

# HW Series

Switches and Pilot Devices



勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-34970699  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

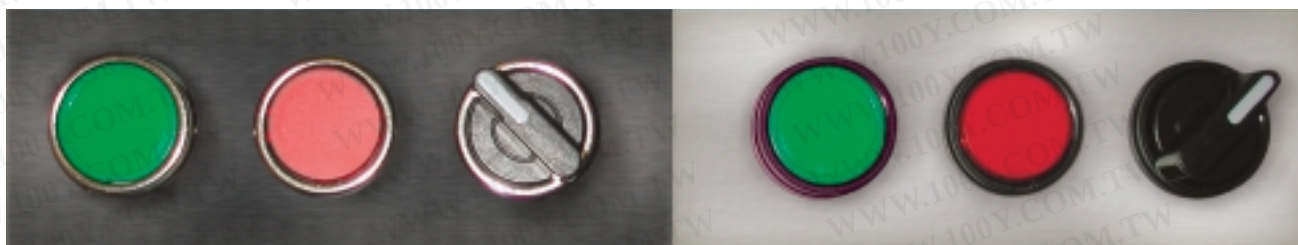
idec

# HW Series Pushbuttons

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In **basic black or stylish metal**, the HW series of 22mm switches from IDEC are available in several styles to dress up any panel. HW pushbuttons, switches and pilot devices are internationally-rated, designed for use almost anywhere in the world, and have removable contact blocks, fingersafe contacts and tamperproof construction. Choose simple black plastic bezels for clean uniformity, or new chrome-plated metallic bezels for a rugged industrial look.

This catalog is not comprehensive for the HW series; complete product information, including additional available part numbers, can be found in the Industrial Automation Catalog. For more information, contact IDEC Technical Support or Customer Service.



|                 |                                                                                   |                                                                                                                            |                                   |                                                |                                                            |                                                   |                                      |                                               |
|-----------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------|------------------------------------------------------------|---------------------------------------------------|--------------------------------------|-----------------------------------------------|
| Specifications  | Operating Temperature                                                             | Operation: -25 to +50°C (without freezing)<br>Storage: -40 to +70°C (without freezing)                                     |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Degree of Protection<br>(conforming to IEC60529)<br>(conforming to NEMA ICS6-110) | IP65 (from front of the panel)<br>IP20 (contact terminals)<br>NEMA 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (from front of panel) |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Mechanical Life                                                                   | Momentary pushbuttons: 5,000,000 (900 operations per hour)<br>All other switches: 500,000                                  |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Contact Material                                                                  | Silver                                                                                                                     |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Rated Insulation Voltage                                                          | 600V                                                                                                                       |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Rated Thermal Current                                                             | 10 Amp                                                                                                                     |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Minimum Load Capacity                                                             | 5mA/3V AC/DC                                                                                                               |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Contact Operation                                                                 | Slow make/slow break NO / NC self-cleaning                                                                                 |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Contact Gap                                                                       | 4mm (NO and NC)                                                                                                            |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Horsepower Rating                                                                 | Reference Value: 1/4 HP @ 120V (1ø non-reversing), 1HP @ 240V (3ø non-reversing)                                           |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Electrical Reliability                                                            | MTBF < 1 fault for 10 million operation cycles (3V DC, 5mA)                                                                |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Lamp Ratings                                                                      | Incandescent: 1 W<br>LEDs: 6V: 20mA / 12, 24, 120, 240V: 10mA                                                              |                                   |                                                |                                                            |                                                   |                                      |                                               |
|                 | Recommended Locking Ring Torque                                                   | 7.1 in lb                                                                                                                  |                                   |                                                |                                                            |                                                   |                                      |                                               |
| Contact Ratings | Break Values                                                                      |                                                                                                                            |                                   |                                                | Make Values                                                |                                                   |                                      |                                               |
|                 | AC                                                                                |                                                                                                                            | DC                                |                                                | AC                                                         |                                                   | DC                                   |                                               |
|                 | Inductive                                                                         | Resistive                                                                                                                  | Inductive                         | Resistive                                      | Inductive                                                  | Resistive                                         | Inductive                            | Resistive                                     |
|                 | Rated Operating Current                                                           | 120V: 6A<br>240V: 3A<br>480V: 1.5A<br>600V: 1.2 A                                                                          | 120V: 10A<br>240V: 6A<br>480V: 2A | 120V: 1.1A<br>240V: 0.6A<br>12V: 4A<br>24V: 4A | 120V: 2A<br>240V: 1.1A<br>480V: 0.4A<br>12V: 4A<br>24V: 4A | 120V: 60A<br>240V: 30A<br>480V: 15A<br>600V: 12 A | 120V: 100A<br>240V: 60A<br>480V: 20A | 120V: 11A<br>240V: 6A<br>12V: 40A<br>24V: 40A |



