PY-320B AR22PY-302B AR22PY-322B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22PR-611B AR22PR-620B AR22PR-602B AR22PR-622B	AR22PY-611B AR22PY-620B AR22PY-602B AR22PY-622B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22PR-711B AR22PR-720B AR22PR-702B AR22PR-722B	AR22PY-711B AR22PY-720B AR22PY-702B AR22PY-722B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring return ① each 45°		2NO+2NC	AR22PR-122B AR22PY-122B	2NO+2NC	Upper contact ① ②	Lower contact ① ②		
 AF94-324	Maintained each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22WR-311B AR22WR-320B AR22WR-302B AR22WR-322B	AR22WY-311B AR22WY-320B AR22WY-302B AR22WY-322B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22WR-611B AR22WR-620B AR22WR-602B AR22WR-622B	AR22WY-611B AR22WY-620B AR22WY-602B AR22WY-622B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22WR-711B AR22WR-720B AR22WR-702B AR22WR-722B	AR22WY-711B AR22WY-720B AR22WY-702B AR22WY-722B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring return ① each 45°		2NO+2NC	AR22WR-122B AR22WY-122B	2NO+2NC	Upper contact ① ②	Lower contact ① ②		
 AF94-308	Maintained each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22RR-311B AR22RR-320B AR22RR-302B AR22RR-322B	AR22RY-311B AR22RY-320B AR22RY-302B AR22RY-322B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22RR-611B AR22RR-620B AR22RR-602B AR22RR-622B	AR22RY-611B AR22RY-620B AR22RY-602B AR22RY-622B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22RR-711B AR22RR-720B AR22RR-702B AR22RR-722B	AR22RY-711B AR22RY-720B AR22RY-702B AR22RY-722B	1NO+1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring return ① each 45°		2NO+2NC	AR22RR-122B AR22RY-122B	2NO+2NC	Upper contact ① ②	Lower contact ① ②		

Operator	Operation	Key removable position	Contact	Type Switch with round bezel	Switch with square bezel	Contact operation (Example)			
						Contact arrangement	Operator position		
							L	C	R
 AF94-311	Maintained each 45°	■: Key removable position (): Key type	1NO+1NC 2NO 2NC 2NO+2NC	AR22J□R-3■11() AR22J□R-3■20() AR22J□R-3■02() AR22J□R-3■22()	AR22JY-3■11() AR22JY-3■20() AR22JY-3■02() AR22JY-3■22()	1NO+1NC (1) (2)	Upper contact ③	Lower contact ①	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22J□R-6■11() AR22J□R-6■20() AR22J□R-6■02() AR22J□R-6■22()	AR22JY-6■11() AR22JY-6■20() AR22JY-6■02() AR22JY-6■22()	(1) (2)	Upper contact ③	Lower contact ①	
	Spring/manual return ① each 45°		1NO+1NC 2NO 2NC 2NO+2NC	AR22J□R-7■11() AR22J□R-7■20() AR22J□R-7■02() AR22J□R-7■22()	AR22JY-7■11() AR22JY-7■20() AR22JY-7■02() AR22JY-7■22()	(1) (2)	Upper contact ③	Lower contact ①	
	Spring return ① each 45°		2NO+2NC	AR22J□R-1E22()	AR22JY-1E22()	2NO+2NC (1) (2)	Upper contact ①	Lower contact ①	

Notes: • Operator position L:Left, C:Center, R:Right
 • (1) to (4): Contact block mounting position
 • ① - ②, ③ - ④: Contact block terminal No.

● Contact closed

• Contact arrangements

Contact arrangements other than above are available








Contact arrangement	1NO	1NC	1NO+1NC	2NO	2NC	3NO	3NC
Code	10	01	11	20	02	30	03

Contact arrangement	2NO+2NC	4NO	4NC	5NO	5NC	3NO+3NC
Code	22	40	04	50	05	33

• Available numbers of contact blocks

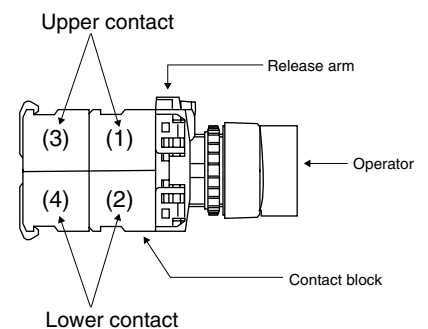
Mainted	Spring return Spring/manual return
6-contact block	4-contact block

• Key removable positions

Code	A	B	C	D	E	F	G
Removable position							
AR22J□R-2	●	●	—	●	—	—	—
AR22J□R-0	●	—	—	—	—	—	—
AR22J□R-3	●	●	●	●	●	●	●
AR22J□R-6	—	—	—	●	●	●	—
AR22J□R-7	●	—	—	—	●	—	●
AR22J□R-1	—	—	—	—	●	—	—

●: Available —: Not available

• Position of contact block



• Key code No.

Replace the () mark with one of the following key code.
 A, B, C, D, E and F
 Standard key code is A.

















• Operator

Replace the □ mark by the cylinder key type code
 Standard type: Blank
 Long durability type: A








Selector Switches AR22

■ Selector switches (control type)

3-position

Operator	Operation	Knob color or key removable position	Contact arrangement	Type	
				Switch with round bezel	Switch with square bezel
Knob  <small>AF94-435</small>	Maintained each 45°	Color code: B: Black (Standard) Color other than above are available (G: Green) (R: Red)	Replace the ■ mark by the contact arrangement code (shown on next page).	AR22PCR-3■B	AR22PCY-3■B
	Spring/manual return  each 45°			AR22PCR-6■B	AR22PCY-6■B
	Spring/manual return  each 45°			AR22PCR-7■B	AR22PCY-7■B
	Spring return  each 45°			AR22PCR-1■B	AR22PCY-1■B
Lever  <small>AF94-436</small>	Maintained each 45°		Replace the ■ mark by the contact arrangement code (shown on next page).	AR22WCR-3■B	AR22WCY-3■B
	Spring/manual return  each 45°			AR22WCR-6■B	AR22WCY-6■B
	Spring/manual return  each 45°			AR22WCR-7■B	AR22WCY-7■B
	Spring return  each 45°			AR22WCR-1■B	AR22WCY-1■B
Cylindrical knob  <small>AF94-433</small>	Maintained each 45°		Replace the ■ mark by the contact arrangement code (shown on next page).	AR22RCR-3■B	AR22RCY-3■B
	Spring/manual return  each 45°			AR22RCR-6■B	AR22RCY-6■B
	Spring/manual return  each 45°			AR22RCR-7■B	AR22RCY-7■B
	Spring return  each 45°			AR22RCR-1■B	AR22RCY-1■B
Key  <small>AF94-434</small>	Maintained each 45°	Replace the □ mark by the key removable position code: A, B, C, D, E F or G	Replace the ■ mark by the contact arrangement code (shown on next page).	AR22JCR-3□()	AR22JCY-3□()
	Spring/manual return  each 45°			AR22JCR-6□()	AR22JCY-6□()
	Spring/manual return  each 45°			AR22JCR-7□()	AR22JCY-7□()
	Spring return  each 45°			AR22JCR-1E□()	AR22JCY-1E□()

• Key removable positions

Code	A	B	C	D	E	F	G
Removable position							
AR22JCR-3	●	●	●	●	●	●	●
AR22JCR-6	-	-	-	●	●	●	-
AR22JCR-7	●	-	-	-	●	-	●
AR22JCR-1	-	-	-	-	●	-	-

●: Available -: Not available

• Key code No.

Replace the () mark with one of the following key code.
 A, B, C, D, E and F
 Standard key code is A.

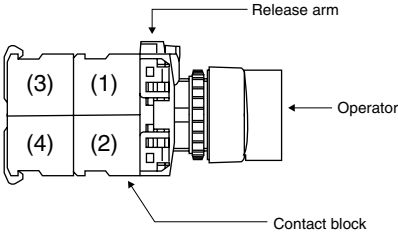
• Contact arrangement code (Typical example)

Contact arrangement	Contact arrangement code	Contact operation				
		Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
2NC	01F	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC	[Diagram: Solid bar in Right position]		
		-	-	-	-	-
		-	-	-	-	-
2NO+2NC	014	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC	[Diagram: Solid bar in Right position]		
		(3)	NO			●
		(4)	NO	●		
4NC	01J	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC	[Diagram: Solid bar in Right position]		
		(3)	NC	[Diagram: Solid bar in Left position]		
		(4)	NC	[Diagram: Solid bar in Right position]		
2NO+2NC	024	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC		●	
		(3)	NO			●
		(4)	NO	●		●
2NO+2NC	03C* (Maintained only)	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC			●
		(3)	NO			●
		(4)	NO	●		
2NO+2NC	044*	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC		●	
		(3)	NO			●
		(4)	NO	●		
2NO+2NC	054	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC		●	
		(3)	NO			●
		(4)	NO			●

Contact arrangement	Contact arrangement code	Contact operation				
		Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
2NO+2NC	064	(1)	NC		[Diagram: Solid bar in Center position]	
		(2)	NC		●	
		(3)	NO	●		
		(4)	NO	●		●
1NO+1NC	07F	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NO			●
		-	-	-	-	-
		-	-	-	-	-
2NO+2NC	07C* (Maintained only)	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC			●
		(3)	NO	●		
		(4)	NO	●		
2NO+2NC	084	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC		●	
		(3)	NO	●		
		(4)	NO	●		
2NO+2NC	094*	(1)	NC	[Diagram: Solid bar in Center position]		
		(2)	NC		●	
		(3)	NO	●		
		(4)	NO			●
2NO+2NC	104	(1)	NC		●	
		(2)	NC		●	
		(3)	NO	●		●
		(4)	NO	●		●
2NO+2NC	11C* (Maintained only)	(1)	NC		●	
		(2)	NC			●
		(3)	NO	●		●
		(4)	NO	●		

Notes: ●: Contact closed Blank: Contact open
* There may be some overlap in the contact when switching between notches.

• Position of contact block



Selector Switches AR22

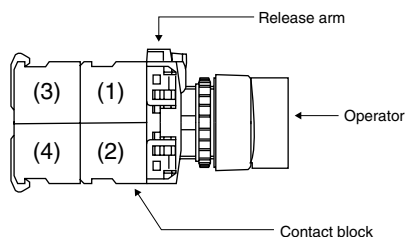
• Contact arrangement code (Typical example)

Contact arrangement	Contact arrangement code	Contact operation				
		Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
2NO+2NC	124*	(1)	NC		●	
		(2)	NC		●	
		(3)	NO	●		●
		(4)	NO	●		
2NO+2NC	134*	(1)	NC		●	
		(2)	NC		●	
		(3)	NO	●		●
		(4)	NO			●
3NO+1NC	14D* (Maintained only)	(1)	NO	●		
		(2)	NC		●	
		(3)	NO	●		
		(4)	NO			●
3NO+1NC	15A*	(1)	NO			●
		(2)	NC		●	
		(3)	NO			●
		(4)	NO	●		
2NO+2NC	164	(1)	NC		●	
		(2)	NC		●	
		(3)	NO	●		
		(4)	NO	●		
2NO+2NC	174*	(1)	NC		●	
		(2)	NC		●	
		(3)	NO	●		
		(4)	NO			●
2NO+2NC	184	(1)	NC		●	
		(2)	NC		●	
		(3)	NO			●
		(4)	NO			●

Notes: ●: Contact closed Blank: Contact open




* There may be some overlap in the contact when switching between notches.

• Position of contact block



Contact arrangement	Contact arrangement code	Contact operation				
		Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
2NO+2NC	194	(1)	NC		●	
		(2)	NC	●		
		(3)	NO	●		
		(4)	NO			●
4NO	20B	(1)	NO			●
		(2)	NO	●		
		(3)	NO			●
		(4)	NO	●		

4, 5-position

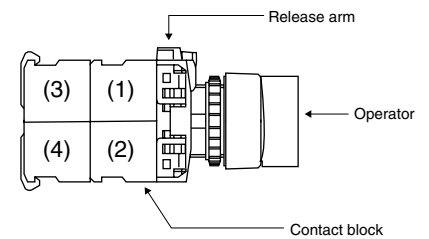
Operator	Contact (The following contact is only available.)	Operation	Knob color	Contact arrangement	Type	
					Switch with round bezel	Switch with square bezel
Knob  AF94-435	2NO+2NC	4-position maintained	Color code: B: Black (Standard) Color other than above are available (G: Green) (R: Red)	Replace the ■ mark by the contact arrangement code (shown below)	AR22PCR-4■B	AR22PCY-4■B
		5-position maintained			AR22PCR-5■B	AR22PCY-5■B
Lever  AF94-436	2NO+2NC	4-position maintained			AR22WCR-4■B	AR22WCY-4■B
		5-position maintained			AR22WCR-5■B	AR22WCY-5■B
Cylindrical knob  AF94-433	2NO+2NC	4-position maintained			AR22RCR-4■B	AR22RCY-4■B
		5-position maintained			AR22RCR-5■B	AR22RCY-5■B

04

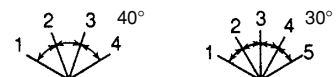
● Contact arrangement code

Position	Contact arrangement	Contact arrangement code	Contact operation		Operator position				
			Contact block		1	2	3	4	5
			Mounting position	Type					
4-position	2NO+2NC	41C* (Maintained only)	(1)	NC			●		
			(2)	NC	●				
			(3)	NO		●			
			(4)	NO				●	
5-position	2NO+2NC	51C* (Maintained only)	(1)	NC				●	
			(2)	NC		●			
			(3)	NO	●				
			(4)	NO					●

● Position of contact block



Operator position
4-position 5-position



Notes: ●: Contact closed





* There may be some overlap in the contact when switching between notches.

