

CONTROL

Command Switches

AY22, DY22 series



Ø22 (Ø25)

Command Switches AY22 and DY22 series

IP65

The use of a release arm enables easy mounting.

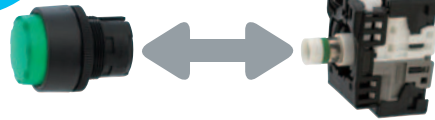


Easy attachment and detachment with a release arm

The separate structure with a unique wedge mechanism enables one-step attachment and detachment of the operating section and contact section, without the use of any tool.

One Touch!

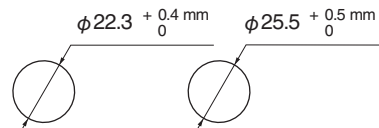
Push!
One-step lock!
One-step release!



Panel cutout dimensions of 22.3 mm and 25.5 mm diameter

By providing a projection on the tightening nut, one switch can be mounted on two different panel cutout dimensions. Therefore, switches do not need to be purchased to match the panel cutout dimensions.

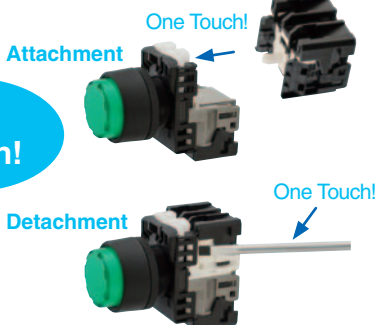
Units can be mounted on a 25.5-mm diameter hole simply by turning over the tightening nut.



Contact block and lamp terminal can also be added or replaced in a single step

All contact block and lamp terminal are designed with snap-on mounting, so no tools are required. Replacement of the contact block can be done with a screwdriver, without the need for any special tool. Contact block is easily replaced even when the pushbuttons are mounted closely together.

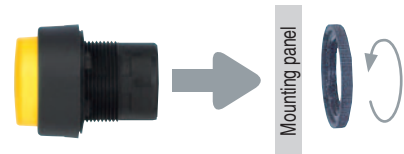
One Touch!



Panel thickness need not be adjusted

Because the back surface of the operating section is mounted with a tightening nut, there is absolutely no need to adjust the panel thickness. Also, the operator can be mounted on the panel along with a previously installed button and knob.

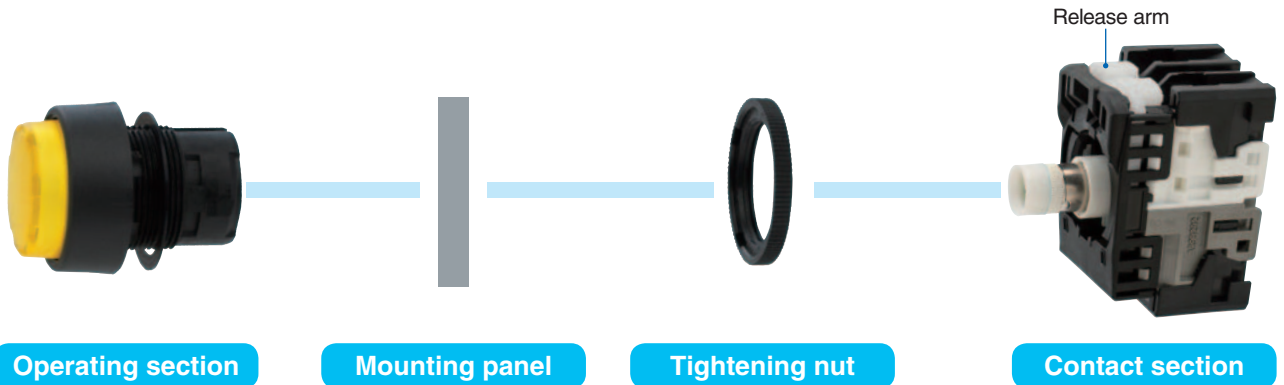
Easy



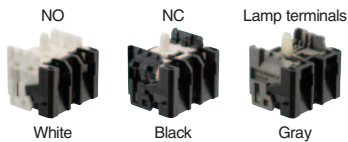
Metal tone rosette is also available

Metal tone rosette will provide greater sense of security.





Color-coding contact blocks improves work efficiency



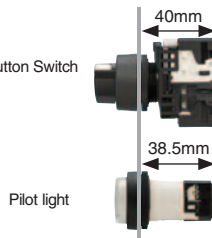
Each type of block has a different color, so it is possible to visually check the wiring by color.

Depth of the short body

A short design enables full use of the available depth of the equipment.

Short

Illuminated Pushbutton Switch Selector Switch (1NO+1NC)



Switches with IP2X-compliant terminals

Switches with IP2X-compliant terminals with a finger protection structure conforming to EN 60204-1 (Protection against electric shock) are available. (A test finger that simulates a human finger does not come into contact with live parts.)

Safety



Standard models meet international standards

- Standard models meet UL/CSA requirements, China Compulsory Certification (CCC) standards, and TÜV EN standards, making them ideal for equipment for export.
- Standard models meet RoHS requirements (EU Directive 2002/95/C).

Global Standardization



The emergency stop pushbuttons employ FUJI's original Trigger Action mechanism

This mechanism prevents the contacts from moving until the button is pushed and locked.

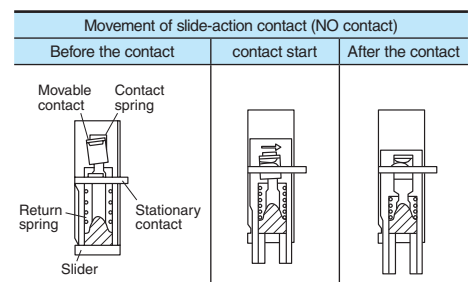
- Provided with a Trigger Action mechanism conforming to EN 418.
- Provided with direct opening action (approved by TÜV) conforming to EN60947-5-1 and EN60947-5-5. →



Button section	Not pushed	Being pushed	Locked
Contact operation transitions			
NC contacts	Closed	Closed	Oped

Superior Contact Reliability

All the contacts are slide-action contacts and ensures high contact reliability even at low voltage and small current levels (5V, 5mA).



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Catalog Disclaimer

The information contained in this catalog does not constitute an express or implied warranty of quality, any warranty of merchantability or fitness for a particular purpose is hereby disclaimed.

Since the user's product information, specific use application, and conditions of use are all outside of Fuji Electric FA Components & Systems' control, **it shall be the responsibility of the user to determine the suitability of any of the products mentioned for the user's application.**

One Year Limited Warranty

The products identified in this catalog shall be sold pursuant to the terms and conditions identified in the "Conditions of Sale" issued by Fuji Electric FA with each order confirmation.

Except to the extent otherwise provided for in the Conditions of Sale issued by Fuji Electric FA, Fuji Electric FA warrants that the Fuji Electric FA products identified in this catalog shall be free from significant defects in materials and workmanship provided the product has not been: 1) repaired or altered by others than Fuji Electric FA; 2) subjected to negligence, accident, misuse, or damage by circumstances beyond Fuji Electric FA's control; 3) improperly operated, maintained or stored; or 4) used in other than normal use or service. This warranty shall apply only to defects appearing within one (1) year from the date of shipment by Fuji Electric FA, and in such case, only if such defects are reported to Fuji Electric FA within thirty (30) days of discovery by purchaser. Such notice should be submitted in writing to Fuji Electric FA at 5-7, Nihonbashi Odemma-cho, Chuo-ku, Tokyo, Japan. The sole and exclusive remedy with respect to the above warranty whether such claim is based on warranty, contract, negligence, strict liability or any other theory, is limited to the repair or replacement of such product or, at Fuji Electric FA's option reimbursement by Fuji Electric FA of the purchase price paid to Fuji Electric FA for the particular product. **Fuji Electric FA does not make any other representations or warranties, whether oral or in writing, expressed or implied, including but not limited to any warranty regarding merchantability or fitness for a particular purpose.** Except as provided in the Conditions of Sale, no agent or representative of Fuji Electric FA is authorized to modify the terms of this warranty in writing or orally.

In no event shall Fuji Electric FA be liable for special, indirect or consequential damages, including but not limited to, loss of use of the product, other equipment, plant and power system which is installed with the product, loss of profits or revenues, cost of capital, or claims against the purchaser or user of the product by its customers resulting from the use of information, recommendations and descriptions contained herein. The purchaser agrees to pass on to its customers and users, in writing at the time inquiries and orders are received by buyer, Fuji Electric FA's warranty as set forth above.

Safety precautions

- This catalog aims at offering reference information on selecting and purchasing Fuji Electric FA' s electrical devices and components.
- Prior to installation, wiring, operation, maintenance and inspection of the product, read through the Instruction Manuals and/or User's Manuals to ensure proper use of the product. Improper use may result in death or serious injury.
- If you have any question or require further detailed information on this catalog, consult with your local dealership or Fuji Electric FA.
- Observe the following precautions for safe operation of the products contained in the catalog.



WARNING

Power supply must be turned OFF before installation, de-installation, wiring, maintenance and inspection.
Never touch any live parts such as terminals while the power is turned ON.
Electrical shock or short-circuit may result in burn, death, or serious injury.

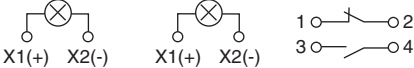


CAUTION







- Do not transport the products in the method other than those specified. Do not use the products if any damage or deformation is discovered when unpacked. Fire, malfunction or failure may result.
- Do not give the products a shock by falling or toppling during transportation or unpacking. Damage or failure may result.
- Installation, electrical work, electrical wiring, maintenance and inspection should be conducted by qualified personnel with professional knowledge.
- Operate (Store) in the environment specified in the Instruction Manuals and/or User's Manuals. Do not install the products in the abnormal environment such as high temperature, high humidity, dew condensation, dust, corrosive gases, organic solvents, special oil, excessive vibration or shock. Fire, malfunction, electrical shock, or failure may result.
- Use the products at the rated voltage and current specified in the Operating Instructions and/or User's Manuals. Using beyond the rated values may result in grounding, short-circuit, fire, explosion, failure, or malfunction.
- Install the products according to the directions described in the Operating Instructions and/or User' s Manuals. Improper mounting may cause falling, malfunction, or failure, and result in injury.
- Select wire sizes suitable for the applied voltage and thermal current. Tighten with the torque specified in the Operating Instructions. Improper wiring may result in fire.
- Special care should be taken to prevent entry of foreign objects such as dust, concrete chips, iron powder, wire chips, etc. Poor contacts, defective release action, fire, or malfunction may result.
- Periodically make sure the terminal screws and mounting screws are securely tightened. Operation at a loosened status might cause fire or malfunction.
- Attaching the live part protective covers is recommended. Otherwise, it may result in an electric shock to the operator.
- Be sure to install the electrical wiring correctly and securely, observing the operating instructions and manual. Wrong or loose wiring might cause fire, accidents, or failure. Never conduct any repair on-site. Please ask your Fuji Electric FA representative for repair. Fire, accidents, or failure may result.
- Before cleaning, first turn the power OFF, use towels twisted to be dry after soaked with warm water. Use of diluents or other organic solvents may dissolve or discolor the product surface.
- Do not remodel or disassemble the products. Failure may result.
- The products should be treated as industrial wastes when they are to be discarded.
- The products contained in this catalog have been designed and manufactured as general-purpose products for general industry. Customers, who intend to use the products for such equipment or systems that may affect human lives, are requested to prepare safety measures together with other safety devices.
- Customers, who intend to use the products described in this catalog, for special applications such as for nuclear energy control, aerospace, medical, or transportation, please consult your Fuji Electric FA agent.
- Customers, who intend to use the products for such applications or systems that may lead to loss of human lives or serious damage to facility in the event of the products' failure, are requested to provide safety measures by all means.
- The information contained in this catalog is subject to change without prior notice.

