



FLUSH SILHOUETTE SWITCHES
Ø22 SWITCHES & PILOT LIGHTS
CW SERIES



Push-in Switches & Pilot Lights

Smart design, simple wiring



IDEC CORPORATION



All thoughts focused on the same goal

Since the late 1970s, IDEC has continued to instill and pursue “Save and Safe”, as part of our corporate DNA. Along with the rapid advancement in machine intelligence and demands for environmental resistance and high reliability in recent years, we need to face societal issues such as shortage in workforce.

To solve these issues, we have set as our goals “Safe, Simple & Smart= S^3 (S cube)”, aiming to provide society with products and services that will bring about greater innovation and lasting quality.

Safe

Products anyone can use with safety and assurance, from a company seeking to be number one in safety

Simple

Products appreciated by all our customers for their ease of connection regardless of experience

Smart

Products that make labor-saving and space-saving a reality



Useful NEW

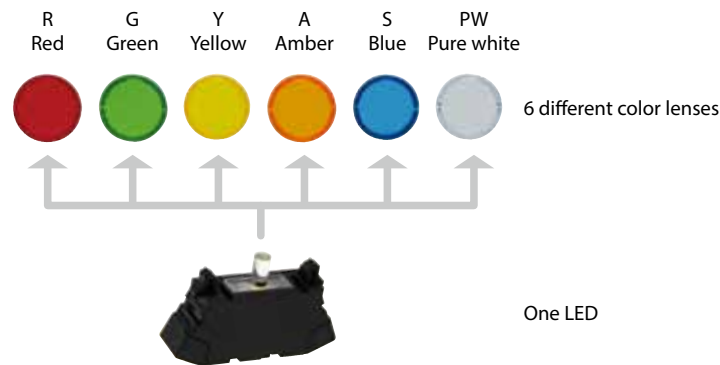
We provide easy and user-friendly products with new technology.

First in the industry Six different colors with a single LED

Previously, 5 different color LEDs were required but with the new illuminated unit, only a single LED is used.

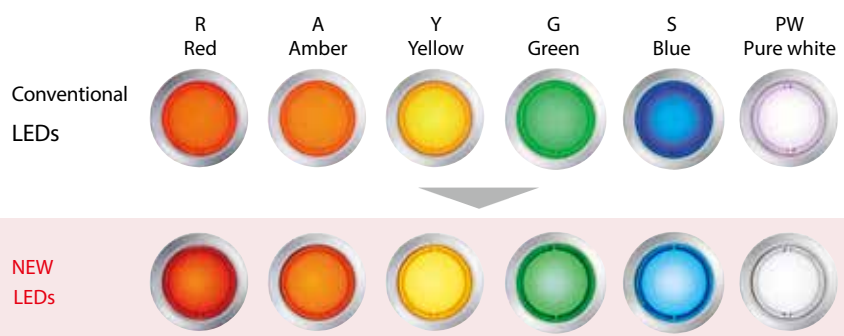
Only the lens needs to be replaced to change the illumination color.

The new LED reduces maintenance time, makes stock control easier, and is environmentally friendly.



High visibility with new LED

Brighter and clearer compared
to conventional LEDs



ISO3864-4 Safety color compliant

(Corresponding colors: R (Red), Y (Yellow), G (Green), PW (Pure white))

Safety colors are defined with ISO standards.

The bright and clear colors are suited for emergency situations



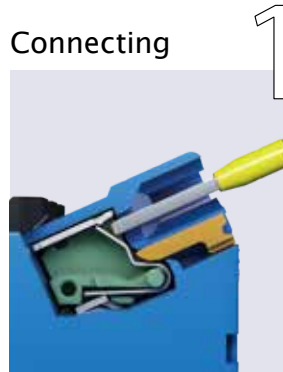
Push-in

Smart Simple

Simple wiring for greater work efficiency

Ferrules and solid wires can be connected simply by push-in insertion, without a screwdriver. ^{(*)1} To remove, a flat-blade screwdriver is inserted in a simple two-action process. Since wiring can be performed regardless of operators' skill level, wiring time is reduced.

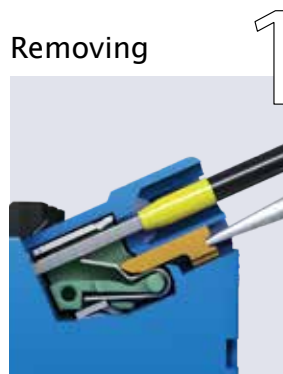
^{(*)1} When connecting stranded wire, insert the wire while holding down the pusher with a flat-blade screwdriver.



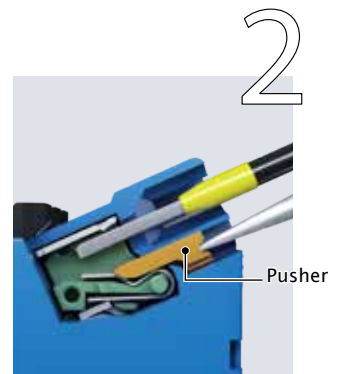
Push the wire straight in as far as it will go.



Connection is completed. Pull lightly to make sure it is firmly in place.



Hold down the pusher with a flat-blade screwdriver.



While holding down the pusher, pull out the wire. Release the flat-blade screwdriver.

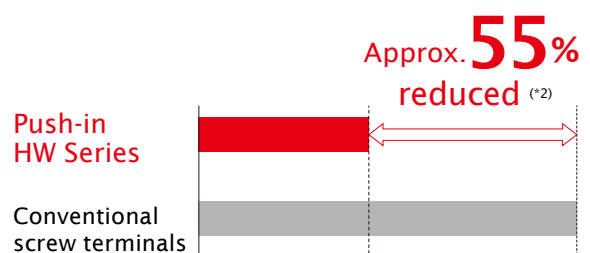
Smart

Time saving and efficient

Push-in connections are made simple by inserting the wire, reducing wiring time by approximately 55% compared to conventional screw terminals.

[Conditions]

Push-in: Insert wire with ferrule.
Screw terminals: With screw loosened, insert wire, then tighten with electric driver.



^{(*)2} As of IDEC research (as of January 2020)

Safe

Reliable and easy

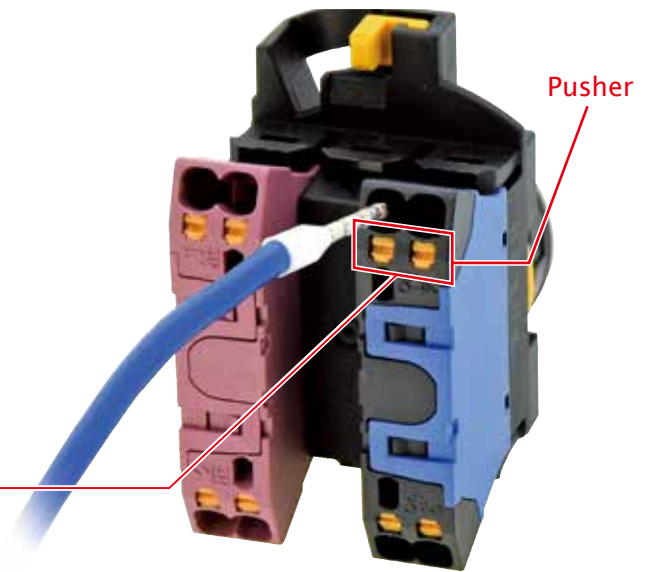
Finger-safe structure and vibration resistance. What's more, the space-saving design means better workability in a smaller space.

Stays firmly in place

Since the ferrule is held in place by a spring load, the wiring remains taut and vibration resistance is improved.

Finger-safe structure

IP20 Finger-safe protection enables wiring to be performed without direct contact between screwdriver and conductive part.



Smart

Simple

Wiring procedure comparison

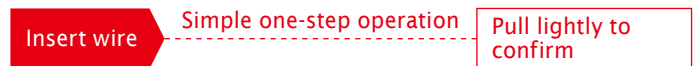
Work can be performed without using tools and regardless of operators' skill level.

*1) When ferrule is used.

Conventional screw terminal



Push-in terminal ^(*)



Smart

No additional tightening needed

Because screws are not used on push-in terminals, re-tightening of screws is not required.

Product Upgrade

The superior functions of the conventional CW Series still remain while improving ease of use.

Contact block depth reduced

Smart

Saves space inside panel and enables downsizing of equipment.

Pushbuttons

Single contact block

Panel depth

36.4mm



NEW

Double contact block

Panel depth

59.6mm

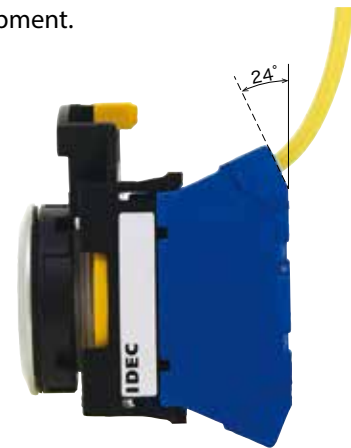


Angled Connections

Smart

Angled connections make wiring easy even when switches are mounted on a panel.

Also, 24-degree inclination faced to the panel improves the fit of the wires, and contributes to downsizing of the panel and equipment.



NEW

4-contact configuration available with double contact blocks

Double contact blocks

Single contact blocks



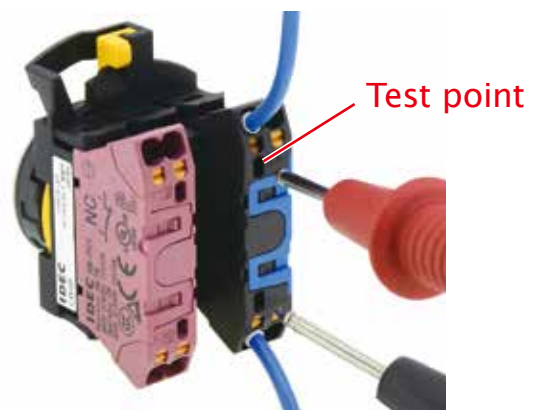
Double contact blocks available for all models including pushbuttons, illuminated pushbuttons, selector switches, and key selector switches.

Added Value

Our aim is to create products that enable customers to experience the utmost usability.

Test point

A test point is available to check connectivity of the wiring.
Check the connectivity easily using a tester.



Sub-Assembled Units

Sub-assembled units can be ordered for flexible use, such as sudden changes in design.



Flush Silhouette Switches

ø22 CW Series Push-in Switches & Pilot Lights

Products

Pushbuttons:	see page 10
Illuminated pushbuttons:	see page 13
Pilot lights:	see page 16
Selector Switches:	see page 18
Key Selector Switches:	see page 23



• See website for details on approvals and standards.

Contact Ratings

Rated Insulation Voltage	300V
Rated Thermal Current	10A

Rated Operating Voltage and Current by Utilization Category

[Specification 1] (*1)

Rated Operating Voltage (Ue)			24V	48V	50V	110V	220V
Rated Operating Current (Ie)	AC 50/60 Hz	Resistive Load (AC-12)	10A	—	10A	10A	6A
		Inductive Load (AC-15)	10A	—	7A	5A	3A
	DC	Resistive Load (DC-12)	10A	5A	—	2.2A	1.1A
		Inductive Load (DC-13)	5A	2A	—	1.1A	0.6A

• The operational current represents the classification by making and breaking currents (IEC60947-5-1).

[Specification 2] (*2)

Rated Operating Voltage (Ue)			24V	48V	50V	110V	220V
Rated Operating Current (Ie)	AC 50/60 Hz	Resistive Load (AC-12)	5A	—	5A	5A	3A
		Inductive Load (AC-15)	5A	—	3.5A	2.5A	1.5A
	DC	Resistive Load (DC-12)	5A	2.5A	—	1.1A	0.55A
		Inductive Load (DC-13)	2.5A	1A	—	0.55A	0.3A

• The operational current represents the classification by making and breaking currents (IEC60947-5-1).

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

*1) See electrical life specification on page 9.

UL, c-UL rating: A300, CCC rating: A300, TUV rating: A300

Degree of Protection (Table 1)

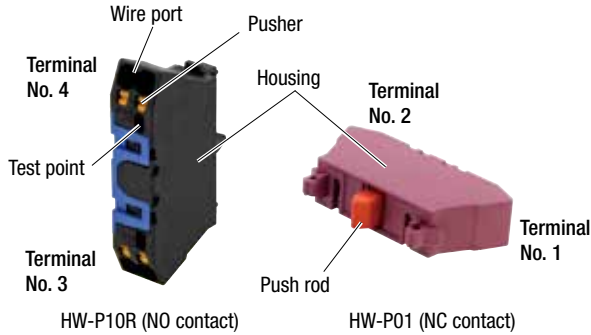
Type	IP65	IP66	IP67	UL Type 4X
Illuminated Pushbutton	Yes	No (*2)	No (*2)	No (*2)
Pilot lights	Yes	Yes	No	Yes
Pushbutton	Yes	No (*2)	No (*2)	No (*2)
Selector Switch	Yes	Yes	Yes	Yes
Key Selector Switch	Yes	Yes	No	Yes

*2) Yes when used with rubber boot (CW9Z-D11, -D12)

LED Specifications

Rated Insulation Voltage	250V			
Rated Operating Voltage	6V AC/DC	12V AC/DC	24V AC/DC	
Operating Voltage Range	6V AC/DC ±10%	12V AC/DC ±10%	24V AC/DC ±10%	
LED Module Part No.	CW-PAQ2	CW-PAQ3	CW-PAQ4	
Current Draw	AC	16 mA	7 mA	6 mA
	DC	12 mA	6 mA	6 mA
Life (reference value)	Approx. 30,000 hours (the illuminance is reduced to 50% of the initial intensity when used on complete DC at 25°C.)			
Internal Circuit				

Push-in Contact Block (HW-P)



Contact	Single contact block		Double contact block		
	1NO	1NC	2NO	2NC	1NO-1NC
Part No.	HW-P10R	HW-P01	HW-PW2R0	HW-PW02	HW-PW1R1
Housing	Blue / Black	Purple red	Blue / Black	Purple red	Purple red / Blue
Push Rod	Black	Red	Black	Red	Gray
Contact No.	3-4	1-2	1st stage: 13-14 2nd stage: 23-24	1st stage: 11-12 2nd stage: 21-22	1st stage: 13-14 2nd stage: 21-22
Weight (approx.)	8g		16g		

