



# Push-in Switches & Pilot Lights

Simple wiring with Push-in technology





## 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<sup>3</sup> (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

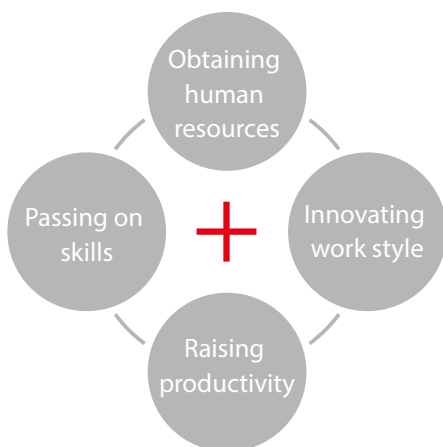
Products appreciated by all our customers for their ease of connection regardless of experience

# Smart

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

# User + Ability = Usability

In an age of worker diversity,  
products need to be usable by anyone, safely and easily.  
By supporting experience with technology,  
we are opening up possibilities of all kinds.





# Push-in

## Simple wiring for greater work efficiency

Ferrules and solid wires can be connected simply by push-in insertion, without a screwdriver. <sup>(\*)1</sup>

To remove, a flat-blade screwdriver is inserted in a simple two-action process.

Since wiring can be performed regardless of the operator's skill level, wiring time is reduced.

<sup>(\*)1</sup> When connecting stranded wire, insert the wire while holding down the pusher with a flat-blade screwdriver.

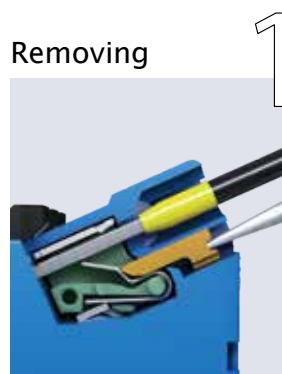


Connecting

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

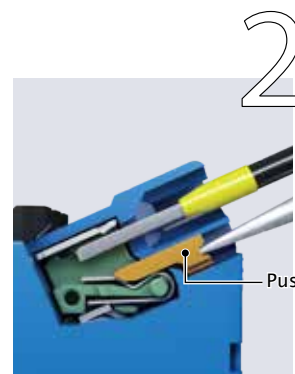


Connection is completed. Pull lightly to make sure it is firmly in place.



Removing

Insert a screwdriver into the opening.



With the screwdriver in place, pull out the wire.

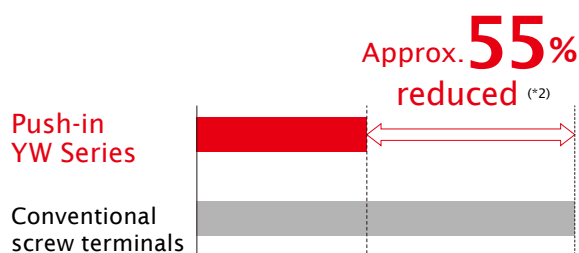
## Time saving and efficient

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.



<sup>(\*)2</sup> As of IDEC research (as of November 2019)

## Reliable and easy

Finger-safe structure and vibration resistance.

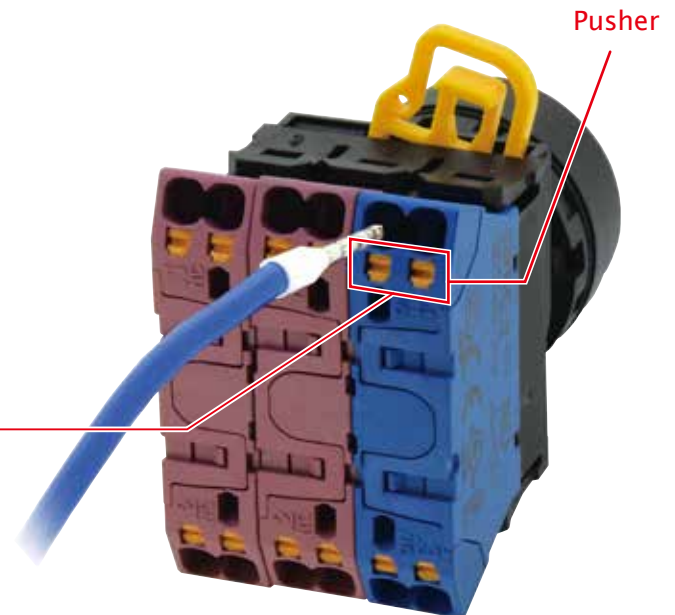
What's more, the space-saving design means better workability in a smaller space.

### 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 structure enables wiring to be performed without direct contact between screwdriver and conductive part.



## Wiring procedure comparison

Work can be performed without using tools and regardless of the operator's skill level.

\*1) When ferrule is used.

### Conventional screw terminal



### Push-in terminal <sup>(\*)</sup>



## 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 YW Series still remain while improving ease of use.

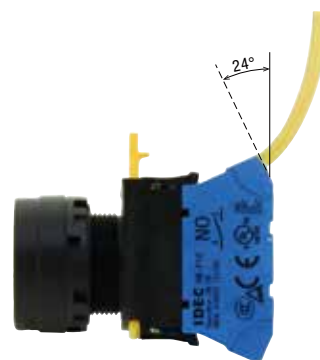
## Space-Saving

Saves space inside panel and enables downsizing of equipment.

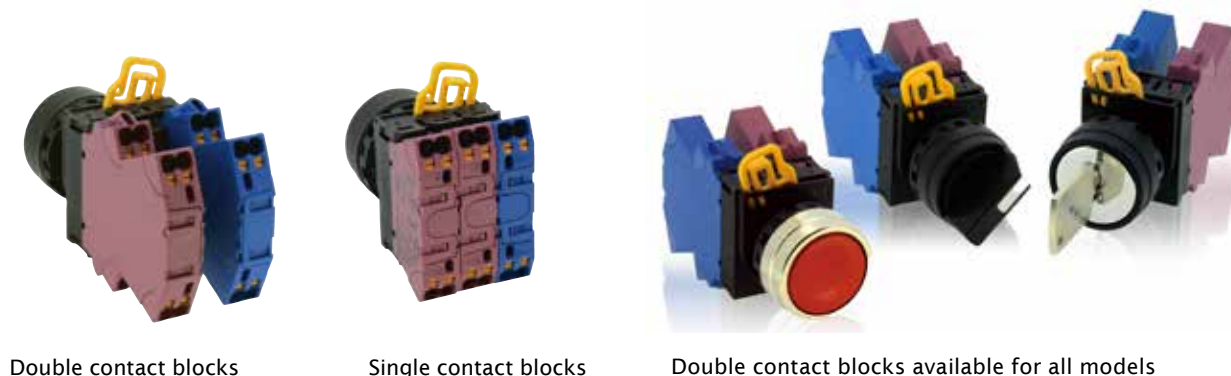


## Angled connections

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.



## 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.

# High voltage LED illuminated unit for illuminated pushbuttons

110V, 230/240V AC/DC types available in addition to 6V, 12V, 24V AC/DC.  
No transformers required and same depth behind the panel for for all illuminated voltages.  
High voltage models do not require transformers enabling downsizing of equipment and panels.



## 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.



# ø22 YW Series Push-in Switches & Pilot Lights

- Push-in terminal connection reduces wiring time.
- Safety enhanced with IP20 finger-safe protection.



• See website for details on approvals and standards.

## Available Products

- |                           |         |
|---------------------------|---------|
| • Pushbuttons             | page 11 |
| • Illuminated Pushbuttons | page 14 |
| • Selector Switches       | page 17 |
| • Key Selector Switches   | page 22 |
| • Emergency Stop Switches | page 28 |
| • Pilot Lights            | page 30 |

## Specifications and Ratings

### Contact Ratings

Rated insulation voltage	600V (HW-P10, HW-P01, HW-P20, HW-P02, HW-PW11) (*1)
Rated continuous current	10A

\*1) Key selector switches: 250V (pollution degree 3, impulse withstand voltage 2.5kV)  
400V (pollution degree 2, impulse withstand voltage 4.0kV)

### Rated Operating Voltage and Current by Utilization Category

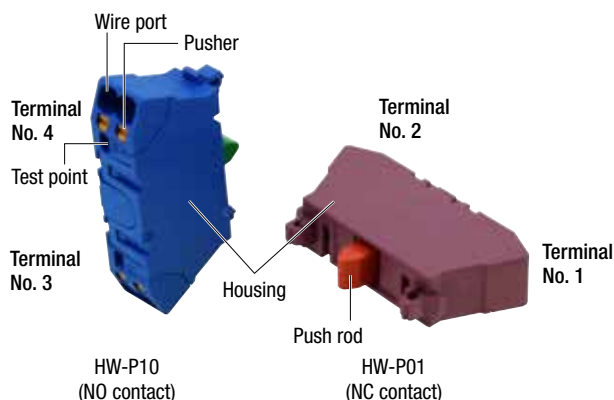
HW-P10 (NO contact), HW-P01 (NC contact),

HW-PW20 (2NO contact), HW-PW11 (1NO-1NC contact), HW-PW02 (2NC contact)

Rated operating voltage			24V	48V	50V	110V	220V	440V
Operating Current	AC 50/60 Hz	Resistance Load (AC-12)	10A	—	10A	10A	6A	2A
		Inductive Load (AC-15)	10A	—	7A	5A	3A	1A
	DC	Resistance Load (DC-12)	10A	5A	—	2.2A	1.1A	—
		Inductive Load (DC-13)	5A	2A	—	1.1A	0.6A	—

- The operating current represents making and breaking currents (IEC 60947-5-1).
- Contact materials: Silver contacts
- Minimum applicable load: 3V AC/DC, 5 mA (applicable range may vary with operating conditions)

### Push-in Contact Block (HW-P)



	Single Contact Block		Double Contact Block		
Contact	1NO	1NC	2NO	2NC	1NO-1NC
Part No.	HW-P10	HW-P01	HW-PW20	HW-PW02	HW-PW11
Shape					
Housing	Blue	Purple red	Blue	Purple red	Blue/Purple red
Push Rod	Green	Red	Green	Red	Light Blue
Contact No.	3-4	1-2	1st tier: 13-14 2nd tier: 23-24	1st tier: 11-12 2nd tier: 21-22	1st tier: 13-14 2nd tier: 21-22
Weight (approx.)	8g		16g		



## LED Illuminated Unit Specifications

## Illuminated Pushbutton

Rated Voltage	Operating Voltage		LED Lamp	
			Lamp Base	Part No.
6V AC/DC	6V AC/DC	±10%	BA9S/13	LSED-6*N
12V AC/DC	12V AC/DC			LSED-1*N
24V AC/DC	24V AC/DC			LSED-2*N
110V AC/DC	110V AC/DC			LSED-H*N
230/240V AC/DC	230/240V AC/DC	207 to 250V AC		LSED-M3*N

## Pilot Lights

Rated Voltage		Operating Voltage		LED Lamp	
				Lamp Base	Part No.
6V AC/DC		6V AC/DC	±10%	BA9S/13	LSRD-6
12V AC/DC		12V AC/DC			LSRD-1
24V AC/DC		24V AC/DC			LSRD-2
100/120V AC/DC	50/60Hz	100/120V AC/DC		LSRD-6	
200/240V AC		200/240V AC			

- Specify a color code in place of \* in Part No.  
R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

## Specifications

Switch Type		Pushbuttons	Selector Switches	Key Selector Switches	Emergency Stop Switches
Operating Temperature		-20 to +55°C (no freezing)		-25 to +55°C (no freezing)	
Operating Humidity		45 to 85% RH (no condensation)			
Storage Temperature		-45 to +80°C (no freezing)			
Storage Humidity		95% RH maximum			
Contact Resistance		50 mΩ maximum (initial value)			
Insulation Resistance		100 MΩ minimum (500V DC megger)			
Overvoltage Category		II			
Impulse Withstand Voltage		4.0kV	4.0kV	2.5kV	4.0kV
Pollution Degree		3	3 (*1)	2 (*1)	3
Dielectric Strength		2500V AC, 1 minute			
Vibration Resistance	Damage limits	30 Hz, amplitude 1.5 mm			10 to 500 Hz, Amplitude 0.35 mm, Acceleration 50m/s <sup>2</sup>
	Operating extremes	5 to 55Hz, amplitude 0.5 mm			10 to 500 Hz, Amplitude 0.35 mm, Acceleration 50m/s <sup>2</sup>
Shock Resistance	Damage limits	1,000 m/s <sup>2</sup>			1,000 m/s <sup>2</sup>
	Operating extremes	100 m/s <sup>2</sup>			150 m/s <sup>2</sup>
Degree of Protection		Terminal: Finger-safe (IP20) structure    Panel front: IP65 (IEC 60529)			
Recommended Tightening Torque for Locking Ring		2.0 N·m			
Terminal Style		Push-in terminal			
Mechanical Life (minimum operations)		Momentary: 5,000,000 min. (*4) 1,000,000 min. (*5) Maintained: 250,000 min. (*4) 100,000 min. (*4)	250,000 min. (*4) 100,000 min. (*5)		250,000 (*4)
Electrical Life (*2)(*5)		100,000 operations min. (*4) 50,000 operations min. (*5)			100,000 (*4)

\*1) For key selector switches, rated insulated voltage is 250V at pollution degree 3 and 400V at pollution degree 2.