Command Switches AY22 and DY22 Glossary







Glossary

Classification	Term	Explanation
Rating	Rated insulation voltage (Ui)	A voltage value that serves as a reference when designing a device and satisfies the clearance and creepage distance and the withstand voltage (dielectric strength) of the device.
	Rated operational voltage (Ue)	A voltage value applied to a device under specified conditions. If the device is a control switch, the rated operational voltage (Ue) in combination with the rated operational current determines the equipment that it is to be applied to. Furthermore, the rated operational voltage (Ue) determines the relevant tests and operating load type of the control switch. If the control switch is an illuminated type, the term "lamp operational voltage" is applied in this catalog in order to distinguish it from the rated operational voltage of the switch.
	Rated impulse withstand voltage (Uimp)	This is the peak value of an impulse voltage that has a specified waveform and polarity and that is capable of being withstood by a device under specified test conditions, and serves as a reference for clearance.
	Conventional free air thermal current (Ith)	The maximum value for an electric current used to test the temperature rise of a control switch.
	Rated operational current (Ie)	An electric current applied under specified conditions.
Operating environment	Pollution degree	A factor used for determining the clearance and creepage distance of a device. There are four pollution degrees according to the pollutants in the operating environment, such as the dust in the air. Fuji's Command Switches are applicable to pollution degree 3. Pollution degree 3 refers to the occurrence of conductive pollution or the occurrence of conductivity as a result of condensation, but the occurrence of dry, nonconductive pollution in normal, dry conditions. It applies to environments typical of manufacturing plants.
Degree of protection	IP code	The IP code stipulates the degree of protection of a device provided by its enclosure against the ingress of solid matter and water according to IEC 60529. The IP code is expressed with the code letters IP (Ingress Protection) followed by two digits. The first characteristic digit indicates the degree of protection against the ingress of solid foreign objects. The second characteristic digit indicates the degree of protection against the ingress of water.
Types of pilot lights and illuminated switches	Pilot lights without transformer Illuminated switch without transformer	<p>A pilot light or illuminated switch designed so that the voltage of the electric circuit can be applied directly to the light source.</p> <p>Ex. Pilot light Illuminated switch</p>  <p>Note: The terms of X1, X2, 1-2 and 3-4 indicate the terminal numbers</p>
Operational functions	Momentary	The contacts operate when the pushbutton is pressed and automatically reset when the pushbutton is released.
	Alternate	The contacts operate when the pushbutton is pressed and the actuated state is held (locked) when the pushbutton is released. The contacts are reset when the pushbutton is pressed again.
	Maintained	The knob (key) of selector switch is operated and reset by hand. The contacts are interlocked according to each knob (key) operation.
	Spring return	The knob (key) of the selector switch and the contacts are automatically reset to the normal position if the knob (key) is released while the knob (key) is being actuated.
	Spring/manual return	Manual and automatic knob (key) resetting methods combined and applied to three-notch selector switches.



■ **Illuminated pushbutton switches**

Operator	Type	Operator	Type	Operator	Type
Extended round head	AY22E0L, E5L	Mushroom head (40mm dia.)	AY22M0L, M5L	Extended with transparent full guard (24mm dia.)	AY22G4L, G9L
<i>See page 21, 34</i>	 KKD15-111	<i>See page 21, 34</i>	 KKD15-121	<i>See page 21,34</i>	 KKD15-117
					

■ **Pushbutton switches**



Operator	Type	Operator	Type	Operator	Type
Flush round head	AY22F0R, F5R	Extended round head	AY22E0R, E5R	Mushroom head (40mm dia.)	AY22M0R, M5R
<i>See page 22,35</i>	 KKD15-115	<i>See page 22,35</i>	 KKD15-113	<i>See page 22,35</i>	 KKD15-123
					

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

Operator	Type
Push-lock, turn-reset (40mm dia.)	AY22V2R
<i>See page 23,36</i>	 KKD15-128
	





Notes: Provided with the  (Direct opening action)

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

Operator	Type
Push-lock, turn-reset (40mm dia.)	AY22V2L
<i>See page 23,36</i>	 KKD15-127
	
















Notes: Provided with the  (Direct opening action)

■ **Selector switches**

Operator	Type	Operator	Type
Knob	AY22PR, PCR	Key	AY22JR, JCR
<i>See page 24,25,28,37</i>	 KKD15-125	<i>See page 24,26,28,37</i>	 KKD15-119
			

Pushbuttons/Selectors/Pilot Lights
AY22 and DY22
Quick reference guide

■ **Pilot lights**

Lens	Type	Lens	Type	Lens	Type
Dome	DY22D0L	Extended round	DY22E3L	Flush round	DY22F3L
<i>See page 30,38</i>	 KKD15-105	<i>See page 30,38</i>	 KKD15-109	<i>See page 30,38</i>	 KKD15-107
   		   		   	

Pushbuttons/Selectors/Pilot Lights AY22 and DY22 Ratings and specifications

■ Standards approved

Standard	Number
UL	UL508
CSA	CSA C22.2 No.14
TÜV	EN60947-5-1 EN60947-5-5
GB	GB14048.5

■ Specifications (Indoor use)

Description	Pushbutton switch Illuminated pushbutton switch Emergency stop pushbutton switch Emergency stop illuminated pushbutton switch Selector switch	Pilot light
Rated insulation voltage	600V AC/DC *1	250V AC/DC *2
Mechanical durability	<i>See the table below</i>	—
Electrical durability	100,000 operations at 220V AC 3A (AC-15)	—
Operating frequency	1200 operations/hour (On-load factor: 40%)	—
Dielectric strength	2500V AC, 1 minute *3	2000V AC, 1 minute *4
Insulation resistance	100MΩ or more (500V DC megger)	
Rated impulse dielectric strength	6kV	4kV
Conditional short-circuit current	1000A	—
Short-circuit protective device	Fuse gG 16A (IEC60269 Fuse)	—
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	-20 to +50°C
Storage temperature	-40 to +80°C	
Humidity	45 to 85% RH (within -5 to +40°C)	
Degree of protection	IP65	

Notes: *1 Illuminated type: 250V AC/DC

*2 Pilot light with transformer: 600V AC

*3 Illuminated type without transformer: 2000V AC, 1 minute

*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 (1997)

*6 Emergency stop type: 150m/s²

*7 Illuminated type: -20 to +50°C, key operated type: -20 to +60°C

● Mechanical durability

Description		Operations
Pushbutton switch	Momentary action	5,000,000
Illuminated pushbutton switch	Alternate action	250,000
Emergency stop pushbutton switch	Push-lock, turn-reset	100,000
Emergency stop illuminated pushbutton		
Selector switch	Maintained	250,000
	Control type, spring return, spring/manual return	200,000

Note: Key insertion/removal durability for selector switch key types

• Key type 10,000

Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

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

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

Description	Contact rated code	Making current · Breaking current		
		125V	250V	300V–600V
Illuminated pushbutton switch Pushbutton Emergency stop pushbutton switch	P600	1.1A	0.55A	0.2A
Selector switch (2-position)	Q600	0.55A	0.27A	0.1A
Selector switch (3-position)	R300	0.22A	0.11A	–

● **EN standard/TÜV approved**

Description	Rated operational current			
	Rated thermal current	Rated operational voltage	AC15 (Ind. load) Rated operational current	DC13 (Ind. load) Rated operational current
Illuminated pushbutton switch Pushbutton Emergency stop pushbutton switch Emergency stop illuminated pushbutton switch Selector switch (2-position)	10A	24V	6.0A	4.0A
		100 - 120V	6.0A	–
		100 - 125V	–	1.3A
		200 - 240V	6.0A	–
		250V	–	0.45A
		480V	2.5A	–
		600V	2.0A	–
Selector switch (3-position)	10A	24V	6.0A	2.0A
		100 - 120V	6.0A	–
		100 - 125V	–	0.65A
		200 - 240V	6.0A	–
		250V	–	0.23A
		480V	2.5A	–
		600V	2.0A	–

Pushbuttons/Selectors/Pilot Lights
AY22 and DY22
Ratings and specifications

■ **Operating characteristic (1NO+1NC)**

Description	Pushbutton Illuminated pushbutton	Emergency stop pushbutton Emergency stop illuminated pushbutton Push-lock type	Selector		
			Maintained	Spring/manual return	Spring return
Ave. required operating force	9N	45N	0.15N•m	0.13N•m	0.1N•m
Operating travel	Approx. 6mm	Approx. 9mm (Operation angle: Approx. 45°)	2-position: Approx. 90° 3-position: Approx. 45°	3-position: Approx. 45°	2-position: Approx. 60° 3-position: Approx. 45°
Required return force	–	0.6N•m	0.15N•m	0.13N•m	–

■ **Lamp ratings**

• **Illuminated pushbuttons, pilot lights**

Lamp voltage	LED		Incandescent	
	Type	Rated voltage	Type	Rated voltage
6V AC/DC	AY9L510-A□	6V AC/DC	AY9L610-A	6.3V AC/DC
12V AC/DC	AY9L510-B□	12V AC/DC	AY9L610-B	18V AC/DC
24V AC/DC	AY9L510-E□	24V AC/DC	AY9L610-E	30V AC/DC
100-110V AC/DC	AY9L510-H□	100-110V AC/DC		
230-240V AC/DC	AY9L510-Q□	230-240V AC/DC		

Notes: • Replace the □ mark by the lamp luminous color code

■ **Combination of lens color and LED**

Lens Color	Code	LED	
		Luminous color	Type
Green	G	Green	AY9L510-■G
Red	R	Red	AY9L510-■R
White	W	White	AY9L510-■P
Yellow	Y	White	AY9L510-■P
Orange	A	Amber	AY9L510-■A
Blue	S	Blue	AY9L510-■S

Notes: • Replace the ■ mark by the lamp voltage code

■ **Lamp durability**

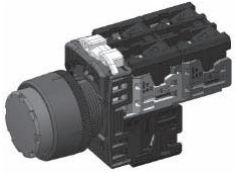
Lamp	Durability (reference)	Judgement criterion
LED	Approx. 30000h	When brightness is less than 50% of initial value
Incandescent	Approx. 5000h (AC)	When the bulb burns out

Notes: • The operating voltage for incandescent lamps is set at 80 to 90% of the lamp's rated voltage.
• The durability of LED lamp is a mean value in all colors.

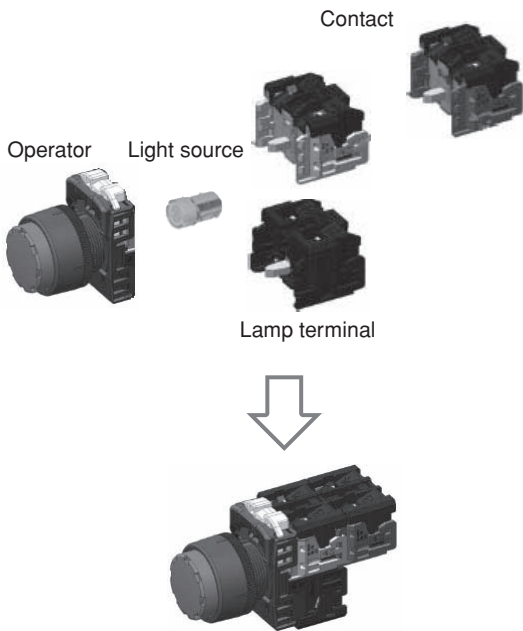
Pushbuttons/Selectors/Pilot Lights AY22 and DY22 Forms of supplying

■ Forms of supplying

Complete Unit Assembled product is supplied	Module Operator
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If you purchase modules, please buy contacts(NO, NC), lamp terminals and light sources(LED, Incandescent) separately according to the switch specifications.