Specifications

Operating Temperature	Non-illuminated: -25 to +60°C (no freezing) LED illuminated: -25 to +55°C (no freezing)	
Operating Humidity	45 to 85% RH (no condensation)	
Storage Temperature	-40 to +80°C (no freezing)	
Contact Resistance	50 mΩ maximum (initial value)	
Insulation Resistance	100 MΩ minimum (500V DC megger)	
Overvoltage Category	II (IEC60664-1)	
Impulse Withstand Voltage	2.5kV (IEC60664-1 / IEC60947-5-1)	
Pollution Degree	3 (IEC60947-5-1)	
Vibration Resistance	Operating extremes: 5 to 55Hz, amplitude 0.5 mm Damage limits: 30 Hz, amplitude 1.5 mm	
Shock Resistance	Operating extremes: 100 m/s ² Damage limits: 1000 m/s ²	
Mechanical Life (minimum operations)	Pushbutton/Illuminated pushbutton Momentary: 2,000,000 (single contact block) 1,000,000 (double contact block) Maintained: 250,000(single contact block) 100,000(double contact block) Selector switch: 250,000 (single contact block) 100,000 (double contact block) Key selector switch: 250,000 (single contact block) 100,000 (double contact block)	
Electrical Life (*1) (minimum operations)	Specification 1	Single contact block: 50,000 Double contact block: 25,000
	Specification 2	Single contact block: 100,000 Double contact block: 50,000
Degree of Protection	Panel front: See Degree of Protection table on page 8 Terminal: IP20 (IEC 60529)	
Electrical Shock Protection	Class II (IEC61140)	
Terminal Style	Push-in terminal	
Bezel Material	Polyamide	
Recommended Tightening Torque for Locking Ring	1.2 N·m	

*1) Switching frequency
 Momentary: 1800 operations/h
 Maintained: 900 operations/h

Direct Opening of Key Selector Switch

Applicable Type	2-position (3NC)	3-position (2NC)
Minimum Operator Angle for Direct Opening Action	90°	45°
Minimum Operator Torque for Direct Opening Action	0.2 N·m	0.3 N·m
Maximum Operator Angle	90°	45°

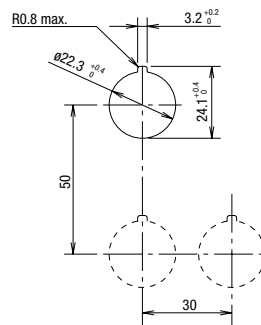
Weight (Examples)

Weight (approx.)	Illuminated Pushbutton	: 38g (CW1L-M1P20Q4, 2 contacts)
	Pushbutton	: 37g (CW1B-M1P30, 3 contacts)
		: 61g (CW1B-M1P33, 6 contacts)
	Pilot light	: 24g (CW1P)
	Selector Switch	: 40g (CW1S-2P30, 3 contacts)
		: 64g (CW1S-2P33, 6 contacts)
	Key Selector Switch	: 49g (CW1K-2AP30, 3 contacts)
		: 73g (CW1K-2AP33, 6 contacts)

Mounting Hole Layout

(Dimensions in mm)

Panel Cut (IEC60947-5-1)



Note: Determine mounting centers in consideration of the operation, wiring, and testing terminals.

Pushbuttons

Assembled



Package Quantity: 1

Operator Style	Bezel Color	Operation	Contact Configuration	Part No. (Ordering No.)	⑤ Button Color Code
Round Flush 	Black	Momentary	1NO	CW1B-M1P10 ⑤	B (black) G (green) R (red) Y (yellow) S (blue) W (white)
			1NC	CW1B-M1P01 ⑤	
			1NO-1NC	CW1B-M1P11 ⑤	
			2NO	CW1B-M1P20 ⑤	
			2NC	CW1B-M1P02 ⑤	
	3NO	CW1B-M1P30 ⑤			
	Metallic	Momentary	1NO	CW4B-M1P10 ⑤	B (black) G (green) R (red) Y (yellow) S (blue) W (white)
			1NC	CW4B-M1P01 ⑤	
			1NO-1NC	CW4B-M1P11 ⑤	
			2NO	CW4B-M1P20 ⑤	
2NC			CW4B-M1P02 ⑤		
3NO	CW4B-M1P30 ⑤				
Round Extended 	Black	Momentary	1NO	CW1B-M2P10 ⑤	B (black) G (green) R (red) Y (yellow) S (blue) W (white)
			1NC	CW1B-M2P01 ⑤	
			1NO-1NC	CW1B-M2P11 ⑤	
			2NO	CW1B-M2P20 ⑤	
			2NC	CW1B-M2P02 ⑤	
	Metallic	Momentary	1NO	CW4B-M2P10 ⑤	B (black) G (green) R (red) Y (yellow) S (blue) W (white)
			1NC	CW4B-M2P01 ⑤	
			1NO-1NC	CW4B-M2P11 ⑤	
			2NO	CW4B-M2P20 ⑤	
			2NC	CW4B-M2P02 ⑤	

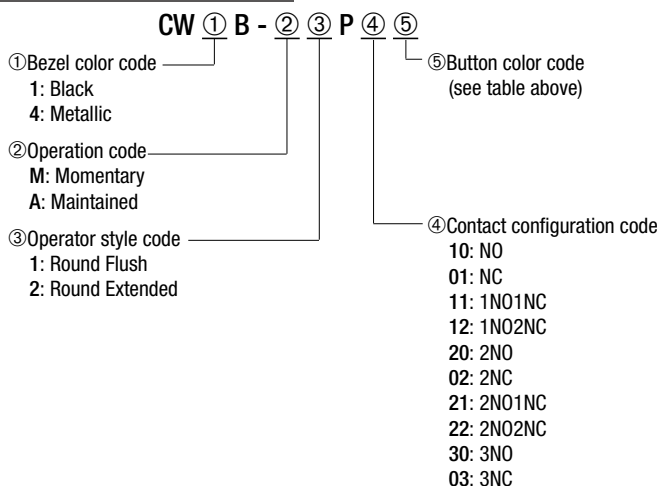
- Pushbuttons with 1 contact block contain 2 dummy blocks. Pushbuttons with 2 contact blocks contain 1 dummy block.
- For maintained pushbuttons, select from sub-assembled units.

• For other specifications, select from sub-assembled units (P11).

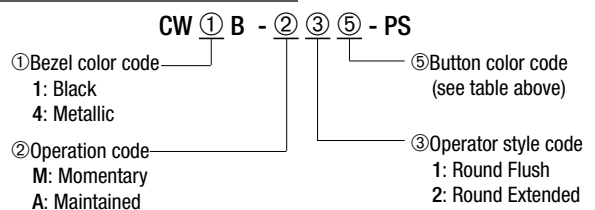
Part No. Example

Assembled and sub-assembled unit

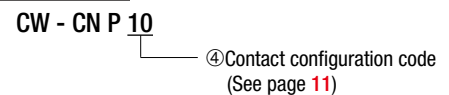
Assembled Part No. Example



Sub-Assembled Operator unit



Sub-Assembled Contact unit

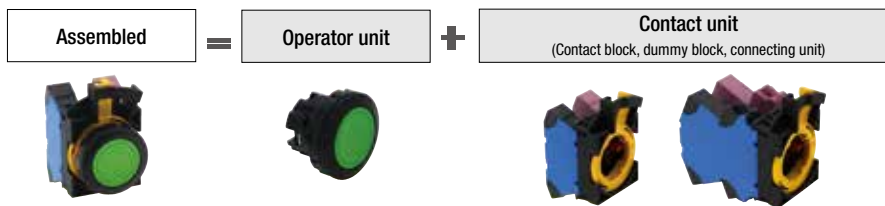


*For available assembled products, see table above.

Pushbuttons

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 10 for available assembled products.



<Sub-Assembled> Ordering No.

Package Quantity: 1

Name / Shape	Operation	Contact Configuration	<Reference> Assembled Part No. Example	⑤ Button Color Code		
Round Flush (Black) (Metallic)	Momentary	1NO	CW①B-M1P10⑤	B (black) G (green) R (red) Y (yellow) S (blue) W (white)		
		1NC	CW①B-M1P01⑤			
		1NO-1NC	CW①B-M1P11⑤			
		1NO-2NC	CW①B-M1P12⑤			
		2NO	CW①B-M1P20⑤			
		2NC	CW①B-M1P02⑤			
		2NO-1NC	CW①B-M1P21⑤			
		2NO-2NC	CW①B-M1P22⑤			
		3NO	CW①B-M1P30⑤			
		3NC	CW①B-M1P03⑤			
		Maintained	1NO		CW①B-A1P10⑤	
			1NC		CW①B-A1P01⑤	
	1NO-1NC		CW①B-A1P11⑤			
	1NO-2NC		CW①B-A1P12⑤			
	2NO		CW①B-A1P20⑤			
	2NC		CW①B-A1P02⑤			
	2NO-1NC		CW①B-A1P21⑤			
	2NO-2NC		CW①B-A1P22⑤			
	3NO		CW①B-A1P30⑤			
	3NC		CW①B-A1P03⑤			
	Round Extended (Black) (Metallic)		Momentary		1NO	CW①B-M2P10⑤
					1NC	CW①B-M2P01⑤
		1NO-1NC			CW①B-M2P11⑤	
		1NO-2NC			CW①B-M2P12⑤	
2NO		CW①B-M2P20⑤				
2NC		CW①B-M2P02⑤				
2NO-1NC		CW①B-M2P21⑤				
2NO-2NC		CW①B-M2P22⑤				
3NO		CW①B-M2P30⑤				
3NC		CW①B-M2P03⑤				
Maintained		1NO		CW①B-A2P10⑤		
		1NC		CW①B-A2P01⑤		
		1NO-1NC	CW①B-A2P11⑤			
		1NO-2NC	CW①B-A2P12⑤			
		2NO	CW①B-A2P20⑤			
		2NC	CW①B-A2P02⑤			
		2NO-1NC	CW①B-A2P21⑤			
		2NO-2NC	CW①B-A2P22⑤			
		3NO	CW①B-A2P30⑤			
		3NC	CW①B-A2P03⑤			

Operator Unit	
Name / Shape	Part No.(Ordering No.)
Round Flush (Black) (Metallic)	CW①B-M1⑤-PS
Round Extended (Black) (Metallic)	CW①B-A1⑤-PS
Round Extended (Black) (Metallic)	CW①B-M2⑤-PS
Round Extended (Black) (Metallic)	CW①B-A2⑤-PS

Contact unit			
Shape	Contact Configuration	Part No. (Ordering No.)	
	1NO	CW-CNP10	
	1NC	CW-CNP01	
	1NO-1NC	CW-CNP11	
	1NO-2NC	CW-CNP12	
	2NO	CW-CNP20	
	2NC	CW-CNP02	
	2NO-1NC	CW-CNP21	
	2NO-2NC	CW-CNP22	
	3NO	CW-CNP30	
	3NC	CW-CNP03	
		1NO	CW-CNP10
		1NC	CW-CNP01
1NO-1NC		CW-CNP11	
1NO-2NC		CW-CNP12	
2NO		CW-CNP20	
2NC		CW-CNP02	
2NO-1NC		CW-CNP21	
2NO-2NC		CW-CNP22	
3NO		CW-CNP30	
3NC		CW-CNP03	

• Specify a bezel color in place of ① in the part no.

Color Code	Bezel Color
1	Black
4	Metallic

• Specify a button color code in place of ⑤ in the part no.
B (black), G (green), R (red), Y (yellow), S (blue), W (white)

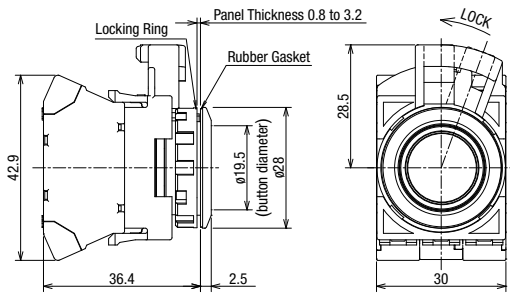
Part No. (Ordering No.)/ mounting positions of contact units: page 30.

Pushbuttons Dimensions

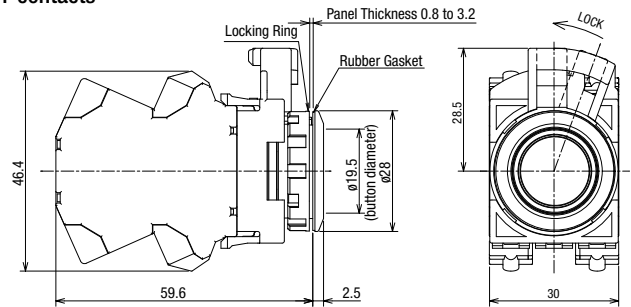
All dimensions in mm

Round Flush

1 to 3-contacts

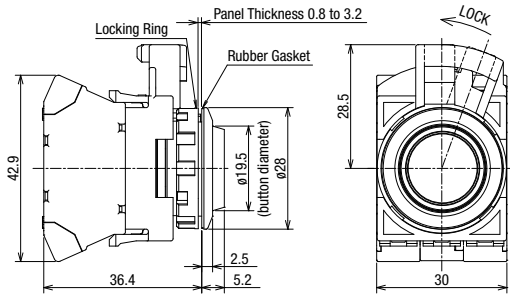


4-contacts

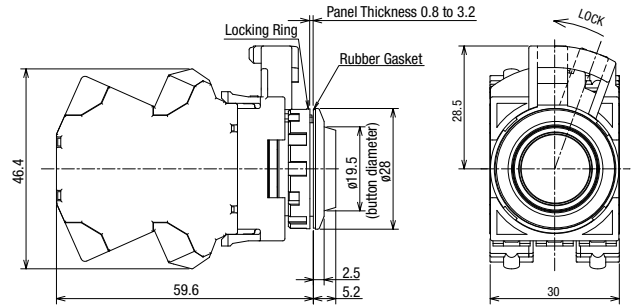


Round Extended

1 to 3-contacts



4-contacts




• See page 9 for mounting hole layout.