Illuminated Selector Switches





AR22

■ Illuminated selector switches

2-position

Operator	Operation	Contact	LED lamp		Incandescent lamp		
			Transformer	Type	Transformer	Type	
Knob  <small>AF94-306</small>	Maintained	1NO 1NC 1NO+1NC 2NO+2NC	Without	AR22PL-210■□ AR22PL-201■□ AR22PL-211■□ AR22PL-222■□	Without	AR22PL-210■□ AR22PL-201■□ AR22PL-211■□ AR22PL-222■□	
			With	AR22PL-210■□ AR22PL-201■□ AR22PL-211■□ AR22PL-220■□	With	AR22PL-210■□ AR22PL-201■□ AR22PL-211■□ AR22PL-220■□	
	Spring return  60°	1NO 1NC 1NO+1NC 2NO	Without	AR22PL-010■□ AR22PL-001■□ AR22PL-011■□ AR22PL-020■□	Without	AR22PL-010■□ AR22PL-001■□ AR22PL-011■□ AR22PL-020■□	
			With	AR22PL-010■□ AR22PL-001■□ AR22PL-011■□ AR22PL-020■□	With	AR22PL-010■□ AR22PL-001■□ AR22PL-011■□ AR22PL-020■□	
	Knob with square bezel  <small>AF94-360</small>	Maintained	1NO 1NC 1NO+1NC 2NO+2NC	Without	AR22PP-210■□ AR22PP-201■□ AR22PP-211■□ AR22PP-222■□	Without	AR22PP-210■□ AR22PP-201■□ AR22PP-211■□ AR22PP-222■□
				With	AR22PP-210■□ AR22PP-201■□ AR22PP-211■□ AR22PP-220■□	With	AR22PP-210■□ AR22PP-201■□ AR22PP-211■□ AR22PP-220■□
Spring return  60°		1NO 1NC 1NO+1NC 2NO	Without	AR22PP-010■□ AR22PP-001■□ AR22PP-011■□ AR22PP-020■□	Without	AR22PP-010■□ AR22PP-001■□ AR22PP-011■□ AR22PP-020■□	
			With	AR22PP-010■□ AR22PP-001■□ AR22PP-011■□ AR22PP-020■□	With	AR22PP-010■□ AR22PP-001■□ AR22PP-011■□ AR22PP-020■□	

3-position

Operator	Operation	Contact	LED lamp		Incandescent lamp	
			Transformer	Type	Transformer	Type
Knob  <small>AF94-306</small>	Maintained	1NO+1NC 2NO+2NC	Without	AR22PL-311■□ AR22PL-322■□	Without	AR22PL-311■□ AR22PL-322■□
			With	AR22PL-311■□		AR22PL-311■□
	Spring/manual return  each 45°	1NO+1NC 1NO+1NC	Without	AR22PL-611■□ AR22PL-611■□	Without	AR22PL-611■□ AR22PL-611■□
			With	AR22PL-711■□ AR22PL-711■□	Without	AR22PL-711■□ AR22PL-711■□
Knob with square bezel  <small>AF94-360</small>	Maintained	1NO+1NC 2NO+2NC	Without	AR22PP-311■□ AR22PP-322■□	Without	AR22PP-311■□ AR22PP-322■□
			With	AR22PP-311■□		AR22PP-311■□
	Spring/manual return  each 45°	1NO+1NC 1NO+1NC	Without	AR22PP-611■□ AR22PP-611■□	Without	AR22PP-611■□ AR22PP-611■□
			With	AR22PP-711■□ AR22PP-711■□	Without	AR22PP-711■□ AR22PP-711■□

Note: □, ■ See page 04/33

- Replace the ■ mark by the following lamp voltage code

Transformer	Voltage	Code	
		LED	Incandescent
Without	5V AC/DC	—	5
	6V DC	6	—
	6V AC	A	—
	12V AC/DC	B	—
	15V AC/DC	C	C
	20V AC/DC	—	D
	24V AC/DC	E	E
With	100-110V AC	H	H
	115-127V AC	L	L
	200-220V AC	M	M
	230-254V AC	Q	Q
	350-380V AC	S	S
	400-440V AC	T	T
	480V AC	V	V
	500-550V AC	W	W

- Replace the □ mark by the following knob color code

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

- Up to 4-contact of contact arrangement can be made.
Available numbers of contacts are as follow.

No. of position	Operation	Without transformer	With transformer
2-position	Maintained	4-contact	3-contact
	Spring return	3-contact	2-contact
3-position	Maintained	4-contact	3-contact
	Spring/manual return	3-contact	2-contact

• Contact arrangement and operator position

2-position

Transformer	Contact arrangement	Contact block		Operator position	
		Mounting position	Type	Left	Right
With/without	1NO	(1)	NO	—	●
With/without	1NC	(1)	NC	●	—
Without	1NO+1NC	(1)	NO	—	●
		(2)	NC	●	—
With	1NO+1NC	(1)	NC	●	—
		(2)	NO	—	●
With/without	2NO	(1)	NO	—	●
		(2)	NO	—	●
Without	2NO+2NC *1	(1)	NO	—	●
		(2)	NC	●	—
		(3)	NO	—	●
		(4)	NC	●	—

Notes: *1: AR22PL-2, AR22PP-2

●: Contact closed, —: Contact open

3-position

Transformer	Contact arrangement	Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
Without	1NO+1NC *1	(1)	NO	●	—	—
		(2)	NC	—	—	●
	1NO+1NC *2	(1)	NO	—	—	●
		(2)	NC	●	—	—
	2NO+2NC *3	(1)	NO	●	—	—
		(2)	NC	—	—	●
With	1NO+1NC *1	(1)	NC	—	—	●
		(2)	NO	●	—	—
	1NO+1NC *2	(1)	NC	●	—	—
		(2)	NO	—	—	●

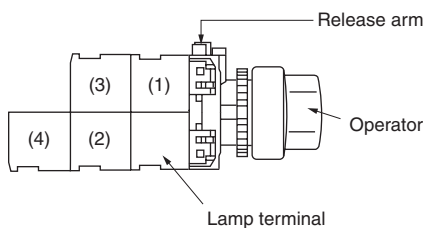
Notes: *1: AR22PL-3, 6 AR22PP-3, 6 *3: AR22PL-3 AR22PP-3

*2: AR22PL-7, AR22PP-7

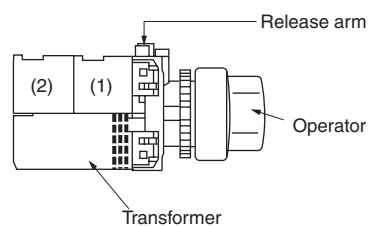
●: Contact closed, —: Contact open

• Position of contact block

Without transformer





With transformer



Pilot Lights DR22

■ Pilot lights/standard

Lens	Transformer	LED lamp Lamp voltage	Type	Incandescent lamp Lamp voltage	Type
Dome  <small>AF94-333</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22D0L-A3 ☐ DR22D0L-63 ☐ DR22D0L-B3 ☐ DR22D0L-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22D0L-54 ☐ — DR22D0L-C4 ☐ DR22D0L-E4 ☐
	With	100–110V AC 200–220V AC	DR22D0L-H3 ☐ DR22D0L-M3 ☐	100–110V AC 200–220V AC	DR22D0L-H4 ☐ DR22D0L-M4 ☐
Extended round  <small>AF94-332</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22E3L-A3 ☐ DR22E3L-63 ☐ DR22E3L-B3 ☐ DR22E3L-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22E3L-54 ☐ — DR22E3L-C4 ☐ DR22E3L-E4 ☐
	With	100–110V AC 200–220V AC	DR22E3L-H3 ☐ DR22E3L-M3 ☐	100–110V AC 200–220V AC	DR22E3L-H4 ☐ DR22E3L-M4 ☐
Faceted  <small>AF96-189</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22K0L-A3 ☐ DR22K0L-63 ☐ DR22K0L-B3 ☐ DR22K0L-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22K0L-54 ☐ — DR22K0L-C4 ☐ DR22K0L-E4 ☐
	With	100–110V AC 200–220V AC	DR22K0L-H3 ☐ DR22K0L-M3 ☐	100–110V AC 200–220V AC	DR22K0L-H4 ☐ DR22K0L-M4 ☐
Flush square  <small>AF94-330</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22F3M-A3 ☐ DR22F3M-63 ☐ DR22F3M-B3 ☐ DR22F3M-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22F3M-54 ☐ — DR22F3M-C4 ☐ DR22F3M-E4 ☐
	With	100–110V AC 200–220V AC	DR22F3M-H3 ☐ DR22F3M-M3 ☐	100–110V AC 200–220V AC	DR22F3M-H4 ☐ DR22F3M-M4 ☐
Flush square (Transparent lens)  <small>AF94-443</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22F4M-A3 ☐ DR22F4M-63 ☐ DR22F4M-B3 ☐ DR22F4M-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22F4M-54 ☐ — DR22F4M-C4 ☐ DR22F4M-E4 ☐
	With	100–110V AC 200–220V AC	DR22F4M-H3 ☐ DR22F4M-M3 ☐	100–110V AC 200–220V AC	DR22F4M-H4 ☐ DR22F4M-M4 ☐
Flush square (12mm high frame)  	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22F5M-A3 ☐ DR22F5M-63 ☐ DR22F5M-B3 ☐ DR22F5M-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22F5M-54 ☐ — DR22F5M-C4 ☐ DR22F5M-E4 ☐
	With	100–110V AC 200–220V AC	DR22F5M-H3 ☐ DR22F5M-E3 ☐	100–110V AC 200–220V AC	DR22F5M-H4 ☐ DR22F5M-M4 ☐
Extended square  <small>AF95-685</small> <small>AF94-380</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22E3M-A3 ☐ DR22E3M-63 ☐ DR22E3M-B3 ☐ DR22E3M-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22E3M-54 ☐ — DR22E3M-C4 ☐ DR22E3M-E4 ☐
	With	100–110V AC 200–220V AC	DR22E3M-H3 ☐ DR22E3M-M3 ☐	100–110V AC 200–220V AC	DR22E3M-H4 ☐ DR22E3M-M4 ☐
Flush rectangular  <small>AF96-237</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22E3N-A3 ☐ DR22E3N-63 ☐ DR22E3N-B3 ☐ DR22E3N-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22E3N-54 ☐ — DR22E3N-C4 ☐ DR22E3N-E4 ☐
	With	100–110V AC 200–220V AC	DR22E3N-H3 ☐ DR22E3N-M3 ☐	100–110V AC 200–220V AC	DR22E3N-H4 ☐ DR22E3N-M4 ☐
Extended round with square bezel  <small>AF94-331</small>	Without	6V AC 6V DC 12V AC/DC 24V AC/DC	DR22E3P-A3 ☐ DR22E3P-63 ☐ DR22E3P-B3 ☐ DR22E3P-E3 ☐	5.5V AC/DC — 15V AC/DC 24V AC/DC	DR22E3P-54 ☐ — DR22E3P-C4 ☐ DR22E3P-E4 ☐
	With	100–110V AC 200–220V AC	DR22E3P-H3 ☐ DR22E3P-M3 ☐	100–110V AC 200–220V AC	DR22E3P-H4 ☐ DR22E3P-M4 ☐

Note: ☐ See page 04/37

■ Pilot lights/short-body without transformer

Lens	LED lamp		Incandescent lamp	
	Lamp voltage	Type	Lamp voltage	Type
 AF98-88	5.5V AC/DC	—	5.5V AC/DC	DR22D0L-58□
	6V AC	DR22D0L-A9□	6V AC	—
	6V DC	DR22D0L-69□	6V DC	—
	12V AC/DC	DR22D0L-B9□	15V AC/DC	DR22D0L-C8□
	24V AC/DC	DR22D0L-E9□	24V AC/DC	DR22D0L-E8□
 AF98-90	5.5V AC/DC	—	5.5V AC/DC	DR22E3L-58□
	6V AC	DR22E3L-A9□	6V AC	—
	6V DC	DR22E3L-69□	6V DC	—
	12V AC/DC	DR22E3L-B9□	15V AC/DC	DR22E3L-C8□
	24V AC/DC	DR22E3L-E9□	24V AC/DC	DR22E3L-E8□
 AF98-89	5.5V AC/DC	—	5.5V AC/DC	DR22K0L-58□
	6V AC	DR22K0L-A9□	6V AC	—
	6V DC	DR22K0L-69□	6V DC	—
	12V AC/DC	DR22K0L-B9□	15V AC/DC	DR22K0L-C8□
	24V AC/DC	DR22K0L-E9□	24V AC/DC	DR22K0L-E8□
 AF98-92	5.5V AC/DC	—	5.5V AC/DC	DR22F3M-58□
	6V AC	DR22F3M-A9□	6V AC	—
	6V DC	DR22F3M-69□	6V DC	—
	12V AC/DC	DR22F3M-B9□	15V AC/DC	DR22F3M-C8□
	24V AC/DC	DR22F3M-E9□	24V AC/DC	DR22F3M-E8□
 AF98-92	5.5V AC/DC	—	5.5V AC/DC	DR22F4M-58□
	6V AC	DR22F4M-A9□	6V AC	—
	6V DC	DR22F4M-69□	6V DC	—
	12V AC/DC	DR22F4M-B9□	15V AC/DC	DR22F4M-C8□
	24V AC/DC	DR22F4M-E9□	24V AC/DC	DR22F4M-E8□
 AF98-94	5.5V AC/DC	—	5.5V AC/DC	DR22F5M-58□
	6V AC	DR22F5M-A9□	6V AC	—
	6V DC	DR22F5M-69□	6V DC	—
	12V AC/DC	DR22F5M-B9□	15V AC/DC	DR22F5M-C8□
	24V AC/DC	DR22F5M-E9□	24V AC/DC	DR22F5M-E8□
 AF98-93	5.5V AC/DC	—	5.5V AC/DC	DR22E3M-58□
	6V AC	DR22E3M-A9□	6V AC	—
	6V DC	DR22E3M-69□	6V DC	—
	12V AC/DC	DR22E3M-B9□	15V AC/DC	DR22E3M-C8□
	24V AC/DC	DR22E3M-E9□	24V AC/DC	DR22E3M-E8□
 KK02-234B	5.5V AC/DC	—	5.5V AC/DC	DR22E3N-58□
	6V AC	DR22E3N-A9□	6V AC	—
	6V DC	DR22E3N-69□	6V DC	—
	12V AC/DC	DR22E3N-B9□	15V AC/DC	DR22E3N-C8□
	24V AC/DC	DR22E3N-E9□	24V AC/DC	DR22E3N-E8□
 AF98-91	5.5V AC/DC	—	5.5V AC/DC	DR22E3P-58□
	6V AC	DR22E3P-A9□	6V AC	—
	6V DC	DR22E3P-69□	6V DC	—
	12V AC/DC	DR22E3P-B9□	15V AC/DC	DR22E3P-C8□
	24V AC/DC	DR22E3P-E9□	24V AC/DC	DR22E3P-E8□

Note: □ See page 04/37

Pilot Lights DR22

■ Pilot lights/short-body with transformer

Lens	LED lamp		Incandescent lamp	
	Lamp voltage	Type	Lamp voltage	Type
Dome  <small>AF97-137</small>	100–110V AC	DR22D0L-H9 □	100–110V AC	DR22D0L-H8 □
	200–220V AC	DR22D0L-M9 □	200–220V AC	DR22D0L-M8 □
Extended round  <small>AF97-138</small>	100–110V AC	DR22E3L-H9 □	100–110V AC	DR22E3L-H8 □
	200–220V AC	DR22E3L-M9 □	200–220V AC	DR22E3L-M8 □
Faceted  <small>KK02-130A</small>	100–110V AC	DR22K0L-H9 □	100–110V AC	DR22K0L-H8 □
	200–220V AC	DR22K0L-M9 □	200–220V AC	DR22K0L-M8 □
Flush square  <small>AF97-134</small>	100–110V AC	DR22F3M-H9 □	100–110V AC	DR22F3M-H8 □
	200–220V AC	DR22F3M-M9 □	200–220V AC	DR22F3M-M8 □
Flush square (Transparent lens)  <small>AF97-133</small>	100–110V AC	DR22F4M-H9 □	100–110V AC	DR22F4M-H8 □
	200–220V AC	DR22F4M-M9 □	200–220V AC	DR22F4M-M8 □
Flush square (12mm high frame)  <small>AF97-136</small>	100–110V AC	DR22F5M-H9 □	100–110V AC	DR22F5M-H8 □
	200–220V AC	DR22F5M-M9 □	200–220V AC	DR22F5M-M8 □
Extended square  <small>KK02-134A</small>	100–110V AC	DR22E3M-H9 □	100–110V AC	DR22E3M-H8 □
	200–220V AC	DR22E3M-M9 □	200–220V AC	DR22E3M-M8 □
Flush rectangular  <small>KK02-235B</small>	100–110V AC	DR22E3N-H9 □	100–110V AC	DR22E3N-H8 □
	200–220V AC	DR22E3N-M9 □	200–220V AC	DR22E3N-M8 □
Extended round with square bezel  <small>AF97-135</small>	100–110V AC	DR22E3P-H9 □	100–110V AC	DR22E3P-H8 □
	200–220V AC	DR22E3P-M9 □	200–220V AC	DR22E3P-M8 □

Note: □ See page 04/37

• **Lens color**

Replace the □ mark by the following lens color code

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

• **Lamp voltage**




Available lamp voltage are as follow.