File No. E68961



File No. LR92374



Registration No. R9551089 (E-stops)  
 Registration No. J9551458 (all other switches)  
 Registration No. J9650511 (Pilot Lights)

# Ordering Information

HW



## Momentary Pushbuttons



|                          | Plastic Bezel | Metal Bezel  |
|--------------------------|---------------|--------------|
| Flush Button, 1NO        | HW1B-M1F10-①  | HW4B-M1F10-① |
| Flush Button, 2NO        | HW1B-M1F20-①  | HW4B-M1F20-① |
| Flush Button, 1NO/1NC    | HW1B-M1F11-①  | HW4B-M1F11-① |
| Extended Button, 1NO     | HW1B-M2F10-①  | HW4B-M2F10-① |
| Extended Button, 2NO     | HW1B-M2F20-①  | HW4B-M2F20-① |
| Extended Button, 1NO/1NC | HW1B-M2F11-①  | HW4B-M2F11-① |
| Mushroom Button, 1NO     | HW1B-M4F10-①  | HW4B-M4F10-① |
| Mushroom Button, 2NO     | HW1B-M4F20-①  | HW4B-M4F20-① |
| Mushroom Button, 1NO/1NC | HW1B-M4F11-①  | HW4B-M4F11-① |

Momentary models listed; maintained (push-on/push-off) models also available.  
Extended button shown.

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### ① Button Color Code

| Color  | Code     |
|--------|----------|
| Black  | <b>B</b> |
| Green  | <b>G</b> |
| Grey   | <b>N</b> |
| Red    | <b>R</b> |
| Blue   | <b>S</b> |
| White  | <b>W</b> |
| Yellow | <b>Y</b> |

Grey not available in mushroom

## Pilot Lights



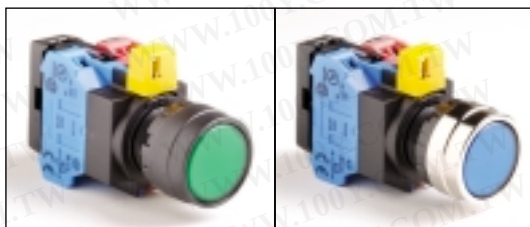
|                          | Plastic Bezel    | Metal Bezel      |
|--------------------------|------------------|------------------|
| Flat Lens, LED, 24VAC/DC | HW1P-1FQD-②-24V  | HW4P-1FQD-②-24V  |
| Flat Lens, LED, 120VAC   | HW1P-1FQD-②-120V | HW4P-1FQD-②-120V |
| Flat Lens, LED, 240VAC   | HW1P-1FQD-②-240V | HW4P-1FQD-②-240V |
| Dome Lens, LED, 24VAC/DC | HW1P-2FQD-②-24V  | HW4P-2FQD-②-24V  |
| Dome Lens, LED, 120VAC   | HW1P-2FQD-②-120V | HW4P-2FQD-②-120V |
| Dome Lens, LED, 240VAC   | HW1P-2FQD-②-240V | HW4P-2FQD-②-240V |

Direct voltage models listed; transformer models also available.  
Dome lens shown.