Illuminated pushbuttons (Complete Unit)

AY22 E0L – 10 E3 R Q
 ① ② ③ ④ ⑤ ⑥

① **Product category**
 AY22: 22mm-dia. illuminated pushbutton

② **Operator**
 • Illuminated pushbutton
 E0L: Extended round head
 E5L: Extended round head (Alternate)
 M0L: Mushroom head (40mm dia.)
 M5L: Mushroom head (40mm dia. alternate)
 G4L: Extended with transparent full guard (24mm dia.)
 G9L: Extended with transparent full guard (24mm dia. alternate)

③ **Contact arrangement *1**

10: 1NO	20: 2NO	31: 3NO+1NC	01: 1NC
11: 1NO+1NC	21: 2NO+1NC	32: 3NO+2NC	02: 2NC
12: 1NO+2NC	22: 2NO+2NC	40: 4NO	03: 3NC
13: 1NO+3NC	23: 2NO+3NC	41: 4NO+1NC	04: 4NC
14: 1NO+4NC	30: 3NO	50: 5NO	05: 5NC

④ **Lamp voltage**
 • Incandescent lamp
 A4: 6V AC/DC
 B4: 12V AC/DC
 E4: 24V AC/DC

• LED lamp
 A3: 6V AC/DC
 B3: 12V AC/DC
 E3: 24V AC/DC
 H3: 100-110V AC/DC
 Q3: 230-240V AC/DC

⑤ **Color of lens**
 G: Green Y: Yellow
 R: Red A: Orange
 W: White S: Blue

⑥ **Color of rosette**
 Blank: Black Q: Metal tone

Notes: *1 Alternate have a max. of 3 contacts.
 • The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.

Pushbuttons (Complete Unit)

AY22 E0R – 10 R Q
 ① ② ③ ④ ⑤

① **Product category**
 AY22: 22mm-dia. pushbutton

② **Operator**
 • Pushbutton switch
 F0R: Flush round head
 F5R: Flush round head (Alternate)
 E0R: Extended round head
 E5R: Extended round head (Alternate)
 M0R: Mushroom head (40mm dia.)
 M5R: Mushroom head (40mm dia. Alternate)

③ **Contact arrangement *1**

10: 1NO	30: 3NO	01: 1NC
11: 1NO+1NC	31: 3NO+1NC	02: 2NC
12: 1NO+2NC	32: 3NO+2NC	03: 3NC
13: 1NO+3NC	33: 3NO+3NC	04: 4NC
14: 1NO+4NC	40: 4NO	05: 5NC
15: 1NO+5NC	41: 4NO+1NC	06: 6NC
20: 2NO	42: 4NO+2NC	
21: 2NO+1NC	50: 5NO	
22: 2NO+2NC	51: 5NO+1NC	
23: 2NO+3NC	60: 6NO	
24: 2NO+4NC		

④ **Color of button**
 G: Green Y: Yellow
 R: Red A: Orange
 B: Black S: Blue
 W: White

⑤ **Color of rosette**
 Blank: Black Q: Metal tone

Notes: *1 Alternate have a max. of 4 contacts.
 • The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.

Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

Type number nomenclature

Emergency stop illuminated pushbuttons (Complete Unit)

AY22 V2L – 11 E3 R

① ② ③ ④ ⑤

① Product category

AY22: 22mm-dia. emergency stop illuminated pushbutton

② Operator

• Emergency stop illuminated pushbutton
V2L: Push-lock, turn-reset (40mm dia.)

③ Contact arrangement

11: 1NO+1NC 01: 1NC
12: 1NO+2NC 02: 2NC
 03: 3NC

④ Lamp voltage

• Incandescent lamp
A4: 6V AC/DC
B4: 12V AC/DC
E4: 24V AC/DC

• LED lamp

A3: 6V AC/DC
B3: 12V AC/DC
E3: 24V AC/DC
H3: 100-110V AC/DC
Q3: 230-240V AC/DC

⑤ Color of lens

R: Red *1

⑥ Color of rosette

Blank: Black *2

Notes: *1 Button color of emergency stop illuminated switches are Red only.

*2 Rosette color of emergency stop illuminated switches are Black only.

Emergency stop pushbuttons (Complete Unit)

AY22 V2R – 11 R

① ② ③ ④

① Product category

AY22: 22mm-dia. pushbutton
22mm-dia. emergency stop pushbutton

② Operator

• Emergency stop pushbutton switch
V2R: Push-lock, turn-reset (40mm dia.)

③ Contact arrangement

11: 1NO+1NC 01: 1NC
12: 1NO+2NC 02: 2NC
13: 1NO+3NC 03: 3NC
22: 2NO+2NC 04: 4NC

④ Color of button

R: Red*1

⑤ Color of rosette

Blank: Black *2

Notes: *1 Button color of emergency stop switches are Red only.

*2 Rosette color of emergency stop switches are Black only.

Selector switches (Complete Unit)

AY22 PR – 2 □ 10 B Q
 ① ② ③ ④ ⑤ ⑥ ⑦

① **Product category**
 AR22: 22mm dia. selector switch

② **Operator**
 • Selector switch
 PR: Knob
 PCR: Knob operated control type
 JR: Key
 JCR: Key operated control type

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 **Key removable position** (key type only)
 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
11: 1NO+1NC	31: 3NO+1NC	02: 2NC
12: 1NO+2NC	32: 3NO+2NC	03: 3NC
13: 1NO+3NC	33: 3NO+3NC	04: 4NC
14: 1NO+4NC	40: 4NO	05: 5NC
15: 1NO+5NC	41: 4NO+1NC	06: 6NC
20: 2NO	42: 4NO+2NC	
21: 2NO+1NC	50: 5NO	
22: 2NO+2NC	51: 5NO+1NC	
23: 2NO+3NC	60: 6NO	
24: 2NO+4NC		

Note: Control type: *See page 29*

⑥ **Key type or Knob type**
 A: Key type
 B: Knob type (Knob color are Black only)

⑦ **Color of rosette**
 Blank: Black Q: Metal tone

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

Pilot lights

DY22 D0L – E3 W Q
 ① ② ③ ④ ⑤

① **Product category**
 DY22: 22mm dia. pilot light

② **Lens**
 D0L: Dome
 E3L: Extended round
 F3L: Flush round

③ **Lamp voltage**
 • Incandescent lamp
 A4: 6V AC/DC
 B4: 12V AC/DC
 E4: 24V AC/DC
 • LED lamp
 A3: 6V AC/DC
 B3: 12V AC/DC
 E3: 24V AC/DC
 H3: 100-110V AC/DC
 Q3: 230-240V AC/DC

XX: without lamp

④ **Color of lens**
 G: Green Y: Yellow
 R: Red A: Orange
 W: White S: Blue

⑤ **Color of rosette**
 Blank: Black Q: Metal tone

Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

Type number nomenclature (module)

Illuminated pushbuttons (Operator)

AY22 E0LN – R Q

① ② ③ ④

① Product category

AY22: 22mm-dia. illuminated pushbutton

② Operator

• Illuminated pushbutton

E0LN: Extended round head

E5LN: Extended round head (Alternate)

M0LN: Mushroom head (40mm dia.)

M5LN: Mushroom head (40mm dia. alternate)

G4LN: Extended with transparent full guard (24mm dia.)

G9LN: Extended with transparent full guard (24mm dia. alternate)

③ Color of lens

G: Green

Y: Yellow

R: Red

A: Orange

W: White

S: Blue

④ Color of rosette

Blank: Black

Q: Metal tone

Note: Please separately order a contact block (NO, NC), lamp terminal and lamp (LED, incandescent). See page 45.

Pushbuttons (Operator)

AY22 E0RN – R Q

① ② ③ ④

① Product category

AY22: 22mm-dia. pushbutton

② Operator

• Pushbutton switch

F0RN: Flush round head

F5RN: Flush round head (Alternate)

E0RN: Extended round head

E5RN: Extended round head (Alternate)

M0RN: Mushroom head (40mm dia.)

M5RN: Mushroom head (40mm dia. Alternate)

③ Color of button

G: Green

Y: Yellow

R: Red

A: Orange

B: Black

S: Blue

W: White

④ Color of rosette

Blank: Black

Q: Metal tone

Note: Please separately order a contact block (NO, NC). See page 45.

Emergency stop illuminated pushbuttons (Operator)

AY22 V2LN – R

① ② ③

① **Product category**

AY22: 22mm-dia. emergency stop illuminated pushbutton

② **Operator**

- Emergency stop illuminated pushbutton
- V2LN: Push-lock, turn-reset (40mm dia.)

③ **Color of lens**

R: Red *1

④ **Color of rosette**

Blank: Black *2

Notes: *1 Button color of emergency stop illuminated switches are Red only.
*2 Rosette color of emergency stop illuminated switches are Black only.
• Please separately order a contact block (NO, NC), lamp terminal and lamp (LED, incandescent). See page 45.

Emergency stop pushbuttons (Operator)

AY22 V2RN – R

① ② ③

① **Product category**

AY22: 22mm-dia. emergency stop pushbutton

② **Operator**

- Emergency stop pushbutton switch
- V2RN: Push-lock, turn-reset (40mm dia.)

③ **Color of button**

R: Red*1

④ **Color of rosette**

Blank: Black *2

Notes: *1 Button color of emergency stop switches are Red only.
*2 Rosette color of emergency stop switches are Black only.
• Please separately order a contact block (NO, NC). See page 45.

Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

Type number nomenclature (module)

Selector switches (Operator)

AY22 PRN - 2 □ B Q

① ② ③ ④ ⑤ ⑥

① **Product category**

AY22: 22mm dia. selector switch

② **Operator**

- Selector switch
- PRN: Knob
JRN: Key

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 **Key removable position** (key type only)

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

⑤ **Key type or Knob type**

- A: Key type
B: Knob type (Knob color are Black only)




⑥ **Color of rosette**

- Blank: Black Q: Metal tone

- Notes: • The manufacturing range varies depending on the model. For details, refer to the contents of this catalog.
• Please separately order a contact block (NO, NC). *See page 45.*

Illuminated Pushbuttons AY22 Specifications

■ Illuminated pushbutton switches

Operator	Contact	LED lamp		Incandescent lamp	
		Momentary action Type	Alternate action Type	Momentary action Type	Alternate action Type
Extended round head  <small>KKD15-111,112</small>	1NO 1NC 1NO+1NC 2NO+2NC	AY22E0L-10 ■3□△ AY22E0L-01 ■3□△ AY22E0L-11 ■3□△ AY22E0L-22 ■3□△	AY22E5L-10 ■3□△ AY22E5L-01 ■3□△ AY22E5L-11 ■3□△ —	AY22E0L-10 ■4□△ AY22E0L-01 ■4□△ AY22E0L-11 ■4□△ AY22E0L-22 ■4□△	AY22E5L-10 ■4□△ AY22E5L-01 ■4□△ AY22E5L-11 ■4□△ —
Mushroom head (40mm dia.)  <small>KKD15-121,122</small>	1NO 1NC 1NO+1NC 2NO+2NC	AY22M0L-10 ■3□△ AY22M0L-01 ■3□△ AY22M0L-11 ■3□△ AY22M0L-22 ■3□△	AY22M5L-10 ■3□△ AY22M5L-01 ■3□△ AY22M5L-11 ■3□△ —	AY22M0L-10 ■4□△ AY22M0L-01 ■4□△ AY22M0L-11 ■4□△ AY22M0L-22 ■4□△	AY22M5L-10 ■4□△ AY22M5L-01 ■4□△ AY22M5L-11 ■4□△ —
Extended with transparent full guard (24mm dia.)  <small>KKD15-117,118</small>	1NO 1NC 1NO+1NC 2NO+2NC	AY22G4L-10 ■3□△ AY22G4L-01 ■3□△ AY22G4L-11 ■3□△ AY22G4L-22 ■3□△	AY22G9L-10 ■3□△ AY22G9L-01 ■3□△ AY22G9L-11 ■3□△ —	AY22G4L-10 ■4□△ AY22G4L-01 ■4□△ AY22G4L-11 ■4□△ AY22G4L-22 ■4□△	AY22G9L-10 ■4□△ AY22G9L-01 ■4□△ AY22G9L-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