Description	Voltage	Code		Short-body type	
		Standard type LED	Incandescent	LED	Incandescent
Without transformer	5.5V AC/DC	–	54	–	58
	6V AC	A3	–	A9	–
	6V DC	63	–	69	–
	12V AC/DC	B3	–	B9	–
	15V AC/DC	C3	C4	C9	C8
	20V AC/DC	–	D4	–	D8
	24V AC/DC	E3	E4	E9	E8
With transformer	100-110V AC	H3	H4	H9	H8
	115-127V AC	L3	L4	L9	L8
	200-220V AC	M3	M4	M9	M8
	230-254V AC	Q3	Q4	–	–
	350-380V AC	S3	S4	–	–
	400-440V AC	T3	T4	–	–
	480V AC	V3	V4	–	–
	500-550V AC	W3	W4	–	–
With resistor unit	110V DC	H7	–	–	–

Joy Stick Selector Switches

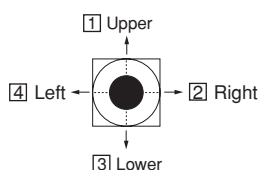
AR22

■ Joy stick selector switches

Handle	Terminal	Operating directions	Contact arrangement	Type	
				Manual return	Spring return
Ball type without lock  <small>AF97-49</small>	Screw	↑ ↓	1NO × 2	AR22A0N-A0A0B	AR22A5N-A0A0B
			1NO + 1NC × 2	AR22A0N-1010B	AR22A5N-1010B
		↔	1NO × 4	AR22A0N-AAAAB	AR22A5N-AAAAB
			1NO + 1NC × 4	AR22A0N-1111B	AR22A5N-1111B
	Solder/tab	↑ ↓	1NO + 1NC × 2	AR22A0H-1010B	AR22A5H-1010B
			2NO + 2NC × 2	AR22A0H-2020B	AR22A5H-2020B
↔	↑ ↓	1NO + 1NC × 4	AR22A0H-1111B	AR22A5H-1111B	
		2NO + 2NC × 4	AR22A0H-2222B	AR22A5H-2222B	
Ball type with lock  <small>AF97-45</small>	Screw	↑ ↓	1NO × 2	AR22A1N-A0A0B	AR22A6N-A0A0B
			1NO + 1NC × 2	AR22A1N-1010B	AR22A6N-1010B
		↔	1NO × 4	AR22A1N-AAAAB	AR22A6N-AAAAB
			1NO + 1NC × 4	AR22A1N-1111B	AR22A6N-1111B
	Solder/tab	↑ ↓	1NO + 1NC × 2	AR22A1H-1010B	AR22A6H-1010B
			2NO + 2NC × 2	AR22A1H-2020B	AR22A6H-2020B
↔	↑ ↓	1NO + 1NC × 4	AR22A1H-1111B	AR22A6H-1111B	
		2NO + 2NC × 4	AR22A1H-2222B	AR22A6H-2222B	
Rubber cap type without lock  <small>AF97-56</small>	Screw	↑ ↓	1NO × 2	AR22A2N-A0A0B	AR22A7N-A0A0B
			1NO + 1NC × 2	AR22A2N-1010B	AR22A7N-1010B
		↔	1NO × 4	AR22A2N-AAAAB	AR22A7N-AAAAB
			1NO + 1NC × 4	AR22A2N-1111B	AR22A7N-1111B
	Solder/tab	↑ ↓	1NO + 1NC × 2	AR22A2H-1010B	AR22A7H-1010B
			2NO + 2NC × 2	AR22A2H-2020B	AR22A7H-2020B
↔	↑ ↓	1NO + 1NC × 4	AR22A2H-1111B	AR22A7H-1111B	
		2NO + 2NC × 4	AR22A2H-2222B	AR22A7H-2222B	

• Operating direction

- Directions other than those shown in the table above can be provided.
- For types AR22A□N-□□□□ B, designate the contact arrangement codes for the necessary operating directions (□: Upper, □: Right, □: Lower, □: Left). Designate "0" for unnecessary directions.






• Contact arrangement

Contact arrangement		–	1NO	1NC	1NO+1NC	2NO	2NC	2NO+2NC
Manual return Spring return	Screw	0	A	B	1	D	E	–
	Solder/Tab	0	–	–	1	–	–	2

- Spring/manual return are also available, contact FUJI.

■ Buzzers

Sound	Description	Transformer	Operating voltage	Type
 AF96-377	<ul style="list-style-type: none"> • LED operation indicator (Red) • Intermittent/continuous sound selection • Sound level: 90dB (0.1m) 70dB (1m) 	Without	6V AC 6V DC 12 to 24V AC/DC 35 to 48V AC/DC	DR22B5-AB DR22B5-6B DR22B5-EB DR22B5-FB
		With	100 to 110V AC 200 to 220V AC	DR22B5-HB DR22B5-MB
		With resistor unit	100 to 110V DC	DR22B5-1B
 AF96-376	<ul style="list-style-type: none"> • Sound volume adjustment • Sound level: 80 to 90dB (0.1m) 60 to 70dB (1m) 	Without	24V AC/DC	DR22B3-EB
		With	100 to 110V AC 200 to 220V AC	DR22B3-HB DR22B3-MB
 AF96-244	<ul style="list-style-type: none"> • Intermittent/continuous sound selection • Sound level: 80dB (0.1m) 60dB (1m) 	Without	6V AC 6V DC 12 to 24V AC/DC 35 to 48V AC/DC	DR22B8-AB DR22B8-6B DR22B8-EB DR22B8-FB
		With	100 to 110V AC 200 to 220V AC	DR22B8-HB DR22B8-MB
		With resistor unit	100 to 110V DC	DR22B8-1B


- Notes:
- Intermittent/continuous sound selection (DR22B5, B8)
See the "Short-circuit terminal" in the dimensions diagram on the 04/51 page, and select as follows:
 - Short-circuit terminal mounted → Intermittent sound
 - Short-circuit terminal not mounted → Continuous sound

- Sound volume adjustment (DR22B3)
Use a flat-bladed screwdriver with a narrow tip to gently turn "Control knob" shown in the dimensions diagram on the 04/51 page, as follows.
 - Clockwise → Increase sound pressure
 - Counterclockwise → Decrease sound pressure

04

Numerical Indicators DR22

■ Numerical indicators

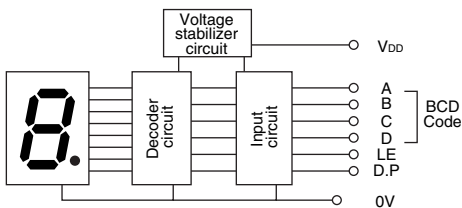
Display	Terminal	Input logic	Operating voltage	Type	Luminous color
 KK02-54	Soldering terminal	Negative	12V DC 24V DC	DR22N1-NB □ DR22N1-NE □	Replace the □ mark by the luminous color code R: Red G: Green
		Positive	12V DC 24V DC	DR22N1-PB □ DR22N1-PE □	
	Soldering terminal with connector	Negative	12V DC 24V DC	DR22N1-NB □C DR22N1-NE □C	
		Positive	12V DC 24V DC	DR22N1-PB □C DR22N1-PE □C	
	With right angle connector Socket FCN-723J010/1 Contact block FCN-723J-AU/Q (Fujitsu component)	Negative	12V DC 24V DC	DR22N1-NB □R DR22N1-NE □R	
		Positive	12V DC 24V DC	DR22N1-PB □R DR22N1-PE □R	
 KK02-16	Soldering terminal	Negative	12V DC 24V DC	DR22N2-NB □ DR22N2-NE □	
		Positive	12V DC 24V DC	DR22N2-PB □ DR22N2-PE □	
	Soldering terminal with connector	Negative	12V DC 24V DC	DR22N2-NB □C DR22N2-NE □C	
		Positive	12V DC 24V DC	DR22N2-PB □C DR22N2-PE □C	
	With right angle connector Socket FCN-723J020/2 Contact block FCN-723J-AU/Q (Fujitsu component)	Negative	12V DC 24V DC	DR22N2-NB □R DR22N2-NE □R	
		Positive	12V DC 24V DC	DR22N2-PB □R DR22N2-PE □R	

Notes: • Right-angle connector and mounting screws included.
• Terminal dimensions, arrangement, and input conditions: See page 04/52.

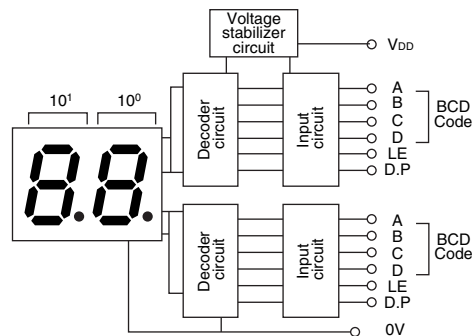
■ Input specifications

• Wiring diagrams

One-digit



Two-digit



• Truth value chart

Display	Positive logic					Negative logic				
	D	C	B	A	L.E	D	C	B	A	L.E
0	L	L	L	L	L	H	H	H	H	H
1	L	L	L	H	L	H	H	H	L	H
2	L	L	H	L	L	H	H	L	H	H
3	L	L	H	H	L	H	H	L	L	H
4	L	H	L	L	L	H	L	H	H	H
5	L	H	L	H	L	H	L	H	L	H
6	L	H	H	L	L	H	L	L	H	H
7	L	H	H	H	L	H	L	L	L	H
8	H	L	L	L	L	L	H	H	H	H
9	H	L	L	H	L	L	H	H	L	H
Extinguish	H	L	H	L	L	L	H	L	H	H
Extinguish	H	L	H	H	L	L	H	L	L	H
Extinguish	H	H	L	L	L	L	L	H	H	H
Extinguish	H	H	L	H	L	L	L	H	L	H
Extinguish	H	H	H	L	L	L	L	L	H	H
Extinguish	H	H	H	H	L	L	L	L	L	H
Latch	○	○	○	○	H	○	○	○	○	L

Note: ○ Operates independently from the L and H signals.

• Terminal symbol

L.E (Latch Enable):

Holds the last entry when the positive logic type goes to (H) and the negative logic type goes to (L).

D.P (Decimal Point):

Displays a decimal point when the positive logic type goes to (H) and the negative logic type goes to (L).

• BCD input voltage

	12V	24V
L	0 to 1V	0 to 2V
H	9 to 15V	12 to 30V

• Input current

Positive logic	H	2mA max.
Negative logic	L	4mA max.

• Application to PLC

Input logic	Output from PLC	
	Transistor output (source) PNP	Transistor output (sink) NPN
Negative logic	—	○
Positive logic	○	—

Note: ○ Available, — not available

Pushbuttons/Selectors/Pilot Lights/Buzzers

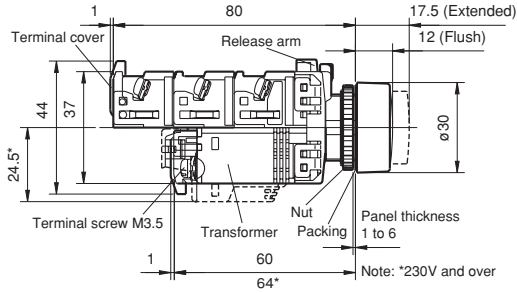
AR22 and DR22

Dimensions

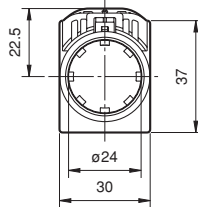
- Dimensions, mm
- Illuminated pushbutton switches

Flush/Extended

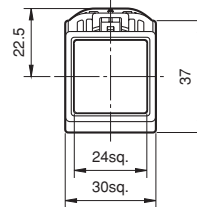
With transformer



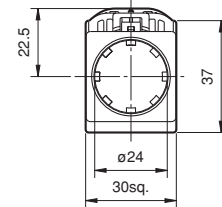
AR22F0L, F5L
AR22E0L, E5L



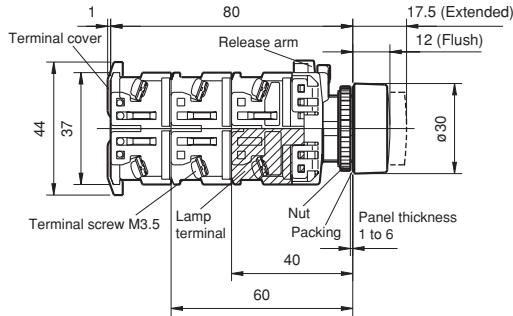
AR22F0M, F5M
AR22E0M, E5M



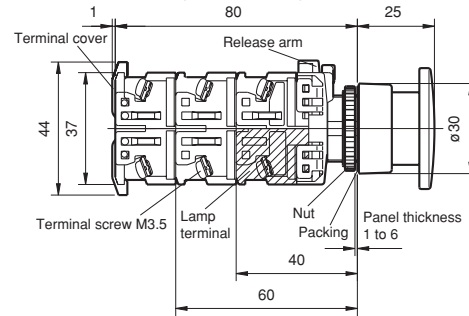
AR22F0P, F5P
AR22E0P, E5P



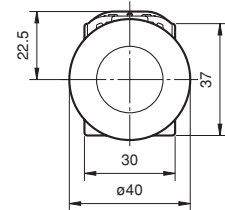
Without transformer



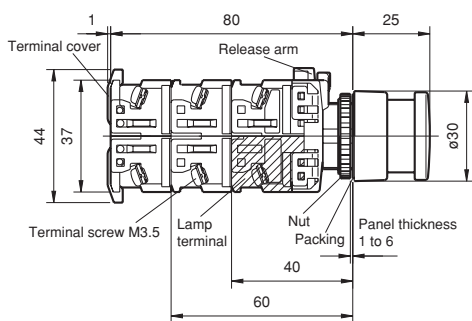
Mushroom (40mm dia.)



