

HW Series



Complete with finger-safe contact blocks.
Ensure safety and save wiring time.



- DC-DC converter types are not approved by standards.
- See website for details on approvals and standards.



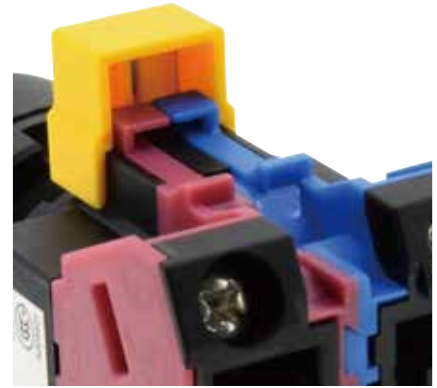
HW Series
Illuminated
Pushbuttons



HW1Z
Illuminated
Buzzer



HW Series
Pilot Lights
(short body)



Ordering Information

Pushbuttons (B-187 to B-189)

When specifying gold-plated silver contact and contact configuration:

HW1B-M1	11	R	-MAU		
				Optional contact	MAU: Gold contact
				Contact configuration	10: 1NO 01: 1NC 11: 1NO1NC 20: 2NO 02: 2NC 22: 2NO2NC 40: 4NO 04: 4NC 13: 1NO3NC 31: 3NO1NC 30: 3NO 03: 3NC 12: 1NO2NC 21: 2NO1NC

Pilot Lights (B-190)

When specifying LED operating voltage:

HW1P-1	H2	R			
				Operating voltage	Q0: Without LED lamp Q2: 6V AC/DC Q3: 12V AC/DC Q4: 24V AC/DC H2: 100/110V AC H22: 115/120V AC M2: 200/220V AC M42: 230/240V AC S2: 380V AC T2: 400/440V AC T82: 480V AC D2: 110V DC

Note: Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), W (white), S (blue)
When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

Illuminated Pushbuttons (B-192 to B-196)

When specifying gold-plated silver contact, contact configuration, and LED operating voltage:

HW1L-M1	11	H2	R	-MAU	
				Optional contact	MAU: Gold contact
				Operating Voltage	Q0: Without LED lamp Q2: 6V AC/DC Q3: 12V AC/DC Q4: 24V AC/DC H2: 100/110V AC H22: 115/120V AC M2: 200/220V AC M42: 230/240V AC S2: 380V AC T2: 400/440V AC T82: 480V AC D2: 110V DC
				Contact configuration	10: 1NO 01: 1NC 11: 1NO1NC 20: 2NO 02: 2NC 22: 2NO2NC 40: 4NO 04: 4NC 13: 1NO3NC 31: 3NO1NC 30: 3NO 03: 3NC 12: 1NO2NC 21: 2NO1NC

Note:
• Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), S (blue)
When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.
• Odd number of contact blocks, such as 1NO, 1NC, 3NO, 2NO-1NC, 1NO-2NC, and 3NC, is not available for transformer type or DC-DC converter type.





- APEM
- Switches & Pilot Lights
- Control Boxes
- Emergency Stop Switches
- Enabling Switches
- Safety Products
- Explosion Proof
- Terminal Blocks
- Relays & Sockets
- Circuit Protectors
- Power Supplies
- LED Illumination
- Controllers
- Operator Interfaces
- Sensors
- AUTO-ID