• Contact arrangements

Contact arrangements other than above are available

Contact arrangements	1NO	1NC	2NO	2NC	1NO+1NC
Code	10	01	20	02	11

Contact arrangements	3NO	3NC	2NO+1NC	1NO+2NC	4NO
Code	30	03	21	12	40

Contact arrangements	4NC	3NO+1NC	2NO+2NC	1NO+3NC	5NO
Code	04	31	22	13	50

Contact arrangements	5NC	4NO+1NC	3NO+2NC	2NO+3NC	1NO+4NC
Code	05	41	32	23	14

• Available numbers of contact blocks

Operation	Contact blocks
Momentary action	5-contact block
Alternate action	3-contact block

• Voltage

Replace the ■ mark by the lamp voltage code

	Code	
	LED	Incandescent
6V AC/DC	A	A
12V AC/DC	B	B
24V AC/DC	E	E
100-110V AC/DC	H	—
230-240V AC/DC	Q	—

• Rosette color

Replace the △ mark by the rosette color code




Color	Black	Metal tone
Code	Blank	Q

Pushbuttons

AY22

Specifications

■ Pushbutton switches

Operator	Contact	Momentary action Type	Alternate action Type
Flush round head  <small>KKD15-115,116</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22F0R-10 □△ AY22F0R-01 □△ AY22F0R-11 □△ AY22F0R-20 □△ AY22F0R-02 □△ AY22F0R-22 □△	AY22F5R-10 □△ AY22F5R-01 □△ AY22F5R-11 □△ AY22F5R-20 □△ AY22F5R-02 □△ AY22F5R-22 □△
Extended round head  <small>KKD15-113,114</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22E0R-10 □△ AY22E0R-01 □△ AY22E0R-11 □△ AY22E0R-20 □△ AY22E0R-02 □△ AY22E0R-22 □△	AY22E5R-10 □△ AY22E5R-01 □△ AY22E5R-11 □△ AY22E5R-20 □△ AY22E5R-02 □△ AY22E5R-22 □△
Mushroom head (40mm dia.)  <small>KKD15-123,124</small>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22M0R-10 □△ AY22M0R-01 □△ AY22M0R-11 □△ AY22M0R-20 □△ AY22M0R-02 □△ AY22M0R-22 □△	AY22M5R-10 □△ AY22M5R-01 □△ AY22M5R-11 □△ AY22M5R-20 □△ AY22M5R-02 □△ AY22M5R-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

• Contact arrangements

Contact arrangements other than above are available

Contact arrangements	1NO	1NC	2NO	2NC	1NO+1NC	3NO	3NC
Code	10	01	20	02	11	30	03
Contact arrangements	2NO+1NC	1NO+2NC	4NO	4NC	3NO+1NC		
Code	21	12	40	04	31		
Contact arrangements	2NO+2NC	1NO+3NC	5NO	5NC	4NO+1NC		
Code	22	13	50	05	41		
Contact arrangements	3NO+2NC	2NO+3NC	1NO+4NC	6NO	6NC		
Code	32	23	14	60	06		
Contact arrangements	5NO+1NC	4NO+2NC	3NO+3NC	2NO+4NC	1NO+5NC		
Code	51	42	33	24	15		

• Available numbers of contact blocks

Operation	Contact blocks
Momentary action	6-contact block
Alternate action	4-contact block


• Rosette color

Replace the △ mark by the rosette color code

Color	Black	Metal tone
Code	Blank	Q

■ Emergency stop pushbutton switches


⇒ (Direct opening action), conform to EN418

Operator	Contact	Type
Push-lock, turn-reset (40mm dia.)  <small>KKD15-128</small>	1NC	AY22V2R-01R
	1NO+1NC	AY22V2R-11R
	1NO+2NC	AY22V2R-12R
	1NO+3NC	AY22V2R-13R
	2NC	AY22V2R-02R
	3NC	AY22V2R-03R
	2NO+2NC	AY22V2R-22R
	4NC	AY22V2R-04R

Notes: • Button color : Red only
• Contact arrangements indicated in the table can be supplied.

■ Emergency stop illuminated pushbutton switches

⇒ (Direct opening action), conform to EN418

Operator	Contact	LED lamp Type	Incandescent lamp Type
Push-lock, turn-reset (40mm dia.)  <small>KKD15-127</small>	1NC	AY22V2L-01■3R	AY22V2L-01■4R
	1NO+1NC	AY22V2L-11■3R	AY22V2L-11■4R
	1NO+2NC	AY22V2L-12■3R	AY22V2L-12■4R
	2NC	AY22V2L-02■3R	AY22V2L-02■4R
	3NC	AY22V2L-03■3R	AY22V2L-03■4R

Notes: • Button color: Red only
• Contact arrangements indicated in the table can be supplied.

• Voltage

Replace the ■ mark by the lamp voltage code

Voltage	Code	
	LED	Incandescent
6V AC/DC	A	A
12V AC/DC	B	B
24V AC/DC	E	E
100-110V AC/DC	H	—
230-240V AC/DC	Q	—







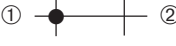








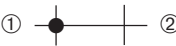
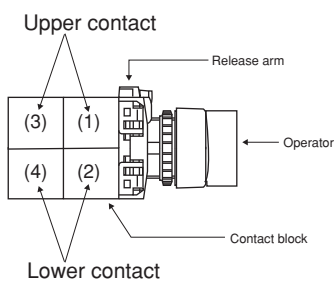
Selector Switches

AY22

Specifications

■ Selector switches

2-position


Operator	Operation	Knob color or key removable position	Contact	Type	Contact operation (Example)	
					Contact arrangement	Operator position Left Right  
Knob   <small>KKD15-125,126</small>	Maintained each 90°	Color code: B: Black	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22PR-210B △ AY22PR-201B △ AY22PR-211B △ AY22PR-220B △ AY22PR-202B △ AY22PR-222B △	1NO (1)	Upper contact 
	Spring return  each 60°		1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22PR-010B △ AY22PR-001B △ AY22PR-011B △ AY22PR-020B △ AY22PR-002B △ AY22PR-022B △	1NC (1)	Upper contact 
Key   <small>KKD15-119,120</small>	Maintained each 90°	■: Key removable position <i>See page 27</i>	1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22JR-2■10A △ AY22JR-2■01A △ AY22JR-2■11A △ AY22JR-2■20A △ AY22JR-2■02A △ AY22JR-2■22A △	1NO+1NC (1)	Upper contact  Lower contact 
	Spring return  each 60°		1NO 1NC 1NO+1NC 2NO 2NC 2NO+2NC	AY22JR-0A10A △ AY22JR-0A01A △ AY22JR-0A11A △ AY22JR-0A20A △ AY22JR-0A02A △ AY22JR-0A22A △	2NO+2NC (1)	Upper contact  (3)  Lower contact (2)  (4) 
						

- Notes: • (1) to (4): Contact block mounting position
 • ① – ②, ③ – ④: Contact block terminal No.
 • Contact arrangements: *See page 27*
 • Replace the △ mark by the rosette color code: *See page 27*

● Contact closed

Selector Switches AY22 Specifications

3-position

Operator	Operation	Knob color	Contact	Type	Contact operation (Example)			
					Contact arrangement	L	C	R
	Maintained each 45°	Color code: B: Black	1NO+1NC 2NO+2NC	AY22PR-311B △ AY22PR-322B △	1NO + 1NC (1) (2)	Upper contact ③ ④	Lower contact ① ②	
	Spring/manual return ① each 45°		1NO+1NC 2NO+2NC	AY22PR-611B △ AY22PR-622B △	2NO + 2NC (1) (2) (3) (4)	Upper contact ③ ④ Lower contact ③ ④	Lower contact ① ② Lower contact ① ②	
			1NO+1NC	AY22PR-711B △	1NO + 1NC (1) (2)	Upper contact ③ ④ Lower contact ③ ④	Lower contact ① ② Lower contact ① ②	
	Spring/manual return ① each 45°		2NO+2NC	AY22PR-722B △	2NO + 2NC (1) (2) (3) (4)	Upper contact ③ ④ Lower contact ③ ④	Lower contact ① ② Lower contact ① ②	
			1NO+1NC	AY22PR-111B △	1NO + 1NC (1) (2)	Upper contact ③ ④ Lower contact ③ ④	Lower contact ① ② Lower contact ① ②	
	Spring return ① each 45°		2NO+2NC	AY22PR-122B △	2NO + 2NC (1) (2) (3) (4)	Upper contact ① ② Lower contact ③ ④	Lower contact ① ② Lower contact ③ ④	
			2NO	AY22PR-120B △	2NO (1) (2)	Upper contact ③ ④ Lower contact ③ ④	Lower contact ③ ④ Lower contact ③ ④	
			4NO	AY22PR-140B △	4NO (1) (2) (3) (4)	Upper contact ③ ④ Lower contact ③ ④	Lower contact ③ ④ Lower contact ③ ④	
			2NC	AY22PR-102B △	2NC (1) (2)	Upper contact ① ② Lower contact ① ②	Lower contact ① ② Lower contact ① ②	
			4NC	AY22PR-104B △	4NC (1) (2) (3) (4)	Upper contact ① ② Lower contact ① ②	Lower contact ① ② Lower contact ① ②	
					4NC (1) (2) (3) (4)	Upper contact ① ② Lower contact ① ②	Lower contact ① ② Lower contact ① ②	

Notes:

- Operator position L:Left, C:Center, R:Right
- (1) to (4): Contact block mounting position
- ①-②, ③-④: Contact block terminal No.
- Replace the △ mark by the rosette color code: See page 27


● Contact closed

Selector Switches

AY22

Specifications

3-position

Operator	Operation	Key removable position	Contact	Type	Contact operation (Example)								
					Contact arrangement		L	C	R	L	C	R	
	Maintained each 45°	■:Key removable position	1NO+1NC 2NO+2NC	AY22JR-3■11A △ AY22JR-3■22A △	1NO + 1NC (1) (2)	Upper contact	Lower contact	③	①	④	①	②	
	Spring/manual return ① each 45°	See page 27	1NO+1NC 2NO+2NC	AY22JR-6■11A △ AY22JR-6■22A △	2NO + 2NC (1) (2) (3) (4)	Upper contact	Lower contact	③	①	④	①	②	
	Spring/manual return ① each 45°			1NO+1NC	AY22JR-7■11A △	1NO + 1NC (1) (2)	Upper contact	Lower contact	③	①	④	①	②
				2NO+2NC	AY22JR-7■22A △	2NO + 2NC (1) (2) (3) (4)	Upper contact	Lower contact	③	①	④	①	②
	Spring return ① each 45°			1NO+1NC	AY22JR-1E11A △	1NO + 1NC (1) (2)	Upper contact	Lower contact	③	①	④	①	②
				2NO+2NC	AY22JR-1E22A △	2NO + 2NC (1) (2) (3) (4)	Upper contact	Lower contact	①	①	②	①	②
				2NO	AY22JR-1E20B △	2NO (1) (2)	Upper contact	Lower contact	③	③	④	③	④
				4NO	AY22JR-1E40A △	4NO (1) (2) (3) (4)	Upper contact	Lower contact	③	③	④	③	④
				2NC	AY22JR-1E02A △	2NC (1) (2)	Upper contact	Lower contact	①	①	②	①	②
				4NC	AY22JR-1E04A △	4NC (1) (2) (3) (4)	Upper contact	Lower contact	①	①	②	①	②

Notes:

- Operator position L:Left, C:Center, R:Right
- (1) to (4): Contact block mounting position
- ①-②, ③-④: Contact block terminal No.
- Replace the △ mark by the rosette color code: See page 27

● Contact closed

• Contact arrangements

Contact arrangements other than above are available

Contact arrangement	1NO+1NC	2NO	2NC	3NO	3NC	
Code	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

Operation	Contact blocks
Maintained	6-contact block
Spring/manual return, Spring return	4-contact block

• Rosette color

Replace the Δ mark by the rosette color code

Color	Black	Metal tone
Code	Blank	Q

• Key removable positions

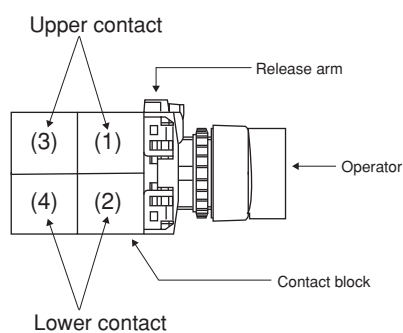
Code	A	B	C	D	E	F	G
Removable position							
AY22JR-2	●	●	—	●	—	—	—
AY22JR-0	●	—	—	—	—	—	—
AY22JR-3	●	●	●	●	●	●	●
AY22JR-6	—	—	—	●	●	●	—
AY22JR-7	●	—	—	—	●	—	●
AY22JR-1	—	—	—	—	●	—	—

●: Available —: Not available

• Key code No.