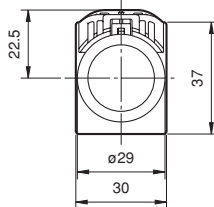
AR22M0L, M5L



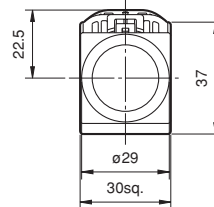
Mushroom (29mm dia.)



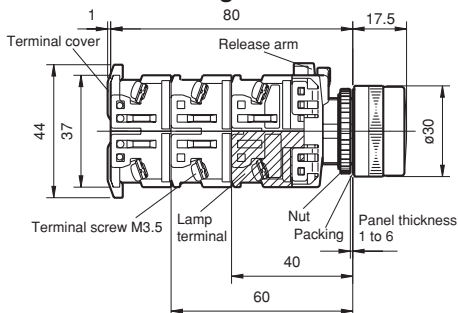
AR22M4L, M9L



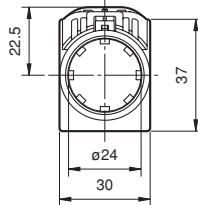
AR22M4P



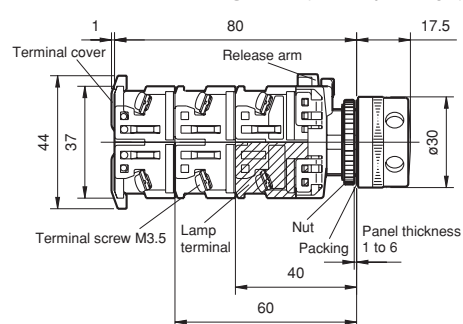
Extended with full guard



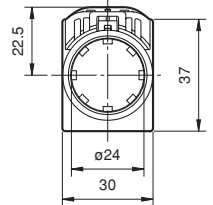
AR22G4L, G9L
AR22G1L, G6L



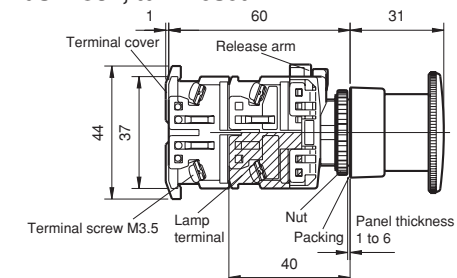
Extended with full guard (with openings)



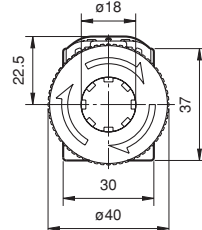
AR22G2L, G7L



Push-lock, turn-reset



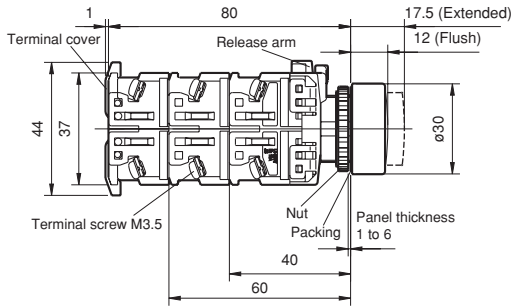
AR22V5L



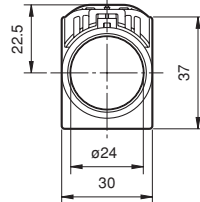
Pushbuttons/Selectors/Pilot Lights/Buzzers AR22 and DR22 Dimensions

■ Dimensions, mm • Pushbutton switches

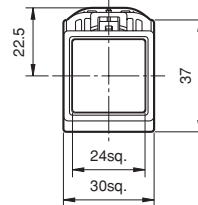
Flush/Extended



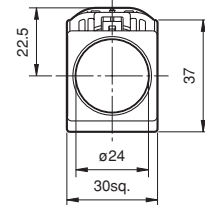
AR22F0R, F5R
AR22E0R, E5R
AR22FAR, FBR
AR22EAR, EBR



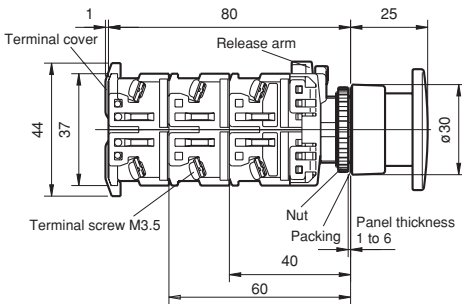
AR22F0S, F5S
AR22E0S, E5S



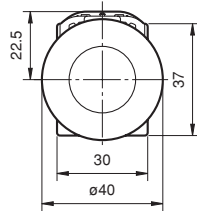
AR22F0Y, F5Y
AR22E0Y, E5Y



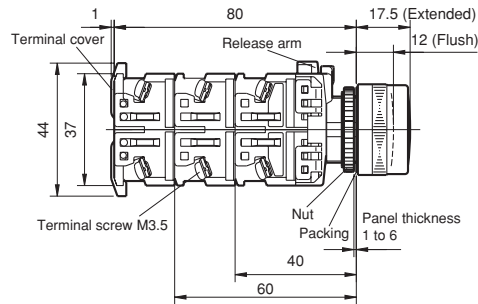
Mushroom (40mm dia.)



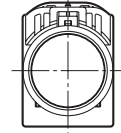
AR22M0R, M5R



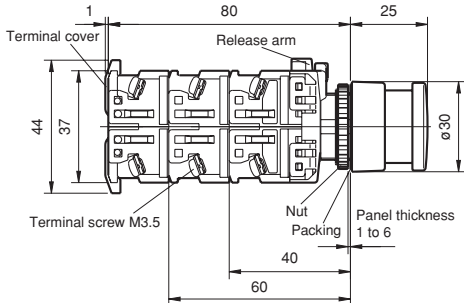
Flush/Extended with full guard



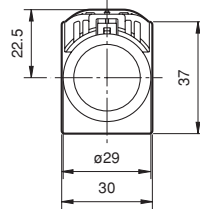
AR22G3R, G8R
AR22G2R, G7R



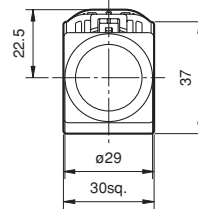
Mushroom (29mm dia.)



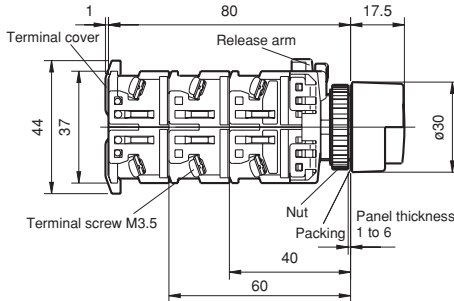
AR22M4R, M9R



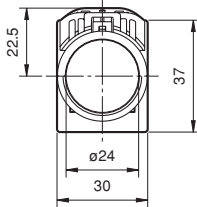
AR22M4Y



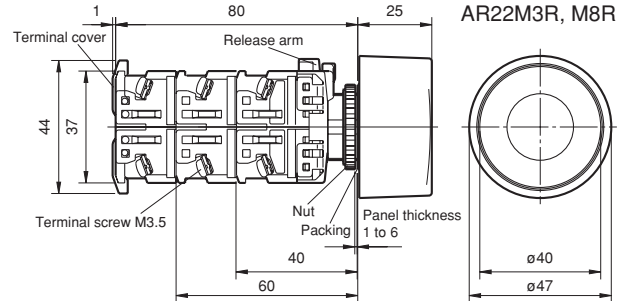
Extended with half guard



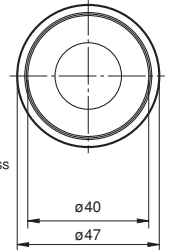
AR22G0R, G5R



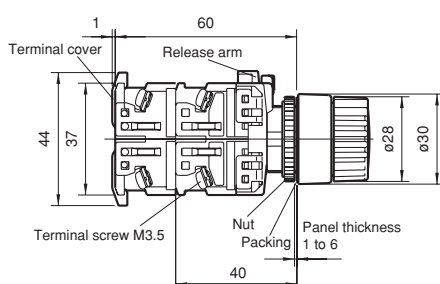
Mushroom with full guard (40mm dia.)



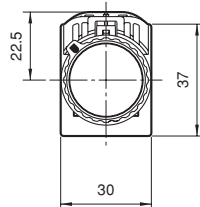
AR22M3R, M8R



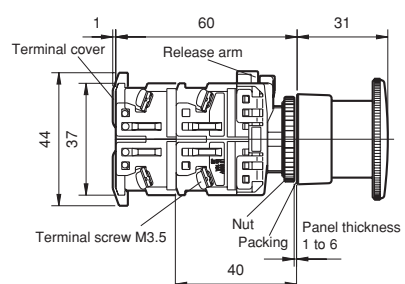
Pushbutton with selector ring



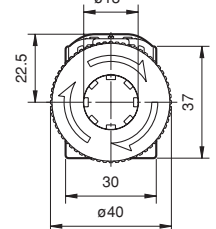
AR22S1R, S2R
AR22S3R, S6R



Push-lock, turn-reset



AR22V5R



Pushbuttons/Selectors/Pilot Lights/Buzzers

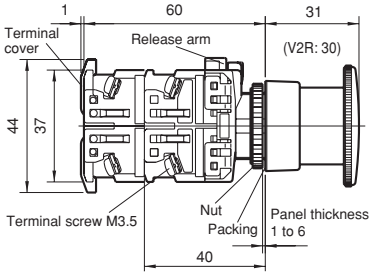
AR22 and DR22

Dimensions

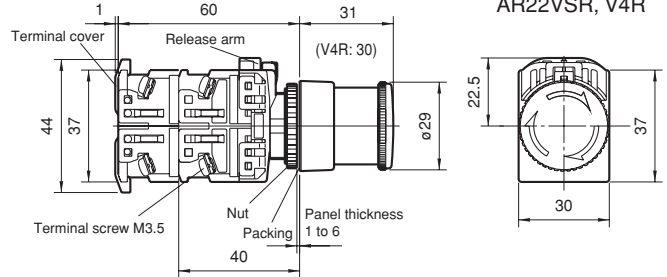
■ Dimensions, mm

• Emergency stop pushbutton switches

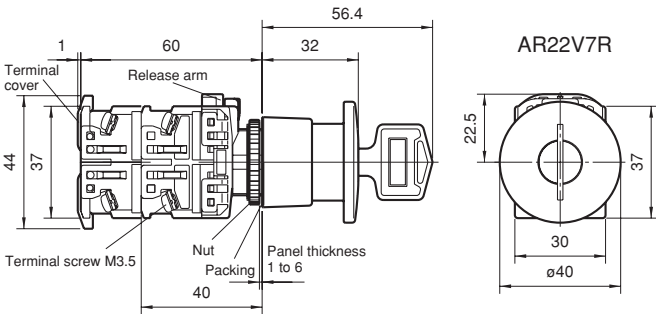
Push-lock, turn-reset (40mm dia.)



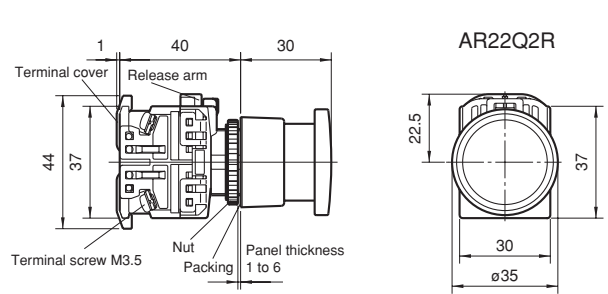
Push-lock, turn-reset (29mm dia.)



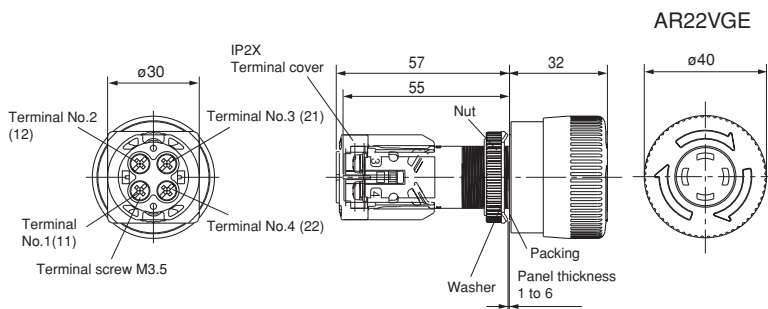
Key release push-lock, turn-reset (40mm dia.)



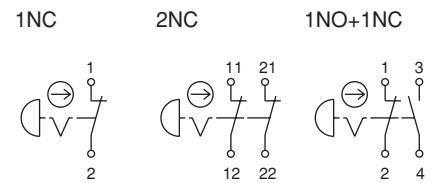
Push-lock, pull-reset (35mm dia.)



Unibody push-lock, turn-reset (40mm dia.)



Wiring diagrams

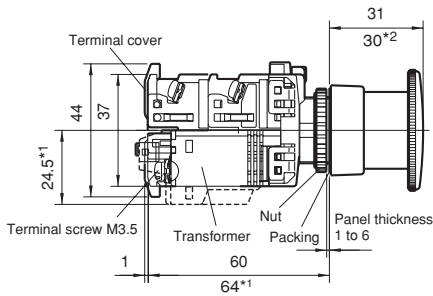


Note: Terminal No. shown in () are for contact arrangement 2NC.