Illuminated Pushbuttons (Round Flush / Round Extended)

Assembled



Package Quantity: 1

Operator Style	Bezel Color	Operation	Rated Operating Voltage	Contact Configuration	Part No. (Ordering No.)	⑥ Illumination Color Code
Round Flush  	Black	Momentary	12V AC/DC	1NO	CW1L-M1P10Q3 ⑥	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)
			24V AC/DC	1NO	CW1L-M1P10Q4 ⑥	
				1NC	CW1L-M1P01Q4 ⑥	
				1NO-1NC	CW1L-M1P11Q4 ⑥	
				2NO	CW1L-M1P20Q4 ⑥	
	Metallic	Momentary	12V AC/DC	1NO	CW4L-M1P10Q3 ⑥	
			24V AC/DC	1NO	CW4L-M1P10Q4 ⑥	
				1NC	CW4L-M1P01Q4 ⑥	
				1NO-1NC	CW4L-M1P11Q4 ⑥	
				2NO	CW4L-M1P20Q4 ⑥	
Metallic	Maintained	24V AC/DC	1NO	CW4L-A1P10Q4 ⑥		
			1NC	CW4L-A1P01Q4 ⑥		
			1NO-1NC	CW4L-A1P11Q4 ⑥		
			2NO	CW4L-A1P20Q4 ⑥		
Round Extended  	Black	Momentary	12V AC/DC	1NO	CW1L-M2P10Q3 ⑥	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)
			24V AC/DC	1NO	CW1L-M2P10Q4 ⑥	
				1NC	CW1L-M2P01Q4 ⑥	
				1NO-1NC	CW1L-M2P11Q4 ⑥	
				2NO	CW1L-M2P20Q4 ⑥	
	Metallic	Momentary	24V AC/DC	1NO	CW4L-M2P10Q4 ⑥	
				1NC	CW4L-M2P01Q4 ⑥	
				1NO-1NC	CW4L-M2P11Q4 ⑥	
				2NO	CW4L-M2P20Q4 ⑥	

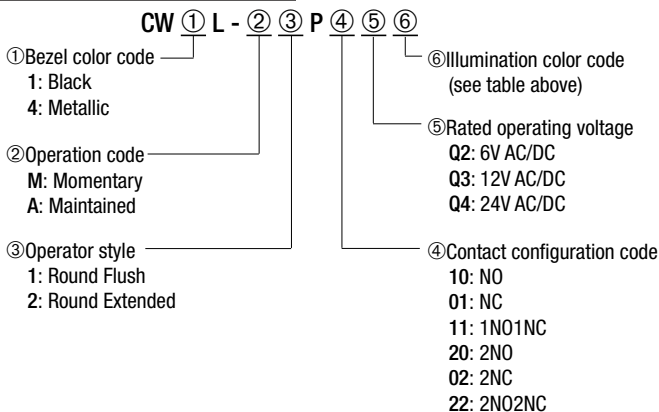
- Specify an illumination color code in place of ⑥ in the part no.
- Illuminated pushbuttons are built-in with an LED unit. For maintenance LED units, see page 32.
- Illuminated pushbuttons with 1 contact block contain 1 dummy block.
- Printed film can be inserted. For size details, see page 36.

• For other specifications, select from sub-assembled units (page 14).

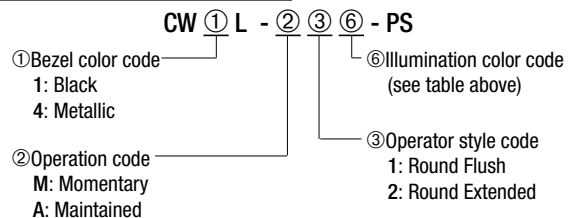
Part No. Example

Assembled and sub-assembled unit

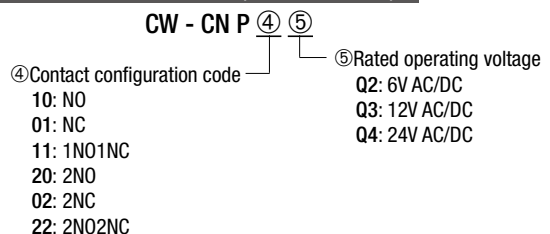
Assembled Part No. Example



Sub-Assembled Operator unit



Sub-Assembled Contact Unit (Illuminated unit)

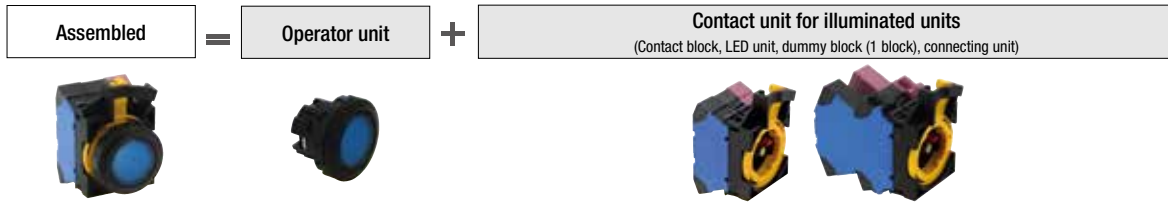


*For available assembled products, see table above.

Illuminated Pushbuttons (Round Flush / Round Extended)

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 13 for available assembled products.



<Sub-Assembled> Ordering No.

Package Quantity: 1

Name / Shape	Operation	Contact Configuration	<Reference> Assembled Part No. Example	⑥ Illumination Color Code
Round Flush (Black) (Metallic)	Momentary	1NO	CW①L-M1P10Q4⑥	R G Y A S P W
		1NC	CW①L-M1P01Q4⑥	
		1NO-1NC	CW①L-M1P11Q4⑥	
		2NO	CW①L-M1P20Q4⑥	
		2NC	CW①L-M1P02Q4⑥	
		2NO-2NC	CW①L-M1P22Q4⑥	
	Maintained	1NO	CW①L-A1P10Q4⑥	
		1NC	CW①L-A1P01Q4⑥	
		1NO-1NC	CW①L-A1P11Q4⑥	
		2NO	CW①L-A1P20Q4⑥	
		2NC	CW①L-A1P02Q4⑥	
		2NO-2NC	CW①L-A1P22Q4⑥	
Round Extended (Black) (Metallic)	Momentary	1NO	CW①L-M2P10Q4⑥	R G Y A S P W
		1NC	CW①L-M2P01Q4⑥	
		1NO-1NC	CW①L-M2P11Q4⑥	
		2NO	CW①L-M2P20Q4⑥	
		2NC	CW①L-M2P02Q4⑥	
		2NO-2NC	CW①L-M2P22Q4⑥	
	Maintained	1NO	CW①L-A2P10Q4⑥	
		1NC	CW①L-A2P01Q4⑥	
		1NO-1NC	CW①L-A2P11Q4⑥	
		2NO	CW①L-A2P20Q4⑥	
		2NC	CW①L-A2P02Q4⑥	
		2NO-2NC	CW①L-A2P22Q4⑥	

Operator Unit	
Name / Shape	Part No. (Ordering No.)
Round Flush (Black)	CW①L-M1⑥-PS
Round Extended (Black)	CW①L-M2⑥-PS
	CW①L-A1⑥-PS
	CW①L-A2⑥-PS

Contact Unit for illuminated units			
Shape	Contact Configuration	Part No. (Ordering No.)	
	1NO	CW-CNP10 ⑤	
	1NC	CW-CNP01 ⑤	
	1NO-1NC	CW-CNP11 ⑤	
		2NO	CW-CNP20 ⑤
		2NC	CW-CNP02 ⑤
		2NO-2NC	CW-CNP22 ⑤

• Specify a bezel color in place of ① in the part no.

Color Code	Bezel Color
1	Black
4	Metallic

- Specify an illumination color code in place of ⑥ in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- The assembled part no. above is when the operating voltage is 24V AC/DC.

• Specify an operating voltage code in place of ⑤ in the part no. Select from the table below.

Operating voltage code	Operating voltage
Q2	6V AC/DC
Q3	12V AC/DC
Q4	24V AC/DC

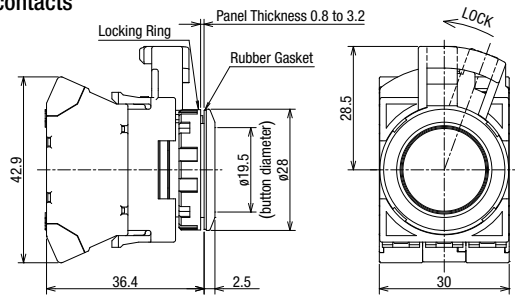
Part No. (Ordering No.)/ mounting positions of contact units: page 31.

Illuminated Pushbuttons (Round Flush / Round Extended) Dimensions

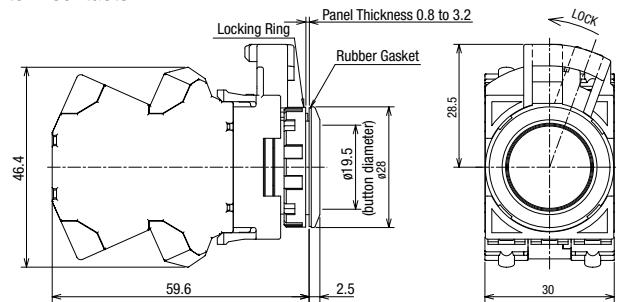
All dimensions in mm

Round Flush

1 to 2-contacts

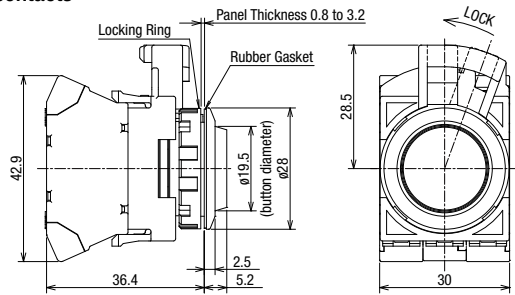


3 to 4-contacts

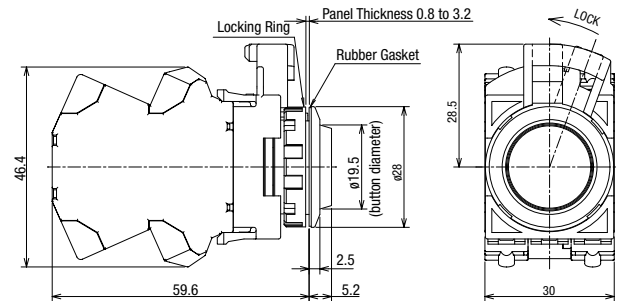


Round Extended

1 to 2-contacts



3 to 4-contacts



- See page 9 for mounting hole layout.

Pilot Lights (Round Flush / Round Extended)

Assembled



Package Quantity: 1

Operator Style	Bezel Color	Rated Operating Voltage	Part No. (Ordering No.)	④ Illumination Color Code
Round Flush   Black bezel Metallic bezel	Black	12V AC/DC	CW1P-1PQ3 ④	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)
		24V AC/DC	CW1P-1PQ4 ④	
	Metallic	12V AC/DC	CW4P-1PQ3 ④	
		24V AC/DC	CW4P-1PQ4 ④	
Round Extended   Black bezel Metallic bezel	Black	12V AC/DC	CW1P-2PQ3 ④	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)
		24V AC/DC	CW1P-2PQ4 ④	
	Metallic	12V AC/DC	CW4P-2PQ3 ④	
		24V AC/DC	CW4P-2PQ4 ④	

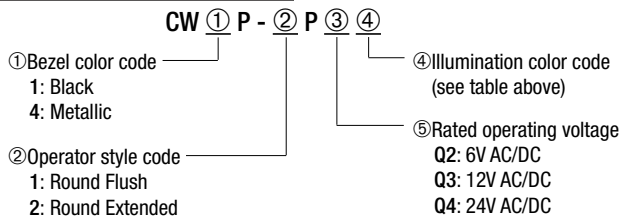
- Specify an illumination color code in place of ④ in the part no.
- Pilot lights are built-in with an LED unit. For maintenance LED units, see page 32.
- Pilot lights contain 2 dummy blocks.
- Printed film can be inserted. For size details, see page 36.

• For other specifications, select from sub-assembled units (P17).

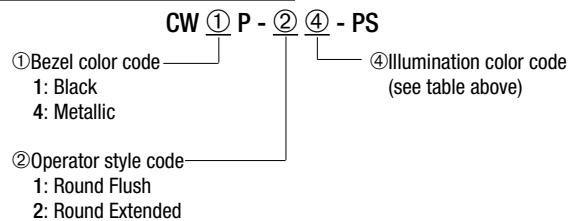
Part No. Example

Assembled and sub-assembled unit

Assembled Part No. Example

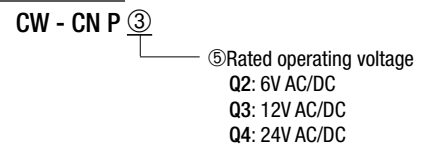


Sub-Assembled Operator unit



*For available assembled products, see table above.

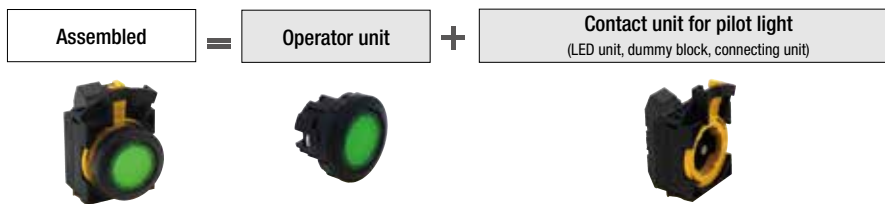
Sub-Assembled Contact unit



Pilot Lights (Round Flush / Round Extended)

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 16 for available assembled products.



<Sub-Assembled> Ordering No.

Package Quantity: 1

Name / Shape	Rated Operating Voltage (AC/DC)	<Reference> Assembled Part No. Example	④ Illumination Color Code	Operator Unit		Contact Unit for Pilot Lights		
				Name / Shape	Part No. (Ordering No.)	Shape	Rated Operating Voltage	Part No. (Ordering No.)
Round Flush (Black) (Metallic)	6V	CW①P-1PQ2④	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)	 (Metallic)	CW①P-1④-PS		6V	CW-CNPQ2
	12V	CW①P-1PQ3④					12V	CW-CNPQ3
	24V	CW①P-1PQ4④					24V	CW-CNPQ4
Round Extended (Black) (Metallic)	6V	CW①P-2PQ2④	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)	 (Metallic)	CW①P-2④-PS		6V	CW-CNPQ2
	12V	CW①P-2PQ3④					12V	CW-CNPQ3
	24V	CW①P-2PQ4④					24V	CW-CNPQ4

• Specify a bezel color in place of ① in the part no.

Color Code	Bezel Color
1	Black
4	Metallic

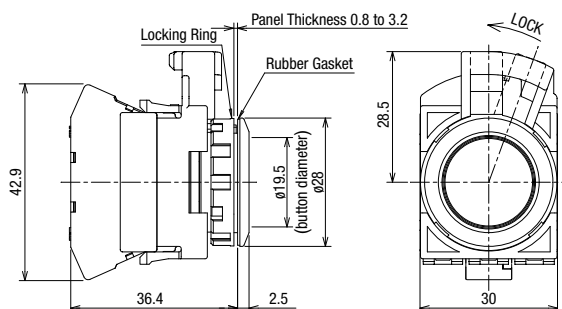
• See page 31 for contact details and mounting position.

• Specify an illumination color code in place of ④ in the part no.
R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

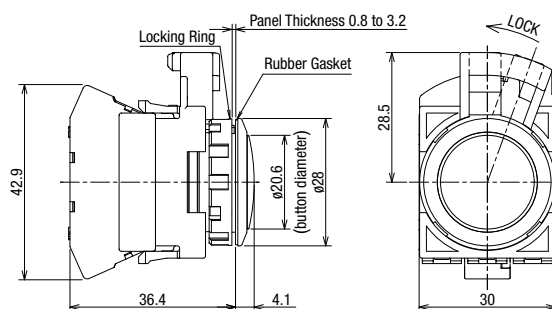
Dimensions

All dimensions in mm

Round Flush



Round Extended



• See page 9 for mounting hole layout.