### ② Lens/LED Color Code

| Color  | Code     |
|--------|----------|
| Amber  | <b>A</b> |
| Green  | <b>G</b> |
| Red    | <b>R</b> |
| Blue   | <b>S</b> |
| White  | <b>W</b> |
| Yellow | <b>Y</b> |

## Illuminated Momentary Pushbuttons



|                                       | Plastic Bezel       | Metal Bezel         |
|---------------------------------------|---------------------|---------------------|
| Flush Lens, LED, 24VAC/DC, 1NO        | HW1L-M1F10QD-②-24V  | HW4L-M1F10QD-②-24V  |
| Flush Lens, LED, 24VAC/DC, 2NO        | HW1L-M1F20QD-②-24V  | HW4L-M1F20QD-②-24V  |
| Flush Lens, LED, 24VAC/DC, 1NO/1NC    | HW1L-M1F11QD-②-24V  | HW4L-M1F11QD-②-24V  |
| Flush Lens, LED, 120VAC, 1NO          | HW1L-M1F10QD-②-120V | HW4L-M1F10QD-②-120V |
| Flush Lens, LED, 120VAC, 2NO          | HW1L-M1F20QD-②-120V | HW4L-M1F20QD-②-120V |
| Flush Lens, LED, 120VAC, 1NO/1NC      | HW1L-M1F11QD-②-120V | HW4L-M1F11QD-②-120V |
| Extended Lens, LED, 24VAC/DC, 1NO     | HW1L-M2F10QD-②-24V  | HW4L-M2F10QD-②-24V  |
| Extended Lens, LED, 24VAC/DC, 2NO     | HW1L-M2F20QD-②-24V  | HW4L-M2F20QD-②-24V  |
| Extended Lens, LED, 24VAC/DC, 1NO/1NC | HW1L-M2F11QD-②-24V  | HW4L-M2F11QD-②-24V  |
| Extended Lens, LED, 120VAC, 1NO       | HW1L-M2F10QD-②-120V | HW4L-M2F10QD-②-120V |
| Extended Lens, LED, 120VAC, 2NO       | HW1L-M2F20QD-②-120V | HW4L-M2F20QD-②-120V |
| Extended Lens, LED, 120VAC, 1NO/1NC   | HW1L-M2F11QD-②-120V | HW4L-M2F11QD-②-120V |
| Mushroom Lens, LED, 24VAC/DC, 1NO     | HW1L-M4F10QD-②-24V  | HW4L-M4F10QD-②-24V  |
| Mushroom Lens, LED, 24VAC/DC, 2NO     | HW1L-M4F20QD-②-24V  | HW4L-M4F20QD-②-24V  |
| Mushroom Lens, LED, 24VAC/DC, 1NO/1NC | HW1L-M4F11QD-②-24V  | HW4L-M4F11QD-②-24V  |
| Mushroom Lens, LED, 120VAC, 1NO       | HW1L-M4F10QD-②-120V | HW4L-M4F10QD-②-120V |
| Mushroom Lens, LED, 120VAC, 2NO       | HW1L-M4F20QD-②-120V | HW4L-M4F20QD-②-120V |
| Mushroom Lens, LED, 120VAC, 1NO/1NC   | HW1L-M4F11QD-②-120V | HW4L-M4F11QD-②-120V |

### ② Lens/LED Color Code

| Color  | Code     |
|--------|----------|
| Amber  | <b>A</b> |
| Green  | <b>G</b> |
| Red    | <b>R</b> |
| Blue   | <b>S</b> |
| White  | <b>W</b> |
| Yellow | <b>Y</b> |

Yellow not available  
in mushroom

Direct voltage model listed; transformer models also available.  
 Momentary models listed; maintained (push-on/push-off) models also available.  
 Flush lens shown.