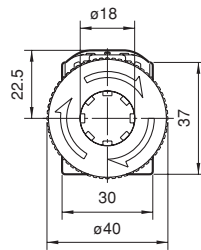
■ Dimensions, mm
 • Emergency stop illuminated pushbutton switches

Push-lock, turn-reset (40mm dia.)

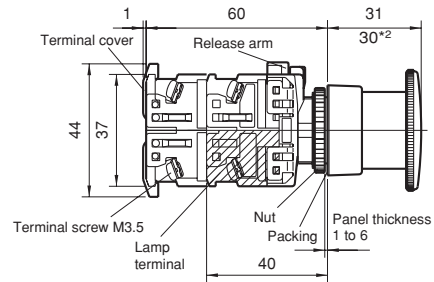
With transformer



AR22V0L, V2L
 AR22VDL, VAL



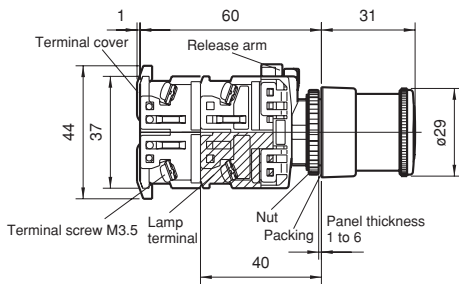
Without transformer



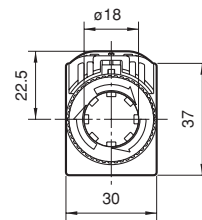
Note: *1 230V and over
 *2 AR22V2L and VAL types only

Push-lock, turn-reset (29mm dia.)

Without transformer

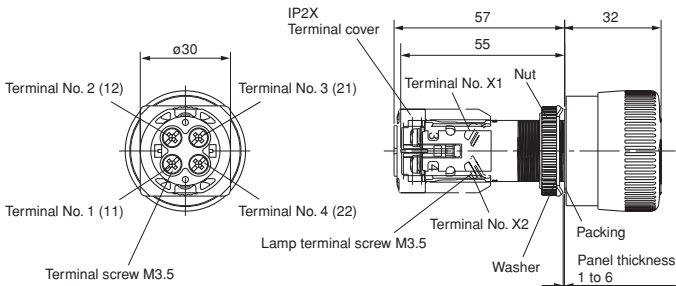


AR22VSL

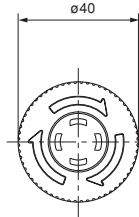


Unibody push-lock, turn-reset (40mm dia.)

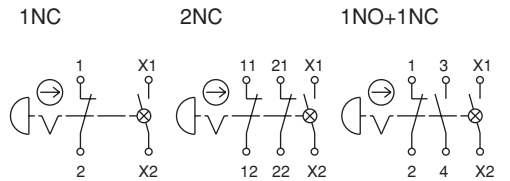
Without transformer



AR22VGF



Wiring diagrams



Note: Terminal No. shown in () are for contact arrangement 2NC.

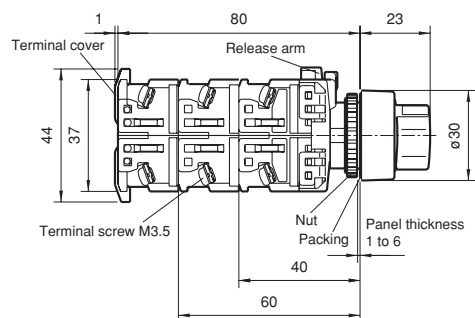
Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

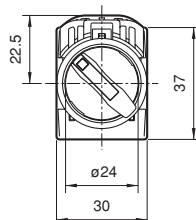
Dimensions

■ Dimensions, mm
• Selector switches

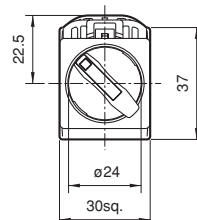
Knob



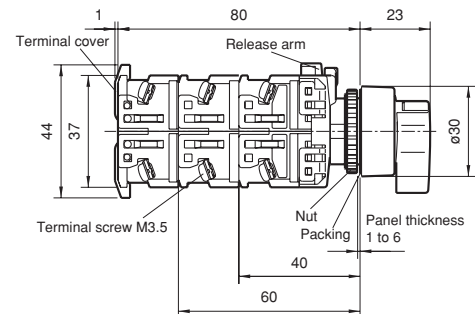
AR22PR, PCR



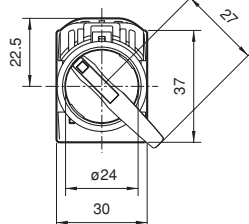
AR22PY, PCY



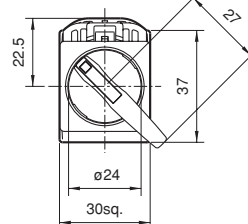
Lever



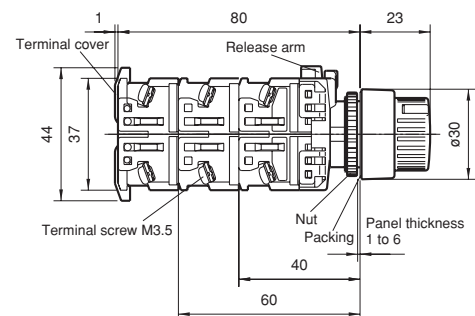
AR22WR, WCR



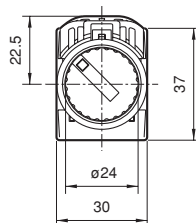
AR22WY, WCY



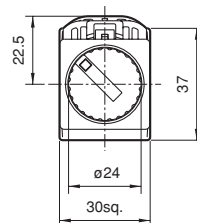
Cylindrical knob



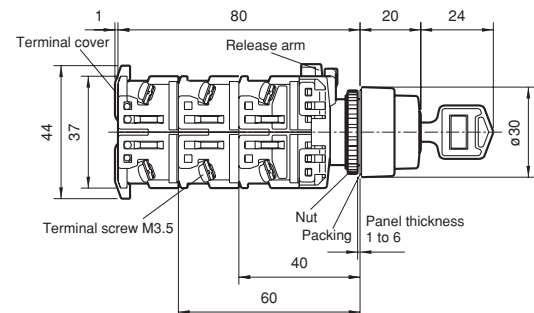
AR22RR, RCR



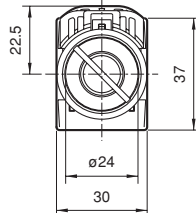
AR22RY, RCY



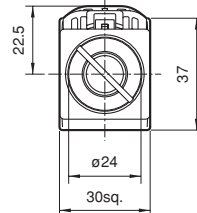
Key



AR22JR, JCR
AR22JAR



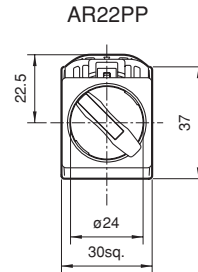
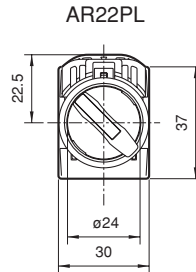
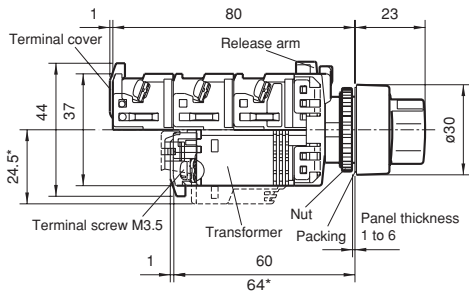
AR22JY, JCY



■ Dimensions, mm

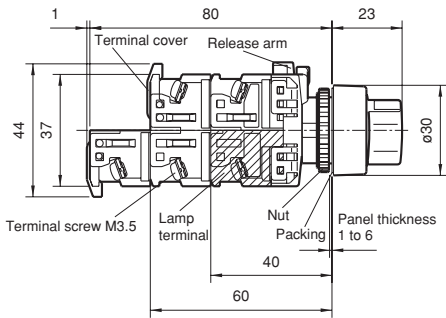
• Illuminated selector switches

With transformer



Note: * 230V and over

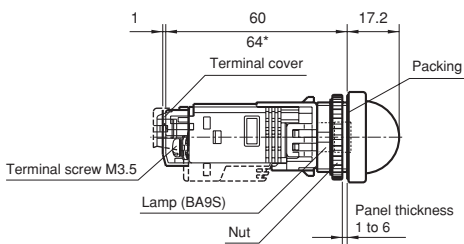
Without transformer



• Pilot lights

Dome

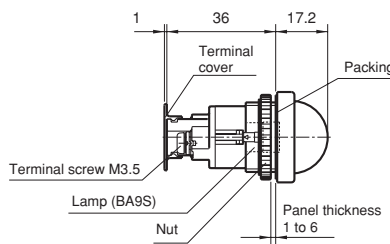
With transformer, with resistor unit



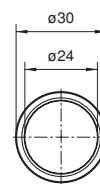
DR22D0L



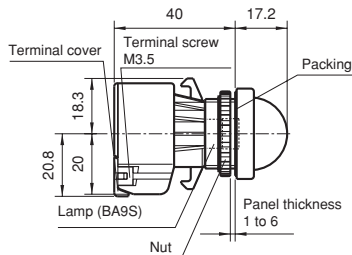
Without transformer



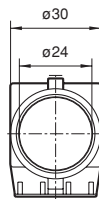
DR22D0L



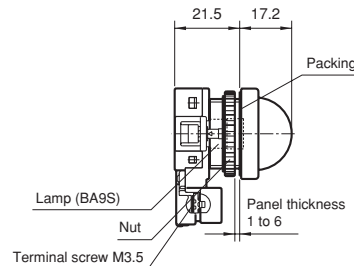
Short body/with transformer



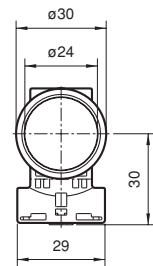
DR22D0L



Short body/without transformer



DR22D0L



Note: * Except for the types 110V AC, 127V AC and 220V AC.

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

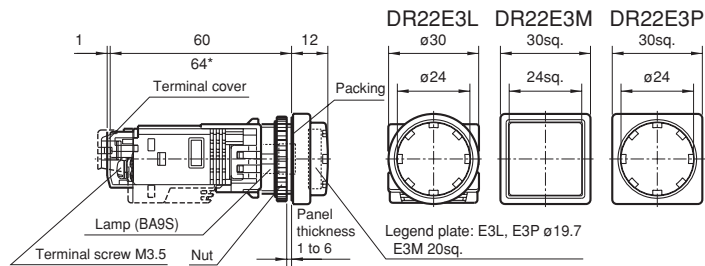
Dimensions

■ Dimensions, mm

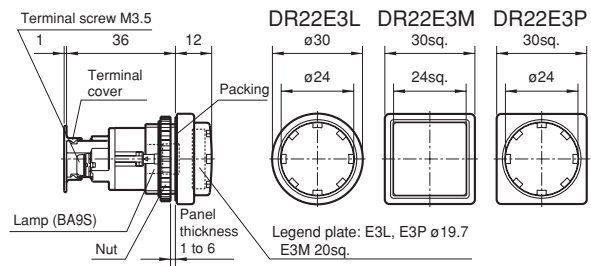
• Pilot lights

Extended

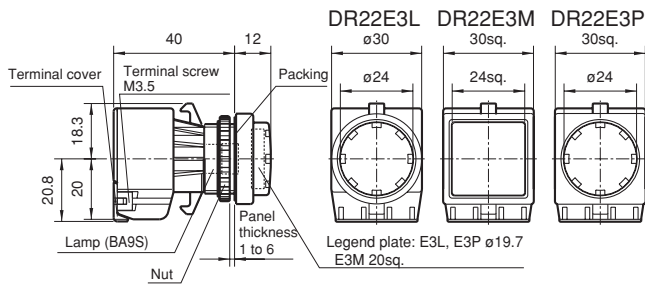
With transformer, with resistor unit



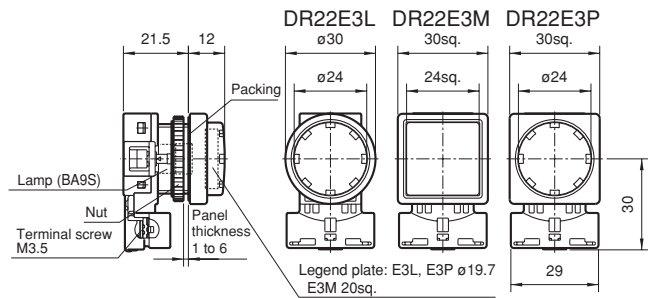
Without transformer



Short body/with transformer



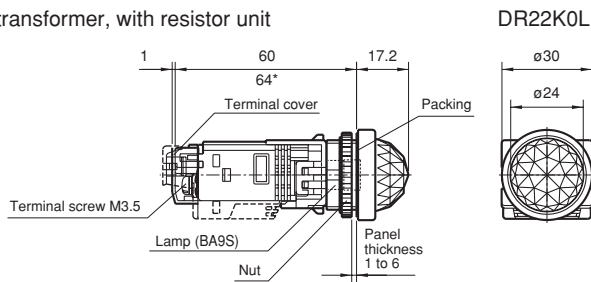
Short body/without transformer



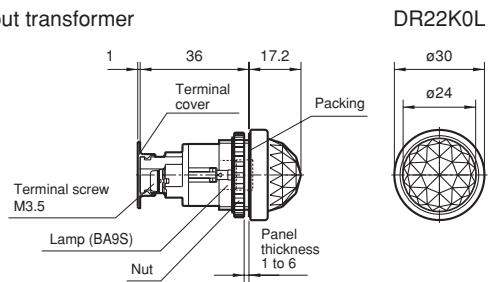
Note: * Except for the types 110V AC, 127V AC and 220V AC.

Faceted

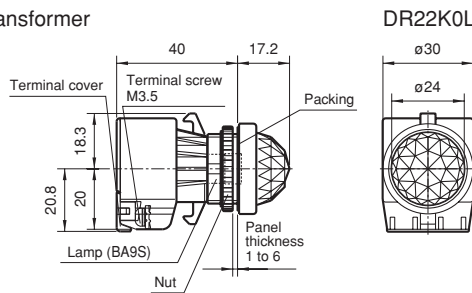
With transformer, with resistor unit



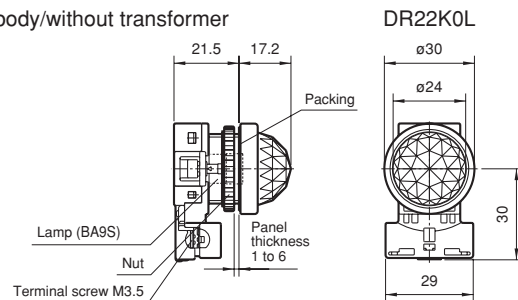
Without transformer



Short body/with transformer



Short body/without transformer



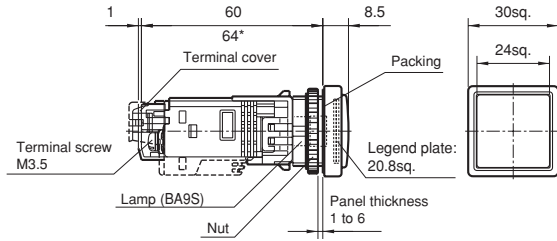
Note: * Except for the types 110V AC, 127V AC and 220V AC.