Part No. (Ordering No.)/ mounting positions of contact units: page 31.

Selector Switches (Knob Operator)

Assembled



Lever operators are available as sub-assembled units only.

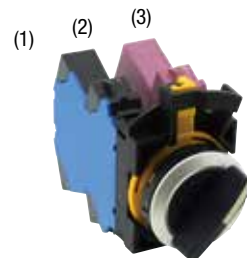
Package Quantity: 1

Shape	No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			① Bezel Color	Maintained 1 2		
			Mounting Position	Contact	1	2					
Knob Operator (Black) (Metallic)	90° 2-position	1NO (10)	(1)	NO		●		1: Black 4: Metallic	CW①S-2P10	—	
			(2)	—	Dummy						
			(3)	—	Dummy						
		1NO-1NC (11)	(1)	NO		●				CW①S-2P11	—
			(2)	—	Dummy						
			(3)	NC	●						
		2NO (20)	(1)	NO			●			CW①S-2P20	—
			(2)	—	Dummy						
			(3)	NO			●				
	No. of Positions 45° 3-position	No. of Positions	2NO (20)	(1)	NO	●			1: Black 4: Metallic	CW①S-3P20	CW①S-33P20
				(2)	—	Dummy					
				(3)	NO			●			
2NO-1NC (21)			(1)	NO	●					CW①S-3P21	—
			(2)	NO	●		●				
			(3)	NC	●						
2NO-1NC (21N1)		(1)	NO	●				—	CW①S-33P21N1		
		(2)	NC		●						
		(3)	NO			●					
45° 3-position		No. of Positions	2NO (20)	(1)	NO	●			CW①S-3P20	CW①S-33P20	
				(2)	—	Dummy					
				(3)	NO			●			
45° 3-position		No. of Positions	2NO-1NC (21)	(1)	NO	●			CW①S-3P21	—	
				(2)	NO	●		●			
				(3)	NC	●					
45° 3-position	No. of Positions	2NO-1NC (21N1)	(1)	NO	●			—	CW①S-33P21N1		
			(2)	NC		●					
			(3)	NO			●				

- Specify a bezel color in place of ① in the part no.
 - Selector switches with 1 contact block contain 2 dummy blocks. Selector switches with 2 contact blocks contain 1 dummy block.
- Note: Turn the operator to each position accurately.

• For other contact configuration or operation, select from sub-assembled units (page 19 to 21).

Contact Block Mounting Position



Selector Switches (Knob / Lever Operator) 2-position

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 18 for available assembled products.



90° 2-position

Sub-Assembled Ordering No.

Package Quantity: 1

<Reference> Assembled Part No.						
No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position		Operator position code
		Mounting Position	Contact	1	2	Maintained ¹ / ₂
90° 2-position	1NO (10)	(1)	NO		●	CW①S-2③P10
		(2)	—	Dummy		
		(3)	—	Dummy		
	1NC (01)	(1)	—	Dummy		CW①S-2③P01
		(2)	—	Dummy		
		(3)	NC	●		
	1NO-1NC (11)	(1)	NO		●	CW①S-2③P11
		(2)	—	Dummy		
		(3)	NC	●		
	2NO (20)	(1)	NO		●	CW①S-2③P20
		(2)	—	Dummy		
		(3)	NO		●	
	2NC (02)	(1)	NC	●		CW①S-2③P02
		(2)	—	Dummy		
		(3)	NC	●		
	2NO-1NC (21)	(1)	NO		●	CW①S-2③P21
		(2)	NO		●	
		(3)	NC	●		
	1NO-2NC (12)	(1)	NO		●	CW①S-2③P12
		(2)	NC	●		
		(3)	NC	●		
	3NO (30)	(1)	NO		●	CW①S-2③P30
		(2)	NO		●	
		(3)	NO		●	
3NC (03)	(1)	NC	●		CW①S-2③P03	
	(2)	NC	●			
	(3)	NC	●			
2NO-2NC (22)	(1)	NONC	NO		CW①S-2③P22	
	(2)	—	Dummy			
	(3)	NONC	NO	●		
4NO (40)	(1)	2NO	NO	●	CW①S-2③P40	
	(2)	—	Dummy			
	(3)	2NO	NO	●		

Operator Unit Ordering No.	
Name / Shape	Operator position code
	Maintained ¹ / ₂
Knob Operator (Black)	CW①S-2③-PS
(Metallic)	
Lever operator (Black)	
(Metallic)	

Contact Unit	
Contact Configuration (Code)	Part No. (Ordering No.)
	1NO (10)
1NC (01)	CW-CNP01
1NO-1NC (11)	CW-CNP11
2NO (20)	CW-CNP20
2NC (02)	CW-CNP02
2NO-1NC (21)	CW-CNP21
1NO-2NC (12)	CW-CNP12
3NO (30)	CW-CNP30
3NC (03)	CW-CNP03
2NO-2NC (22)	CW-CNP22
4NO (40)	CW-CNP40

- Specify a bezel color in place of ① in the part no.
- Specify an operator style code in place of ③ in the part no.

① Bezel color code

Code	Color
1	Black
4	Metallic

③ Operator style code

Code	Shape
Blank	Knob
L	Lever

- For part no. other than maintained position, see Part No. Example on page 21.
 - For contact block mounting position, see page 30.
 - White indicator on black body
- Note: Turn the operator to each position accurately.

Part No. (Ordering No.)/ mounting positions of contact units: page 30.

Selector Switches (Knob / Lever Operator) 3-position

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 18 for available assembled products.



45° 3-position

No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			Operator position code
		Mounting Position	Contact	1	0	2	Maintained $\begin{matrix} 1 & 0 & 2 \\ & \swarrow & \searrow \end{matrix}$
							<Reference> Assembled Part No.
45° 3-position	1NO-1NC (11)	(1)	NO	●			CW①S-3③P11
		(2)	—		Dummy		
		(3)	NC		■		
	1NO-1NC (11N1)	(1)	NC			■	CW①S-3③P11N1
		(2)	—		Dummy		
		(3)	NO			●	
	1NO-1NC (11N2)	(1)	NO	●			CW①S-3③P11N2
		(2)	NC		●		
		(3)	—		Dummy		
	1NO-1NC (11N3)	(1)	—		Dummy		CW①S-3③P11N3
		(2)	NC		●		
		(3)	NO			●	
	1NO-1NC (11N4)	(1)	—		Dummy		CW①S-3③P11N4
		(2)	NO	●		●	
		(3)	NC		■		
	2NO (20)	(1)	NO	●			CW①S-3③P20
		(2)	—		Dummy		
		(3)	NO			●	
	2NO (20N1)	(1)	—		Dummy		CW①S-3③P20N1
		(2)	NO	●		●	
		(3)	NO			●	
	2NC (02)	(1)	NC			■	CW①S-3③P02
		(2)	—		Dummy		
		(3)	NC		■		
2NC (02N1)	(1)	—		Dummy		CW①S-3③P02N1	
	(2)	NC		●			
	(3)	NC		■			
2NO-1NC (21)	(1)	NO	●			CW①S-3③P21	
	(2)	NO	●		●		
	(3)	NC		■			
2NO-1NC (21N1)	(1)	NO	●			CW①S-3③P21N1	
	(2)	NC		●			
	(3)	NO			●		
1NO-2NC (12)	(1)	NO	●			CW①S-3③P12	
	(2)	NC		●			
	(3)	NC		■			
1NO-2NC (12N1)	(1)	NC			■	CW①S-3③P12N1	
	(2)	NO	●		●		
	(3)	NC		■			
3NO (30)	(1)	NO	●			CW①S-3③P30	
	(2)	NO	●		●		
	(3)	NO	●		●		

- Specify a bezel color in place of ① in the part no.
- Specify an operator style code in place of ③ in the part no.

① Bezel color code

Code	Color
1	Black
4	Metallic

③ Operator style code

Code	Shape
Blank	Knob
L	Lever

Sub-Assembled Ordering No.

Package Quantity: 1

Operator Unit Ordering No.		Contact Unit	
Name / Shape	Operator position code	Contact Configuration (Code)	Part No. (Ordering No.)
	Maintained $\begin{matrix} 1 & 0 & 2 \\ & \swarrow & \searrow \end{matrix}$		
	Part No. (Ordering No.)		
Knob Operator (Black) (Metallic) 		1NO-1NC (11)	CW-CNP11
		1NO-1NC (11N1)	CW-CNP11N1
		1NO-1NC (11N2)	CW-CNP11N2
		1NO-1NC (11N3)	CW-CNP11N3
Lever operator (Black) (Metallic) 		1NO-1NC (11N4)	CW-CNP11N4
		2NO (20)	CW-CNP20
		2NO (20N1)	CW-CNP20N1
		2NC (02)	CW-CNP02
		2NC (02N1)	CW-CNP02N1
		2NO-1NC (21)	CW-CNP21
		2NO-1NC (21N1)	CW-CNP21N1
		1NO-2NC (12)	CW-CNP12
		1NO-2NC (12N1)	CW-CNP12N1
		3NO (30)	CW-CNP30

- For Part No. other than maintained position, see Part No. Example on page 21.
 - For contact block mounting position, see page 30.
 - White indicator on black body
- Note: Turn the operator to each position accurately.

Part No. (Ordering No.)/ mounting positions of contact units: page 30.

Selector Switches (Knob / Lever Operator) 3-position

45° 3-position

<Reference> Assembled Part No.								
No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			Operator position code	
		Mounting Position	Contact	1	0	2	Maintained 1 0 2	
45° 3-position	3NC (03)	(1)	NC		●		CW①S-3③P03	
		(2)	NC			●		
		(3)	NC	●				
	2NO-2NC (22)	(1)	NONC	NO NC	●			CW①S-3③P22
		(2)	—	—			Dummy	
		(3)	NONC	NO NC			●	
	4NO (40)	(1)	2NO	NO NO	●			CW①S-3③P40
		(2)	—	—			Dummy	
		(3)	2NO	NO NO			●	
	2NO-2NC (22N2)	(1)	2NC	NC NC		●		CW①S-3③P22N2
		(2)	—	—			Dummy	
		(3)	2NO	NO NO			●	

Sub-Assembled Ordering No.

Package Quantity: 1

Operator Unit Ordering No.		Contact Unit	
Name / Shape	Operator position code	Contact Configuration (Code)	Part No. (Ordering No.)
	Maintained 1 0 2		
Knob Operator (Black)	CW①S-3③-PS	3NC (03)	CW-CNP03
		(Metallic)	
Lever operator (Black)	CW①S-3③-PS	2NO-2NC (22)	CW-CNP22
		(Metallic)	
Lever operator (Black)	CW①S-3③-PS	4NO (40)	CW-CNP40
		(Metallic)	
Lever operator (Black)	CW①S-3③-PS	2NO-2NC (22N2)	CW-CNP22N2
		(Metallic)	

- Specify a bezel color in place of ① in the part no.
- Specify an operator style code in place of ③ in the part no.

- For Part No. other than maintained position, see Part No. Example below.
- For contact block mounting position, see page 30.
- White indicator on black body

Note: Turn the operator to each position accurately.

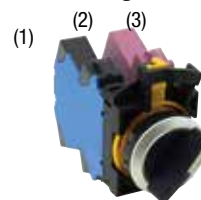
① Bezel color code

Code	Color
1	Black
4	Metallic

③ Operator style code

Code	Shape
Blank	Knob
L	Lever

Contact Block Mounting Position



Part No. Example / Part No. Development

Assembled and sub-assembled unit

Assembled

CW ① S - ② ③ P ④

- ① Bezel Color
1: Black
4: Metallic
- ② Operator position code
2: 2-position, maintained
21: 2-position, spring return from right
3: 3-position, maintained
31: 3-position, spring return from right
32: 3-position, spring return from left
33: 3-position, spring return two way
- ③ Operator style code
Blank: Knob Operator
L: Lever Operator
- ④ Contact configuration code (see page 19 to 21)

* For available assembled products, see table on page 18.

Sub-Assembled Operator unit

CW ① S - ② ③ - PS

- ① Bezel color
1: Black
4: Metallic
- ② Operator position code
2: 2-position, maintained
21: 2-position, spring return from right
3: 3-position, maintained
31: 3-position, spring return from right
32: 3-position, spring return from left
33: 3-position, spring return two way
- ③ Operator style code
Blank: Knob Operator
L: Lever Operator

② Operator position code

(90° -2-position)	
2 Maintained 	21 Spring Return from Right

(45° -3-position)			
3 Maintained 	31 Spring Return from Right 	32 Spring Return from left 	33 Spring Return two way

Sub-Assembled Contact unit

CW - CN P ④

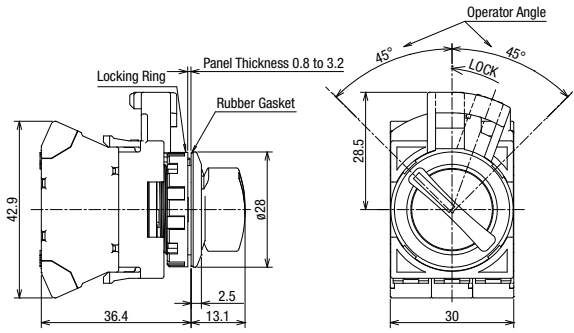
- ④ Contact configuration code (see page 19 to 21)

Selector Switches (Knob / Lever Operator) Dimensions

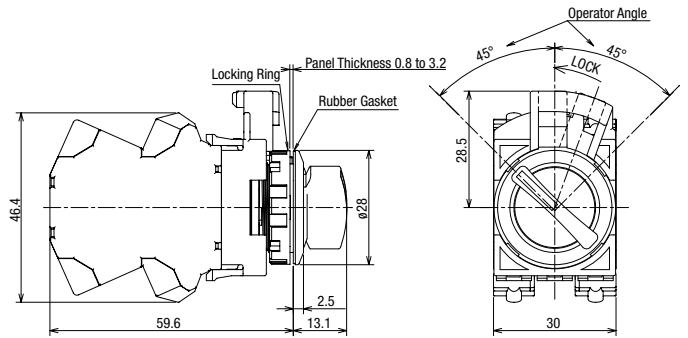
All dimensions in mm

Knob Operator

1 to 3-contacts

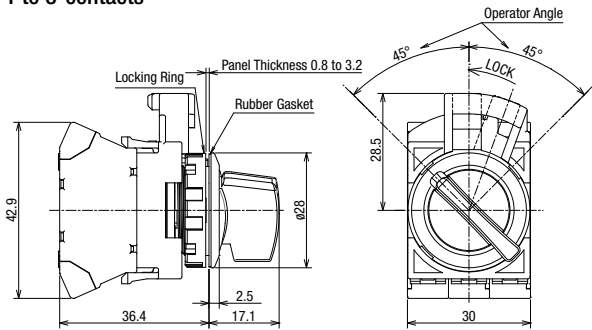


4-contacts

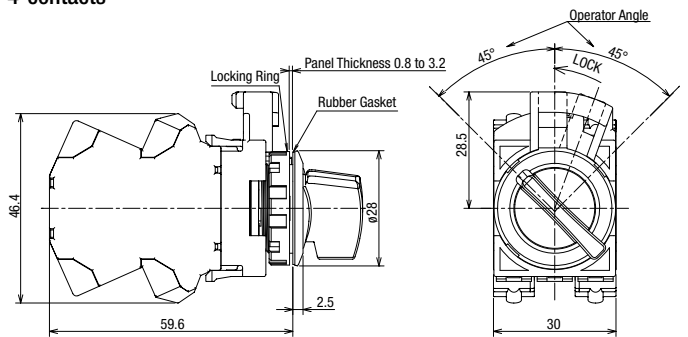


Lever Operator

1 to 3-contacts



4-contacts



• See page 9 for mounting hole layout.