Standard key code is A.

• Position of contact block













Selector Switches








AY22

Specifications

■ Selector switches (control type) 3-position

Operator	Operation	Knob color or key removable position	Contact arrangement	Type
Knob  	Maintained each 45°	Color code: B: Black	Replace the ■ mark by the contact arrangement code (shown on next page).	AY22PCR-3■B△
	Spring/manual return  each 45°			AY22PCR-6■B△
	Spring/manual return  each 45°			AY22PCR-7■B△
	Spring return  each 45°			AY22PCR-1■B△
Key  	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).	AY22JCR-3□■A△
	Spring/manual return  each 45°			AY22JCR-6□■A△
	Spring/manual return  each 45°			AY22JCR-7□■A△
	Spring return  each 45°			AY22JCR-1E■A△

• Key removable positions

Code	A	B	C	D	E	F	G
Removable position							
AY22JCR-3	●	●	●	●	●	●	●
AY22JCR-6	—	—	—	●	●	●	—
AY22JCR-7	●	—	—	—	●	—	●
AY22JCR-1	—	—	—	—	●	—	—

●: Available —: Not available

• Key code No.

Standard key code is A.

• Rosette color

Replace the △ mark by the rosette color code

Color	Black	Metal tone
Code	Blank	Q

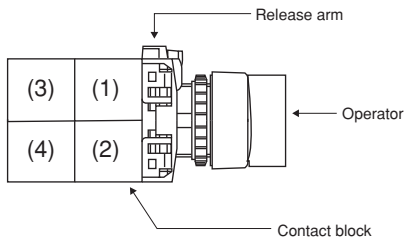
• Contact arrangement code (Typical example)

Contact arrangement	Contact arrangement code	Contact operation				
		Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
2NO	21F	(1)	NO			●
		(2)	NO	●		●
		-	-	-	-	-
		-	-	-	-	-
2NC	01F	(1)	NC	██████████		
		(2)	NC		██████████	
		-	-	-	-	-
		-	-	-	-	-
2NC	22F	(1)	NC	██████████		
		(2)	NC		●	
		-	-	-	-	-
		-	-	-	-	-
1NO+1NC	23F	(1)	NC	██████████		
		(2)	NO	●		
		-	-	-	-	-
		-	-	-	-	-
1NO+1NC	07F	(1)	NC		██████████	
		(2)	NO			●
		-	-	-	-	-
		-	-	-	-	-

Contact arrangement	Contact arrangement code	Contact operation				
		Contact block		Operator position		
		Mounting position	Type	Left	Center	Right
1NO+1NC	24F*	(1)	NC		●	
		(2)	NO	●		
		-	-	-	-	-
		-	-	-	-	-
1NO+1NC	25F	(1)	NO			●
		(2)	NC		●	
		-	-	-	-	-
		-	-	-	-	-
1NO+1NC	26F	(1)	NC	██████████		
		(2)	NO	●		●
		-	-	-	-	-
		-	-	-	-	-
2NO+1NC	27K* (Maintained only)	(1)	NO	●		●
		(2)	NC			●
		(4)	NO	●		
		-	-	-	-	-
2NO+1NC	28P*	(1)	NC		●	
		(2)	NO			●
		(3)	NO	●		
		-	-	-	-	-




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

• Position of contact block



Pilot Lights DY22 Specifications

■ Pilot lights

Lens	LED lamp		Incandescent lamp	
	Lamp voltage	Type	Lamp voltage	Type
Dome  <small>KKD15-105,106</small>	6V AC/DC 12V AC/DC 24V AC/DC	DY22D0L-A3 □△ DY22D0L-B3 □△ DY22D0L-E3 □△	6V AC/DC 12V AC/DC 24V AC/DC	DY22D0L-A4 □△ DY22D0L-B4 □△ DY22D0L-E4 □△
	100–110V AC/DC 230–240V AC/DC	DY22D0L-H3 □△ DY22D0L-Q3 □△	Without lamp DY22D0L-XX □△	
Extended round  <small>KKD15-109,110</small>	6V AC/DC 12V AC/DC 24V AC/DC	DY22E3L-A3 □△ DY22E3L-B3 □△ DY22E3L-E3 □△	6V AC/DC 12V AC/DC 24V AC/DC	DY22E3L-A4 □△ DY22E3L-B4 □△ DY22E3L-E4 □△
	100–110V AC/DC 230–240V AC/DC	DY22E3L-H3 □△ DY22E3L-Q3 □△	Without lamp DY22E3L-XX □△	
Flush round  <small>KKD15-107,108</small>	6V AC/DC 12V AC/DC 24V AC/DC	DY22F3L-A3 □△ DY22F3L-B3 □△ DY22F3L-E3 □△	6V AC/DC 12V AC/DC 24V AC/DC	DY22F3L-A4 □△ DY22F3L-B4 □△ DY22F3L-E4 □△
	100–110V AC/DC 230–240V AC/DC	DY22F3L-H3 □△ DY22F3L-Q3 □△	Without lamp DY22F3L-XX □△	

• 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

• Rosette color

Replace the △ mark by the rosette color code





Color	Black	Metal tone
Code	Blank	Q

• Lamp voltage

Available lamp voltage are as follow.

Voltage	Code	
	LED	Incandescent
6V AC/DC	A3	A4
12V AC/DC	B3	B4
24V AC/DC	E3	E4
100-110V AC/DC	H3	–
230-240V AC/DC	Q3	–
Without lamp	XX	





■ Operator (Illuminated pushbutton switch, Emergency stop illuminated pushbutton switch)

Operator	Rosette color	Type		Color of lens
		Momentary action	Alternate action	
Extended round head  <small>KKD15-129, 130</small>	Black	AY22E0LN-□	AY22E5LN-□	G: Green R: Red W: White Y: Yellow A: Orange S: Blue
	Metal tone	AY22E0LN-□Q	AY22E5LN-□Q	
Mushroom head (40mm dia.)  <small>15-139, 140</small>	Black	AY22M0LN-□	AY22M5LN-□	G: Green R: Red W: White Y: Yellow A: Orange S: Blue
	Metal tone	AY22M0LN-□Q	AY22M5LN-□Q	
Extended with transparent full guard (40mm dia.)  <small>KKD15-135, 136</small>	Black	AY22G4LN-□	AY22G9LN-□	G: Green R: Red W: White Y: Yellow A: Orange S: Blue
	Metal tone	AY22G4LN-□Q	AY22G9LN-□Q	
Emergency stop  <small>KKD15-145</small>	Black	Push-lock, turn-reset AY22V2LN-R		R: Red

Note: Please separately order a contact block (NO, NC), lamp terminal and lamp (LED, incandescent). See page 45.





Pushbuttons AY22 Module

■ Operator (Pushbutton switch, Emergency stop pushbutton switch)

Operator	Rosette color	Type		Color of button
		Momentary action	Alternate action	
Flush round head  <small>KKD15-133, 134</small>	Black	AY22F0RN-□	AY22F5RN-□	G: Green R: Red B: Black W: White Y: Yellow A: Orange S: Blue
	Metal tone	AY22F0RN-□Q	AY22F5RN-□Q	
Extended round head  <small>KKD15-131, 132</small>	Black	AY22E0RN-□	AY22E5RN-□	G: Green R: Red B: Black W: White Y: Yellow A: Orange S: Blue
	Metal tone	AY22E0RN-□Q	AY22E5RN-□Q	
Mushroom head (40mm dia.)  <small>KKD15-141, 142</small>	Black	AY22M0RN-□	AY22M5RN-□	G: Green R: Red B: Black W: White Y: Yellow A: Orange S: Blue
	Metal tone	AY22M0RN-□Q	AY22M5RN-□Q	
Emergency stop  <small>KKD15-146</small>	Black	Push-lock, turn-reset AY22V2RN-R		R: Red








Note: Please separately order a contact block (NO, NC). See page 45.

■ Operator (Selector switch)

Operator	Rosette color	Type	
Knob   <small>KKD15-143, 144</small>	Black	AY22PRN-□B	□ : 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
	Metal tone	AY22PRN-□BQ	
Key   <small>KKD15-137, 138</small>	Black	AY22JRN-□■A	□ : 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 ■ : Key removable position See the table below
	Metal tone	AY22JRN-□■AQ	

Note: Please separately order a contact block (NO, NC). See page 45.

• Key removable positions

Code	A	B	C	D	E	F	G
Removable position							
AY22JRN-2	●	●	—	●	—	—	—
AY22JRN-0	●	—	—	—	—	—	—
AY22JRN-3	●	●	●	●	●	●	●
AY22JRN-6	—	—	—	●	●	●	—
AY22JRN-7	●	—	—	—	●	—	●
AY22JRN-1	—	—	—	—	●	—	—

●: Available —: Not available

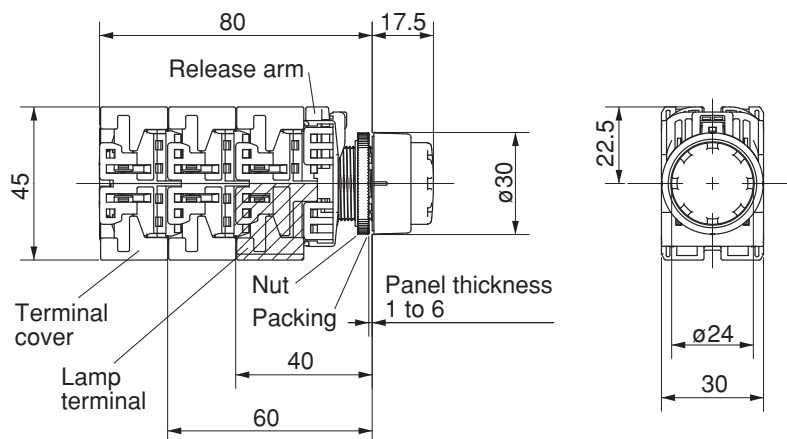
Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