■ Dimensions, mm
 • Pilot lights

Flush

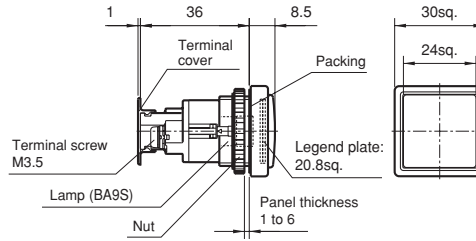
With transformer, with resistor unit

DR22F3M, F4M



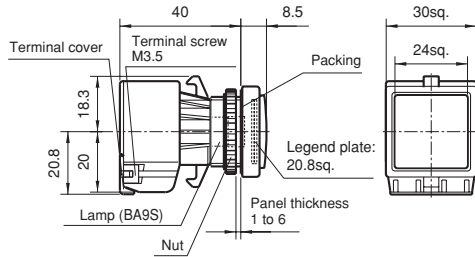
Without transformer

DR22F3M, F4M



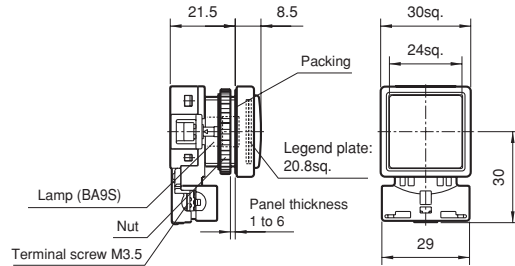
Short body/with transformer

DR22F3M, F4M



Short body/without transformer

DR22F3M, F4M

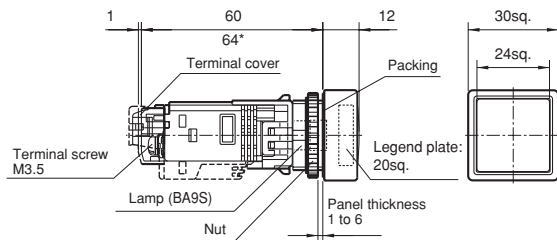


Note: * Except for the types 110V AC, 127V AC and 220V AC.

Flush (12mm high frame)

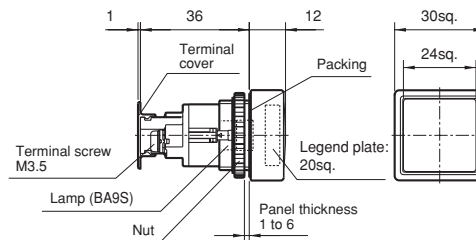
With transformer, with resistor unit

DR22F5M



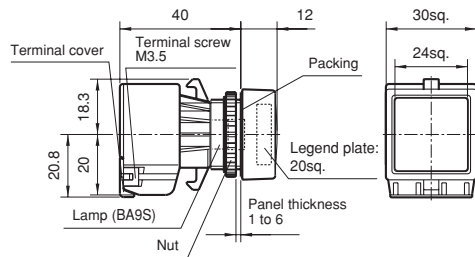
Without transformer

DR22F5M



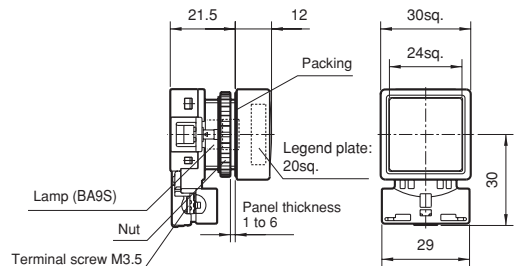
Short body/with transformer

DR22F5M



Short body/without transformer

DR22F5M



Note: * Except for the types 110V AC, 127V AC and 220V AC.

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

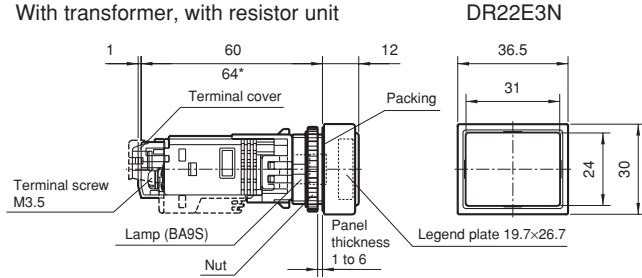
Dimensions

■ Dimensions, mm

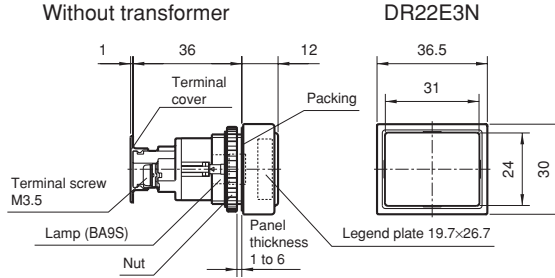
• Pilot lights

Flush rectangular

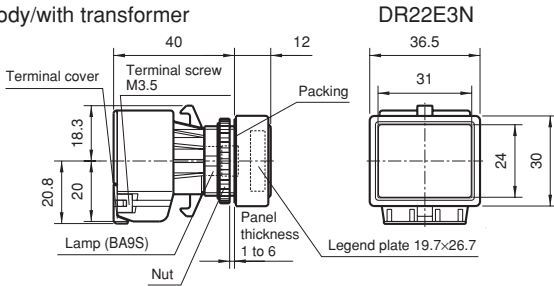
With transformer, with resistor unit



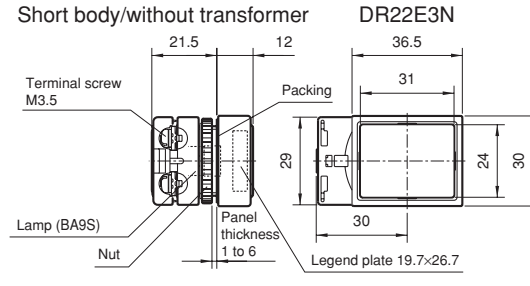
Without transformer



Short body/with transformer



Short body/without transformer

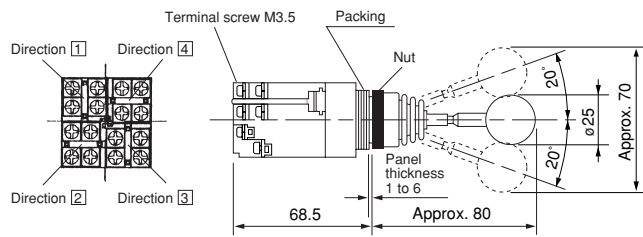


Note: * Except for the types 110V AC, 127V AC and 220V AC.

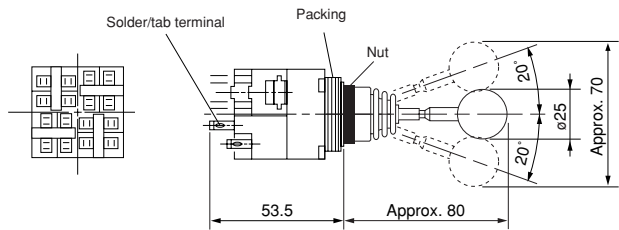
• Joy stick selector switches

Ball type without lock

Screw terminal AR22A0N, A5N



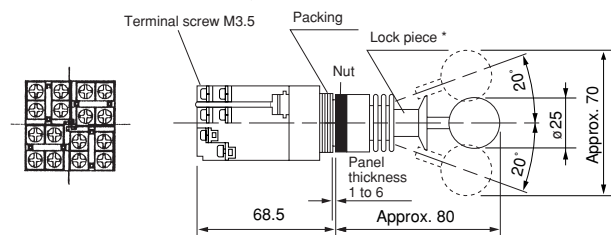
Solder/tab terminal AR22A0H, A5H



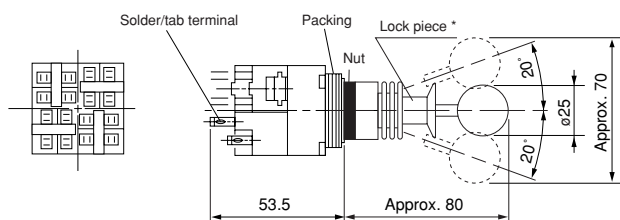
Notes * The contact arrangement is operable in the designated direction by pulling the lock piece in the central position with the fingers. The lock piece will return automatically and locks when the lock piece is released in the central position. The lock piece locks in the central position only.

Ball type with lock

Screw terminal AR22A1N, A6N



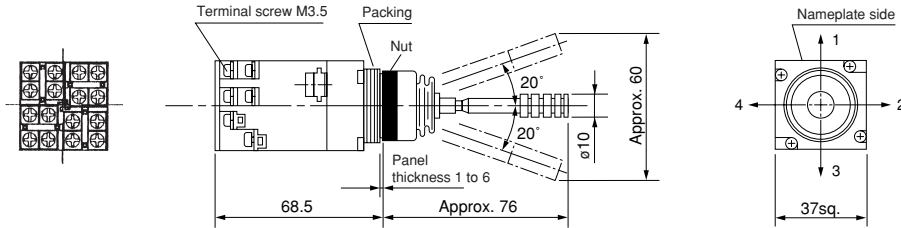
Solder/tab terminal AR22A1H, A6H



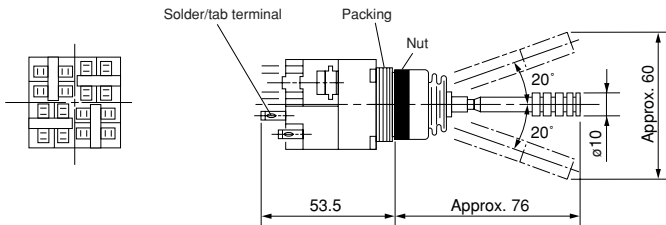
■ **Dimensions, mm**
 • **Joystick selector switches**

Rubber cap type without lock

Screw terminal AR22A2N, A7N



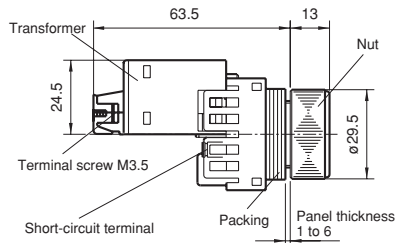
Solder/tab terminal AR22A2H, A7H



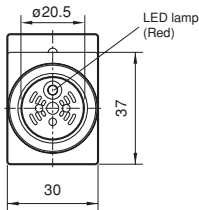
• **Buzzers**

Electronic sound

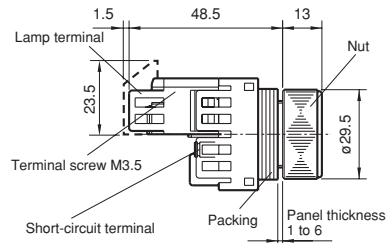
With transformer



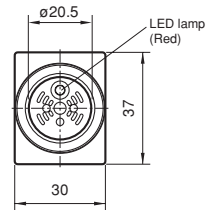
DR22B5



Without transformer

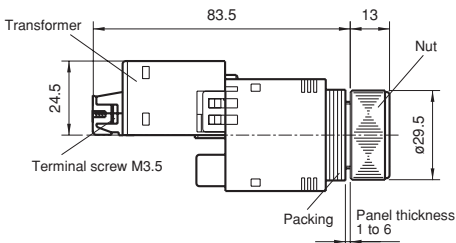


DR22B5

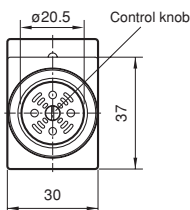


Magnetic sound

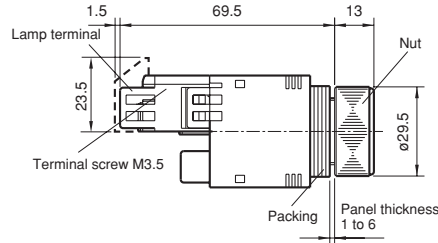
With transformer



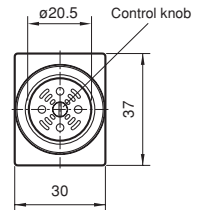
DR22B3



Without transformer

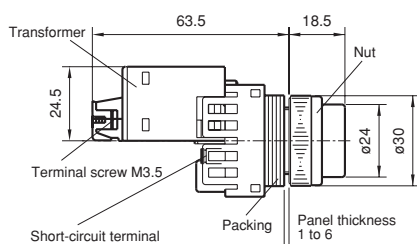


DR22B3

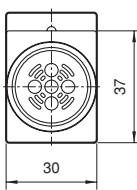


Electronic sound (IP54)

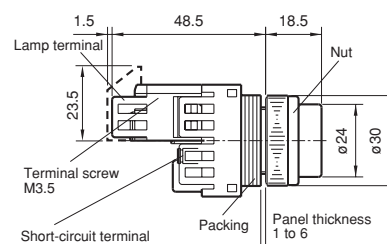
With transformer



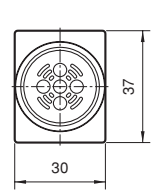
DR22B8



Without transformer



DR22B8



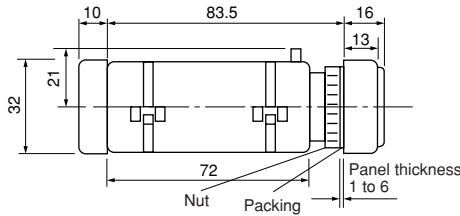
Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