\*2) Switching frequency 1,800 operations/h (momentary) Switching frequency 900 operations/h (maintained)

\*3) Load conditions 220V AC, 3A (AC-15)

\*4) Single contact block

\*5) Double contact block

## Pilot lights

Operating Temperature	-25 to +50°C (no freezing)
Operating Humidity	45 to 85% RH (no condensation)
Storage Temperature	-40 to +80°C (no freezing)
Insulation Resistance	100 MΩ minimum (500V DC megger)
Overvoltage Category	II
Impulse Withstand Voltage	2.5kV
Pollution Degree	3
Dielectric Strength	Between live and dead parts: 2000V AC, 1 minute
Vibration Resistance	Damage limits: 30 Hz, amplitude 1.5 mm
	Operating extremes: 5 to 55Hz, amplitude 0.5 mm
Shock Resistance	Damage limits: 1,000 m/s <sup>2</sup>
	Operating extremes: 100 m/s <sup>2</sup>
Degree of Protection	Terminal: Finger-safe (IP20) structure Panel front: IP65 (IEC 60529), UL Type 4X
Recommended Tightening Torque for Locking Ring	2.0N·m
Terminal Style	Push-in terminal

## Direct Opening Function Specification

### Emergency Stop Switches

Minimum Force Required for Direct Opening Action	60N
Minimum Operator Stroke Required for Direct Opening Action	8.3mm
Maximum Operator Stroke	8.3mm

### Key Selector Switches

Type	2-position	3-position
Minimum Operator Angle for Direct Opening Action	90°	45°
Minimum Operator Torque for Direct Opening Action	0.45N·m	0.45N·m
Maximum Operator Stroke	90°	45°

## Degree of Protection

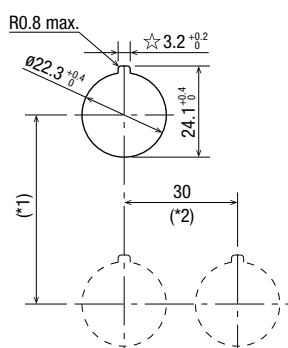
Unit	IEC 60529
All models	IP65 (*4)

\*4) When using a nameplate with the YW series, IP65 protection degree is achieved only when nameplates shown on page 31, 32 are used.  
(IP40 when other ø22 nameplates such as NWA are used)

## Mounting Hole Layout

(Dimensions in mm)

### Panel Cut (IEC60947-5-1)



- When high temperature is expected, take necessary measures such as securing sufficient mounting centers or using a cooling fan.
- The 3.2 mm recess is for preventing rotation and is not necessary when the nameplate or anti-rotation ring is not used.

### Minimum Mounting Centers

(Dimensions in mm)

Unit	Vertical (*1)	Horizontal (*2)
ø40mm mushroom button	50 minimum	40 minimum
Pushbutton, Selector switch, Key selector switch	50 minimum	30 minimum
Emergency Stop Switch	50 minimum	50 minimum

## Ordering Information




- Specify the Ordering No. when ordering.  
When ordering, specify button color, lens color, key removal specification, or key number codes.
- Some combinations cannot be ordered. For details, contact IDEC.

- Nameplates and accessories for mono-lever switch are ordered separately. See page 31 to 34.

Pushbuttons

Assembled

Package Quantity: 1

Name / Shape	Operation	Contact Configuration	Part No.		* Button Color Code
			Plastic Bezel	Metal Bezel	
<div>Flush</div> <div></div>	Momentary	1NO	YW1B-M1P10*	YW4B-M1P10*	B (black) G (green) R (red) Y (yellow) S (blue) W (white)
		1NC	YW1B-M1P01*	YW4B-M1P01*	
		2NO	YW1B-M1P20*	YW4B-M1P20*	
		2NC	YW1B-M1P02*	YW4B-M1P02*	
		3NO	YW1B-M1P30*	YW4B-M1P30*	
		1NO-1NC	YW1B-M1P11*	YW4B-M1P11*	
		2NO-2NC	YW1B-M1P22*	YW4B-M1P22*	
	Maintained	1NO	YW1B-A1P10*	YW4B-A1P10*	
		1NO-1NC	YW1B-A1P11*	YW4B-A1P11*	
<div>Extended</div> <div></div>	Momentary	1NO	YW1B-M2P10*	YW4B-M2P10*	
		1NC	YW1B-M2P01*	YW4B-M2P01*	
		1NO-1NC	YW1B-M2P11*	YW4B-M2P11*	
<div>ø40 Mushroom</div> <div></div>		1NO	YW1B-M4P10*	YW4B-M4P10*	
		1NC	YW1B-M4P01*	YW4B-M4P01*	
		1NO-1NC	YW1B-M4P11*	YW4B-M4P11*	

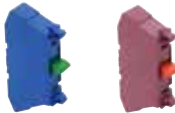

- Specify the button color code in place of \*.  
 B (black), G (green), R (red), Y (yellow), S (blue), W (white)

## Pushbuttons


### Sub-Assembled







### Contact block

Name / Shape	Contact Configuration	Part No.
	1NO	HW-P10
	1NC	HW-P01
	2NO	HW-PW20
	2NC	HW-PW02
	1NO-1NC	HW-PW11

### Connecting unit



Shape	Part No.
	YW-CN-N

### Operator

Shape	Operation	Name	Part No.	
			Plastic bezel	Metal bezel
	Momentary	Flush	YW1B-M1①	YW4B-M1①
		Extended / ø40 Mushroom	YW1B-M00	YW4B-M00
	Maintained	Flush	YW1B-A1①	YW4B-A1①
		Extended / ø40 Mushroom	YW1B-A00	YW4B-A00

- Specify the button color code in place of ①.  
B (black), G (green), R (red), Y (yellow), S (blue), W (white)
- Flush buttons cannot be removed from the operator.

### Buttons

Name / Shape	Part no.
	YW9Z-B12①
	YW9Z-B14①

- Specify the button color code in place of ①.  
B (black), G (green), R (red), Y (yellow), S (blue), W (white)

### Assembled Part No. Example

YW1B - M 1 P 10 B

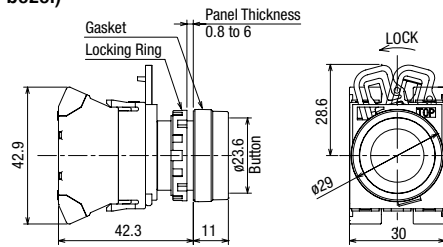
Bezel shape	Button color code
1: Round (plastic)	B (black)
4: Round (metal)	G (green)
Operation	R (red)
M: Momentary	Y (yellow)
A: Maintained	S (blue)
Button style	W (white)
1: Flush	Contact configuration code
2: Extended	10: 1NO
4: ø40mm Mushroom	20: 2NO
	01: 1NC
	02: 2NC
	11: 1NO-1NC
	21: 2NO-1NC
	12: 1NO-2NC
	30: 3NO
	03: 3NC

- For other contact configurations, contact IDEC.

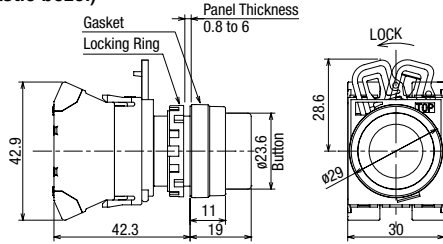
## Pushbuttons

### 1 to 3 contacts

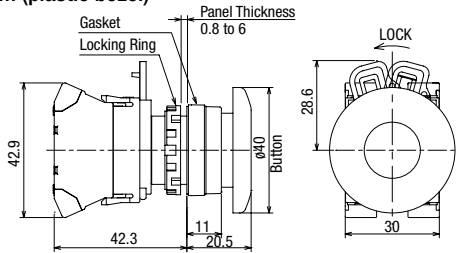
#### Flush (Plastic bezel)



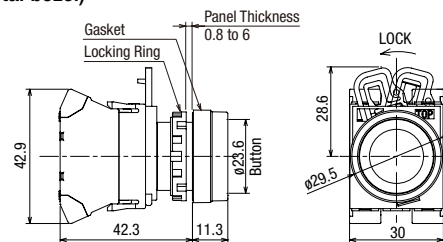
#### Extended (plastic bezel)



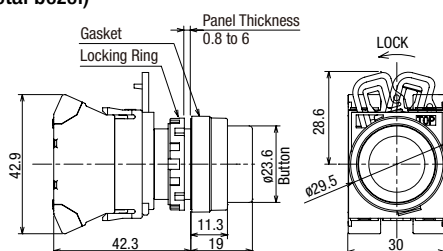
#### ø40 mushroom (plastic bezel)



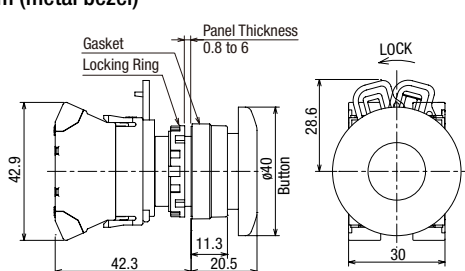
#### Extended (metal bezel)



#### Extended (metal bezel)

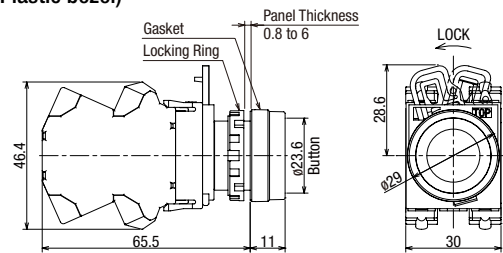


#### ø40 mushroom (metal bezel)

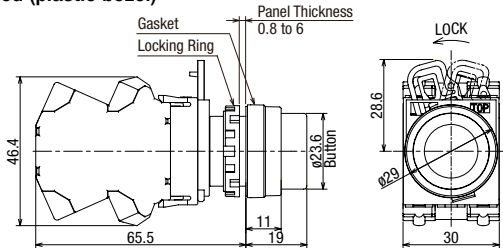


### 4 contacts

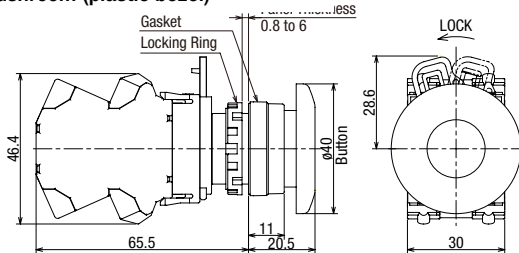
#### Flush (Plastic bezel)



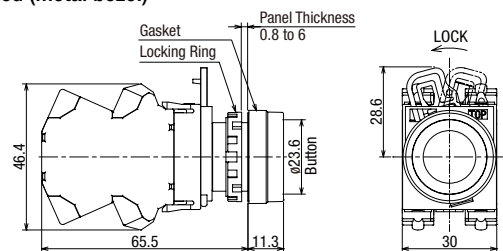
#### Extended (plastic bezel)



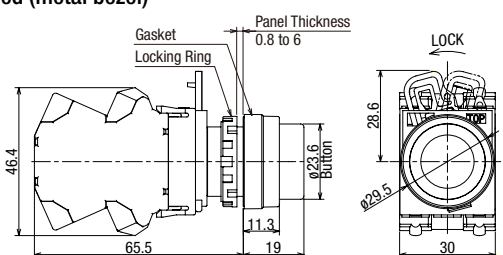
#### ø40 mushroom (plastic bezel)



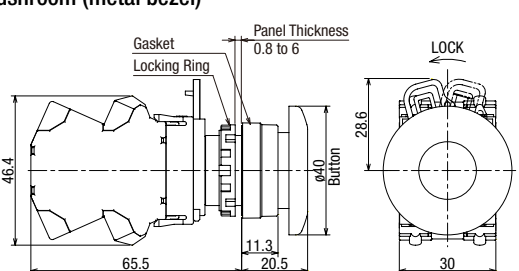
#### Extended (metal bezel)



#### Extended (metal bezel)



#### ø40 mushroom (metal bezel)







Dimensions in mm.