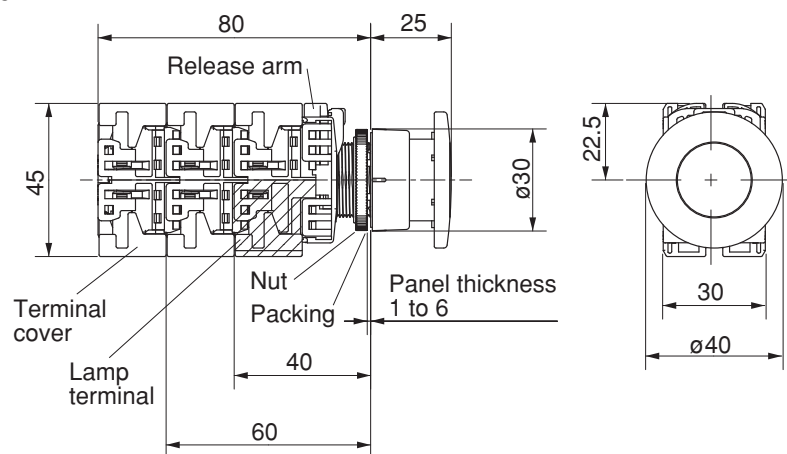
Dimensions

- Dimensions, mm
- Illuminated pushbutton switches

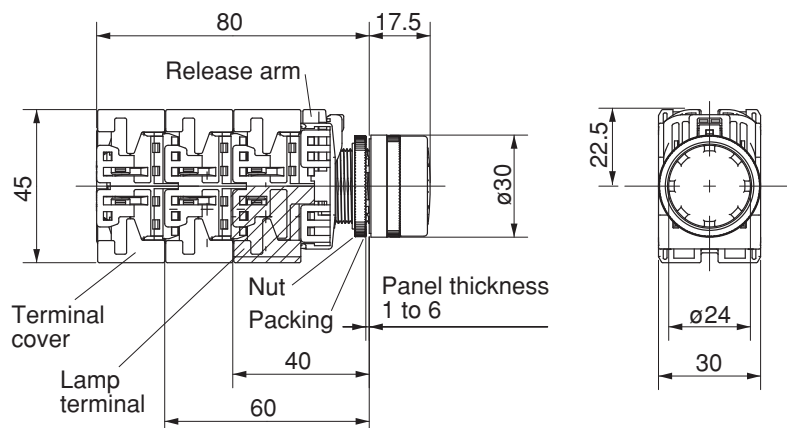
Extended round head AY22E0L, AY22E5L



Mushroom head AY22M0L, AY22M5L

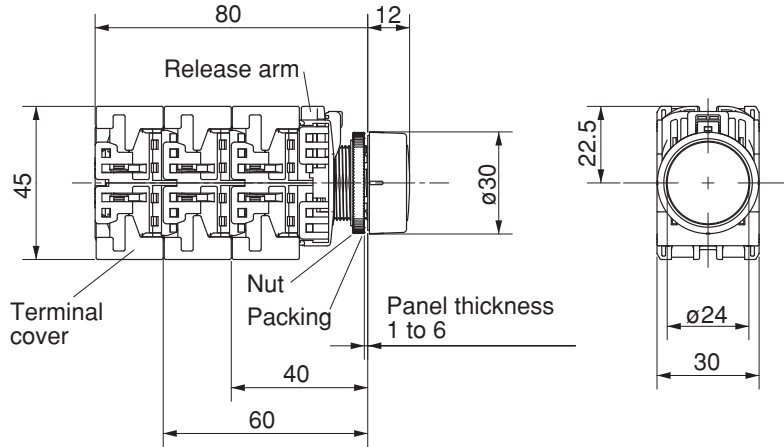


Extended with transparent full guard AY22G4L, AY22G9L

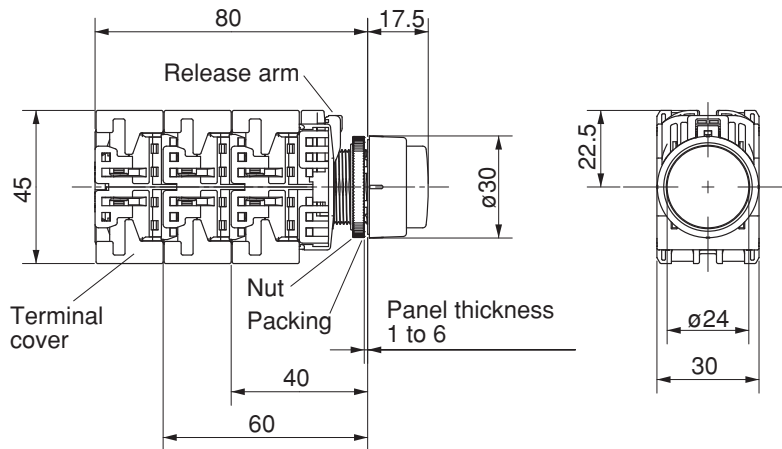


■ Dimensions, mm
 • Pushbutton switches

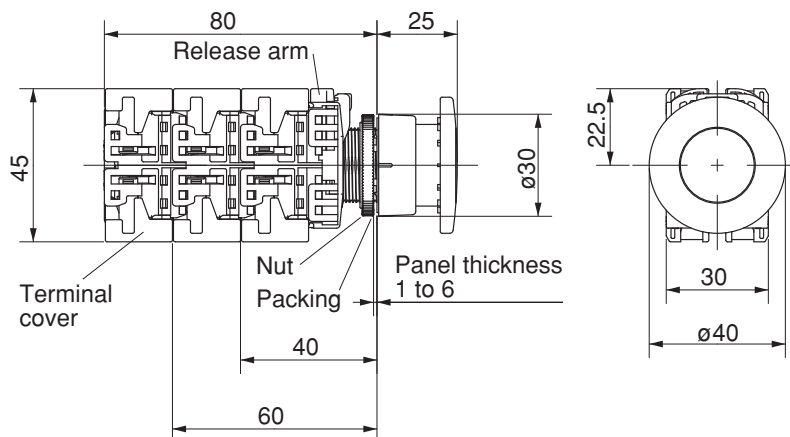
Flush round head
 AY22F0R, AY22F5R



Extended round head
 AY22E0R, AY22E5R



Mushroom head
 AY22M0R, AY22M5R



Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

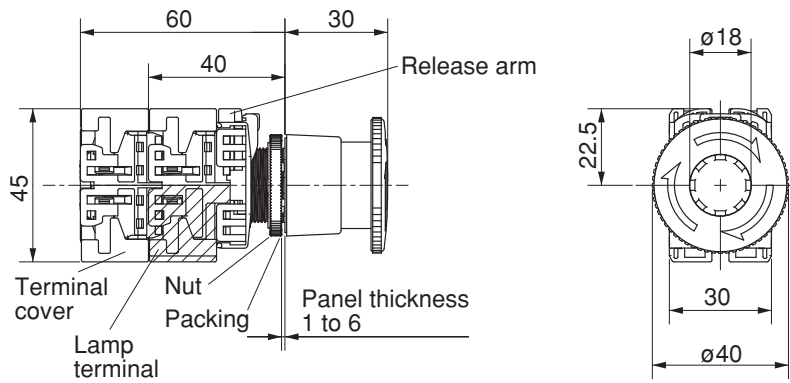
Dimensions

■ Dimensions, mm

• Emergency stop pushbutton switches

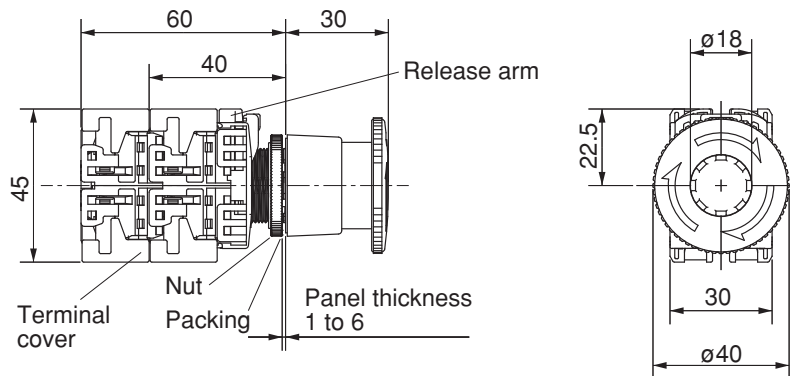
Emergency stop illuminated pushbutton switch

AY22V2L



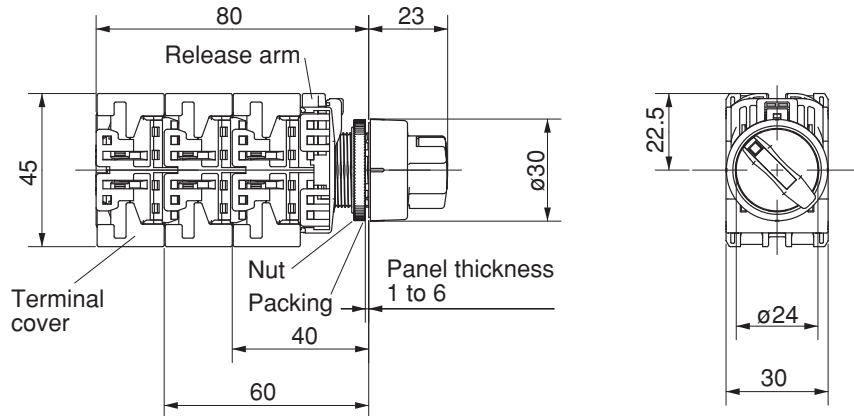
Emergency stop pushbutton switch

AY22V2R

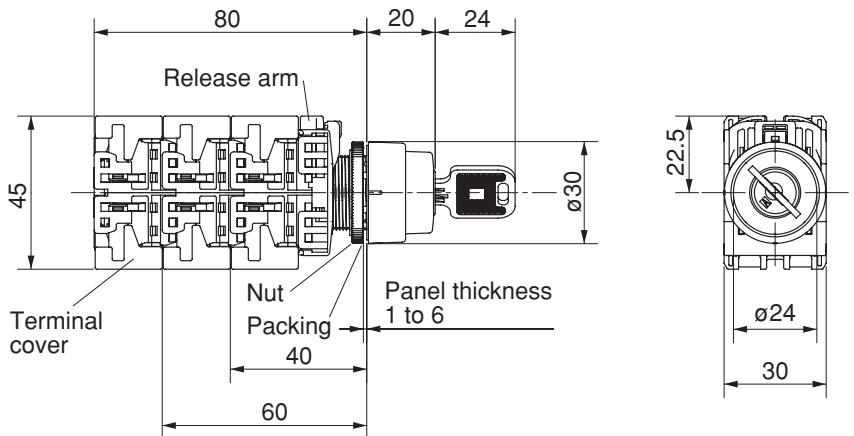


■ Dimensions, mm
 • Selector switches

Knob
 AY22PR, AY22PCR



Key
 AY22JR, AY22JCR



Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

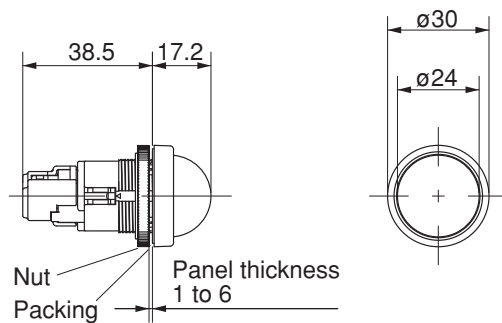
Dimensions

■ Dimensions, mm

- Pilot lights

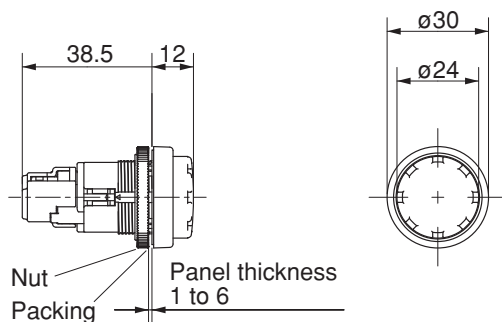
Dome

DY22D0L



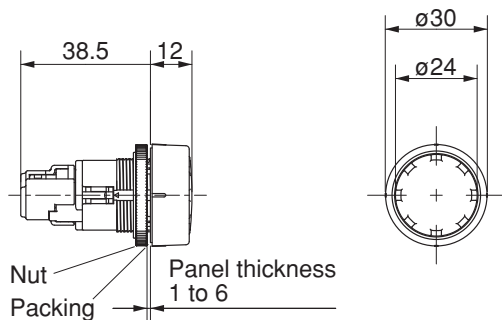
Extended round

DY22E3L



Flush round

DY22F3L



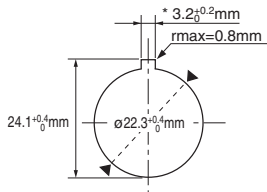
Notes on use

■ Fit two sizes of panel cutout holes

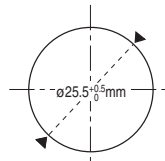
* The unique nut with a step allows switch to be mounted in either 22.3mm- or 25.5mm-dia. holes as shown in Fig. 1 without any extra adapter.

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.