## Selector Switches



|                                        | Plastic Bezel | Metal Bezel |
|----------------------------------------|---------------|-------------|
| 2 Position, Maintained, 1NO            | HW1S-2TF10    | HW4S-2TF10  |
| 2 Position, Maintained, 2NO            | HW1S-2TF20    | HW4S-2TF20  |
| 2 Position, Maintained, 1NO/1NC        | HW1S-2TF11    | HW4S-2TF11  |
| 2 Position, Spring from Right, 1NO     | HW1S-21TF10   | HW4S-21TF10 |
| 2 Position, Spring from Right, 2NO     | HW1S-21TF20   | HW4S-21TF20 |
| 2 Position, Spring from Right, 1NO/1NC | HW1S-21TF11   | HW4S-21TF11 |
| 3 Position, Maintained, 2NO            | HW1S-3TF20    | HW4S-3TF20  |
| 3 Position, Maintained, 2NO/2NC        | HW1S-3TF22    | HW4S-3TF22  |
| 3 Position, Spring From Both, 2NO      | HW1S-33TF20   | HW4S-33TF20 |
| 3 Position, Spring From Both, 2NO/2NC  | HW1S-33TF22   | HW4S-33TF22 |

3-position with 2NO functions as "Hand-Off-Auto."  
 4 and 5-position models also available.

## Key Switches



|                                        | Plastic Bezel | Metal Bezel |
|----------------------------------------|---------------|-------------|
| 2 Position, Maintained, 1NO            | HW1K-2AF10    | HW4K-2AF10  |
| 2 Position, Maintained, 2NO            | HW1K-2AF20    | HW4K-2AF20  |
| 2 Position, Maintained, 1NO/1NC        | HW1K-2AF11    | HW4K-2AF11  |
| 2 Position, Spring from Right, 1NO     | HW1K-21BF10   | HW4K-21BF10 |
| 2 Position, Spring from Right, 2NO     | HW1K-21BF20   | HW4K-21BF20 |
| 2 Position, Spring from Right, 1NO/1NC | HW1K-21BF11   | HW4K-21BF11 |
| 3 Position, Maintained, 2NO            | HW1K-3AF20    | HW4K-3AF20  |
| 3 Position, Maintained, 2NO/2NC        | HW1K-3AF22    | HW4K-3AF22  |
| 3 Position, Spring From Both, 2NO      | HW1K-33DF20   | HW4K-33DF20 |
| 3 Position, Spring From Both, 2NO/2NC  | HW1K-33DF22   | HW4K-33DF22 |

*3-position with 2NO functions as "Hand-Off-Auto."*

*Keys are removable in all maintained positions for models listed, other key removable options available.*

*Two keys supplied with each switch.*

## E-Stops



|                     | Plastic Bezel | Metal Bezel  |
|---------------------|---------------|--------------|
| Push/Pull, 1NC      | HW1B-Y2F01-R  | HW4B-Y2F01-R |
| Push/Pull, 2NC      | HW1B-Y2F02-R  | HW4B-Y2F02-R |
| Push/Pull, 1NO/1NC  | HW1B-Y2F11-R  | HW4B-Y2F11-R |
| Push/Twist, 1NC     | HW1B-V4F01-R  | HW4B-V4F01-R |
| Push/Twist, 2NC     | HW1B-V4F02-R  | HW4B-V4F02-R |
| Push/Twist, 1NO/1NC | HW1B-V4F11-R  | HW4B-V4F11-R |
| Push/Key, 1NC       | HW1B-X4F01-R  | HW4B-X4F01-R |
| Push/Key, 2NC       | HW1B-X4F02-R  | HW4B-X4F02-R |
| Push/Key, 1NO/1NC   | HW1B-X4F11-R  | HW4B-X4F11-R |

### Only common models have been listed.

Many more options in both plastic and metal bezel switches are available.

For details, please refer to Section A in the Industrial Automation Catalog.