## Illuminated Pushbuttons

### Assembled

Package Quantity: 1

Name / Shape	Operation	LED Lamp	Contact Configuration	Part No.		* Button Color Code
				Plastic Bezel	Metal Bezel	
<b>Extended</b>   Plastic bezel   Metal bezel	Momentary	None	1NO	YW1L-M2P10Q0*	YW4L-M2P10Q0*	R (red) G (green) Y (yellow) A (amber) S (blue) PW (pure white)
			1NC	YW1L-M2P01Q0*	YW4L-M2P01Q0*	
		24V AC/DC	1NO	YW1L-M2P10Q4*	YW4L-M2P10Q4*	
			1NC	YW1L-M2P01Q4*	YW4L-M2P01Q4*	
			1NO-1NC	YW1L-M2P11Q4*	YW4L-M2P11Q4*	
		230-240V AC/DC	1NO	YW1L-M1P10QM3*	YW4L-M1P10QM3*	
			1NC	YW1L-M1P01QM3*	YW4L-M1P01QM3*	
			1NO-1NC	YW1L-M1P11QM3*	YW4L-M1P11QM3*	
			2NO	YW1L-M1P20QM3*	YW4L-M1P20QM3*	
			2NC	YW1L-M1P02QM3*	YW4L-M1P02QM3*	
<b>Full shroud</b>   Plastic bezel   Metal bezel	Momentary	None	1NO	YW1L-MF2P10Q0*	YW4L-MF2P10Q0*	
			1NC	YW1L-MF2P01Q0*	YW4L-MF2P01Q0*	
		AC/DC24V	1NO	YW1L-MF2P10Q4*	YW4L-MF2P10Q4*	
			1NC	YW1L-MF2P01Q4*	YW4L-MF2P01Q4*	
			1NO-1NC	YW1L-MF2P11Q4*	YW4L-MF2P11Q4*	
		230-240V AC/DC	1NO	YW1L-MF2P10QM3*	YW4L-MF2P10QM3*	
			1NC	YW1L-MF2P01QM3*	YW4L-MF2P01QM3*	
			1NO-1NC	YW1L-MF2P11QM3*	YW4L-MF2P11QM3*	
			2NO	YW1L-MF2P20QM3*	YW4L-MF2P20QM3*	
			2NO	YW1L-MF2P02QM3*	YW4L-MF2P02QM3*	

- Specify the button color code in place of \*.  
 R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

## Illuminated Pushbuttons

### Sub-Assembled



### Contact block

Name / Shape	Contact Configuration	Part No.
Single layer contact block 	1NO	HW-P10
	1NC	HW-P01
Double layer contact block 	2NO	HW-PW20
	2NC	HW-PW02
	1NO-1NC	HW-PW11

### Connecting unit

Shape	Part No.
	YW-CN-N

### Full voltage adapter

Shape	Part No.
	HW-DP

### Operator

Shape	Operation	Name	Part no.	
			Plastic bezel	Metal bezel
	Momentary	Extended / ø40 Mushroom	YW1B-M00	YW4B-M00
		Full shroud	YW1L-MF00	YW4L-MF00
	Maintained	Extended / ø40 Mushroom	YW1B-A00	YW4B-A00
		Full shroud	YW1L-AF00	YW4L-AF00

### LED Lamp

Shape	Voltage	Part No.
	6V AC/DC	LSED-6ⓈN
	12V AC/DC	LSED-1ⓈN
	24V AC/DC	LSED-2ⓈN
	110V AC/DC	LSED-HⓈN
	230/240V AC/DC	LSED-M3ⓈN

- Specify the button color code in place of Ⓢ  
R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

### Lens

Name / Shape	Part No.
Extended / Full shroud 	YW9Z-L12Ⓢ
ø40 Mushroom 	YW9Z-L14Ⓢ

- Specify the button color code in place of Ⓢ  
R (red), G (green), Y (yellow), A (amber), S (blue), C (clear)

### Diffuser

Name / Shape	Part No.
	YW9Z-P12

### Assembled Part No. Example

YW1L - M 2 P 10 R Q2

Bezel shape 1: Round (plastic) 4: Round (metal)	Operation M: Momentary A: Maintained	Button style 2: Extended F2: Round Extended with full Shroud 4: ø40mm Mushroom	Contact configuration 10: 1NO 01: 1NC 11: 1NO1NC	Rated Voltage Q0: Without lamp Q2: 6V AC/DC Q3: 12V AC/DC Q4: 24V AC/DC QH: 110V AC/DC QM3: 230/240V AC/DC	Button color R: red G: green Y: yellow A: amber S: blue PW: pure white
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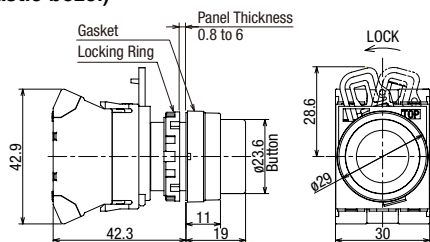
- For other contact configurations, contact IDEC.

## Illuminated Pushbuttons Dimensions

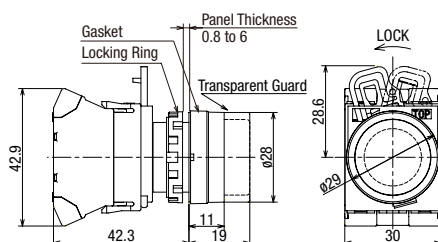
All dimensions in mm.

### 1 to 3 contacts

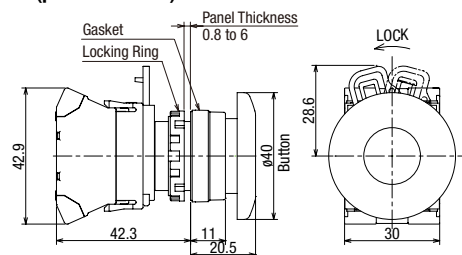
#### Extended (plastic bezel)



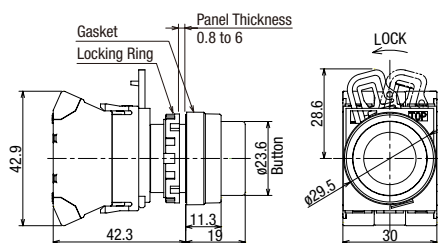
#### Extended with full guard (plastic bezel)



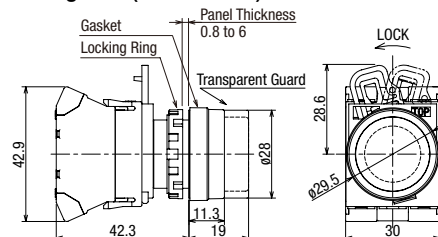
#### ø40 mushroom (plastic bezel)



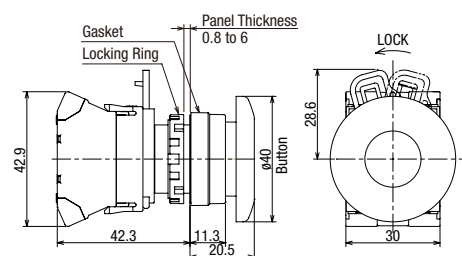
#### Extended (metal bezel)



#### Extended with full guard (metal bezel)

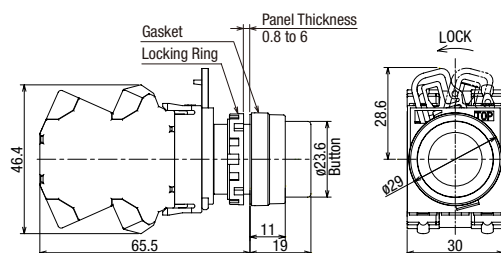


#### ø40 mushroom (metal bezel)

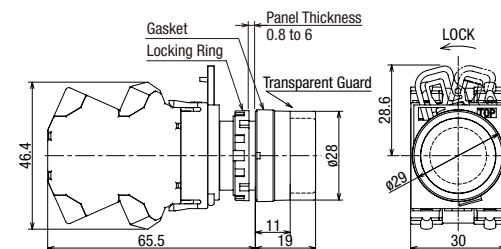


### 4 contacts

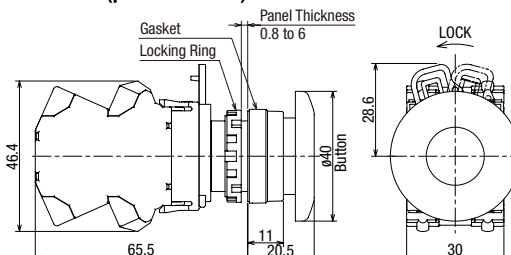
#### Extended (plastic bezel)



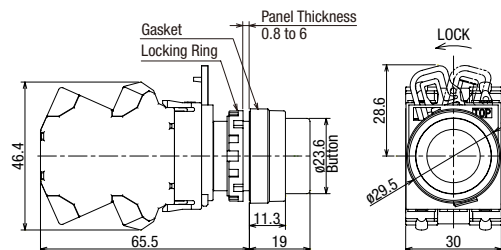
#### Extended with full guard (plastic bezel)



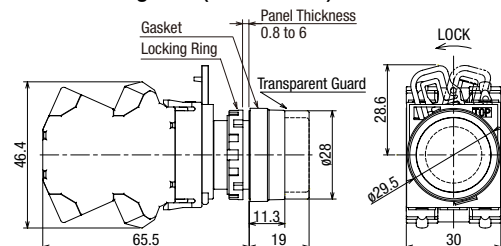
#### ø40 mushroom (plastic bezel)



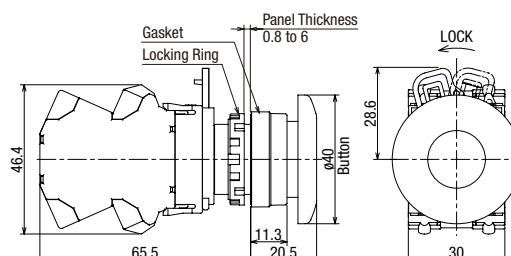
#### Extended (metal bezel)



#### Extended with full guard (metal bezel)




#### ø40 mushroom (metal bezel)



## Selector Switches (Knob Operator)

### Assembled

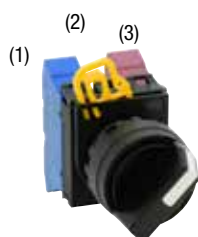
Package Quantity: 1

Shape	No. of Positions										
90° 2-position	Contact Configuration	Contact Block		Operator Position			Operation / Bezel Color		<div><div></div></div>		
							Maintained <div><div>1</div><div>2</div></div>				
		Mounting Position	Contact	1	2		Plastic Bezel	Metal Bezel			
	1NO (10)	(1)	NO		●	—	YW1S-2P10	YW4S-2P10			
		(3)	—								
	1NC (01)	(1)	—				YW1S-2P01	YW4S-2P01			
		(3)	NC	●							
	1NO-1NC (11)	(1)	NO		●		YW1S-2P11	YW4S-2P11			
		(3)	NC	●							
	2NO (20)	(1)	NO		●		YW1S-2P20	YW4S-2P20			
		(3)	NO		●						
	2NO-2NC (22)	(1)	NONC	NO			●	YW1S-2P22			YW4S-2P22
				NC	●						
(3)		NONC	NO		●						
			NC	●							

45° 3-position	Contact Configuration	Contact block		Operator Position			Operation / Bezel color			
							Maintained <div><div>1</div><div>2</div></div>		Spring return two-way <div><div>1</div><div>2</div></div>	
		Mounting Position	Contact	1	0	2	Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel
	2NO (20)	(1)	NO	●			YW1S-3P20	YW4S-3P20	YW1S-33P20	YW4S-33P20
(3)		NO			●					

- Knob operator: white indicator on black body.
- Turn the operator to each position accurately.