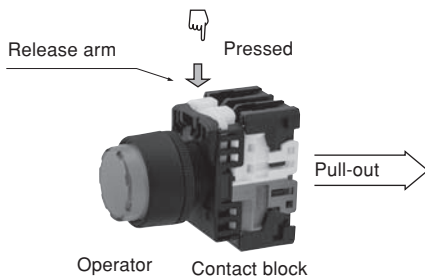


Note: * If key-washer or legend plate are not used, 3.2mm-wide location holes need not be cutout.

■ 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

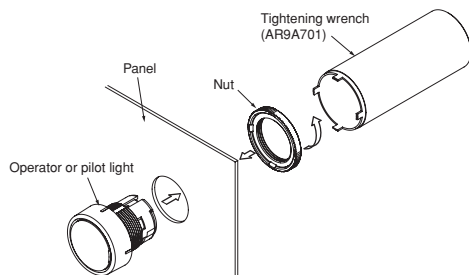


■ Mounting the operator or pilot light on the panel

Pass the operator or pilot light through the panel hole from the panel front and secure the operator on the panel with locking nut using a tightening wrench (AR9A701). The tightening torque is 1.0 to 1.5N·m.

- ① For a 22mm dia. mounting hole (Fig.3)
Tighten the locking nut with flat side on face the panel.

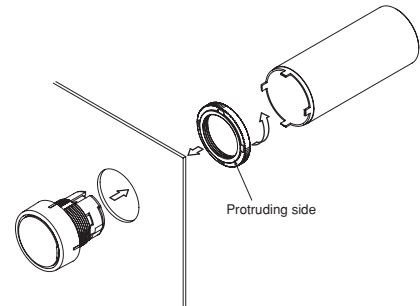
Fig. 3 Mounting an operator in a 22.3mm-dia. hole



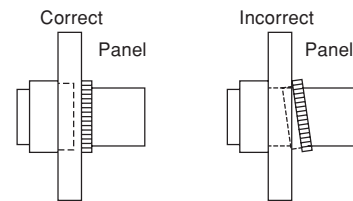
Note: Recommended tightening torque is from 1 to 1.5N·m

- ② For a 25mm dia. mounting hole (Fig.4)
Tighten the locking nut with the protruding side on face the panel as shown in Fig.5.

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



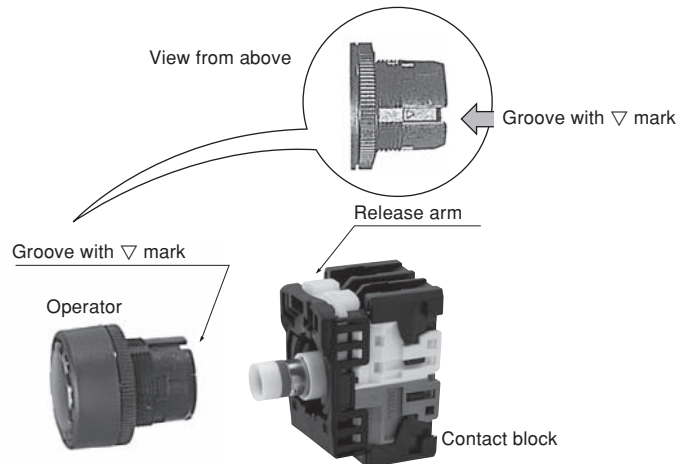
Note: 1. Recommended tightening torque is from 1 to 1.5N·m
 2. Ensure that the step-out portion of the nut is correctly fitted in the cutout hole.



■ Mounting contact block to the operator

As shown in Fig. 5, 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. 5 Mounting the contact block to the operator



Pushbuttons/Selectors/Pilot Lights AY22 and DY22 Notes on use

■ Applicable panel thickness

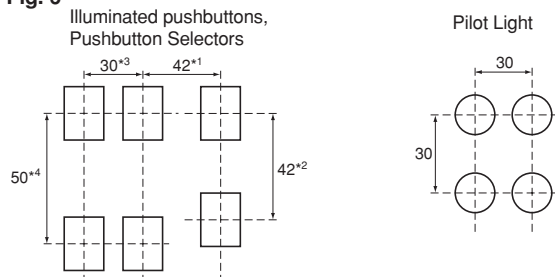
The AY22/DY22 series switches are mountable to panels with thickness as given in Table below.

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

■ Minimum mounting space, mm

(1) Minimum mounting space

Fig. 6



- Notes:
- *1 The mounting pitch of the mushroom head pushbuttons is 42mm.
 - *2 In the left example, the contact block is on one side only.
 - *3 When the contact blocks are mounted with a 30mm pitch horizontally (close mounting), operating voltage must be 380V AC or lower.
 - *4 If the contact blocks or lamp terminal has two or less. Need 55mm mounting pitch when using more than 3 contact blocks or lamp terminal.

Decide mounting pitch considering facility of operating and wiring.

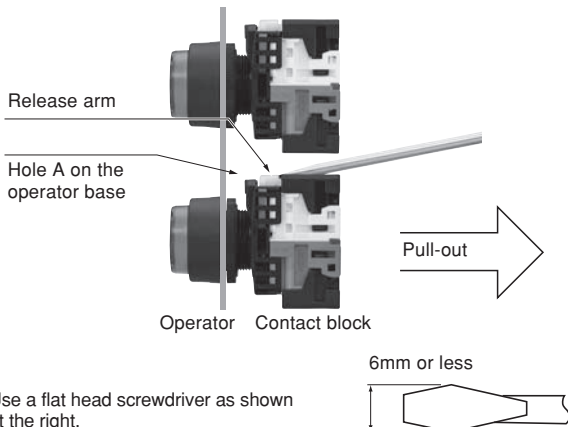
When mounting operators on a panel, orient all ▽ marks on the operator upwards.

(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. 7, 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. 7



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

■ Replacing the lamp

(1) Removing and installing the lamp from the panel front (Fig.8) Push the lamp head into the lamp remover (AHX790), and turn the lamp remover to remove or install the lamp.

(2) Replacing the lamp after removing the operator from the contact block (switch only) (Fig.9)

Push the lamp into the contact block holding the lamp head with your fingers, and push the lamp into the operator to turn the lamp head to install or remove the lamp.

Fig. 8

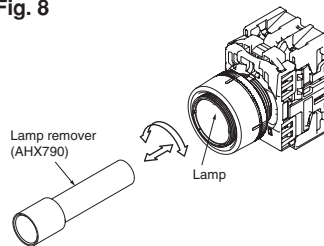
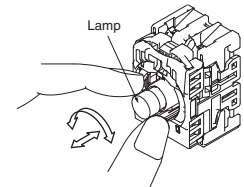


Fig. 9



■ Replacing the contact block, lamp terminal (switch only)

(1) Removing

Open the mounting foot slightly with a flat-head screwdriver as shown in the figure 10. The contact block can be easily removed from the foot. The replacing tool (AHX321) can be used to remove the contact block more easily.

(2) Mounting

- Push the contact block straight to the foot as shown in the figure 11. Make sure that the contact block is attached to the foot securely. When attaching the two contact blocks in parallel, make their grooves fit each other so that the unit does not open. (If the lamp terminal is used with the contact blocks fitting incompletely, the unit may come off or an operation error may occur.) Take care not to apply excess force to the mounting side.

• About an addendum of contact blocks

If you install contact blocks exceeding the allowable number of stages, your device may not operate properly.

Fig. 10

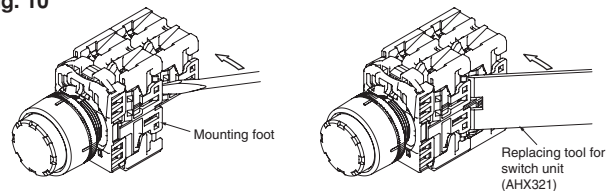
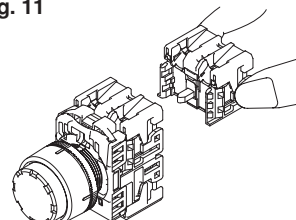


Fig. 11



■ **Wiring**

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

Fig. 12



- (2) Two crimp terminals can be used by putting one of them on top of the other.
- (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.

■ **LED Indicator**

(1) LED Lamp Malfunctioning

The LED lamp is lit by a very small level of current. 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.

(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.

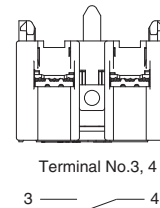
■ **Operation**

- 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.
- 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.

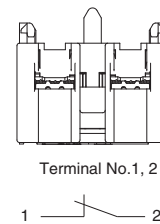
■ **Terminal layout**

Fig. 13

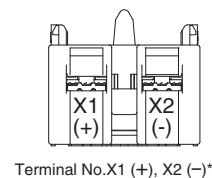
NO contact (AY9B290)
 White



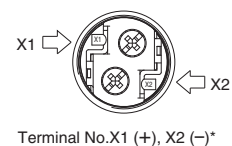
NC contact (AY9B291)
 Black



Lamp terminal (AY9B292)
 Gray



Pilot light



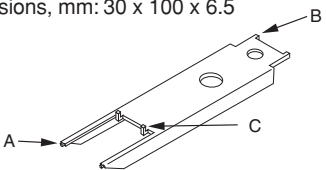




Note: * The positive and negative terminals are used for DC applications where the order of polarity is required.




Pushbuttons/Selectors/Pilot Lights


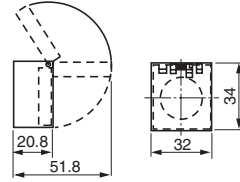

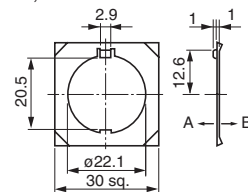
AY22 and DY22




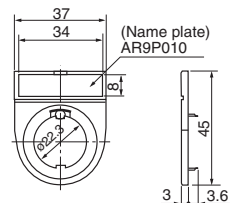
Accessories

■ Accessories

Description	Type
Wrench	<p>AR9A004 Dimensions, mm: 30 x 100 x 6.5</p>  <p>Remarks Section "A" Use this section to tighten the nut for mounting the operator on a panel.</p> <p>Section "B" Use this section to tighten or remove the lens. Applicable type: AY22E0L, E5L AY22G4L, G9L DY22E3L, F3L</p> <p>Section "C" Fit the tabs on the section "C" in the center button, and turn the wrench to tighten or remove the button. Applicable type: AY22V</p>  <p>KK02-261</p>
Wrench	<p>AR9A701 Dimensions, mm: $\varnothing 28 \times 70$</p> <p>Application: AY22, DY22 nut tightening</p> 
Wrench	<p>AR9A001 Dimensions, mm: $\varnothing 22 \times 35$</p> <p>Application: AY22, DY22 round-type lens tightening</p>  <p>KK02-098A</p>
Wrench	<p>AR9A006 Dimensions, mm: $\varnothing 40 \times 100$</p> <p>To mount an AY22 or DY22 command switch to a panel, use this wrench to tighten the nut securely. It is very easy to fit this wrench onto the nut.</p> <p>The wrench with an inside rubber-lining can be easily used with either your right or left hand.</p>  <p>For $\varnothing 22$</p> <p>AF96-241</p>

Description	Type
Special tool	<p>AHX321 Dimensions, mm: 42 x 130 x 6.5 For all types except pilot lights</p>  <p>SG-873</p>
Wrench/Lamp changer	<p>AHX702 Dimensions, mm: $\varnothing 36 \times 55$</p> <p>Use this wrench to tighten or remove the lens and lamp.</p> <p>Used with: Lens of DY22D0L Incandescent lamp of pilot lights and illuminated pushbuttons</p>  <p>SI-1030</p>
Lamp changer	<p>AHX790 Dimensions, mm: $\varnothing 14 \times 55$</p> <p>For BA9S/13 lamp</p> <ul style="list-style-type: none"> Use this rubber wrench for mounting or removing lamps from pilot lights and illuminated pushbutton switches. This wrench can be used for both LED and incandescent lamps.  <p>AF95-22</p>





<p>Description</p> <p>Protection cover</p>  <p>AF95-29</p>	<p>Type</p> <p>AR9E760</p> <p>This cover protects against accidental operation. The cover lid is returned home with a spring force. (Packing is provided)</p> <p>Used with: AY22E0L, E5L AY22F0R, F5R, E0R, E5R</p> <p>Dimensions, mm:</p> 
<p>Description</p> <p>Key washer</p>  <p>AF95-25</p>	<p>Type</p> <p>AR9Y715</p> <p>Use this metal washer when securing a operator in a 22.3mm dia. panel cutout hole.</p> <p>Dimensions, mm:</p>  <ul style="list-style-type: none"> When the periphery of the panel cutout has a hole to stop rotation, use with side A contacting the panel. Even when the periphery of the panel cutout does not have a hole to stop rotation, if used with side B contacting the panel it can serve as a washer for eliminating play.