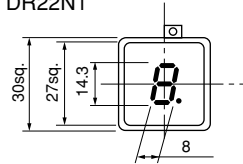
Dimensions

■ Dimensions, mm

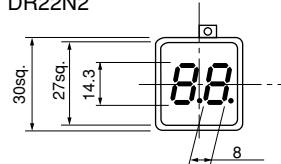
● Numerical indicators



One-digit
DR22N1



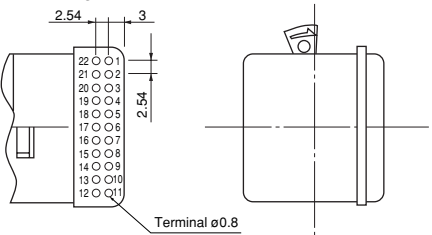
Two-digit
DR22N2



● Terminals

Solder terminal

One-digit, two-digit



Input conditions

One-digit

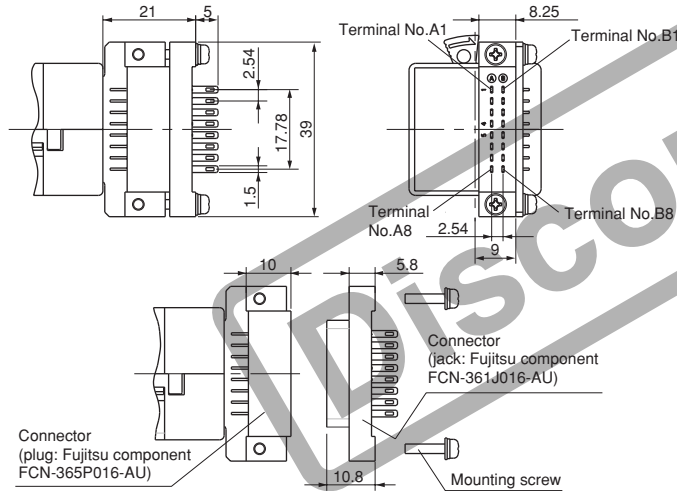
V _{DD}	22	1	V _{DD}
	21	2	
NC	20	3	C
NC	19	4	B
NC	18	5	LE
NC	17	6	D.P
NC	16	7	D
NC	15	8	A
	14	9	
0V	13	10	0V
0V	12	11	0V

Two-digit

V _{DD}	22	1	V _{DD}		
	21	2			
10 ¹	C	20	3	C	10 ⁰
	B	19	4	B	
	LE	18	5	LE	
	D.P	17	6	D.P	
	D	16	7	D	
	A	15	8	A	
	14	9			
0V	13	10	0V		
0V	12	11	0V		

Solder terminal with connector

One-digit, two-digit



One-digit

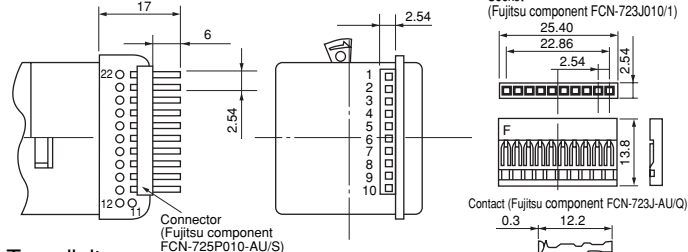
NC	A1	B1	V _{DD}
NC	A2	B2	C
NC	A3	B3	B
NC	A4	B4	LE
NC	A5	B5	D.P
NC	A6	B6	D
0V	A7	B7	A
NC	A8	B8	NC

Two-digit

10 ¹	C	A1	B1	V _{DD}
	B	A2	B2	C
	LE	A3	B3	B
	D.P	A4	B4	LE
	D	A5	B5	D.P
	A	A6	B6	D
0V		A7	B7	A
NC		A8	B8	NC

With right angle connector

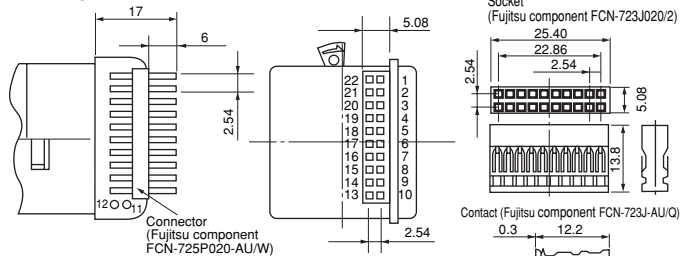
One-digit



One-digit

V _{DD}	22	1	V _{DD}
	21	2	
NC	20	3	C
NC	19	4	B
NC	18	5	LE
NC	17	6	D.P
NC	16	7	D
NC	15	8	A
	14	9	
0V	13	10	0V

Two-digit



Two-digit

V _{DD}	22	1	V _{DD}		
	21	2			
10 ¹	C	20	3	C	10 ⁰
	B	19	4	B	
	LE	18	5	LE	
	D.P	17	6	D.P	
	D	16	7	D	
	A	15	8	A	
	14	9			
0V	13	10	0V		

Note: V_{DD}: Input voltage 12V or 24V
NC: No connect

Notes on use

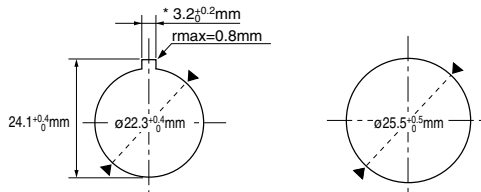
■ Fit two sizes of panel cutout holes

* The unique nut with a step allows switch to be mounted in either 22.3mm- or 25.5mm-dia. holes as shown in Fig. 1 without any extra adapter.

Fig. 1 Panel cutout

The switch mounted as a $\phi 22\text{mm}$ diameter unit.

The switch mounted as a $\phi 25\text{mm}$ diameter unit.

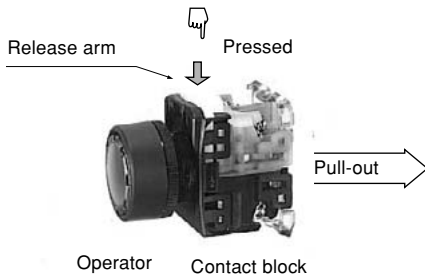


Note: * If key-washer or legend plate are not used, 3.2mm-wide location holes need not be cutout.

■ Detaching contact block from the operator

While keeping the white release arm pressed with one finger, pull-out the contact block in the direction by the arrow.

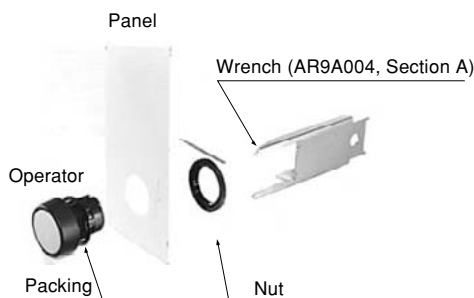
Fig. 2 Detaching contact block from the operator



■ Mounting operator to panel

① In a 22.3mm-dia. panel cutout hole
 Insert the operator into the cutout hole from the panel front as shown in the Fig. 3.
 Then, fit section "A" of the AR9A004 wrench from behind the panel and secure the operator with nut. (See page 04/112 for the wrench)

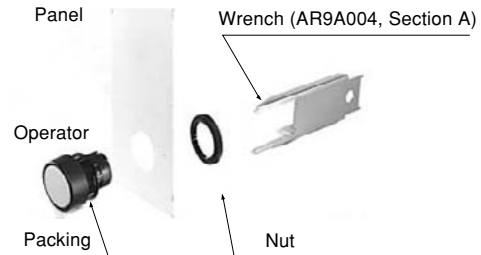
Fig. 3 Mounting an operator in a 22.3mm-dia. hole



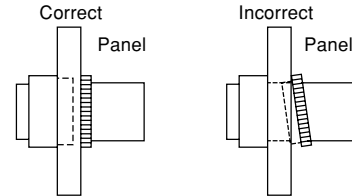
Note: Recommended tightening torque is from 1 to 1.5N·m

② In a 25.5mm-dia. panel cutout hole
 As shown in Fig. 4, with the nut step-out side oriented to the panel, use the wrench to tighten the nut and secure the operator.

Fig. 4 Mounting a operator in a 25.5mm-dia. hole

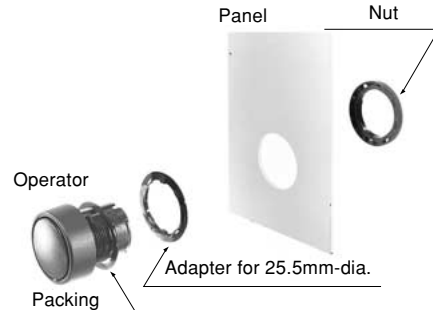


Note: 1. Recommended tightening torque is from 1 to 1.5N·m
 2. Ensure that the step-out portion of the nut is correctly fitted in the cutout hole.



For easier mounting in the 25.5mm-dia. hole, the AR9Y718 adapter is also available separately.

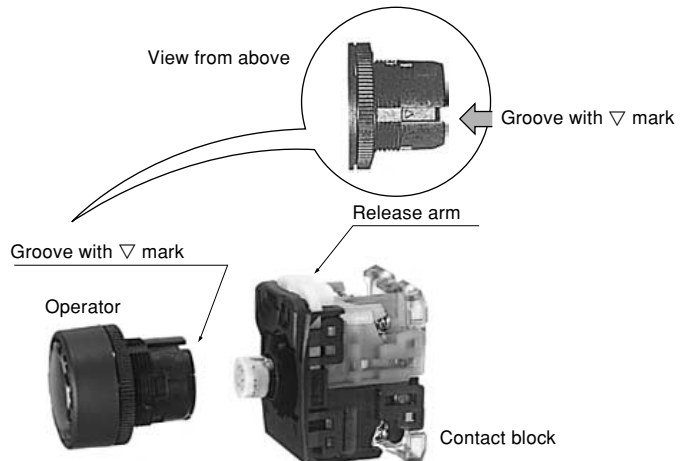
Fig. 5 Mounting with an adapter and locking nut



■ Mounting contact block to the operator

As shown in Fig. 6, align the protruding part of the contact block release arm with the operator groove at the ∇ mark. Then, insert the contact block into the operator until it clicks.

Fig. 6 Mounting the contact block to the operator



Pushbuttons/Selectors/Pilot Lights/Buzzers

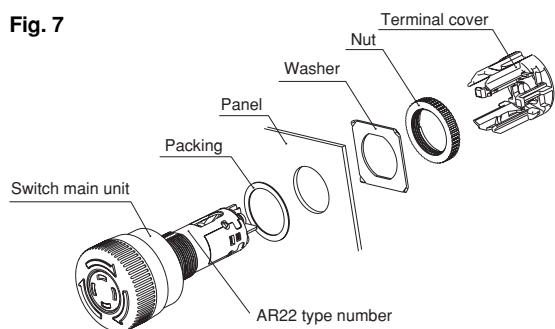
AR22 and DR22

Notes on use

■ VG type panel mounting

As shown in the illustration, remove the live section cover, nut, and washer, and insert the main unit into a panel which has been cut from the front side of the panel. Place the type number AR22 facing upward, and secure the main unit with the nut using a wrench AHX701. The appropriate tightening torque is 1 to 1.5N•m.

Fig. 7

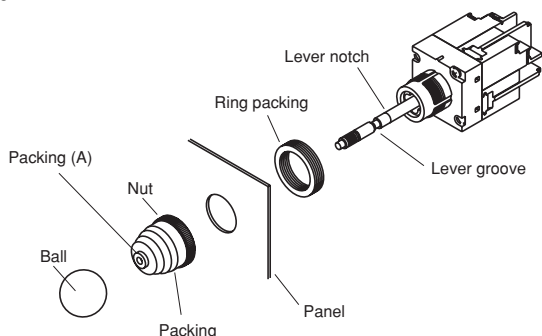


■ Joy stick selector switch mounting on panel

- (1) Twist and remove the ball from the operator.
- (2) Loosen the nut and remove the switch if the switch is provided with a lock.
- (3) If no locking nut is provided, loosen the nut and remove the switch after the packing part (A) shown in the illustration is stretched to the lever groove.
- (4) Mount the switch in the order opposite to removal. Set the packing to the notch on the lever as a reference. Do not separate the nut from the packing.
- (5) Use a torque wrench AR9A006 to tighten the nut from the front of the panel.

Note: Recommended tightening a torque is 1 to 1.5N•m.

Fig. 8



■ Buzzer mounting on panel

- (1) Remove the nut, and insert the main unit into the mounting hole from the back of the panel.
- (2) Tighten the buzzer using a wrench AR9A006 from the front side of the panel.

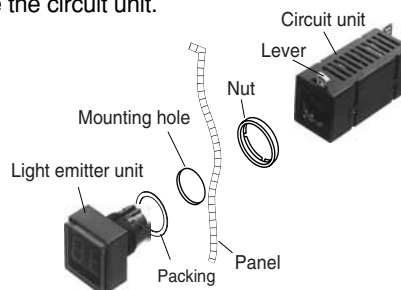
Note:

- Recommended tightening torque is 1 to 1.5N•m.
- Electronic sound (IP54) type has an all-in-one unit with nut and cap.

■ Numerical indicator panel mounting

- (1) Insert the light emitter unit into the hole on the panel, using a wrench AHX701. Recommended tighten nut torque is 1 to 1.5N•m.
- (2) Push in the circuit unit and assemble with the light emitter unit. Remove the lever in the direction of the arrow to remove the circuit unit.

Fig. 9



■ Applicable panel thickness

The AR22/DR22 series switches are mountable to panels with thickness as given in Table below.

Mounting condition		Applicable panel thickness (mm)	
Without accessories		1 to 6	
With accessories	Protective cover, water-proof cap, legend plate	1 to 4	
	Key washer	without hole	1 to 4
		with hole	1 to 5
Adapter for a 25.5mm-dia. hole		1 to 5.5	

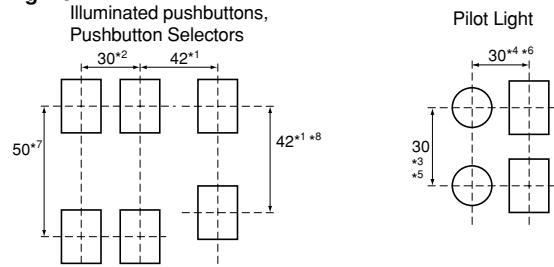
• When using a joy stick selector switch and buzzer
The applicable panel thickness is 1 to 6mm. Five 1.3mm packings (single-piece type) are included as standard equipment. Insert as many as required depending on the panel thickness, using the following table as a guide. When using a key washer, legend plate, or adapter, their thickness will have to be added to the values in the guide.