- Flush Silhouette
- ø16
- ø22
- ø30
- Miniature
- Pilot Lights

- HW
- TW
- YW

LED | **Round Flush / Round Extended (Marking Type)**

Package Quantity: 1

Shape	Illumination	Operation	Rated Voltage	Contact Configuration	Part No.	Color Code	
Round Flush (Marking type) HW1L-M1 HW1L-A1  (24V AC/DC)  With transformer (100/110V AC)	LED	Momentary	24V AC/DC	1NO	HW1L-M110Q4*	R G Y A S PW	
				1NC	HW1L-M101Q4*		
				1NO-1NC	HW1L-M111Q4*		
				2NO	HW1L-M120Q4*		
				2NC	HW1L-M102Q4*		
				2NO-2NC	HW1L-M122Q4*		
			100/110V AC	1NO-1NC	HW1L-M111H2*		
				2NO	HW1L-M120H2*		
				2NC	HW1L-M102H2*		
				2NO-2NC	HW1L-M122H2*		
				200/220V AC	1NO-1NC		HW1L-M111M2*
					2NO		HW1L-M120M2*
		2NC	HW1L-M102M2*				
		2NO-2NC	HW1L-M122M2*				
		Maintained	24V AC/DC		1NO	HW1L-A110Q4*	R G Y A S PW
					1NC	HW1L-A101Q4*	
				1NO-1NC	HW1L-A111Q4*		
				2NO	HW1L-A120Q4*		
				2NC	HW1L-A102Q4*		
				2NO-2NC	HW1L-A122Q4*		
			100/110V AC	1NO-1NC	HW1L-A111H2*		
				2NO	HW1L-A120H2*		
				2NC	HW1L-A102H2*		
				2NO-2NC	HW1L-A122H2*		
200/220V AC	1NO-1NC			HW1L-A111M2*			
	2NO			HW1L-A120M2*			
	2NC	HW1L-A102M2*					
	2NO-2NC	HW1L-A122M2*					
	Round Extended (Marking type) HW1L-M2 HW1L-A2  (24V AC/DC)  With transformer (100/110V AC)	LED	Momentary	24V AC/DC	1NO	HW1L-M210Q4*	R G Y A S PW
					1NC	HW1L-M201Q4*	
1NO-1NC					HW1L-M211Q4*		
2NO					HW1L-M220Q4*		
2NC					HW1L-M202Q4*		
2NO-2NC					HW1L-M222Q4*		
100/110V AC				1NO-1NC	HW1L-M211H2*		
				2NO	HW1L-M220H2*		
				2NC	HW1L-M202H2*		
				2NO-2NC	HW1L-M222H2*		
				200/220V AC	1NO-1NC	HW1L-M211M2*	
					2NO	HW1L-M220M2*	
2NC			HW1L-M202M2*				
2NO-2NC			HW1L-M222M2*				
Maintained			24V AC/DC		1NO	HW1L-A210Q4*	R G Y A S PW
					1NC	HW1L-A201Q4*	
				1NO-1NC	HW1L-A211Q4*		
				2NO	HW1L-A220Q4*		
				2NC	HW1L-A202Q4*		
				2NO-2NC	HW1L-A222Q4*		
			100/110V AC	1NO-1NC	HW1L-A211H2*		
				2NO	HW1L-A220H2*		
				2NC	HW1L-A202H2*		
				2NO-2NC	HW1L-A222H2*		
	200/220VAC	1NO-1NC		HW1L-A211M2*			
		2NO		HW1L-A220M2*			
2NC		HW1L-A202M2*					
2NO-2NC		HW1L-A222M2*					

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- Illuminated pushbuttons have an LED lamp installed unless otherwise specified.
- See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Illuminated pushbuttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-198 for bottom view.
- See B-184 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

APEM

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Control Boxes

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ø16

ø22

ø30

Miniature

Pilot Lights

HW

TW

YW

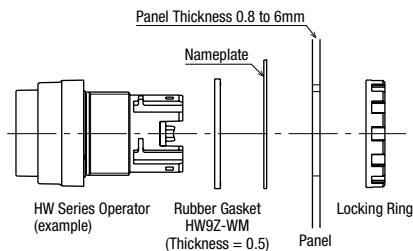
⚠ Safety Precautions

- Turn off the power to the HW series switches & pilot lights before starting installation, removal, wiring, maintenance, and starting installation, removing, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid a burn on your hand, use the lamp holder tool when replacing lamps.
- For wiring, use wires of a proper size to meet the voltage and current requirements. Tighten the terminal screws to the recommended tightening torque (see **B-228**). Failure to tighten terminal screws may cause overheating and fire.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

Operating Instructions

Panel Mounting

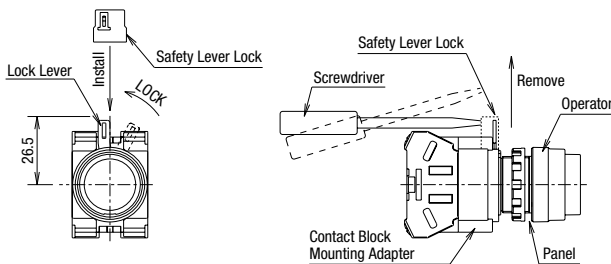
- Remove the contact block from the operator (for transformer type pilot lights, remove the transformer from the illumination unit). Remove the locking ring from the operator (for pilot lights, remove the locking ring from the illuminated unit). Insert the operator into the panel cut-out from the front. Tighten the locking ring from the back to install the contact block to the operator.



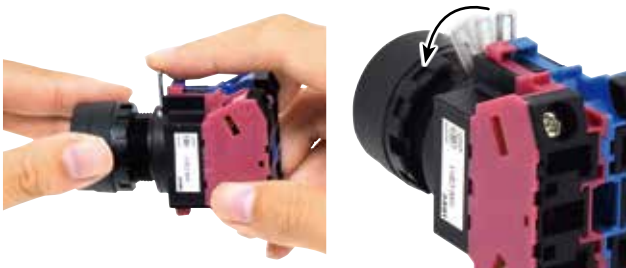
Mounting panel thickness is reduced by 1.5 mm when using a nameplate.