### Contact Block Mounting Position



## Selector Switches (Knob Operator)

### Sub-Assembled



### Contact block

Name / Shape	Contact Configuration	Part No.
Single layer contact block 	1NO	HW-P10
	1NC	HW-P01
Double layer contact block 	2NO	HW-PW20
	2NC	HW-PW02
	1NO-1NC	HW-PW11

### Connecting unit

Shape	Part No.
	YW-CN-N

### Operator

Shape	No. of Positions	Operation	Part No.	
			Plastic bezel	Metal bezel
	45° 3-position	Maintained	YW1S-2	YW4S-2
		Spring Return from Right	YW1S-21	YW4S-21
	90° 2-position	Maintained	YW1S-3	YW4S-3
		Spring Return from Right	YW1S-31	YW4S-31
		Spring Return from Left	YW1S-32	YW4S-32
		Spring return two-way	YW1S-33	YW4S-33




## Selector Switches (Knob Operator)

### Sub-Assembled



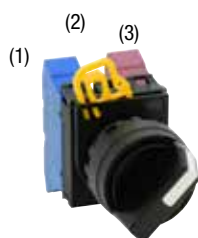
### 90° 2-position

Package Quantity: 1

Name / Shape	Operator Unit			Contact Configuration	Contact Block		Operator Position	
	No. of Positions	Part No.	② Operator position code		Mounting Position	Contact Configuration	1	2
Knob operator  (Photo: 2-position Plastic bezel)	90° 2-position	YW①S-②	2: Maintained 21: Spring return from right	1NO (10)	(1)	NO		●
					(2)	—		
					(3)	—		
				1NC (01)	(1)	—		
					(2)	—		
					(3)	NC	●	
				1NO-1NC (11)	(1)	NO		●
					(2)	—		
					(3)	NC	●	
				1NO-2NC (12)	(1)	NO		●
					(2)	NC	●	
					(3)	NC	●	
				2NO (20)	(1)	NO		●
					(2)	—		
					(3)	NO		●
				2NC (02)	(1)	NC	●	
					(2)	—		
					(3)	NC	●	
				2NO-1NC (21)	(1)	NO		●
					(2)	NO		●
					(3)	NC	●	
				3NO (30)	(1)	NO		●
					(2)	NO		●
					(3)	NO		●
				3NC (03)	(1)	NC	●	
					(2)	NC	●	
					(3)	NC	●	
				2NO-2NC (22)	(1)	NONC	NO NC	●
					(2)	—	—	
					(3)	NONC	NO NC	●
				4NO (20)	(1)	2NO	NO NO	●
					(2)	—	—	●
					(3)	2NO	NO NO	●

- Specify the bezel color code (1: Plastic / 4: Metal bezel) in place of ①. Specify the operation position code in place of ②
- Turn the operator to each position accurately.


### Contact Block Mounting Position



## Selector Switches (Knob Operator)

### 45° 3-position

Package Quantity: 1

Name / Shape	Operator Unit			Contact Configuration	Contact Block		Operator Position		
	No. of Positions	Part No.	②Operator position code		Mounting position	Contact Configuration	1	0	2
 <p>Knob operator (Photo: 3-position Metal bezel)</p>	45° 3-position	YW①S-②	3: Maintained 31: Spring return from right 32: Spring return from left 33: Spring return two-way	2NO (20)	(1)	NO	●		
					(2)	—			
					(3)	NO			●
				2NO (20N1)	(1)	—			
					(2)	NO	●		●
					(3)	NO			●
				2NC (02)	(1)	NC		●	
					(2)	—			
					(3)	NC	●		
				2NO-1NC (21)	(1)	NO	●		
					(2)	NC		●	
					(3)	NO			●
				1NO-1NC (11)	(1)	NO	●		
					(2)	—			
					(3)	NC		●	
				1NO-2NC (12)	(1)	NC		●	
					(2)	NO	●		●
					(3)	NC		●	
				3NO (30)	(1)	NO	●		●
					(2)	NO	●		●
					(3)	NO			●
				3NC (03)	(1)	NC		●	
					(2)	NC		●	
					(3)	NC		●	
				2NO-2NC (22)	(1)	NONC	NO	●	
					(2)	—	NC		●
					(3)	NONC	NO		●
				2NO-2NC (22N2)	(1)	2NC	NC		●
					(2)	—	NC		●
					(3)	2NO	NO	●	●
				4NO (40)	(1)	2NO	NO	●	
					(2)	—	NO	●	
					(3)	2NO	NO		●



- Specify the bezel color code (1: Plastic / 4: Metal bezel) in place of ①, specify the operation position code in place of ②.
- Turn the operator to each position accurately.





### Assembled Part No. Example

YW1S - 2 P 10		
① Bezel shape	③ Contact configuration	
1: Round (plastic)	10: 1NO	21: 2NO1NC
4: Round (metal)	01: 1NC	30: 3NO
	11: 1NO1NC	03: 3NC
	12: 1NO2NC	
② Operator position code	20: 2NO	
2: 2-position, maintained	02: 2NC	
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		

- For other contact configurations, contact IDEC.

### ② Operator position code

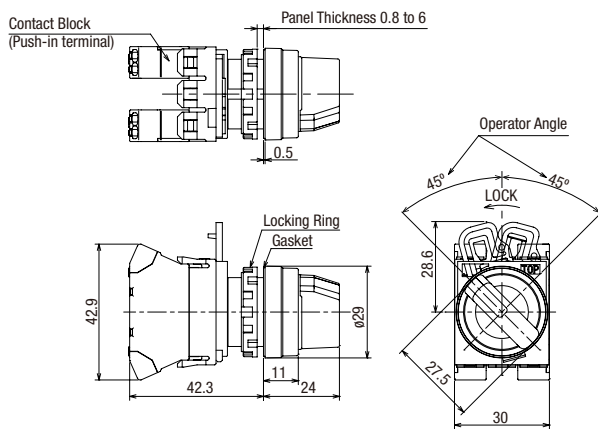
90° 2-position	
2_Maintained	21_Spring Return from Right
	

45° 3-position			
3_Maintained	31_Spring return from right	32_Spring return from left	33_Spring return two-way
			

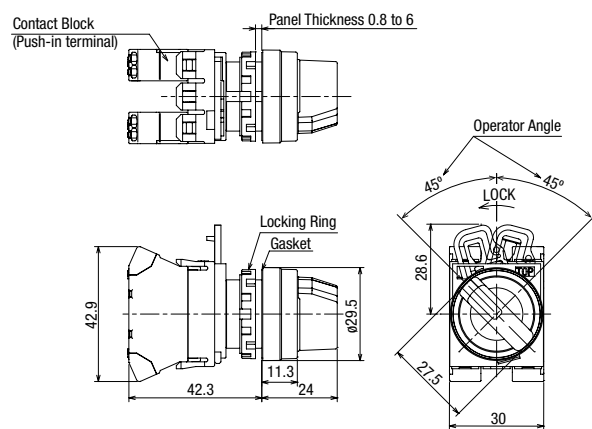
## Selector Switches (Knob Operator) Dimensions

### 1 to 3 contacts

#### Plastic bezel

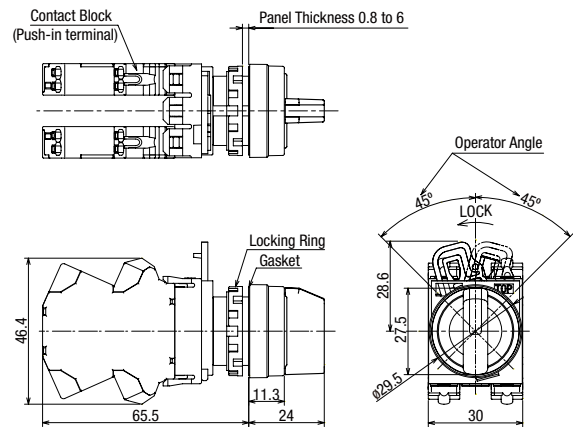
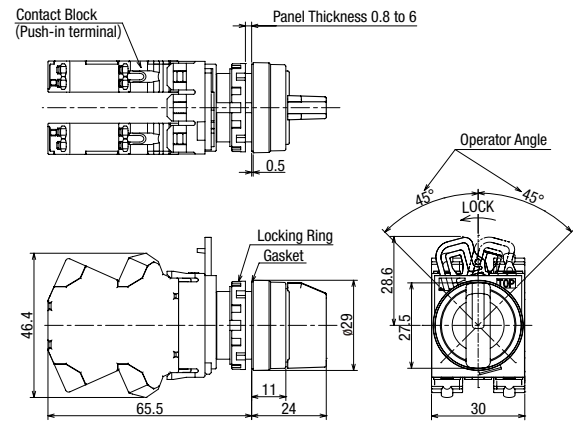


#### Metal bezel



### 4 contacts


Dimensions in mm



## Key Selector Switches (Disc Tumbler Key)

### Assembled

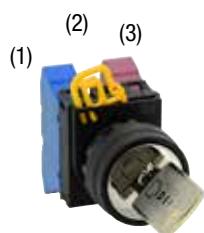
Package Quantity: 1

Shape	No. of Positions											Package Quantity	
90° 2-position	Contact Configuration	Contact Block		Operator Position			Operation / Bezel Color		<div><div>Maintained</div><div><div>1</div><div>2</div></div></div>				
							Maintained						
	Mounting Position	Contact Configuration	1	2		Plastic Bezel	Metal Bezel						
	1NO (10)	(1)	NO		●		YW1K-2AP10	YW4K-2AP10					
		(3)	-										
	1NO-1NC (11)	(1)	NO		●		YW1K-2AP11	YW4K-2AP11					
		(3)	NC	●									
	2NO (20)	(1)	NO		●		YW1K-2AP20	YW4K-2AP20					
		(3)	NO		●								
2NO-2NC (22)	(1)	NONC	NO		●	YW1K-2AP22	YW4K-2AP22						
			NC	●									
	(3)	NONC	NO		●								
			NC	●									

45° 3-position	Contact Configuration	Contact Block		Operator Position			Operation / Bezel Color			
							Maintained		Spring return two-way	
	Mounting Position	Contact Configuration	1	0	2	Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel	
2NO (20)	(1)	NO	●			YW1K-3AP20	YW4K-3AP20	YW1K-33AP20	YW4K-33AP20	
	(3)	NO			●					

- Turn the key operator to each position accurately.
- Two keys are supplied. (Same key number)

### Contact Block Mounting Position



## Key Selector Switches (Disc Tumbler Key)

### Sub-Assembled



### Contact block

Name / Shape	Contact Configuration	Part No.
Single layer contact block 	1NO	HW-P10
	1NC	HW-P01
Double layer contact block 	2NO	HW-PW20
	2NC	HW-PW02
	1NO-1NC	HW-PW11

### Connecting unit

Shape	Part No.
	YW-CN-N

### Operator

Package Quantity: 1

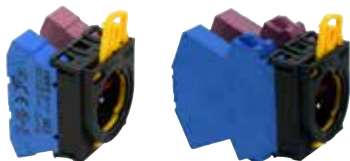
Shape	No. of Positions	Operation	Part No.	
			Plastic Bezel	Metal Bezel
	90° 2-position	Maintained / Removable in all positions	YW1K-2A	YW4K-2A
		Maintained / Removable in the left only	YW1K-2B	YW4K-2B
		Maintained / Removable in the right only	YW1K-2C	YW4K-2C
		Spring return from right	YW1K-21B	YW4K-21B
	45° 3-position	Maintained / Removable in all positions	YW1K-3A	YW4K-3A
		Maintained / Removable in the left and center	YW1K-3B	YW4K-3B
		Maintained / Removable in the right and center	YW1K-3C	YW4K-3C
		Maintained / Removable in the center only	YW1K-3D	YW4K-3D
		Maintained / Removable in the left only	YW1K-3E	YW4K-3E
		Maintained / Removable in the right only	YW1K-3G	YW4K-3G
		Spring return from right / Removable in the left and right	YW1K-3H	YW4K-3H
		Spring return from right / Removable in the center only	YW1K-31B	YW4K-31B
		Spring return from right / Removable in the right only	YW1K-31D	YW4K-31D
		Spring return from left / Removable in the left only	YW1K-31G	YW4K-31G
		Spring return from left / Removable in the right and center	YW1K-32C	YW4K-32C
		Spring return from left / Removable in the center only	YW1K-32D	YW4K-32D
		Spring return from left / Removable in the right only	YW1K-32H	YW4K-32H
		Spring return two-way / Removable in the center only	YW1K-33D	YW4K-33D