Key Selector Switches

Assembled



Package Quantity: 1

Shape	No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			① Bezel Color	Maintained 1 2	
			Mounting Position	Contact	1	2				
CW1K Black Metallic	90° 2-position	1NO (10)	(1)	NO		●		1: Black 4: Metallic	CW⓪K-2AP10	
			(2)	—	Dummy					
			(3)	—	Dummy					
		1NO-1NC (11)	(1)	NO		●				CW⓪K-2P11
			(2)	—	Dummy					
			(3)	NC	●					
		2NO (20)	(1)	NO		●				CW⓪K-2P20
			(2)	—	Dummy					
			(3)	NO		●				
		2NO-1NC (21)	(1)	NO		●				CW⓪K-2P21
			(2)	NO		●				
			(3)	NC	●					
	No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			① Bezel Color	Maintained 1 0 2	
			Mounting Position	Contact	1	0	2			
	45° 3-position	2NO-1NC (21)	(1)	NO	●			1: Black 4: Metallic	CW⓪K-3P21	
			(2)	NO	●		●			
			(3)	NC	●					

- For contact block mounting position, see the figure on the right.
- Two keys are supplied. Key cylinder material: Metal
- Key selector switches with 1 contact block contain 2 dummy blocks. Key selector switches with 2 contact blocks contain 1 dummy block.
- Specify a bezel color in place of ① in the part no.
- Specify a key removal position in place of ③ in the part no.

- Besides the standard key (key number 0H), six other keys are also available. See page 27 for details.

• For other contact configuration or operation, select from sub-assembled units (P24 to 26).

③ Key removal position

90° 2-position

Key Retained Position (Cam code: blank)	
A: Key removable in all positions 	B: Key removable at left

- ①②: Key retained position ①②: Key retained position

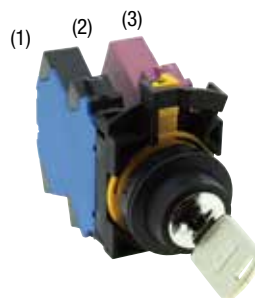
45° 3-position

Key Retained Position		
A: Key removable in all positions 	B: Key removable at left / center 	H: Key removable at right

- ①①②: Key retained position ①①②: Key retained position

Note: The key cannot be removed in a spring return position.

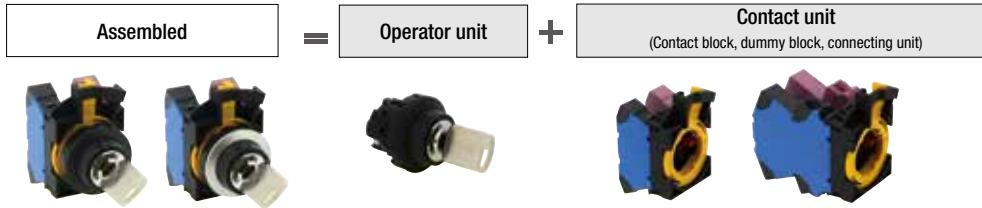
Contact Block Mounting Position



Key Selector Switches

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 23 for available assembled products.



90° 2-position

Sub-Assembled Ordering No.

Package Quantity: 1

<Reference> Assembled Part No.							Operator Unit Ordering No.		Contact Unit			
No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position		① Bezel Color	Operator position code		Contact Configuration (Code)	Part No. (Ordering No.)		
		Mounting Position	Contact	1	2		Maintained	1 2				
90° 2-position	1NO (10)	(1)	NO		●	1: Black 4: Metallic	Maintained	1 2				
		(2)	—	Dummy							CW①K-2③P10	
		(3)	—	Dummy								
	1NC (01)	(1)	—	Dummy				CW①K-2③P01			1NC (01)	CW-CNP01
		(2)	—	Dummy								
		(3)	NC	●								
	1NO-1NC (11)	(1)	NO		●			CW①K-2③P11			1NO-1NC (11)	CW-CNP11
		(2)	—	Dummy								
		(3)	NC	●								
	2NO (20)	(1)	NO		●		●	CW①K-2③P20			2NO (20)	CW-CNP20
		(2)	—	Dummy								
		(3)	NO		●		●					
	2NC (02)	(1)	NC	●				CW①K-2③P02			2NC (02)	CW-CNP02
		(2)	—	Dummy								
		(3)	NC	●								
	2NO-1NC (21)	(1)	NO		●		●	CW①K-2③P21			2NO-1NC (21)	CW-CNP21
		(2)	NO		●		●					
		(3)	NC	●								
	1NO-2NC (12)	(1)	NO		●		●	CW①K-2③P12			1NO-2NC (12)	CW-CNP12
		(2)	NC	●								
		(3)	NC	●								
	3NO (30)	(1)	NO		●		●	CW①K-2③P30			3NO (30)	CW-CNP30
		(2)	NO		●		●					
		(3)	NO		●		●					
3NC (03)	(1)	NC	●			CW①K-2③P03			3NC (03)	CW-CNP03		
	(2)	NC	●									
	(3)	NC	●									
2NO-2NC (22)	(1)	NONC	NO NC	●	●	CW①K-2③P22			2NO-2NC (22)	CW-CNP22		
	(2)	—	Dummy									
	(3)	NONC	NO NC	●	●							
4NO (40)	(1)	2NO	NO NO	●	●	CW①K-2③P40			4NO (40)	CW-CNP40		
	(2)	—	Dummy									
	(3)	2NO	NO NO	●	●							

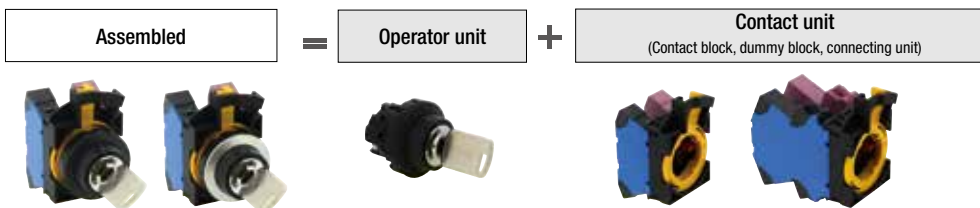
- Two keys are supplied. Key cylinder material: Metal
 - For part no. other than maintained position, see Part No. Example on page 27.
 - Specify a bezel color in place of ① in the part no.
 - Specify a desired key removal position in place of ③ in the part no.
 - Specify a key number in place of ⑤ in the part no.
- See page 27 Part No. Example for details.
- On the spring-returned types, the key can be released only from the maintained position. On the maintained types, the key can be released from every position. Key retained positions are also available. See page 27 for details.

Part No. (Ordering No.)/ mounting positions of contact units: page 30.

Key Selector Switches

Sub-Assembled

When ordering, specify the sub-assembled ordering no. See page 23 for available assembled products.



45° 3-position

Sub-Assembled Ordering No.

Package Quantity: 1

<Reference> Assembled Part No.										Operator Unit Ordering No.		Contact Unit																								
No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			Bezel Color	Operator position code		Name / Shape	Operator position code		Contact Configuration (Code)	Part No. (Ordering No.)																						
		Mounting Position	Contact	1	0	2		Maintained	1		0	2			Part No. (Ordering No.)																					
45° 3-position	1NO-1NC (11)	(1)	NO	●			1: Black 4: Metallic	CW①K-3③P11	①	Black	Metallic	CW①K-3③-⑤-PS	1NO-1NC (11)	CW-CNP11																						
		(2)	—	Dummy																																
		(3)	NC	■																																
	1NO-1NC (11N1)	(1)	NC						CW①K-3③P11N1			②	Metallic	Metallic	CW①K-3③-⑤-PS	1NO-1NC (11N1)	CW-CNP11N1																			
		(2)	—	Dummy																																
		(3)	NO		●																															
	1NO-1NC (11N2)	(1)	NO	●					CW①K-3③P11N2			③			Metallic	Metallic	CW①K-3③-⑤-PS	1NO-1NC (11N2)	CW-CNP11N2																	
		(2)	NC		●																															
		(3)	—	Dummy																																
	1NO-1NC (11N3)	(1)	—	Dummy					CW①K-3③P11N3			④					Metallic	Metallic	CW①K-3③-⑤-PS	1NO-1NC (11N3)	CW-CNP11N3															
		(2)	NC		●																															
		(3)	NO			●																														
	1NO-1NC (11N4)	(1)	—	Dummy					CW①K-3③P11N4			⑤							Metallic	Metallic	CW①K-3③-⑤-PS	1NO-1NC (11N4)	CW-CNP11N4													
		(2)	NO	●		●																														
		(3)	NC	■																																
	2NO (20)	(1)	NO	●					CW①K-3③P20			⑥									Metallic	Metallic	CW①K-3③-⑤-PS	2NO (20)	CW-CNP20											
		(2)	—	Dummy																																
		(3)	NO			●																														
	2NO (20N1)	(1)	—	Dummy					CW①K-3③P20N1			⑦											Metallic	Metallic	CW①K-3③-⑤-PS	2NO (20N1)	CW-CNP20N1									
		(2)	NO	●		●																														
		(3)	NO			●																														
	2NC (02)	(1)	NC						CW①K-3③P02			⑧													Metallic	Metallic	CW①K-3③-⑤-PS	2NC (02)	CW-CNP02							
		(2)	—	Dummy																																
		(3)	NC	■																																
	2NC (02N1)	(1)	—	Dummy					CW①K-3③P02N1			⑨															Metallic	Metallic	CW①K-3③-⑤-PS	2NC (02N1)	CW-CNP02N1					
		(2)	NC		●																															
		(3)	NC	■																																
	2NO-1NC (21)	(1)	NO	●					CW①K-3③P21			⑩																	Metallic	Metallic	CW①K-3③-⑤-PS	2NO-1NC (21)	CW-CNP21			
		(2)	NO	●		●																														
		(3)	NC	■																																
2NO-1NC (21N1)	(1)	NO	●				CW①K-3③P21N1	⑪	Metallic	Metallic	CW①K-3③-⑤-PS	2NO-1NC (21N1)																			CW-CNP21N1					
	(2)	NC		●																																
	(3)	NO			●																															
1NO-2NC (12)	(1)	NO	●				CW①K-3③P12	⑫			Metallic	Metallic	CW①K-3③-⑤-PS	1NO-2NC (12)																	CW-CNP12					
	(2)	NC		●																																
	(3)	NC	■																																	
1NO-2NC (12N1)	(1)	NC					CW①K-3③P12N1	⑬					Metallic	Metallic	CW①K-3③-⑤-PS	1NO-2NC (12N1)															CW-CNP12N1					
	(2)	NO	●		●																															
	(3)	NC	■																																	
3NO (30)	(1)	NO	●				CW①K-3③P30	⑭							Metallic	Metallic	CW①K-3③-⑤-PS	3NO (30)													CW-CNP30					
	(2)	NO	●		●																															
	(3)	NO			●																															
3NC (03)	(1)	NC					CW①K-3③P03	⑮									Metallic	Metallic	CW①K-3③-⑤-PS	3NC (03)											CW-CNP03					
	(2)	NC		●																																
	(3)	NC	■																																	

- Two keys are supplied. Key cylinder material: Metal
- For part no. other than maintained position, see Part No. Example on page 27.
- Specify a bezel color in place of ① in the part no.
- Specify a desired key removal position in place of ③ in the part no.
- Specify a key number in place of ⑤ in the part no.

See page 27 Part No. Example for details.

- On the spring-returned types, the key can be released only from the maintained position. On the maintained types, the key can be released from every position. Key retained positions are also available. See page 27 for details.

Part No. (Ordering No.)/ mounting positions of contact units: page 30.

Key Selector Switches

Sub-Assembled

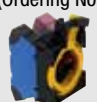


When ordering, specify the sub-assembled ordering no. See page 23 for available assembled products.

45° 3-position

<Reference> Assembled Part No.									
No. of Positions	Contact Configuration (Code)	Contact Block		Operator Position			① Bezel Color	Operator position code Maintained 1 0 2	
		Mounting Position	Contact	1	0	2			
45° 3-position	2NO-2NC (22)	(1)	NONC	NO NC	●	●	1: Black 4: Metallic	CW①K-3③P22	
		(2)	—	—	Dummy				
		(3)	NONC	NO NC	●	●			●
	4NO (40)	(1)	2NO	NO NO	●	●		CW①K-3③P40	
		(2)	—	—	Dummy				
		(3)	2NO	NO NO	●	●			●
	2NO-2NC (22N2)	(1)	2NC	NC NC	●	●		CW①K-3③P22N2	
		(2)	—	—	Dummy				
		(3)	2NO	NO NO	●	●			●

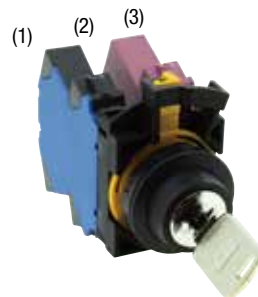
Sub-Assembled Ordering No.

Package Quantity: 1

Operator Unit Ordering No.		Contact Unit	
Name / Shape	Operator position code Maintained 1 0 2	Contact Configuration (Code)	Part No. (Ordering No.) 
	Part No. (Ordering No.)		
Black 		2NO-2NC (22)	CW-CNP22
Metallic 	CW①K-3③-⑤-PS	4NO (40)	CW-CNP40
		2NO-2NC (22N2)	CW-CNP22N2

- Two keys are supplied. Key cylinder material: Metal
 - For part no. other than maintained position, see Part No. Example on page 27.
 - Specify a bezel color in place of ① in the part no.
 - Specify a desired key removal position in place of ③ in the part no.
 - Specify a key number in place of ⑤ in the part no.
- See page 27 Part No. Example for details.
- On the spring-returned types, the key can be released only from the maintained position. On the maintained types, the key can be released from every position. Key retained positions are also available. See page 27 for details.