Removing the Contact Block

- Remove the safety lever lock (yellow) from the lock lever by inserting a flat screwdriver into the safety lever lock and push upwards.



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



- 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.
- Install the safety lever lock (yellow) on the lock lever. The safety lever lock cannot be installed when the lock lever is not upright.

Safety Lever Lock

IDEC strongly recommends using the safety lever lock (HW9Z-LS, yellow) to ensure that lock lever is locked, or to prevent maintenance personnel from unlocking contacts during wiring.



How to install

- Mount the HW series onto the panel, lock the lever, and push in the safety lever lock.

Spacing in Vertical Direction

- HW series can be installed with a minimum of 50 mm spacing in vertical direction (mono-lever switch: 70 mm minimum). Be sure to take the space required for installing/removing the safety lever lock into consideration. When the spacing is narrower than the recommended value, install the HW series units in the order of low to high. When removing, do so in the opposite direction.

Notes for Panel Mounting

Locking ring wrench recommended torque

Tighten the bezel to a tightening torque of 2.0 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)

Panel Thickness

HW 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.

Replacement of LED Lamps

LED lamps can be replaced by using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block from the operator unit. (See **B-217** for lamp holder tool.)

How to Remove

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

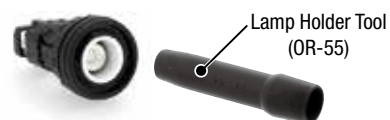


Photo: Extended pilot light

APEM

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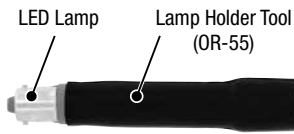
TW

YW

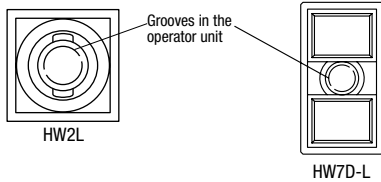
Operating Instructions

How to Install

Insert the lamp head into the lamp holder tool.



Place the pins on the lamp base to the grooves in the lamp socket. Insert the lamp and turn it clockwise.



Installing/Removing the Buttons and Lenses

<To install>

<To remove>

Pushbutton Button

• Flush/Extended

Push in the button to install.



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



• Mushroom/Jumbo Mushroom

Button has threads. Turn clockwise to install the button.



Turn the button counterclockwise to remove.



Note: Jumbo mushroom button cannot be removed.

Illuminated Pushbutton Lens

• Flush/Extended

Push in the lens holder into the operator unit.



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



• Mushroom/Jumbo Mushroom

Lens has threads. Turn clockwise to install the lens.



Lens has threads. Turn counterclockwise to remove the lens.



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.

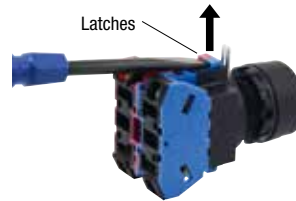


Insert a flat screwdriver between the lens and the bezel to remove.



Removing the Contact Blocks/Full Voltage Adapters

Insert a flat screwdriver (4 to 6 mm) into the snap-fit latches of the contact block or full voltage adapter and lift to remove.

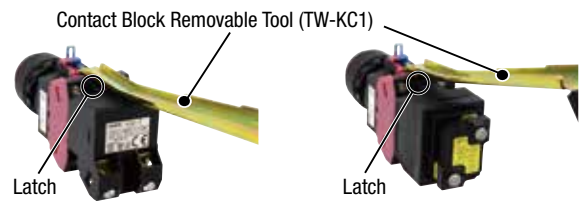


- Make sure to lift both latches. Contact blocks cannot be removed by lifting one latch only.
- Do not apply excessive force to the latches, otherwise damage may be caused.

Transformer Units and DC-DC Converters

Insert the end of the contact block removal tool (TW-KC1) into the snap-fit latch of the transformer units or DC-DC converter and pull the tool forward.

The contact block removable tool cannot be used to remove the HW-U contact blocks (HW-U), full voltage adapters (HW-GA1N), or dummy blocks (HW-DB).



Transformer Units and DC-DC Converters for Pilot Lights

Insert a flat screwdriver into the snap-fit latch on the contact block and lift to remove.



⚠ When replacing parts (contact block, dummy block, full voltage adapter, transformer) for maintenance, make sure to install the parts to the original position. Otherwise proper operation cannot be guaranteed.