## Key Selector Switches (Disc Tumbler Key)

### Sub-assembled

**Contact unit**  
(Contact block, Connecting unit)



+

**Operator**






=

**Assembled**



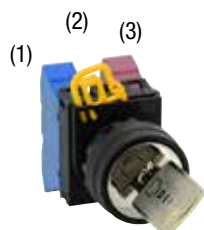
### 90° 2-position

Package Quantity: 1

Name / Shape	Operator Unit			Contact Configuration	Contact Block		Operator Position			
	No. of Positions	Part No.	② Operator position code		③ Key Removal Code	Mounting Position	Contact Configuration	1 	2 	
<div>Key selector</div> <div></div> <div>(Photo: 2-position / Metal bezel)</div>	90° 2-position	YWOK-2③	2: Maintained 21: Spring return from right	A: Removable in all positions B: Removable in the left C: Removable in the right	1NO (10)	(1)	NO		●	
						(2)	—			
						(3)	—			
					1NC (01)	(1)	—			
						(2)	—			
						(3)	NC	●		
					1NO-1NC (11)	(1)	NO		●	
						(2)	—			
						(3)	NC	●		
					1NO-2NC (12)	(1)	NO		●	
						(2)	NC		●	
						(3)	NC	●		
					2NO (20)	(1)	NO	●		
						(2)	—			
						(3)	NO		●	
					2NC (02)	(1)	NC		●	
						(2)	—		●	
						(3)	NC		●	
					2NO-1NC (21)	(1)	NO		●	
						(2)	NO		●	
						(3)	NC	●		
					3NO (30)	(1)	NO		●	
						(2)	NO		●	
						(3)	NO		●	
					3NC (03)	(1)	NC	●		
						(2)	NC	●		
						(3)	NC	●		
					2NO-2NC (22)	(1)	NONC	NO NC	●	●
						(2)	—			
						(3)	NONC	NO NC	●	●
					4NO (20)	(1)	2NO	NO NO		●
						(2)	—			●
						(3)	2NO	NO NO		●

- Specify the bezel color code (1: Plastic / 4: Metal bezel) in place of ①. Specify the operation position code in place of ②. Specify the key removal position code in place of ③.
- Turn the key operator to each position accurately.
- Two keys are supplied. (Same key number)


### Contact Block Mounting Position



## Key Selector Switches (Disc Tumbler Key)

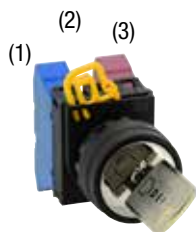
### 45° 3-position

Package Quantity: 1

Name / Shape	Operator Unit			Contact Configuration	Contact Block		Operator Position						
	No. of Positions	Part No.	② Operator position code		③ Key removal code	Mounting Position	Contact Configuration	1	0	2			
<div>Key selector</div> <div></div> <div>(Photo: 3-position / Metal bezel)</div>	90° 2-position	YW①K-②③	3: Maintained 31: Spring return from right 32: Spring return from left 33: Spring return two-way	A: Removable in all positions B: Removable in the left and center C: Removable in the right and center D: Removable in the center E: Removable in the left and right G: Removable in the left only H: Removable in the right only	2NO (20)	(1)	NO	●					
						(2)	—						
						(3)	NO			●			
					2NO (20N1)	(1)	—			●			
						(2)	NO	●		●			
						(3)	NO			●			
					2NC (02)	(1)	NC						
						(2)	—						
						(3)	NC						
					2NO-1NC (21)	(1)	NO	●					
						(2)	NC		●				
						(3)	NO			●			
					1NO-1NC (11)	(1)	NO	●					
						(2)	—						
						(3)	NC						
					1NO-2NC (12)	(1)	NC						
						(2)	NO	●					
						(3)	NC						
					3NO (30)	(1)	NO	●					
						(2)	NO	●					
						(3)	NO						
					3NC (03)	(1)	NC						
						(2)	NC		●				
						(3)	NC						
					2NO-2NC (22)	(1)	NONC	NO	●				
						(2)	—	NC					
						(3)	NONC	NO					
					2NO-2NC (22N2)	(1)	2NC	NC					
						(2)	—	NC					
						(3)	2NO	NO					
					4NO (40)	(1)	2NO	NO	●				
						(2)	—	NO	●				
						(3)	2NO	NO					

- Specify the bezel color code (1: Plastic / 4: Metal bezel) in place of ①. Specify the operation position code in place of ②. Specify the key removal position code in place of ③.
- Turn the key operator to each position accurately.
- Two keys are supplied. (Same key number)

### Contact Block Mounting Position



## Key Selector Switches (Disc Tumbler Key)

### Part Number Development

Assembled and sub-assembled unit

#### Assembled Part No. Example



**YW1K - 2 A P 01**





- ① Bezel shape  
1: Round (plastic)  
4: Round (metal)
- 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 Contact configuration  
10: 1NO      21: 2NO1NC  
01: 1NC      30: 3NO  
11: 1NO1NC    03: 3NC  
12: 1NO2NC  
20: 2NO  
02: 2NC
- ④ Key removal position  
2-position  
A: Removable in all positions  
B: Removable in the left only  
C: Removable in the right only

#### 3-position

- A: Removable in all positions  
B: Removable in the left and center  
C: Removable in the right and center  
D: Removable in center only  
E: Removable in right and left  
G: Removable in left only  
H: Removable in right only




#### 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 

#### ④ Key removal position

##### 90° 2-position

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

##### 45° 3-position

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

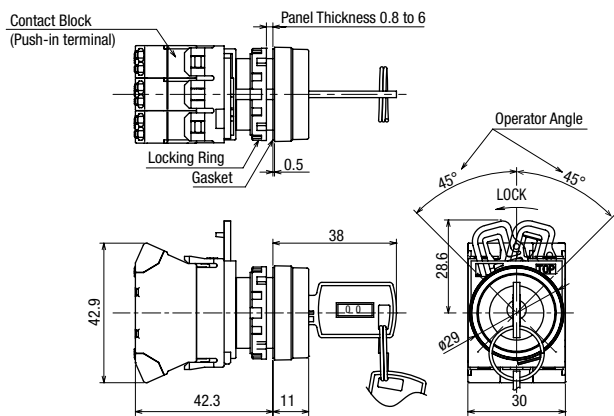
①①② : Key removal position    ①①② : Key retained position

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

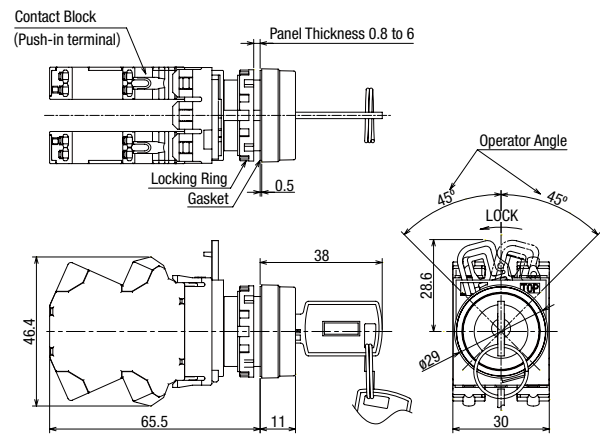
## Key Selector Switches (Disc Tumbler Key)

### 1 to 3 contacts

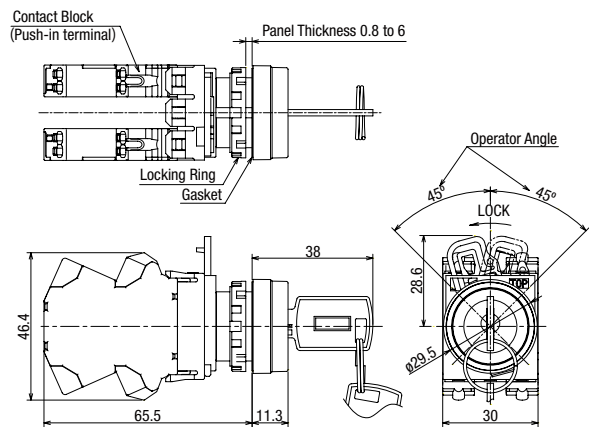
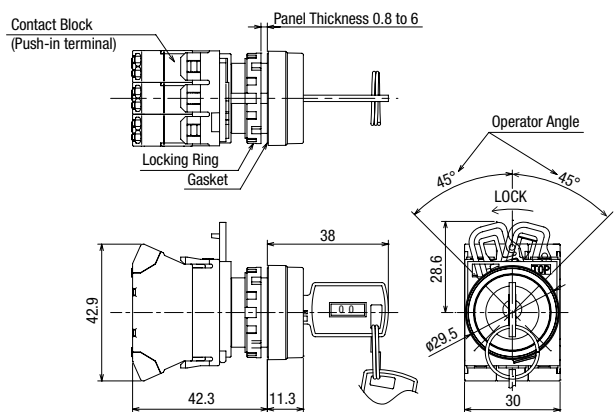
#### Plastic bezel



### 4 contacts




#### Metal bezel



## Emergency Stop Switches (Non-Illuminated)

### Assembled

Package Quantity: 1

Name / Shape	Contact configuration	Part No.
	1NO	YW1B-V4P01R
	2NC	YW1B-V4P02R
	3NO	YW1B-V4P03R
	1NO-1NC	YW1B-V4P11R

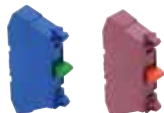
• Pushlock pull or turn reset switches are locked when pressed, and reset when pulled or turned clockwise.

### Sub-Assembled


Contact block	+	Connecting unit	+	Operator	=	Assembled
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#### Contact block

Name / Shape	Contact Configuration	Part No.
	1NO	HW-P10
	1NC	HW-P01

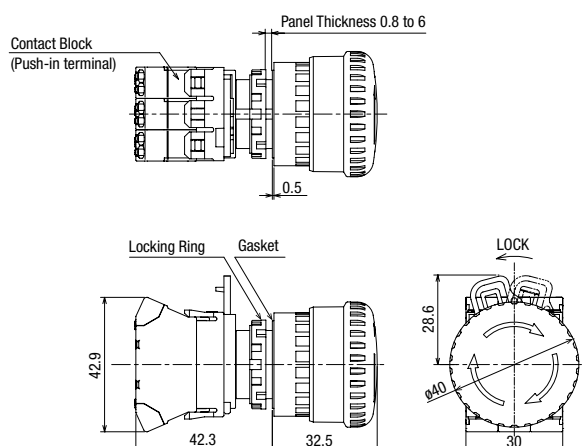
#### Connecting unit

Shape	Part No.
	YW-CN-N

#### Operator

Name / Shape	Operation	Part No.
	Pushlock pull or turn reset	YW1B-V4R

#### Dimensions (Assembled)



#### Assembled Part No. Example

YW1B - V 4 P 01 R	
Operation V: Pushlock pull or turn reset	Button Color Code R: Red
Button Style 4: ø40 mushroom	Contact Configuration Code 01: 1NO 02: 2NO 03: 3NO


Note: For emergency stop purposes, the switches must contain at least one NC contact block.