Contact Block Mounting Position



Part No. (Ordering No.)/ mounting positions of contact units: page 30.

Key Selector Switches

Part No. Example / Part No. Development

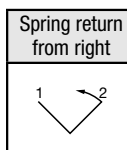
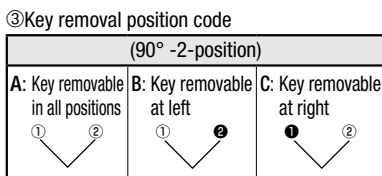
Assembled and sub-assembled unit

Assembled Part No. Example

CW ① K - ② ③ P ④ - ⑤

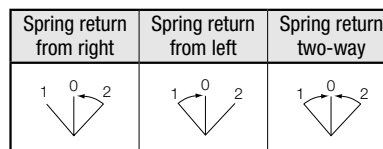
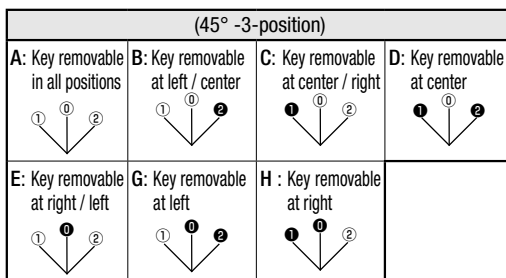
① Bezel color code
1: Black
4: Metallic

② Operator position code
2: 90°- 2-position, maintained
21: 90°- 2-position, spring return from right
3: 45°- 3-position, maintained
31: 45°- 3-position, spring return from right
32: 45°- 3-position, spring return from left
33: 45°- 3-position, spring return two way



• Operator Position: ①①②: Key removal position
①①②: Key retained position

• The key cannot be removed at the return position.



• Operator Position: ①①②: Key removal position
①①②: Key retained position

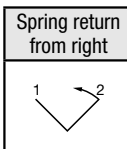
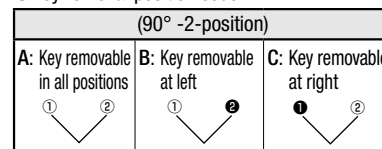
• The key cannot be removed at the return position.

Sub-Assembled Operator unit

CW ① K - ② ③ - ⑤ - PS

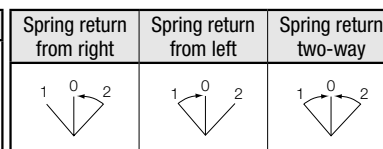
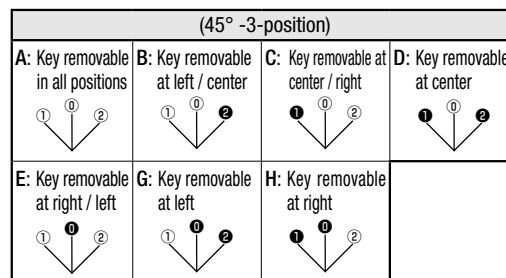
① Bezel color code
1: Black
4: Metallic

② Operator position code
2: 90°- 2-position, maintained
21: 90°- 2-position, spring return from right
3: 45°- 3-position, maintained
31: 45°- 3-position, spring return from right
32: 45°- 3-position, spring return from left
33: 45°- 3-position, spring return two way



• Operator Position: ①①②: Key removal position
①①②: Key retained position

• The key cannot be removed at the return position.



• Operator Position: ①①②: Key removal position
①①②: Key retained position

• The key cannot be removed at the return position.

Sub-Assembled Contact unit

CW - CN P ④

④ Contact configuration code
(see page 24 to 26)

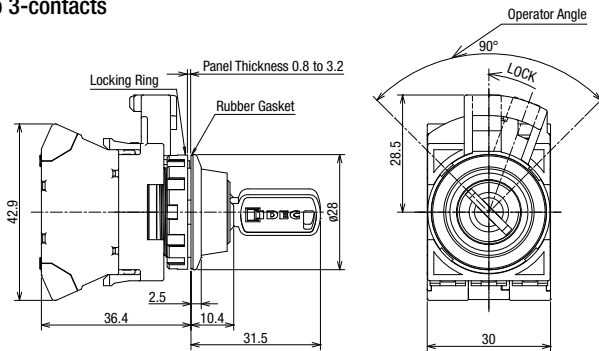
*For available assembled products, see table on page 23.

Key Selector Switches Dimensions

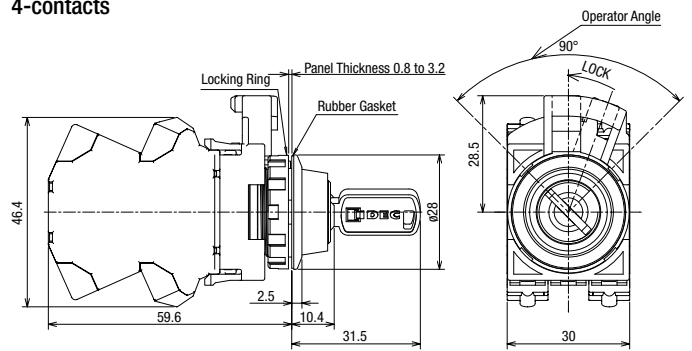
All dimensions in mm

Key Removal Position 2-position

1 to 3-contacts

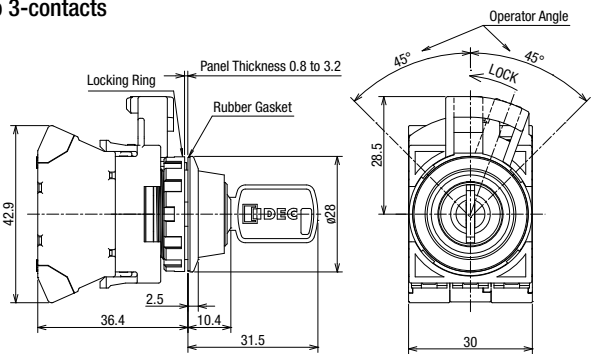


4-contacts

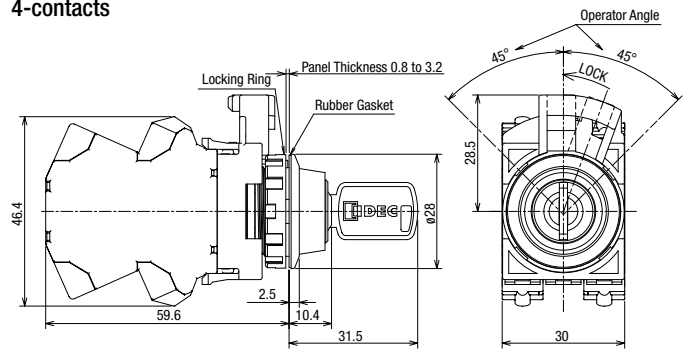


Key Removal Position 3-position

1 to 3-contacts

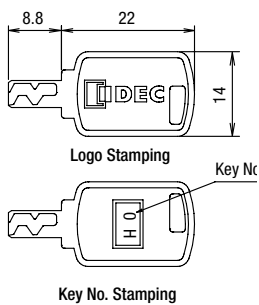


4-contacts

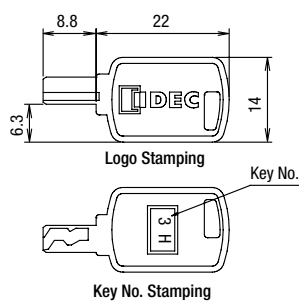


Key

• Reversible (0H to 2H)



• Non-reversible (3H to 6H)


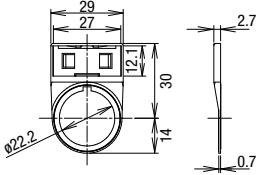


• See page 9 for mounting hole layout.

Nameplates

All dimensions in mm


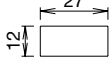
When ordering, specify the Ordering No.

Description		Material	Part No.(Ordering No.)	Package Quantity	Dimensions (mm)
	Legend				
CWAM 	Order marking plate (HWNP) separately.	Plastic (black)	CWAM	1	<ul style="list-style-type: none"> • Marking plate HWNP is necessary. • Degree of protection: IP65 • Do not remove the gasket on the operator. 

Note: Cannot be used with HW/FB series control box types.

Making Plate

When ordering, specify the Ordering No.

Description	Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)
HWNP  Image: HWNP-35	Aluminum (black)	HWNP-□	HWNP-□	1	<ul style="list-style-type: none"> • White legend on black background. • Engraving area: W25, H7  Thickness: 1.0 mm
			HWNP-□PN10	10	

• Specify a legend code in place of □ in the Ordering No.

Legends

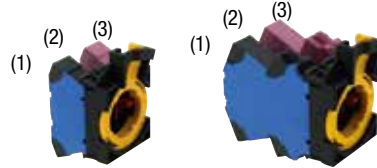
Code	Legend	Code	Legend
0	(blank)	4	STOP
1	ON	31	OFF-ON
2	OFF	35	HAND-AUTO
3	START	53	HAND-OFF-AUTO

Sub-Assembled

All dimensions in mm

Contact Unit Part No. / Contact Table

Package Quantity: 1



Contact Configuration (Code)	Part No. (Ordering No.)	Mounting Position	Contact
1NO (10)	CW-CNP10	(1)	1NO
		(2)	Dummy
		(3)	Dummy
1NC (01)	CW-CNP01	(1)	Dummy
		(2)	Dummy
		(3)	1NC
1NO1NC (11)	CW-CNP11	(1)	1NO
		(2)	Dummy
		(3)	1NC
1NO1NC (11N1)	CW-CNP11N1	(1)	1NC
		(2)	Dummy
		(3)	1NO
1NO1NC (11N2)	CW-CNP11N2	(1)	1NO
		(2)	1NC
		(3)	Dummy
1NO1NC (11N3)	CW-CNP11N3	(1)	Dummy
		(2)	1NC
		(3)	1NO
1NO1NC (11N4)	CW-CNP11N4	(1)	Dummy
		(2)	1NO
		(3)	1NC
2NO (20)	CW-CNP20	(1)	1NO
		(2)	Dummy
		(3)	1NO
2NO (20N1)	CW-CNP20N1	(1)	Dummy
		(2)	1NO
		(3)	1NO
2NC (02)	CW-CNP02	(1)	1NC
		(2)	Dummy
		(3)	1NC
2NC (02N1)	CW-CNP02N1	(1)	Dummy
		(2)	1NC
		(3)	1NC

Contact Configuration (Code)	Part No. (Ordering No.)	Mounting Position	Contact
2NO1NC (21)	CW-CNP21	(1)	1NO
		(2)	1NO
		(3)	1NC
2NO1NC (21N1)	CW-CNP21N1	(1)	1NO
		(2)	1NC
		(3)	1NO
1NO2NC (12)	CW-CNP12	(1)	1NO
		(2)	1NC
		(3)	1NC
3NO (30)	CW-CNP30	(1)	1NO
		(2)	1NO
		(3)	1NO
3NC (03)	CW-CNP03	(1)	1NC
		(2)	1NC
		(3)	1NC
2NO2NC (22)	CW-CNP22	(1)	1NO-1NC
		(2)	Dummy
		(3)	1NO-1NC
2NO2NC (22N2)	CW-CNP22N2	(1)	2NC
		(2)	Dummy
		(3)	2NO
4NO (40)	CW-CNP40	(1)	2NO
		(2)	Dummy
		(3)	2NO

• Contact unit includes a contact block, dummy block, and connecting unit.

Note: Specify the same contact configuration as the reference assembled part no.

Sub-Assembled

All dimensions in mm

Illuminated Contact Unit Part No. / Contact Table Package Quantity: 1

Contact Configuration (Code)	Rated Operating Voltage	Part No. (Ordering No.)	Mounting Position	Contact
1NO (10)	6V AC/DC	CW-CNP10Q2	(1)	1NO
	12V AC/DC	CW-CNP10Q3	(2)	LED unit
	24V AC/DC	CW-CNP10Q4	(3)	Dummy
1NC (01)	6V AC/DC	CW-CNP01Q2	(1)	Dummy
	12V AC/DC	CW-CNP01Q3	(2)	LED unit
	24V AC/DC	CW-CNP01Q4	(3)	1NC
1NO-1NC (11)	6V AC/DC	CW-CNP11Q2	(1)	1NO
	12V AC/DC	CW-CNP11Q3	(2)	LED unit
	24V AC/DC	CW-CNP11Q4	(3)	1NC
2NO (20)	6V AC/DC	CW-CNP20Q2	(1)	1NO
	12V AC/DC	CW-CNP20Q3	(2)	LED unit
	24V AC/DC	CW-CNP20Q4	(3)	1NO
2NC (02)	6V AC/DC	CW-CNP02Q2	(1)	1NC
	12V AC/DC	CW-CNP02Q3	(2)	LED unit
	24V AC/DC	CW-CNP02Q4	(3)	1NC

- Illuminated contact unit includes a contact block, LED unit, dummy block, and connecting unit.

Contact Unit for Pilot Light Part No. Package Quantity: 1


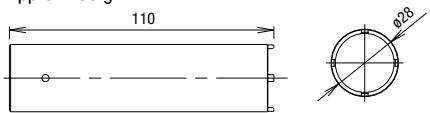

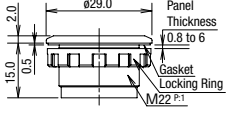

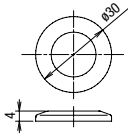

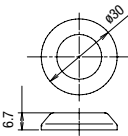
Rated Operating Voltage (Code)	Part No. (Ordering No.)	Mounting Position	Contact
6V (Q2)	CW-CNPQ2	(1)	Dummy
12V (Q3)	CW-CNPQ3	(2)	LED unit
24V (Q4)	CW-CNPQ4	(3)	Dummy

- Contact unit for pilot light includes one LED unit, two dummy blocks, and one connecting unit.








Note: Specify the same contact configuration as the reference assembled part no.

Accessories

All dimensions in mm






Shape	Material	Part No.	Part No. (Ordering No.)	Package Quantity	Remarks
	Metal (Brass)	MW9Z-T1	MW9Z-T1	1	<ul style="list-style-type: none"> • Used to tighten the locking ring when installing the CW series control unit in a panel cut-out. • Weight: Approx 150 g 
	Polyamide (black)	LW9Z-BP1	LW9Z-BP1	1	<ul style="list-style-type: none"> • Used to plug an unnecessary ø22.3 mm hole in the panel. • Degree of protection: IP65 • Panel thickness: 0.8 to 6.0 mm 
	Rubber (Transparent silicon rubber)	CW9Z-D11	CW9Z-D11	1	<ul style="list-style-type: none"> • Degree of protection: IP66/67 UL Type 4X • Panel thickness: 0.8 to 3.2 mm • Use with round flush illuminated pushbuttons/pushbuttons. 
		CW9Z-D12	CW9Z-D12	1	<ul style="list-style-type: none"> • Degree of protection: IP66/67 UL Type 4X • Panel thickness: 0.8 to 3.2 mm • Use with round extended illuminated pushbuttons/pushbuttons. 