Panel thickness (mm) (plus key washer, legend plate)	Number of packings (reference)
1.0 to 1.6	5
1.6 to 2.8	4
2.8 to 3.8	3
3.8 to 4.8	2
4.8 to 6.0	1

■ **Minimum mounting space, mm**

(1) Minimum mounting space

Fig. 10



- Notes: *1 AR22M0□, M5□, V5□, V0□, V2□, V7R, VG□: 42mm
AR22M3R, M8R: 49mm
AR22Q2R, WR, W0R, WY, WCY: 40mm
*2 When mounting contact blocks at 30mm pitch, use it circuit of 380V or less.
*3 Short body with transformer types: 50mm.
*4 Rectangular types: 36.5mm (except for short body without transformer types).
*5 Short body without transformer types: 60mm.
*6 Rectangular short body without transformer types: 60mm.
*7 This dimension applies when transformer units or contact blocks face each other.
*8 This dimension applies when transformer unit or contact block is mounted on only one side.

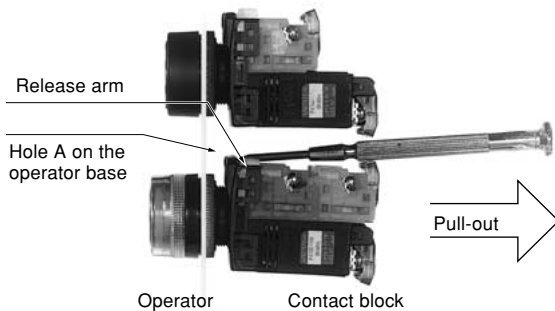
When mounting operators on a panel, orient all ▽ marks on the operator upwards.

(The operator release arms are oriented upwards.) This aligns the terminals of all contact blocks, thus making wiring easy.

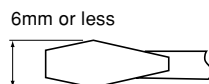
(2) Detaching contact blocks from operators

As shown in Fig. 9, insert a flat-head screw driver into the groove of the white release arm on the contact block. Then, while inserting the driver in hole A of the operator base, lower the driver grip and take out the contact block.

Fig. 11



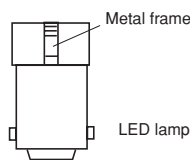
Note: Use a flat head screwdriver as shown at the right.



■ **Products with blue and green LEDs**

The LED devices on products with high-brightness (blue and green) LEDs are very sensitive to static electricity. When replacing LED lamps do not allow static electricity to come into direct contact with the metal frame on the upper side of the LED lamp. The LED device may be damaged if this part is subjected to static electricity. When installing or removing an LED lamp, it is recommended that you use the lamp changer (AHX790).

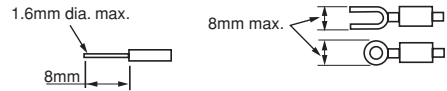
Fig. 12



■ **Wiring**

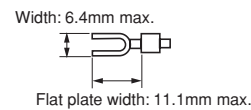
(1) The terminal screws are M3.5 pan head screws. Solid wires, stranded wires, or crimp terminals can be connected.

Fig. 13



(2) Two crimp terminals can be used by putting one of them on top of the other. If fork-type crimp terminals are used in the horizontal direction, however, use ones as shown in the figure below. (i.e., Toei Tanshi's F2-3.5S or an equivalent).

Fig. 14



- (3) The terminal washers are a self-lifting type.
(4) Tighten the terminal screws to a tightening torque of 0.8 to 1N•m.
(5) Keep the terminals free of external force while wiring or after wiring, or operational failures may result.
(6) Do not use screws other than the provided terminal screws.

Notes:

- If solid wires are connected to the lamp terminals in the horizontal direction (on the side), be sure to insert the solid wires into the square washers.
- Terminal layout., see page 04/57
- See page 04/56 for the wiring of the joy stick selector switch and VG type.

■ **LED Indicator**

(1) LED Lamp Malfunctioning

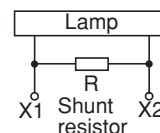
The LED lamp is lit by a very small level of current (approximately 0.01mA). Therefore, it may be erroneously lit by a leaking current from the surge absorption circuit or semiconductor circuit or due to stray capacitance between cables. In that case, provide a countermeasure (e.g., connect a resistor in parallel with the LED lamp).

• Countermeasure for Malfunctioning

The LED lamp malfunctions can be prevented by connecting a shunt resistor (R) or CR elements (a capacitor and resistor) in parallel with the LED lamp terminal. The resistance and CR values vary depending on the model and the operating conditions.

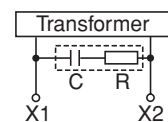
Fig. 15

Example 1



- 24V DC
R: 10kΩ (0.5W)
- 24V AC
R: 2kΩ (2W)

Example 2



- 100V AC
C: 0.33μF (250V AC)
R: 120Ω (0.25W)
- 220V AC
C: 0.1μF (250V AC)
R: 120Ω (0.25W)

(2) Incoming surge

High luminance LED products use an element sensitive to static electricity. They may not be lit by an abnormal voltage like surge. Please note it.

Pushbuttons/Selectors/Pilot Lights/Buzzers

AR22 and DR22

Notes on use

■ Joy stick selector switch

- Screw terminal wiring
- (1) The terminals use M3.5 pan head screws. Use crimp terminals to wire the terminals.

Fig. 16



- (2) The terminal washers are a self-lifting type.
- (3) Tighten the terminal screws to a tightening torque of 0.8 to 1.0N•m. Keep the terminals free of external force during and after wiring, or operational failures may result.

• Solder (tab terminal) wiring

- (1) Pay attention to the following items when soldering the terminals.
 - Use a soldering iron with a power consumption of 30W. Use resin-core solder.
 - If a 30W soldering iron is used, finish soldering the terminals within five seconds. If a 20W soldering iron is used, finish soldering the terminals within 10 seconds. Make sure that the soldering iron tip length is at least 20mm long. Do not apply external force to the terminals. Because lead-free solder's melting point is slightly high, soldering work may be difficult. Use a soldering iron whose tip is rather large or whose calorie is rather high.
- (2) When using adjacent terminals, use insulation tubes to prevent the terminals from short-circuiting. Utmost attention must be paid to the solder terminals if especially thick wires are used or if a large quantity of solder is used.
- (3) Connectable wires
 - Solid wire: 2 wires, 0.8mm dia. max.
 - Stranded wire: 1 wire, 0.75mm² max.
- (4) Use the 110 (2.8mm) series receptacle for the tab terminals.
- (5) Wire the tab terminals with the contact unit connected to the main unit.

• Operation

- Operation shall be made after the joy stick operation lever is surely returned to the center position. Do not apply excessive force to the operation lever. The maximum permissible force is 100N.
- Use of contact blocks
 - If NO and NC contacts are used in the same contact block, check that there is no difference in potential. Do not connect different type of power source different in type.

■ Buzzer

- Noise
 - If the application circuit is likely to generate excessively strong noise, connect a surge absorber (e.g., FUJI's ENC390D, provided that the switch is a 24V type) in parallel with the buzzer.
- Place of Use
 - The buzzer does not have a drip-proof construction. Do not use the buzzer in places where oil or water is sprayed or where dust accumulates. If the buzzer is a splash-proof type, it will resist sprays of water.
 - Do not use the buzzer in places that are subject to an excessive amount of corrosive gas.
 - Note that the buzzer is likely to sound erroneously due to leakage current or the like.

■ Numerical Indicator

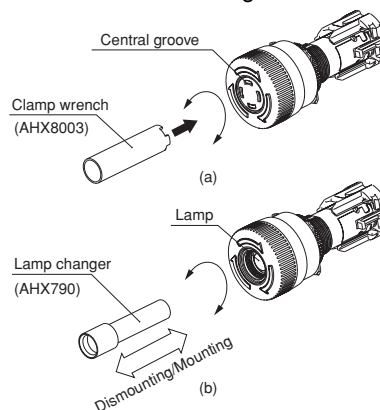
- Do not use the numeric display outside the ratings. Otherwise, the numeric display may malfunction or be damaged.
- If a noise is applied to the BCD input signal, malfunction or damage may result. Avoid parallel connection with power cables. Use a power supply with ripple rate not exceeding 10%, keeping the maximum and minimum voltages within

allowable range including the ripple voltage. Do not attach and detach the circuit unit while the power is turned on. Failure may result.

■ AR22VG type

- As shown in Fig. 17 (a), engage the tip of the wrench (AHX8003) with the groove in the center to mount or remove the locking unit. The recommended tightening torque is 0.6 to 1N•m.
- As shown in Fig. 17 (b), insert the lamp changer (AHX790) and press the lamp changer to mount or remove the lamp. Turn the lamp changer clockwise when mounting the lamp and counterclockwise when removing it.

Fig. 17

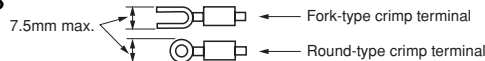


Note: The lamp and neon lamp are special models for the AR22VGF. Use only these special lamps for replacement.

• Wiring

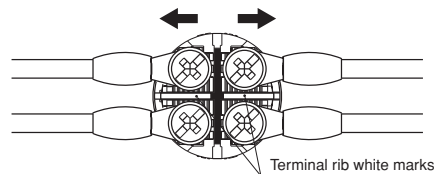
The terminals use M3.5 pan head screws. Use crimp terminals for wiring and cover the crimp terminals with insulation tubes.

Fig. 18



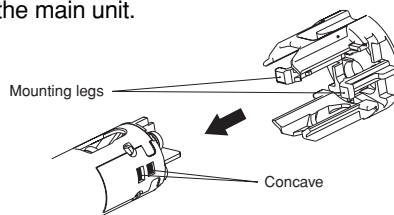
- The terminal washers are a self-lifting type.
- Tighten the terminal screws to a torque of 0.8 to 1N•m. Keep the terminals free of external force during and after wiring, or operational failures may result.
- Wiring precautions
 - (1) Use of round-type crimp terminal
 - Remove the live section cover, and half-tighten to the point parallel with the terminal rib white marks in the direction of the arrows as shown in the illustration below.
 - Mount the live section cover and tighten the terminals securely.

Fig. 19



As shown in the illustration below, mount the live section cover so that the mounting legs of the cover engage with the concave parts of the main unit.

Fig. 20



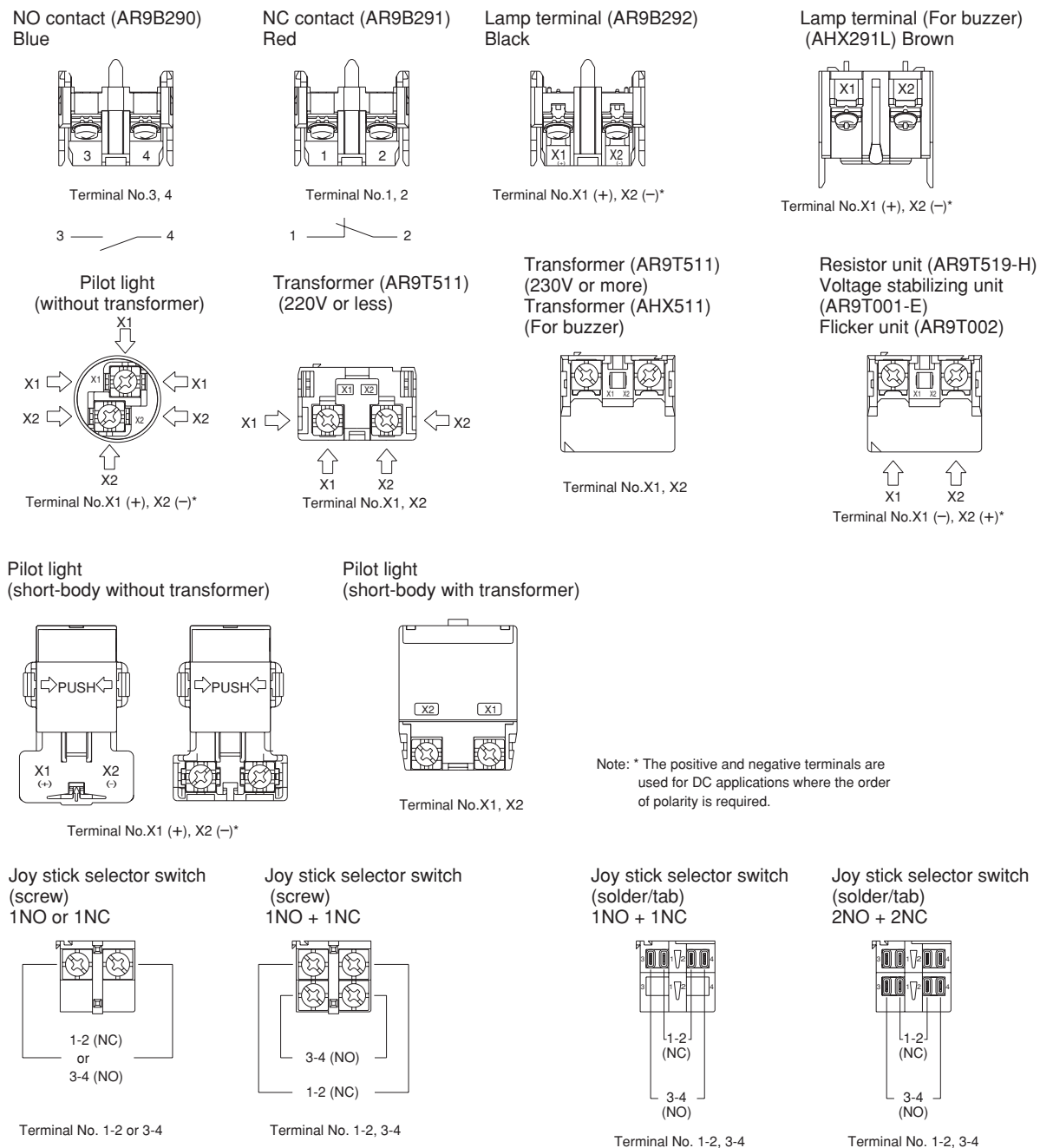
- (2) If fork-type crimp terminals are used, wiring will be possible without removing the live section cover.

■ **Operation**

- Do not use a hitting or bouncing action to operate the button, or the switch may break. Always operate the switch by hand. Do not pull mushroom head pushbuttons or alternate buttons other than the Q2.
- Do not rotate the selector ring type while the button is pressed, or the mechanism may break.
- The control type incorporates make-before-break contacts. Prepare a protection circuit for the application.
- The dial of the selector switch rotates with a light force. Do not apply force in excess of 1N•m. Please do not pull out or insert the key forcibly.
- To release the lock of the push-lock type, rotate the button clockwise as shown by the arrow. Do not pull the button, or the latch may break and the lock may fail to work.
- Do not lock the emergency stop pushbutton switch and emergency stop illuminated pushbutton switch in use. Push and lock the switch in case of an emergency only.

■ **Terminal layout**

Fig. 21



Note: * The positive and negative terminals are used for DC applications where the order of polarity is required.