## Emergency Stop Switches (Illuminated)

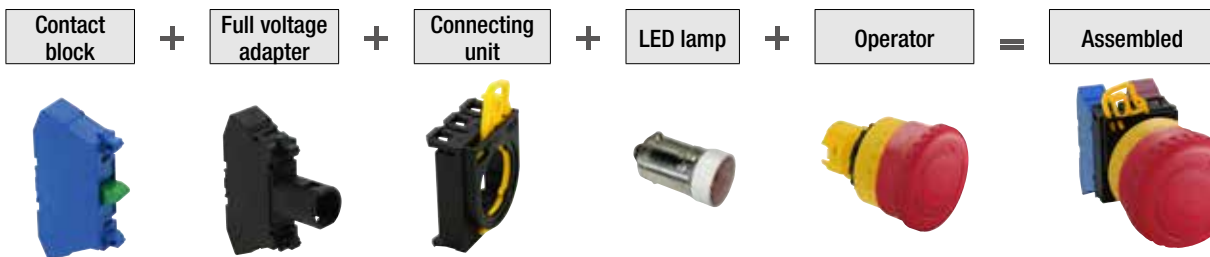
### Assembled

Package Quantity: 1


Name / Shape	LED lamp	Contact configuration	Part No.
	None	1NO	YW1L-V4P01R
		2NC	YW1L-V4P02R
	24V AC/DC	1NO-1NC	YW1L-V4P11R

- Pushlock pull or turn reset switches are locked when pressed, and reset when pulled or turned clockwise.


### Sub-Assembled




#### Contact block

Name / Shape	Contact Configuration	Part No.
	1NO	HW-P10
	1NC	HW-P01


#### Connecting unit

Shape	Part No.
	YW-CN-N


#### Full voltage adapter

Shape	Part No.
	HW-DP

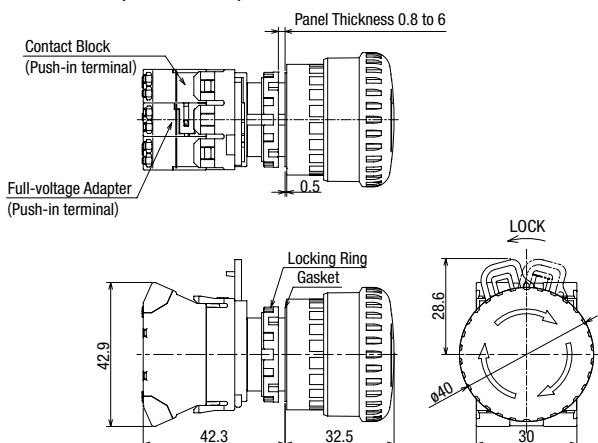
#### Operator

Name / Shape	Operation	Part No.
	Pushlock pull or turn reset	YW1L-V4R

#### LED Lamp

Shape	Voltage	Part No.
	6V AC/DC	LSED-6RN
	12V AC/DC	LSED-1RN
	24V AC/DC	LSED-2RN
	110V AC/DC	LSED-HRN
	230/240V AC/DC	LSED-M3RN

### Dimensions (Assembled)



Note

- For emergency stop purposes, the switches must contain at least one NC contact block.

### Assembled Part No. Example



Operation	YW1L - V	4	P	11	Q2	R	Button Color Code
V: Pushlock pull or turn reset							R: Red
Button Style							
4: ø40 mushroom							
Contact Configuration							
01: 1NO							
02: 2NC							
11: 1NO1NC							
Rated Operating Voltage							
Q0: Without LED							
Q2: 6V AC/DC							
Q3: 12V AC/DC							
Q4: 24V AC/DC							
QH: 110V AC/DC							
QM3: 230-240V AC/DC							

## Short Body Pilot Lights

### Assembled



Package Quantity: 1

Name / Shape	Rated operating voltage	Part No. (Ordering No.)	Color code ① for lens
<b>Extended (Dome)</b> <b>HW1P</b> 	6V AC/DC	<b>HW1P-2JPQ2①</b>	R (red) G (green) Y (yellow) A (Amber) S (blue) PW (Pure white)
	12V AC/DC	<b>HW1P-2JPQ3①</b>	
	24V AC/DC	<b>HW1P-2JPQ4①</b>	
	100/120V AC/DC	<b>HW1P-2JPRH①</b>	
	200/240V AC/DC	<b>HW1P-2JPCM①</b>	
<b>Square Flush</b> <b>HW2P</b> 	6V AC/DC	<b>HW2P-1JPQ2①</b>	R (red) G (green) Y (yellow) A (Amber) S (blue) PW (Pure white)
	12V AC/DC	<b>HW2P-1JPQ3①</b>	
	24V AC/DC	<b>HW2P-1JPQ4①</b>	
	100/120V AC/DC	<b>HW2P-1JPRH①</b>	
	200/240V AC/DC	<b>HW2P-1JPCM①</b>	

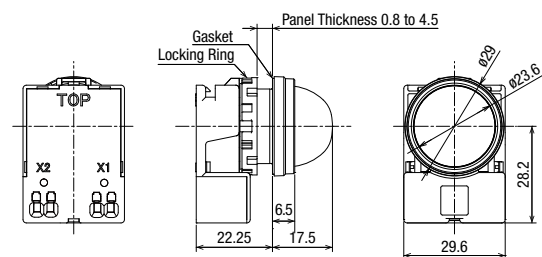
- Built-in LED lamp. For details, see page 35.
- For square flush pilot lights, legends and symbols can be engraved on marking plates, or printed film can be inserted.  
For details on marking plates or film, see page 40.
- Engraving and films must be prepared by the customer.
- Specify a lens color code in place of ① in the Part No.

## Dimensions

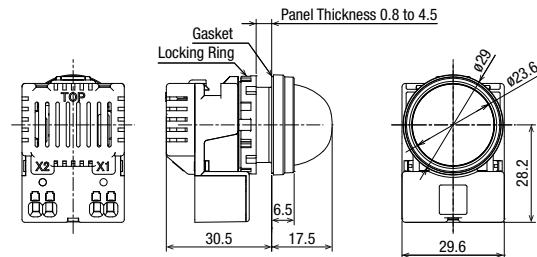
All dimensions in mm.

### Extended (Dome)

6V, 12V, 24V AC/DC

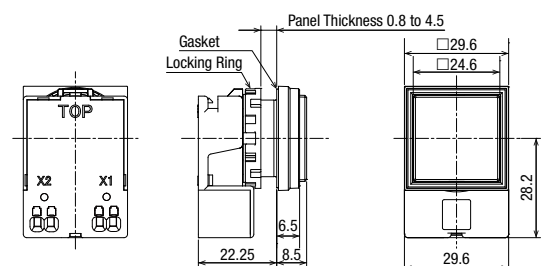


100/110V AC/DC, 200/220V AC

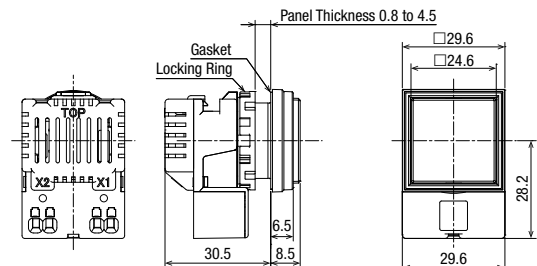


### Square Flush

6V, 12V, 24V AC/DC

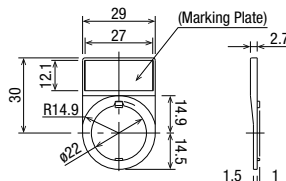
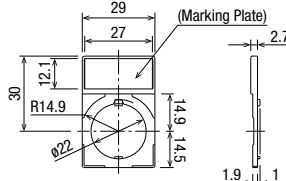
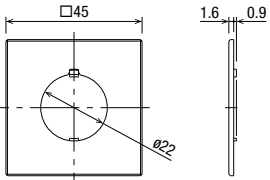


100/110V AC/DC, 200/220V AC



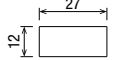
## Nameplates

When ordering, specify the Ordering No.

Description		Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)
Legend						
HWAM	Order marking plate (round) separately.	Plastic (black)	HWAM	HWAM	1	<div>HWNP-□ marking plate (sold separately) is necessary</div> 
				HWAMPN10	10	
HWAQ	Order marking plate (square) separately.	Plastic (black)	HWAQ	HWAQ	1	<div>HWNP-□ marking plate (sold separately) is necessary</div> 
				HWAQPN10	10	
HWAS	Blank	Plastic (black)	HWAS-0	HWAS-0	1	
				HWAS-0PN10	10	

### Marking Plates for HWAM/HWAQ

When ordering, specify the Ordering No.

Description	Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)
HWNP	Aluminum (black) Thickness = 1.0mm	HWNP-□	HWNP-□	1	<p>White legend on black background. Engraving area: W25×H7</p> 
			HWNP-□PN10	10	

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


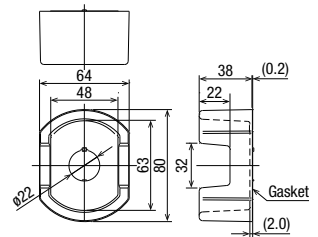

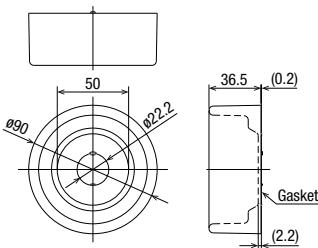

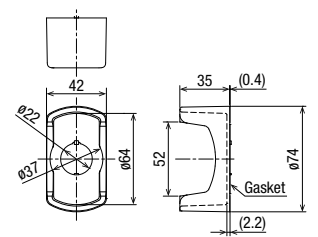

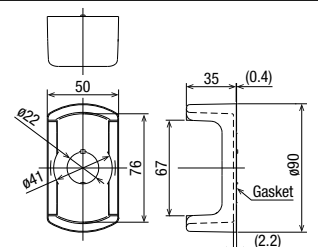

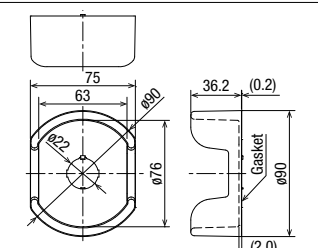
### Legends

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

- See page 37 for how to install nameplates/markings plates, and how to remove marking plates.

## SEMI S2 Compliant EMO Switch Guard


Package Quantity: 1

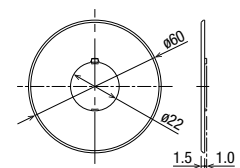
Shape	Part No.	Remarks	Dimensions (mm)
	HW9Z-KG1	<ul style="list-style-type: none"> <li>SEMI S2-0703, 12.5.1 compliant.</li> <li>Widely used switch guard in many applications.</li> </ul>	
	HW9Z-KG2	<ul style="list-style-type: none"> <li>SEMI S2-0703, 12.5.1 compliant.</li> <li>SEMATECH Application Guide for SEMI S2-93, 12.4. compliant.</li> <li>The round shape is effective to prevent inadvertent operation from any direction.</li> </ul>	
	HW9Z-KG3	<ul style="list-style-type: none"> <li>SEMI S2 compliant (The combination of IDEC's emergency stop switches and EMO switch guards are approved by TÜV Rheinland for compliance with SEMI S2 standard.)</li> <li>ISO 13850 compliant.</li> <li>The smallest switch guard for ø22 series switches.</li> </ul>	
	HW9Z-KG4	<ul style="list-style-type: none"> <li>SEMI S2 compliant (The combination of IDEC's emergency stop switches and EMO switch guards are approved by TÜV Rheinland for compliance with SEMI S2 standard.)</li> <li>SEMATECH Application Guide for SEMI S2-93, 12.4. compliant.</li> <li>ISO 13850 compliant.</li> <li>Narrower than HW9Z-KG5. Saves more space.</li> </ul>	
	HW9Z-KG5	<ul style="list-style-type: none"> <li>SEMI S2 compliant (The combination of IDEC's emergency stop switches and EMO switch guards are approved by TÜV Rheinland for compliance with SEMI S2 standard.)</li> <li>SEMATECH Application Guide for SEMI S2-93, 12.4. compliant.</li> <li>ISO 13850 compliant.</li> <li>A nameplate can be installed.</li> </ul>	

• Material: polyamide (PA6), degree of protection: IP65 (IEC 60529)

## Nameplate (for ø22 mm Emergency Stop Switches)

Package Quantity: 1

Shape	Legend	Part No. (Ordering No.)	Remarks
	(blank)	HWAV-0-Y	<b>HWAV-27-Y</b> Nameplate color: yellow Legend color: black Panel thickness: 0.8 to 4.5 mm Material: polyamide
	EMERGENCY STOP	HWAV-27-Y	Note) Cannot be used on ø60 mushroom pushlock turn reset switches. Use a nameplate exclusive for ø60 mushroom e-stop. See XW series catalog.