Tools

Name / Shape	Part No.	Quantity	Remarks
	S3TL-CR04T	1	Applicable ferrule: Ferrules with and without insulated cover Crimping range: 0.5 to 4mm ² / 30AWG to 12AWG Crimping shape: 
	S3TL-CR06D	1	Applicable ferrule: Ferrules with and without insulated cover Crimping range: 0.25 to 6mm ² / 24AWG to 10AWG Crimping shape: 
	S3TL-D04-20-60	1	Blade size (dimensions in mm.) 
	S3TL-D04-25-75	1	Blade size (dimensions in mm.) 


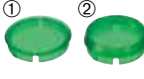


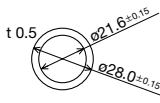

Maintenance Parts (Used for replacement only. Do not use the maintenance parts to modify the CW series)

All dimensions in mm

Name / Shape	Material	Part No.	Part No. (Ordering No.)	Package Quantity	Remarks		
	1NO contact Housing color: blue	HW-P10R	HW-P10R	5	Contact No.: 1st stage: 3-4		
	1NC contact Housing color: reddish purple	HW-P01	HW-P01	5	Contact No.: 1st stage: 1-2		
 (Image: HW-PW2R0)	2NO contact Housing color: blue	HW-PW2R0	HW-PW2R0	5	Contact No.: 1st stage: 13-14 2nd stage: 23-24		
	2NC contact Housing color: reddish purple	HW-PW02	HW-PW02	5	Contact No.: 1st stage: 11-12 2nd stage: 21-22		
	1NO1NC contact Housing color: reddish purple / blue	HW-PW1R1	HW-PW1R1	5	Contact No.: 1st stage: 13-14 2nd stage: 21-22		
	—	CW-CN	CW-CN	1	Connecting unit for Push-in terminal		
	Polyamide (black)	CW-DB	CW-DBPN05	5	—		
	Rated Operating Voltage	6V AC/DC	CW-PAQ2	CW-PAQ2	1	Current draw	AC: 16 mA DC: 12 mA
		12V AC/DC	CW-PAQ3	CW-PAQ3			AC: 7 mA DC: 6 mA
		24V AC/DC	CW-PAQ4	CW-PAQ4			AC: 6 mA DC: 6 mA

Maintenance Parts (Used for replacement only. Do not use the maintenance parts to modify the CW series)

All dimensions in mm

Name / Shape	Material	Part No.	Ordering No.	Package Quantity	Remarks
Button 	① Round flush ø19.5 H3.5	CW9Z-B11 *	CW9Z-B11*PN05	5	For maintained pushbuttons. Specify a button color code in place of * in the Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)
	② Round extended ø19.5 H6.2	CW9Z-B12 *	CW9Z-B12*PN05	5	
Lens 	① Round flush ø19.5 H3.5	CW9Z-L11*-K	CW9Z-L11 *-KPN05	5	For illuminated pushbuttons. Specify a button color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), C (clear), S (blue) Note: If the illumination color is PW (pure white), use a C (clear) lens.
	② Round extended ø19.5 H6.2	CW9Z-L12*-K	CW9Z-L12 *-KPN05	5	
Locking Ring 	Polyamide (black)	CW9Z-LN	CW9Z-LNPN05	5	—
Gasket 	Nitrile rubber	CW9Z-WM	CW9Z-WMPN10	10	Waterproof gasket between CW control unit bezel and the mounting panel. 
Spare Key 	Zinc (nickel-plated)	LA9Z-SK-0H	LA9Z-SK-0HPN02	2	Specify a key No. in place of □. 0H: Standard key (reversible) 1H to 2H: Reversible key 3H to 6H: Non-reversible key • For dimensions, see page 28.
		LA9Z-SK-□	LA9Z-SK-□PN02		

⚠ Safety Precautions

- Turn off the power to the CW series switches & pilot lights before starting installation, removal, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.
- For wiring, use wires of a proper size to meet the voltage and current requirements, and the number of connectable wires (page 39).

- Failure to tighten the terminal screws may cause overheating and fire.
- Avoid using in places mentioned below to maintain performance of the product.
 - Exposed to direct sunlight
 - Subject to corrosive or flammable gases

Instructions

Notes for Operation

- When using the CW series control units in a safety-related circuit of a control system, observe safety rules and regulations of each country concerning particular applications of the actual machines and facilities. Perform risk assessment before operation to ensure safety.

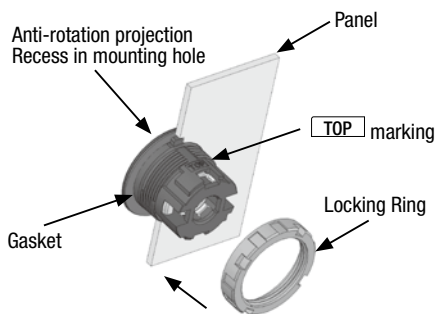
Operating Conditions

- In corrosive gas or high-temperature, high-humidity atmosphere, contact failure due to corrosion or color change or breakage of the housing may occur.
- Main parts of the CW series control units are made of plastic. Do not scratch the surface with a sharp object or apply excessive shocks or load, otherwise the control units may be damaged.
- In particular, keep the button, lens, and bezel from such damage, otherwise appearance and function may be impaired.
- Do not apply detergents, cutting oils, or chemicals which may impair the function and appearance of the CW series control units.

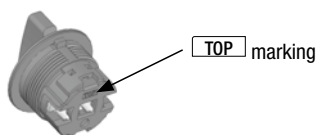
Installing the Contact Unit

1. Remove the contact block from the operator.
2. Remove the locking ring from the operator.
3. With the TOP marking of the operator facing upwards, align the anti-rotation projection on the operator with the recess in the mounting hole, insert the operator into the mounting hole. **TOP** When installing the nameplate, insert between the operator and the panel.
4. Tighten the locking ring from the rear of the panel.

Pushbuttons and Illuminated Pushbuttons

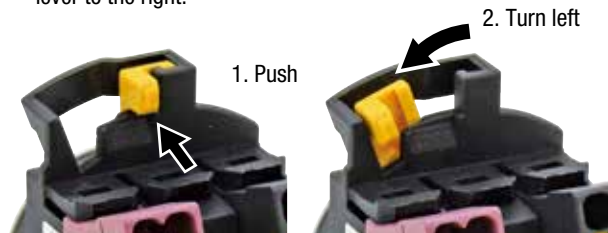


Selector and Key Selector Switches



Removing and Installing the Contact Unit

1. To remove the contact block from the operator, push the yellow locking lever and turn it to the left.
2. To install, align the TOP marking on the operator with the TOP marking on the contact block mounting adaptor, and turn the locking lever to the right.



Notes for Panel Mounting

Locking ring wrench recommended torque

Tighten the bezel to a tightening torque of 1.2 N·m

Locking ring wrench

Locking ring wrench (MW9Z-T1) can be used to tighten the bezel. Do not use pliers. Excessive tightening will damage the locking ring.



Locking ring wrench (MW9Z-T1)

Mounting Hole

1. Mounting hole dimensions are in compliance with IEC 60947-5-1.
2. If the anti-rotation projection is removed from the bezel, CW series control units can be mounted in ø22.3 mm mounting holes. To remove the anti-rotation projection, remove the gasket and use cutting pliers to break the projection. Also, make sure not to damage other parts of the operator.

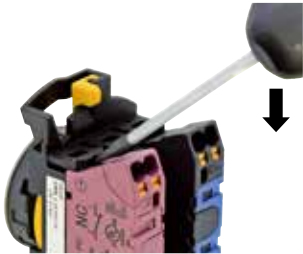


Instructions

Removing and Installing Contact Blocks, Dummy Blocks and LED Unit

Removing

To remove the contact block, dummy block, and LED unit from the operator, insert a flat screwdriver under the latch and push down the screwdriver as shown below.

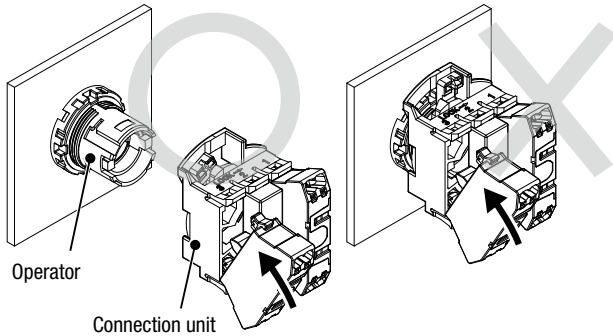


Installing

When installing the contact block or dummy block, make sure that it snaps on to the operator.

Note 1) Make sure to attach a correctly assembled connection unit to the operator.

Note 2) When attaching the contact block to the connection unit, make sure that the connection is detached from the operator. If a contact block is installed with the operator attached to the connection unit, malfunction of the switch may occur.



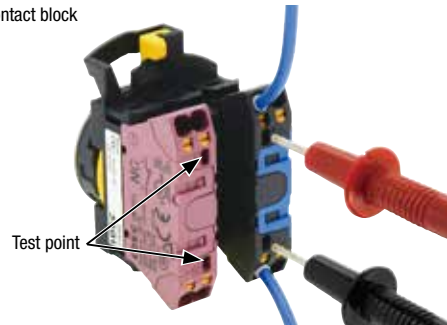
Test Point

Note) Do not insert wires to the test points.

Single contact block

Note) When conducting a continuity test, make sure that the probes (ø2.0 maximum) of the tester are inserted vertically to the panel.

Single contact block

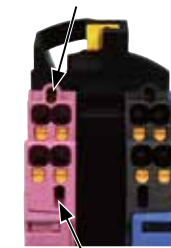


Double contact block

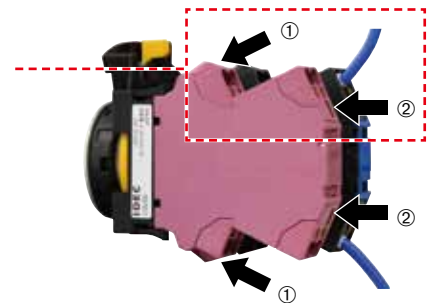
When conducting a continuity test on the first deck, make sure that probes (ø2.0 maximum) of the tester are inserted in an angle of the contact block, in two places as shown below.

When conducting a continuity test on the second deck, make sure that probes (ø2.0 maximum) of the tester are inserted vertically to the panel.

(1) First deck test point



(2) Second deck test point



Instructions

Removing and Installing Lens and Buttons

Pushbuttons (momentary)

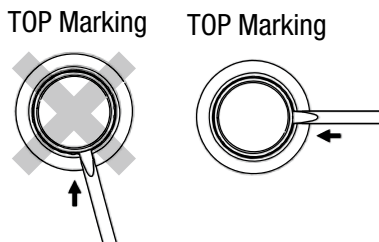
Momentary pushbutton caps cannot be removed. Do not tamper with the pushbutton caps using a screwdriver or pliers, otherwise the pushbutton caps may be damaged.

Pushbuttons (maintained) / Illuminated Pushbuttons / Pilot Lights

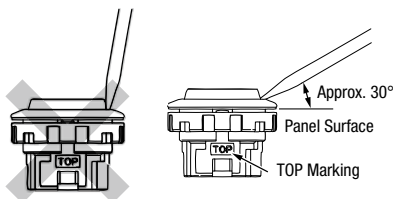
To remove the button or lens from a pushbutton, illuminated pushbutton or pilot light, insert a flat screwdriver under the flange of the lens at 90° from the TOP marking and twist the screwdriver.

Note) Insert the flat screwdriver by about an angle of 30°. Do not insert the screwdriver too deeply and do not apply excessive force to the lens, otherwise the bezel surface may be damaged.

Screwdriver Insertion Direction

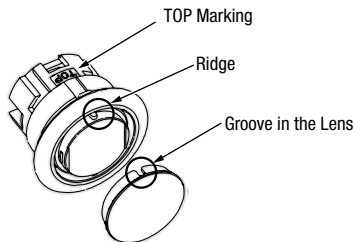


Screwdriver Insertion Angle



Installing the Lens

Turn the groove in the lens to the TOP marking on the operator housing. With the groove aligned with the ridge, press the lens in.



Marking

Marking plates are not available for CW series illuminated pushbuttons and pilot lights. Marking film can be inserted to indicate legends.

Applicable Marking Film Size

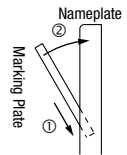
All dimensions in mm

	Illuminated Pushbutton (Round Flush)	Illuminated Pushbutton (Round Extended)
Applicable marking film size		
Thickness: 0.2 mm maximum Note: Film is not supplied and must be prepared by the user. Film material:		

Nameplate / Marking Plate

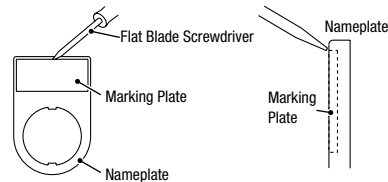
Installing the marking plate on a nameplate

Insert a marking plate in the direction of the arrow ①, and press in as shown ②.

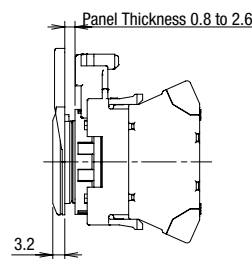


Removing a Marking Plate

Insert a flat screwdriver into the upper middle part of the marking plate and remove. When anti-rotation is not required, remove the projection from the nameplate using pliers.



Note: When using a nameplate, the mounting panel thickness is 2.6 mm maximum.



Instructions

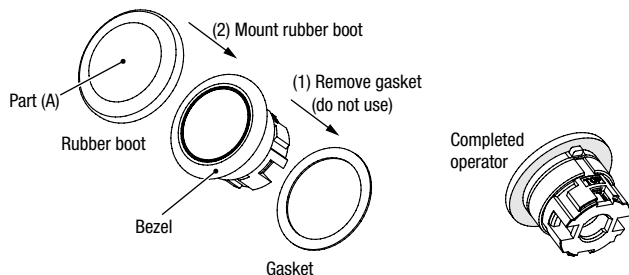
Installing the Rubber Boot

When using in places where the switches are subjected to water splash or an excessive amount of dust, make sure to use the optional rubber boot.

1. Remove the gasket from the operator, and mount the rubber boot to cover the bezel as shown in the below diagram (Do not use a washer).
2. Fit the rubber boot to the bezel of the operator as shown in the diagram of the completed operator below.

Notes

- Attach the rubber boot by making sure that the front round part (A) of the rubber boot is concentric with the lens and button. Otherwise the appearance may look different.
- Make sure that the rubber boot is properly fitted, otherwise, the waterproof and dustproof characteristics are not ensured.