<p>Description</p> <p>Legend plate for emergency stop</p>  <p>KK02-265A</p>	<p>Type</p> <p>AR9P719-①② This aluminium legend plate is for a 22.3mm dia. panel cutout hole. (Packing provided)</p> <table border="1"> <thead> <tr> <th rowspan="2">Legend</th> <th colspan="2">Code</th> <th rowspan="2">Letter height</th> </tr> <tr> <th>①</th> <th>②</th> </tr> </thead> <tbody> <tr> <td>Blank</td> <td>0</td> <td>0</td> <td>—</td> </tr> <tr> <td>EMERGENCY</td> <td>5</td> <td>A</td> <td>7mm</td> </tr> <tr> <td>STOP</td> <td>5</td> <td>B</td> <td>13mm</td> </tr> </tbody> </table> <p>Dimensions, mm:</p> <p>AR9P719</p>  <p>Thickness: 0.8mm</p> <p>Note: Engraving for making letters is not available.</p>	Legend	Code		Letter height	①	②	Blank	0	0	—	EMERGENCY	5	A	7mm	STOP	5	B	13mm		
Legend	Code		Letter height																		
	①	②																			
Blank	0	0	—																		
EMERGENCY	5	A	7mm																		
STOP	5	B	13mm																		
<p>Description</p> <p>Legend plate with name plate</p>  <p>.AF96-190</p>	<p>Type</p> <p>Legend plate AR9P009-B Name plate AR9P010-B ①② (34 × 8mm)</p> <table border="1"> <thead> <tr> <th rowspan="2">Name plate</th> <th colspan="2">Code</th> </tr> <tr> <th>①</th> <th>②</th> </tr> </thead> <tbody> <tr> <td>ON</td> <td>0</td> <td>A</td> </tr> <tr> <td>OFF</td> <td>0</td> <td>B</td> </tr> <tr> <td>START</td> <td>0</td> <td>C</td> </tr> <tr> <td>STOP</td> <td>0</td> <td>D</td> </tr> <tr> <td>OFF-ON</td> <td>2</td> <td>A</td> </tr> </tbody> </table> <p>Dimensions, mm:</p> <p>AR9P009</p>  <p>(Name plate) AR9P010</p>	Name plate	Code		①	②	ON	0	A	OFF	0	B	START	0	C	STOP	0	D	OFF-ON	2	A
Name plate	Code																				
	①	②																			
ON	0	A																			
OFF	0	B																			
START	0	C																			
STOP	0	D																			
OFF-ON	2	A																			

Pushbuttons/Selectors/Pilot Lights


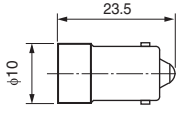

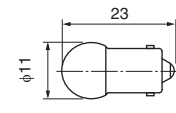
AY22 and DY22



Accessories

Description	Type			
Panel plug  SI-1027	AHX725-B	Black		
	AHX725-H	Gray		
	Dimensions, mm: $\phi 29.5 \times 17$			
	Use this plug to cover up unused panel cutout holes. For oil proof usage, use together with packing (AR9Y730) and a nut (AR9R744).			
Packing  AF94-462	Type	Used with		
	AR9Y730	AY22, DY22		
Nut  AF94-462	Type	Used with	Dimensions, mm	
	AR9R744	AY22, DY22	$\phi 29.7 \times 4$	
Lens for illuminated pushbutton switch and pilot lights  AF94-458	Type	Used with		
	AR9C012-□ *1	AY22E0L, E5L AY22G4L, G9L DY22E3L, F3L		
	Replace the □ mark by the lens color code			
	Color	Green	Red	Yellow
	[Main unit code]	[G]	[R]	[Y]
	Code	G	R	Y
	Color	Orange	Blue	White
	[Main unit code]	[A]	[S]	[W]
	Code	A	S	C
	Notes: *1 When the main unit code is "W" (white), use a lens of clear color.			
	Type	Used with		
	AR9C016-□	AY22M0L, M5L		
	DR9C001-□	DY22D0L		
	Replace the □ mark by the lens color code			
	Color	Green	Red	Yellow
	[Main unit code]	[G]	[R]	[Y]
	Code	G	R	Y
	Color	Orange	Blue	White
	[Main unit code]	[A]	[S]	[W]
	Code	A	S	W

Description	Type	
Button for pushbutton switch  AF94-461  KK02-101A	Type	Used with
	AR9C001-□	AY22F0R, F5R
	AR9C003-□	AY22E0R, E5R
	AR9C007-□	AY22M0R, M5R
	Replace the □ mark by the button color code	
	Color	Green Red Black White
	Code	G R B W
	Color	Yellow Orange Blue
	Code	Y A S
Knob  AF95-43	Type	Used with
	AR9M006-B	AY22PR, PCR
Key  KKD09-012	Type	Used with
	AR9C022-A	AY22JR, JCR
Legend plate (for E type with round bezel)  AF94-459	AR9P002-W	
	This part is made of acrylic resin. Use paint or thinner compatible with resin.	
	Dimensions, mm: $\phi 19.7 \times 4.2$	

Pushbuttons/Selectors/Pilot Lights AY22 and DY22 Accessories

Description	Type																																	
LED lamp  KKD15-092	<table border="1"> <thead> <tr> <th>Type</th> <th>Lamp voltage</th> </tr> </thead> <tbody> <tr> <td>AY9L510-A □</td> <td>6V AC/DC</td> </tr> <tr> <td>AY9L510-B □</td> <td>12V AC/DC</td> </tr> <tr> <td>AY9L510-E □</td> <td>24V AC/DC</td> </tr> <tr> <td>AY9L510-H □</td> <td>100-110V AC/DC</td> </tr> <tr> <td>AY9L510-Q □</td> <td>230-240V AC/DC</td> </tr> </tbody> </table> <p>Replace the □ mark by the luminous color code</p> <table border="1"> <thead> <tr> <th>Luminous color</th> <th>White</th> <th>Red</th> <th>Green</th> </tr> </thead> <tbody> <tr> <td>Code</td> <td>P</td> <td>R</td> <td>G</td> </tr> <tr> <td>Lens color</td> <td>Y, W</td> <td>R</td> <td>G</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Luminous color</th> <th>Amber</th> <th>Blue</th> </tr> </thead> <tbody> <tr> <td>Code</td> <td>A</td> <td>S</td> </tr> <tr> <td>Lens color</td> <td>A</td> <td>S</td> </tr> </tbody> </table> <p>Dimensions, mm:</p>  <p style="text-align: right;">Lamp base: BA9s</p>	Type	Lamp voltage	AY9L510-A □	6V AC/DC	AY9L510-B □	12V AC/DC	AY9L510-E □	24V AC/DC	AY9L510-H □	100-110V AC/DC	AY9L510-Q □	230-240V AC/DC	Luminous color	White	Red	Green	Code	P	R	G	Lens color	Y, W	R	G	Luminous color	Amber	Blue	Code	A	S	Lens color	A	S
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Code	A	S																																
Lens color	A	S																																
Incandescent lamp  KKD15-093	<table border="1"> <thead> <tr> <th>Type</th> <th>Lamp voltage</th> <th>Rated voltage</th> </tr> </thead> <tbody> <tr> <td>AY9L610-A</td> <td>6V AC/DC</td> <td>6.3V AC/DC</td> </tr> <tr> <td>AY9L610-B</td> <td>12V AC/DC</td> <td>18V AC/DC</td> </tr> <tr> <td>AY9L610-C</td> <td>24V AC/DC</td> <td>30V AC/DC</td> </tr> </tbody> </table> <p>Dimensions, mm:</p>  <p style="text-align: right;">Lamp base: BA9s</p>	Type	Lamp voltage	Rated voltage	AY9L610-A	6V AC/DC	6.3V AC/DC	AY9L610-B	12V AC/DC	18V AC/DC	AY9L610-C	24V AC/DC	30V AC/DC																					
	Type	Lamp voltage	Rated voltage																															
AY9L610-A	6V AC/DC	6.3V AC/DC																																
AY9L610-B	12V AC/DC	18V AC/DC																																
AY9L610-C	24V AC/DC	30V AC/DC																																

Description	Type												
Contact block (NO)  KKD15-088	AY9B290 Color: White Dimensions, mm: 22.5 x 30 x 27												
Contact block (NC)  KKD15-089	AY9B291 Color: Black Dimensions, mm: 22.5 x 30 x 27												
Lamp terminal  KKD15-090	AY9B292 Color: Gray Dimensions, mm: 22.5 x 30 x 27												
Water-tight cap  KK2-124A	AR9D797-□ This rubber cap protects the operator and switch mechanism against dust and water. Use this cap in a dusty or moist environment. Used with: AY22E0L, E5L AY22E0R, E5R Replace the □ mark by the luminous color code. <table border="1"> <thead> <tr> <th>Code</th> <th>Color</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>Green</td> </tr> <tr> <td>R</td> <td>Red</td> </tr> <tr> <td>B</td> <td>Black</td> </tr> <tr> <td>Y</td> <td>Yellow</td> </tr> <tr> <td>Blank</td> <td>Clear (standard)</td> </tr> </tbody> </table> <p>Dimensions, mm:</p> 	Code	Color	G	Green	R	Red	B	Black	Y	Yellow	Blank	Clear (standard)
Code	Color												
G	Green												
R	Red												
B	Black												
Y	Yellow												
Blank	Clear (standard)												

Pushbuttons/Selectors/Pilot Lights

AY22 and DY22

Mass

■ Mass, gram

● Illuminated pushbuttons

Type	1NO (1NC)	2NO (2NC) (1NO+1NC)	3NO (3NC)
AY22E0L, E5L	45	56	67
G4L, G9L	46	57	68
M0L, M5L	48	59	70

● Pushbuttons

Type	1NO (1NC)	2NO (2NC) (1NO+1NC)	3NO (3NC)	2NO+2NC
AY22F0R, F5R	29	40	51	63
E0R, E5R	30	41	52	64
M0R, M5R	33	44	55	67

● Emergency stop pushbuttons

Type	1NC	2NC (1NO+1NC)	3NC	2NO+2NC
AY22V2R	40	51	62	74

● Emergency stop illuminated pushbuttons

Type	1NC	2NC (1NO+1NC)
AY22V2L	55	66

● Pilot lights

Type	
DY22D0L	19
E3L	19
F3L	20

● Selector switches

Type	1NO (1NC)	2NO (2NC) (1NO+1NC)	3NO (3NC)	2NO+2NC
AY22PR	32	43	54	66
PCR	–	43	–	66
JR	58	69	79	91
JCR	–	69	–	91

Safety Considerations

- Operate (keep) in the environment specified in the operating instructions and manual. High temperature, high humidity, condensation, dust, corrosive gases, oil, organic solvents, excessive vibration or shock might cause electric shock, fire, erratic operation or failure.
- For safe operation, before using the product read the instruction manual or user manual that comes with the product carefully or consult the Fuji sales representative from which you purchased the product.
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- Customers are requested to prepare safety measures when they apply the products introduced in this catalog to such systems or facilities that will affect human lives or cause severe damage to property if the products become faulty.
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- Follow the regulations of industrial wastes when the product is to be discarded.
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