• “EMERGENCY OFF” and white (blank) nameplates available. See website or catalog for SEMI Emergency off (EMO) switches and Stop switches.

Note) For machinery subject to ISO/IEC standards such as machine tools and food machinery, in compliant with the revised ISO13850, it is not recommended to display texts or symbols such as EMERGENCY STOP on the actuator or nameplate of an emergency stop device.

## Accessories

When ordering, specify the Ordering No.



Name / Shape		Part No.	Ordering No.	Package Quantity	Remarks
	Metal (nickel-plated brass) Weight: approx. 150g	MW9Z-T1	MW9Z-T1	1	<ul style="list-style-type: none"> <li>Used to tighten the locking ring when installing the switch onto a panel.</li> </ul> 
	Ring: polyamide Gasket: nitril rubber	HW9Z-RL	HW9Z-RLPN10	10	<ul style="list-style-type: none"> <li>Used to prevent the operator from turning. Generally used when using no nameplates on selector switches and pushbutton selectors.</li> </ul> 
	Nitril rubber (black)	OB-31	OB-31PN05	5	<ul style="list-style-type: none"> <li>Degree of protection: IP65 (round hole), IP40 (with anti-rotation function)</li> </ul> 
	Plug: Metal (Zinc diecast) Locking nut: Polyamide Gasket: Nitrile rubber	LW9Z-BM	LW9Z-BM	1	<ul style="list-style-type: none"> <li>Degree of protection: IP66 (round hole), IP40 (with anti-rotation function)</li> <li>Tightening torque: 1.2 N·m</li> </ul> 
	Polyarylate Gasket: Nitrile rubber	HW9Z-KL1	HW9Z-KL1	1	<ul style="list-style-type: none"> <li>Used to protect pushbuttons, selector switches, and key selector switches. (with keys removed)</li> </ul> 
	Extended ø23.6 H9.3	YW9Z-B12*	YW9Z-B12*PN10	10	* (Color Code) B (black), G (green), R (red), Y (yellow), S (blue) W (white)
	ø40 mushroom ø40 H10.8	YW9Z-B14*	YW9Z-B14*PN10	10	* (Color Code) B (black), G (green), R (red), Y (yellow), S (blue) W (white)
	Extended ø23.6 H9.3	YW9Z-L12*	YW9Z-L12*PN10	10	* (Color Code) B (black), G (green), R (red), Y (yellow), S (blue) W (white) (*1)
	ø40 mushroom ø40 H10.8	YW9Z-L14*	YW9Z-L14*PN10	10	* (Color Code) R (red), G (green), Y (yellow), A (amber), C (clear), W (white) (*1)
	Dome (pilot light) ø23.5 H15.1	HW1A-P2*-K	HW1A-P2*-KPN05	5	* (Color Code) R (red), G (green), Y (yellow), A (amber), W (white), S (blue) (*2)

\*1) Use C (clear) lens for PW (pure white) illumination.

\*2) Use W (white) lens for PW (pure white) illumination.


## Accessories

When ordering, specify the Ordering No.


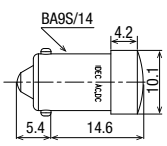
Name / Shape	Part No.	Ordering No.	Package Quantity	Color
Marking plate Extended 	YW9Z-P12	YW9Z-P12PN10	10	White
Marking plate Square flush (for HW2P) 	HW9Z-P21	HW9Z-P21PN05	5	White
Key 	Metal	YW9Z-SK00	2	

## Maintenance parts

When ordering, specify the Ordering No.

Name / Shape	Specification	Part No.	Ordering No.	Package Quantity	Remarks
	NO contact Housing color: blue	HW-P10	HW-P10	5	Terminal no.: First deck 3-4
	NC contact Housing color: reddish purple	HW-P01	HW-P01	5	Terminal no.: First deck: 1-2
	2NO contact Housing color: blue	HW-PW20	HW-PW20	5	Terminal no.: First deck: 13-14 Second deck: 23-24
	2NC contact Housing color: reddish purple	HW-PW02	HW-PW02	5	Terminal no.: First deck: 11-12 Second deck: 21-22
	NONC contact Housing color: blue / reddish purple	HW-PW11	HW-PW11	5	Terminal no.: First deck: 13-14 Second deck: 21-22
Full voltage adapter 		HW-DP	HW-DP	1	Applicable model Illuminated pushbuttons Emergency stop switches (illuminated)  Applicable load (LED lamp) LSED-6*N (6V AC/DC) LSED-1*N (12V AC/DC) LSED-2*N (24V AC/DC) LSED-H2*N (110V AC/DC) LSED-M3*N (230/240V AC/DC )
Connecting unit 		YW-CN-N	YW-CN-N	1	Connecting unit for Push-in terminal

## LED Lamps

Shape	Rated Voltage	Current Draw	Part No.	Package Quantity	Dimensions
	AC/DC6V	8mA (R, Y, A) 6mA (G, S, PW)	LSED-6*N	1	
	AC/DC12V	7mA (R, Y, A) 6mA (G, S, PW)	LSED-1*N		
	AC/DC24V	4mA	LSED-2*N		
	AC/DC110V	3mA	LSED-H*N		
	AC/DC 230/240V	3mA	LSED-M3*N		

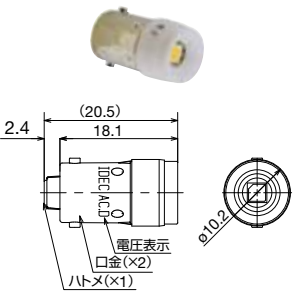
• Specify the button color code in place of \*. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)



Maintenance parts

LED Lamps (For HW1P / HW2P)

When ordering, specify the Ordering No.

Name / Dimensions	Operating Voltage	Current Draw		Part No.	Ordering No.	Package Quantity	Base
		DC	AC				
	6V AC/DC	10mA	14mA	LSRD-6	LSRD-6	1	BA9S/13
					LSRD-6PN10	10	
	12V AC/DC	7mA	8mA	LSRD-1	LSRD-1	1	
					LSRD-1PN10	10	
	24V AC/DC	7mA	8mA	LSRD-2	LSRD-2	1	
					LSRD-2PN10	10	



## Safety Precautions

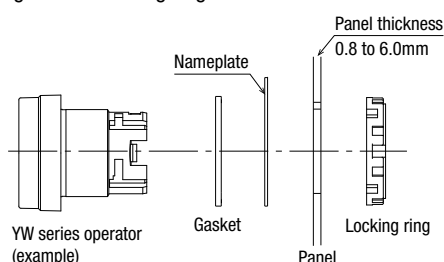
- Turn off the power to the YW series switches & pilot lights before starting installation, removal, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.
- For wiring, use wires of a proper size to meet the voltage and current requirements.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

### Panel Mounting

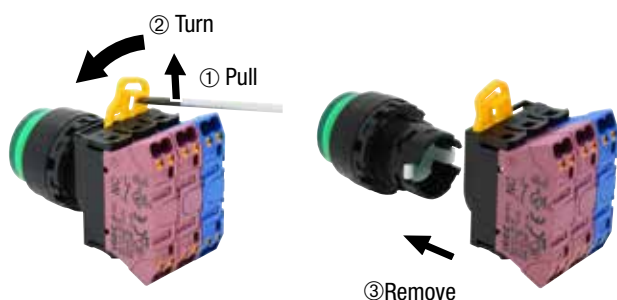
1. Remove the contact block from the operator.
2. Remove the locking ring from the operator
3. Insert the operator into the panel cut-out from the front. When mounting the nameplate, insert between the operator and panel.
4. Tighten the locking ring from the back.



Mounting panel thickness is reduced by 1.5 mm when using a nameplate.

### Removing the Contact Block

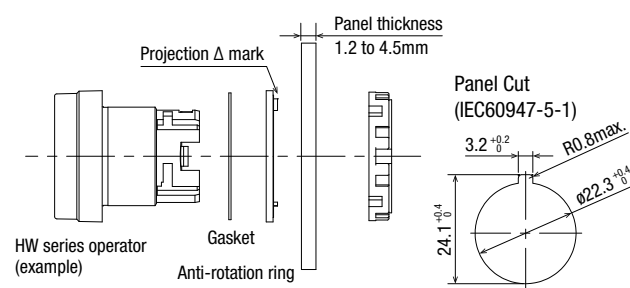
1. Remove the operator from the contact block by pushing and turning the locking lever in the direction of the arrow shown below. Then the operator can be pulled out.



2. To reinstall, place the TOP marking on the operator and the lock lever in the same direction, and insert the operator into the contact block mounting adapter. Then turn the locking lever in the opposite direction.

### Anti-rotation Ring and Mounting Panel

Turn the TOP marking on the operator and the  $\Delta$  mark on the anti-rotation ring to the recess on the mounting panel.



### Notes for Panel Mounting

#### Locking ring wrench recommended torque

Tighten the bezel to a tightening torque of 2.0 N·m.

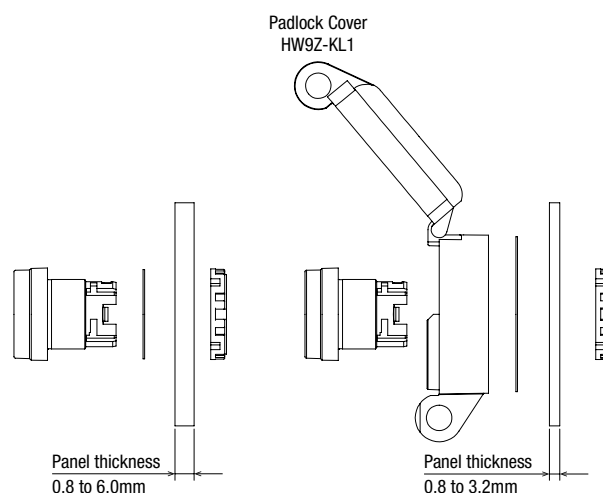
Locking ring wrench (MW9Z-T1) can be used to tighten the bezel. Do not use pliers. Excessive tightening will damage the locking ring.



Locking ring wrench (MW9Z-T1)

### Panel Thickness

YW series can be mounted on a panel with thickness of 0.8 to 6.0 mm. Take the thickness of nameplate and/or switch guard into consideration.



## Instructions

### Installing/Removing the Buttons

<To install>

#### Pushbutton Button

##### • Extended/Mushroom

Button has threads.  
Turn clockwise to  
install the button.



<To remove>

Turn the button  
counterclockwise  
to remove.

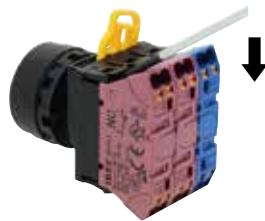


Note) Flush button is not removable.

### Removing the Contact Block, Dummy Block, Direct Adapter

#### Removing

To remove the contact block, dummy block, and direct adapter, insert into the flat blade screwdriver latch and move in the direction of the arrow.

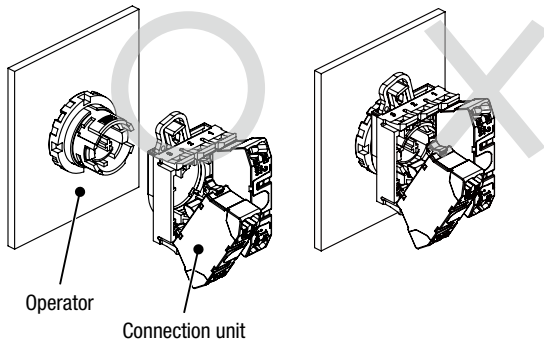


#### Installing

When installing the contact 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.



### Selector Switches

Turn the operator such as knob, lever, and key to each position accurately. Releasing halfway may cause the operator to return to the former position, or to get stuck between. On spring return two-way types, the center of operators may be misaligned slightly.

### Key Selector Switches

Insert the key completely before turning. Failure to do so may cause failures.

### Applicable Wire

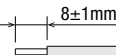
When wiring, use the applicable wires shown below.