Note: Install the rubber boot before mounting the unit to the panel.

Key Selector Switches

To prevent malfunctions and damage, take the following precautions.

- Insert the key to the bottom before turning.
- Do not remove the key while turning.
- Besides the standard key (0H), six other keys are available. Use a key with a key that matches the number on the key cylinder. However, for standard keys, the key number is engraved on the key but not on the key cylinder.
- Keys are available in two shapes. Key numbers 0H (standard), 1H, and 2H are reversible keys. Key numbers 3H, 4H, 5H, and 6H are non-reversible keys. Make sure of correct insertion direction.

Maintained Switches

Do not replace the button/lens while the operator is latched. Otherwise the internal structure will be damaged.

Selector Switches

Turn the selector operator or key securely to each position.

Applicable Wire

When wiring, use the applicable wires shown below.

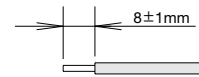
Applicable Wire and Specifications

Applicable Wire (*1)	0.25 to 1.5mm ² (AWG16 to 24)
Wire Strip Length (*2)	8 ± 1mm (*3)

*1) For applicable wires confirmed by IDEC, see website.

*2) For details on ferrules, see "Wire Size and Recommended Ferrules" table below.

*3) Strip the sheath of the wire 8±1mm from the end.



Note: Make sure that the stranded wires do not loosen when using wiring without ferrules.

Wire Size and Recommended Ferrules

Ferrules with insulated covers

Applicable Wire (Stranded Wire)		Wire Strip Length	IDEC Part No.
AWG	mm ²		
24	0.25	10 to 11mm	S3TL-H025-12WJ
22	0.34	10 to 11mm	S3TL-H034-12WT
20	0.50	10 to 11mm	S3TL-H05-14WA
18	0.75	10 to 11mm	S3TL-H075-14WW
18	1.00	10 to 11mm	S3TL-H10-14WY
16	1.50	10 to 11mm	S3TL-H15-14WR

Recommended Crimping Tool (Optional)

Item	IDEC Part No.
Crimping tool	S3TL-CR04T
	S3TL-CR06D

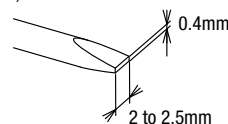
Note 1) Note the crimping dimensions when using tools other than the recommended crimping tool. For details, see page 32.

Note 2) The above crimping tool cannot be purchased from IDEC.

Recommended Screwdriver (Optional)

Item	IDEC Part No.
Flat blade screwdriver	S3TL-D04-20-60
	S3TL-D04-25-75

Note) Use a flat blade screwdriver with a blade size of 0.4×2.5 mm.



- For details on crimping tools, see page 39.

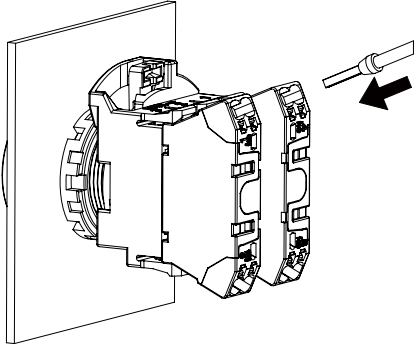
Instructions

Wiring Procedure

Connecting the wire

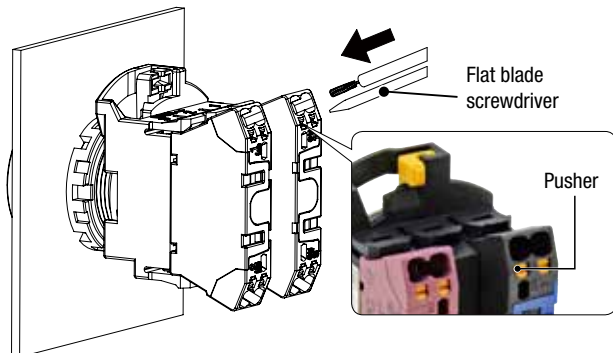
1) Stranded wires with ferrules or solid wire

- ① Insert the wire to the back of the wire port.
- ② After wiring, tug lightly to make sure that the wire is properly connected.



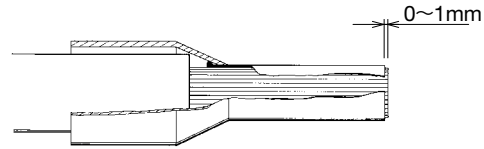
2) Stranded wire

- ① While pressing the pusher using a flat blade screwdriver (recommended optional screwdriver: S3TL-D04-20-60 or S3TL-D04-25-75), insert the wire fully in the wiring port. Wire is connected when the pusher is released.
- ② After wiring, tug lightly to make sure that the wire is properly connected.



Crimping of Ferrules and Wiring

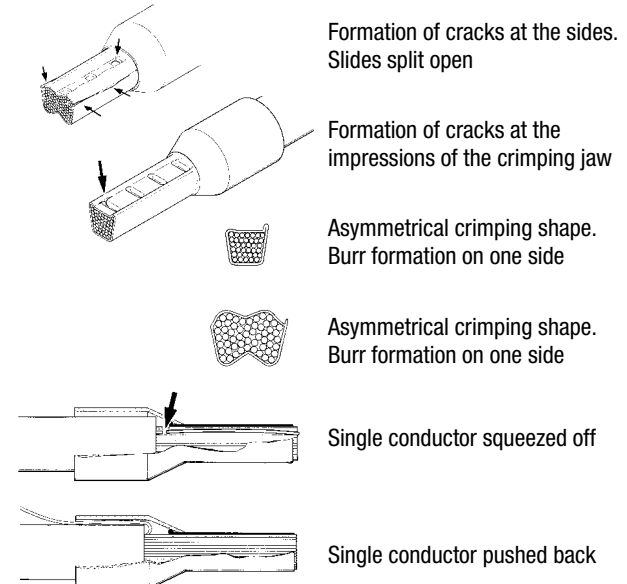
- Choose an appropriate ferrule for the wire.
- Cut the wire carefully to get a flat end.
- Make sure that ferrule sleeve is completely filled by the conductor. Depending on the cross section, the conductor should protrude approx. 0 to 1 mm from the ferrule sleeve.



- When crimping, refer to the instructions of the crimping tool.

Faults which can occur during crimping:

- Cracks along the sides and die impressions
- Splitting of the ferrules
- Asymmetrical crimping shape
- Extreme burrs formed along the sides
- Ferrule not filled by conductor
- Single conductors pushed back by protruding from the insulated cover
- Single conductors squeezed off
- Insulated cover damaged by the crimping jaw
- Conductor insulation not pushed into the insulated cover
- Ferrule bent longitudinally after crimping

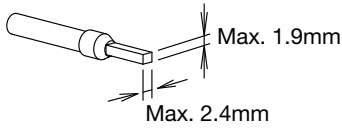


Instructions

Crimping dimensions: W2.4×H1.9 mm

Maximum connectable crimping size is W2.4×H1.9. Make sure that the ferrule size will be smaller than this dimension.

(See page 32 for recommended crimping tools)

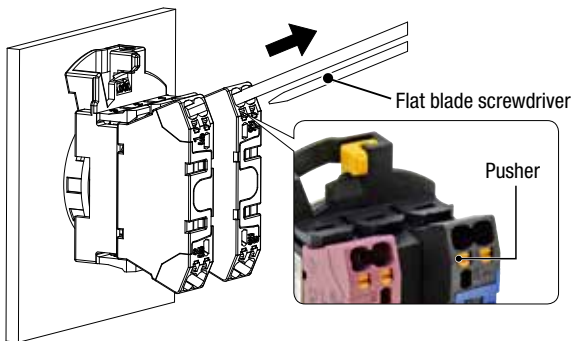


Note 1) If a tool other than the recommended crimping tool is used, the ferrule may not be crimped to the appropriate size and the clamp or spring inside the contact block may be deformed and may not operate normally.

Note 2) Pin crimp terminals cannot be used.

Removing the Wire

When removing the wire, push the pusher using a flat blade screwdriver (recommended optional screwdriver: S3TL-D04-20-60, see page 32) and pull wire out in the direction of the arrow.



<Notes>

- Operate the pusher with a force of 20N. Do not press excessively. Otherwise, the switch may be damaged.
- Do not pull the wire out without depressing the pusher. When pulling the wire, be sure to pull in a straight direction. Otherwise, the socket may be damaged.

Number of Connectable Wires

Unit	Connectable wires		No. of connectable wires
HW-P Contact block	Solid wire	0.25 to 1.5mm ² (AWG16 to 24)	2
	Stranded wire	0.25 to 1.5mm ² (AWG16 to 24)	
LED unit	Ferrule	Without insulated cover 0.25mm ² :conductor length 5 to 10mm 0.5 to 1.0mm ² :conductor length 6 to 10mm 1.5mm ² :conductor length 8 to 10mm With insulated cover 0.25 to 1.0mm ² :conductor length 6 to 10mm 1.5mm ² :conductor length 8 to 10mm Note) Pin terminals cannot be used	

Note) Only one wire can be inserted into one wire port.

Ordering Terms and Conditions

Thank you for using IDEC Products.

By purchasing products listed in our catalogs, datasheets, and the like (hereinafter referred to as "Catalogs") you agree to be bound by these terms and conditions. Please read and agree to the terms and conditions before placing your order.

1. Notes on contents of Catalogs

- (1) Rated values, performance values, and specification values of IDEC products listed in this Catalog are values acquired under respective conditions in independent testing, and do not guarantee values gained in combined conditions.
Also, durability varies depending on the usage environment and usage conditions.
- (2) Reference data and reference values listed in Catalogs are for reference purposes only, and do not guarantee that the product will always operate appropriately in that range.
- (3) The specifications / appearance and accessories of IDEC products listed in Catalogs are subject to change or termination of sales without notice, for improvement or other reasons.
- (4) The content of Catalogs is subject to change without notice.

2. Note on applications

- (1) If using IDEC products in combination with other products, confirm the applicable laws / regulations and standards.
Also, confirm that IDEC products are compatible with your systems, machines, devices, and the like by using under the actual conditions. IDEC shall bear no liability whatsoever regarding the compatibility with IDEC products.
- (2) The usage examples and application examples listed in Catalogs are for reference purposes only. Therefore, when introducing a product, confirm the performance and safety of the instruments, devices, and the like before use. Furthermore, regarding these examples, IDEC does not grant license to use IDEC products to you, and IDEC offers no warranties regarding the ownership of intellectual property rights or non-infringement upon the intellectual property rights of third parties.
- (3) When using IDEC products, be cautious when implementing the following.
 - i. Use of IDEC products with sufficient allowance for rating and performance
 - ii. Safety design, including redundant design and malfunction prevention design that prevents other danger and damage even in the event that an IDEC product fails
 - iii. Wiring and installation that ensures the IDEC product used in your system, machine, device, or the like can perform and function according to its specifications
- (4) Continuing to use an IDEC product even after the performance has deteriorated can result in abnormal heat, smoke, fires, and the like due to insulation deterioration or the like. Perform periodic maintenance for IDEC products and the systems, machines, devices, and the like in which they are used.
- (5) IDEC products are developed and manufactured as general-purpose products for general industrial products. They are not intended for use in the following applications, and in the event that you use an IDEC product for these applications, unless otherwise agreed upon between you and IDEC, IDEC shall provide no guarantees whatsoever regarding IDEC products.
 - i. Use in applications that require a high degree of safety, including nuclear power control equipment, transportation equipment (railroads / airplanes / ships / vehicles / vehicle instruments, etc.), equipment for use in outer space, elevating equipment, medical instruments, safety devices, or any other equipment, instruments, or the like that could endanger life or human health
 - ii. Use in applications that require a high degree of reliability, such as provision systems for gas / waterworks / electricity, etc., systems that operate continuously for 24 hours, and settlement systems
 - iii. Use in applications where the product may be handled or used deviating from the specifications or conditions / environment listed in the Catalogs, such as equipment used outdoors or applications in environments subject to chemical pollution or electromagnetic interference
If you would like to use IDEC products in the above applications, be sure to consult with an IDEC sales representative.

3. Inspections

We ask that you implement inspections for IDEC products you purchase without delay, as well as thoroughly keep in mind management/maintenance regarding handling of the product before and during the inspection.

4. Warranty

- (1) Warranty period
The warranty period for IDEC products shall be one (1) year after purchase or delivery to the specified location. However, this shall not apply in cases where there is a different specification in the Catalogs or there is another agreement in place between you and IDEC.
- (2) Warranty scope
Should a failure occur in an IDEC product during the above warranty period for reasons attributable to IDEC, then IDEC shall replace or repair that product, free of charge, at the purchase location / delivery location of the product, or an IDEC service base. However, failures caused by the following reasons shall be deemed outside the scope of this warranty.
 - i. The product was handled or used deviating from the conditions / environment listed in the Catalogs
 - ii. The failure was caused by reasons other than an IDEC product
 - iii. Modification or repair was performed by a party other than IDEC
 - iv. The failure was caused by a software program of a party other than IDEC
 - v. The product was used outside of its original purpose
 - vi. Replacement of maintenance parts, installation of accessories, or the like was not performed properly in accordance with the user's manual and Catalogs
 - vii. The failure could not have been predicted with the scientific and technical standards at the time when the product was shipped from IDEC.
 - viii. The failure was due to other causes not attributable to IDEC (including cases of force majeure such as natural disasters and other disasters)

Furthermore, the warranty described here refers to a warranty on the IDEC product as a unit, and damages induced by the failure of an IDEC product are excluded from this warranty.

5. Limitation of liability

The warranty listed in this Agreement is the full and complete warranty for IDEC products, and IDEC shall bear no liability whatsoever regarding special damages, indirect damages, incidental damages, or passive damages that occurred due to an IDEC product.

6. Service scope

The prices of IDEC products do not include the cost of services, such as dispatching technicians. Therefore, separate fees are required in the following cases.

- (1) Instructions for installation / adjustment and accompaniment at test operation (including creating application software and testing operation, etc.)
- (2) Maintenance inspections, adjustments, and repairs
- (3) Technical instructions and technical training
- (4) Product tests or inspections specified by you

The above content assumes transactions and usage within your region. Please consult with an IDEC sales representative regarding transactions and usage outside of your region. Also, IDEC provides no guarantees whatsoever regarding IDEC products sold outside your region.

IDEC CORPORATION

Head Office 6-64, Nishi-Miyahara-2-Chome, Yodogawa-ku, Osaka 532-0004, Japan

USA IDEC Corporation
EMEA APEM SAS

Singapore IDEC Izumi Asia Pte. Ltd.
Thailand IDEC Asia (Thailand) Co., Ltd.
India IDEC Controls India Private Ltd.

China IDEC (Shanghai) Corporation
IDEC Izumi (H.K.) Co., Ltd.
Taiwan IDEC Taiwan Corporation

Japan IDEC Corporation

 www.idec.com