#### Applicable Wire and Specifications

Dimensions in mm.

Applicable Wire	0.25 to 1.5mm <sup>2</sup> (AWG16 to 24)
Wire Strip Length (*1)	8 ± 1mm

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



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

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

### Wire Size and Recommended Ferrules

#### Ferrules without insulated covers (Weidmüller product)

Applicable Wire (Stranded Wire)		Wire Strip Length	Weidmüller Part No.
AWG	mm <sup>2</sup>		
24	0.25	5 to 6mm	H0.25/5
20	0.50	10 to 11mm	H0.5/10
18	0.75	10 to 11mm	H0.75/10
18	1.00	10 to 11mm	H1.0/10
16	1.50	10 to 11mm	H1.5/10

#### Ferrules with insulated covers

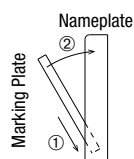
Applicable Wire (Stranded Wire)		Wire Strip Length	IDEC Part No.
AWG	mm <sup>2</sup>		
24	0.25	10 to 11mm	S3TL-H025-12WJ
22	0.34	10 to 11mm	S3TL-H034-12WT
20	0.50	10 to 11mm	S3TL-H05-14WA
18	0.75	10 to 11mm	S3TL-H075-14WW
18	1.00	10 to 11mm	S3TL-H10-14WY
16	1.50	10 to 11mm	S3TL-H15-14WR

### Nameplate

Mounting panel thickness is reduced by 1.5 mm when using a nameplate.

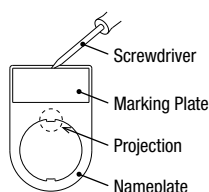
#### Installing a Marking Plate

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.



## Instructions

### Recommended Crimping Tool (Optional) (Weidmüller product)

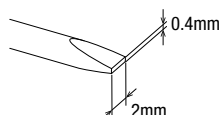
Item	Weidmüller Recommended Part No.
Crimping tool	PZ 6 Roto L

Note) Note the crimping dimensions When using tools other than the recommended crimping tool. For details, see page right.

### 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.

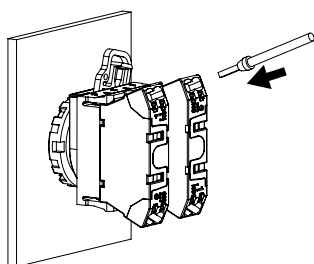


## Wiring Procedure

### Connecting the wire

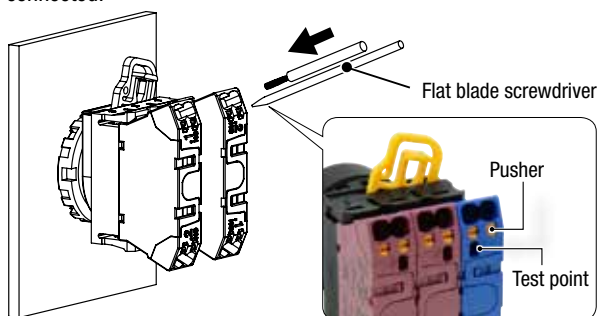
#### 1) Stranded wires with ferrules or solid wire

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.



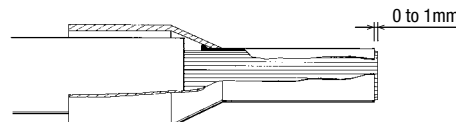
#### 2) Stranded wire

1. While pressing the pusher (orange button) using a flat blade screwdriver (recommended: S3TL-D04-20-60 (optional)). 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

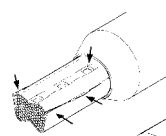
- Choose an appropriate ferrule for the wire.
- Cut the wire carefully to get a flat end.
- Make sure that ferrule sleeve is completely filled by the conductor. Depending on the cross section, the conductor should protrude approx. 0 to 1 mm from the ferrule sleeve.



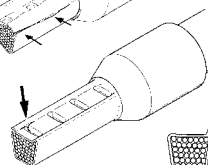
- When crimping, refer to the instructions of the crimping tool.

### 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
- Insulation cover damaged by the crimping jaw
- Conductor insulation not pushed into the insulated cover
- Ferrule bent longitudinally after crimping



Formation of cracks at the sides.  
Sides split open



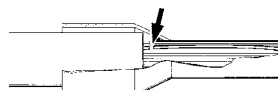
Formation of cracks at the  
impressions of the crimping jaw



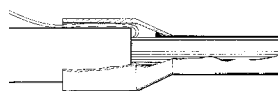
Asymmetrical crimping shape.  
Burr formation on one side



Asymmetrical crimping shape.  
Burr formation on one side



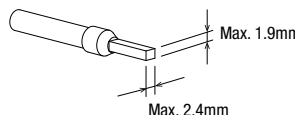
Single conductor squeezed off



Single conductor pushed back

### 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. (Recommended crimping tool: PZ 6 Roto L (optional) Weidmüller)



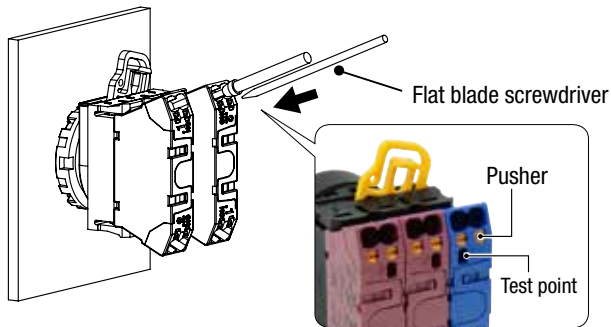
Note 1) If a tool other than the recommended crimping tool is used, the ferrule may not be crimped to the appropriate size and the clamp or spring inside the contact block may be deformed and may not operate normally.

Note 2) Pin crimp terminals cannot be used.

## Instructions

### Removing the Wire

When removing the wire, push the pusher using a flat blade screwdriver (recommended: S3TL-D04-20-60) 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

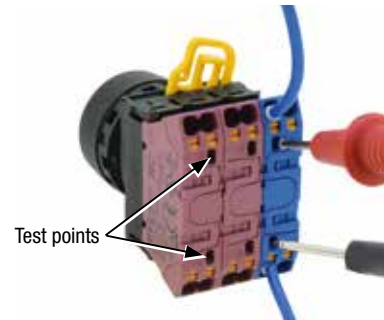
Unit	Connectable wires		No. of connectable wires
HW-P Contact block	Solid wire	0.25 to 1.5mm <sup>2</sup> (AWG16 to 24)	2
	Stranded wire	0.25 to 1.5mm <sup>2</sup> (AWG16 to 24)	
Pilot light	Ferrule	Without insulated cover 0.25mm <sup>2</sup> : conductor length 5 to 10mm 0.5 to 1.0mm <sup>2</sup> : conductor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

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

### Test Point

Note 1) Do not insert wires into the test point.

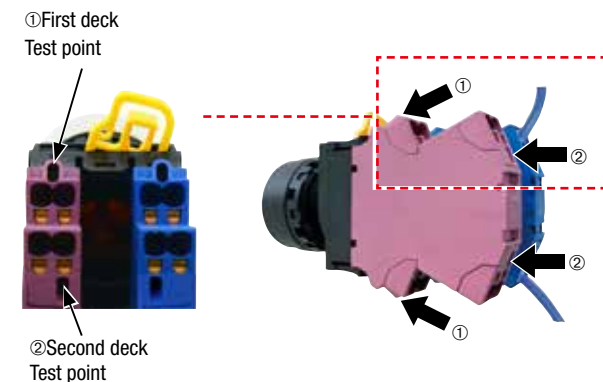
Note 2) When conducting a continuity test on the contact block, make sure that the probes (ø2.0 maximum) of the tester are inserted vertically to the panel.



### 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.



## Emergency Stop Switches Instructions

When using the YW emergency stop switches in safety-related part of a control system, observe safety standards and regulations of the relevant country or region. Also be sure to perform a risk assessment before operation.

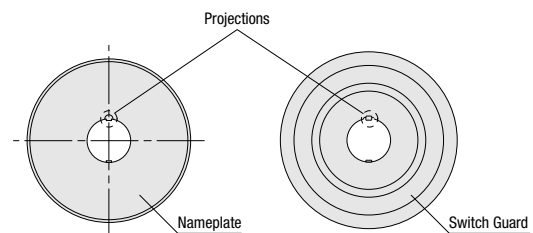
### Chattering / Contact Bounce

When the button is reset by pulling or turning, the NC main contacts will bounce. When pressing the button, the NO monitor contacts will bounce. When designing a control circuit, take the contact bounce time into consideration (reference value: 20 ms).

Also, do not apply shock to the switch as chattering may occur.

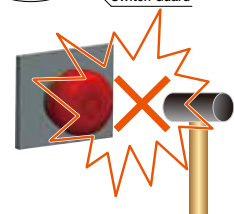
### Nameplate or Switch Guard

When anti-rotation is not required, remove the projection from the nameplate or switch guard using pliers.



### Handling

Do not expose the switch to excessive shocks and vibrations, otherwise the switch may be deformed or damaged, causing malfunction or operation failure.



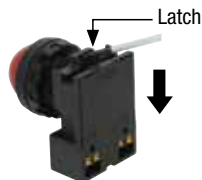
## Pilot Lights Instructions

### Installing the Pilot Light

Detach the operator unit from the LED unit. After mounting the operator from the front of the panel, attach the LED unit.

#### Installing / Removing the LED Unit

1. Detach the LED unit by lifting the latch using a small flat blade screwdriver width 0.5mm max.)
2. To install, align the TOP marking on the operator with the TOP marking on the LED unit.



### Replacing LED lamps

Lamps can be replaced using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block from the operator unit.

#### Removing the LED lamp from the front of the panel

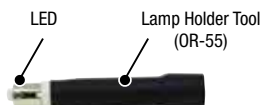
##### Removing

To remove, slip the lamp holder tool onto the lamp head lightly. Then push slightly, and turn the lamp holder tool counterclockwise.



##### Installing

1. Insert the lamp head into the lamp holder tool.
2. Place the pins on the lamp base to the grooves in the lamp socket. Insert the lamp and turn it clockwise.



### Installing / Removing the Lenses

<To install>

<To remove>

#### Pilot Light Lens

##### • Extended/Mushroom

Lens has threads. Turn clockwise to install the lens.



Turn the lens counterclockwise to remove.



##### • Round Flush/Square Flush

Push in the lens holder into the operator unit.



Insert a flat screwdriver between the lens and the bezel to remove.



### Installing/Removing the Lenses and Marking Plates

#### Removing

##### Removing the lens unit

Insert a flat screwdriver in groove of the lens (TOP mark side of the operator or opposite side) to remove the lens unit (lens/marketing plate/lens holder).



##### Removing the lens

Remove the lens by pushing the lens from the rear to disengage the latches between the lens and the lens holder, using a flat screwdriver as shown below.



Note) The filter inside the lens holder is water and oil-proof and cannot be removed.

### Marking

For HW series pilot lights, legends and symbols can be engraved on the built-in marking plates, or printed film can be inserted under the lens for labeling purposes.

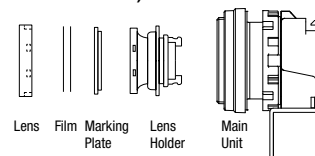
#### Marking plate and marking film size (mm)

Built-in marking plate and engraving area	Applicable marking film size
<p>Outside diameter: □22.7</p> <p>Engraving depth: 0.5mm max.</p> <p>Engraving Area: □19.9</p>	<p>□22.7</p> <p>• Two 0.1 mm-thick films or one 0.2 mm-thick film</p>

\*Marking films are not supplied.

### Insertion Order of Marking Plate and Film

#### Square Lens (Square flush lens)



#### Note

- Films are not supplied.
- When inserting a film, make sure that the marking plate is installed with its uneven side facing the lens holder.







# 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

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<b>EMEA</b>	APEM SAS	<b>Thailand</b>	IDEC Asia (Thailand) Co., Ltd.		IDEC Izumi (H.K.) Co., Ltd.		
		<b>India</b>	IDEC Controls India Private Ltd.	<b>Taiwan</b>	IDEC Taiwan Corporation		

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 EP1743-4