Contact IDEC to order a catalog, or download it from [www.idec.com](http://www.idec.com)

# HW Accessories

|                                    | Appearance                                                                          | Description/Usage                                                                                                                                                                   | Part Number                                                      |          |
|------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|----------|
| <b>Locking Ring Wrench</b>         |    | Metallic tool used to tighten the plastic locking ring when installing the HW series unit in a panel                                                                                | MW9Z-T1                                                          |          |
| <b>Lamp/LED Removal Tool</b>       |    | Rubber tool makes lamp removal and replacement easier.                                                                                                                              | OR-55                                                            |          |
| <b>Metallic Mounting Hole Plug</b> |    | For plugging unused mounting holes in the panel. Tighten the attached locking ring to a torque of 12 kfg-cm maximum.<br><br>Degree of protection: IP66                              | LW9Z-BM                                                          |          |
| <b>Replacement Contacts</b>        |    | Stackable contacts, two per level. Maximum 6 contacts per switch. Odd numbers of contacts should be accompanied by TW-DB or HW-DA1FB dummy block.<br><br>Degree of protection: IP20 | Normally open                                                    | HW-F10   |
|                                    |                                                                                     |                                                                                                                                                                                     | Normally closed                                                  | HW-F01   |
| <b>Replacement Lamps</b>           |   | Incandescent or LED lamps with BA9S/13 bayonet bases.<br><br>Color (*) must be specified for LEDs; other voltages available.                                                        | LED: 24V AC/DC                                                   | LSTD-2*  |
|                                    |                                                                                     |                                                                                                                                                                                     | LED: 120V AC                                                     | LSTD-H2* |
|                                    |                                                                                     |                                                                                                                                                                                     | LED: 240V AC                                                     | LSTD-M4* |
|                                    |                                                                                     |                                                                                                                                                                                     | * A = amber, G = green, R = red, S = blue, W = white, Y = yellow |          |
|                                    |                                                                                     |                                                                                                                                                                                     | Incandescent 24V AC/DC                                           | IS-24    |
| <b>E-Stop Shroud</b>               |  | Plastic shroud intended for use with E-stop switches to prevent inadvertent activation.                                                                                             | HW9Z-KG1-TK2120                                                  |          |

## Nameplates



**HWAM-OB**



**HWAQ-OB**



**HWAS-OB**



**HWAV-27**

HWAM and HWAQ use snap-in engraving insert (HWNP-O).  
All nameplates available blank or engraved.

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HW

[illegible]

Panel Thickness 0.8-6mm

Gasket

Locking Ring

43.3

0.5

7

17.5

29

29

Technical drawing of the 1000 Series Locking Ring Assembly, showing side and front views with dimensions.

**Side View Dimensions:**

- Panel Thickness: 0.8-6mm
- Gasket
- Locking Ring
- Overall Length: 69.4
- Locking Ring Length: 49.4
- Locking Ring Thickness: 7
- Panel Thickness: 21
- Outer Diameter:  $\phi 28.8$

**Front View Dimensions:**

- Overall Width: 29.4
- Locking Ring Width: 25
- Locking Ring Height: 41.4
- Locking Ring Inner Diameter:  $\phi 9$
- Locking Ring Lock Position: Lock

Technical drawing of the 1000 series lock cylinder. The top view shows the side profile with dimensions: 13 (width of the main body), 30.5 (total width), and 17 (height of the handle). The bottom view shows the front of the cylinder with dimensions: 25 (height of the top section), 29.4 (width), 41.4 (height of the main body), and 92.4 (total height). A label 'LOCK' is positioned above the handle, and a small '1000' is visible on the handle.

[illegible]

Technical drawing of a 1/2" 20x4 UNF-2A plug. The drawing includes a top view and a side view. The top view shows an outer diameter of 64, an inner diameter of 48, and a central hole with a diameter of  $\varnothing 22$ . The side view shows a total height of 80, a top flange thickness of 22, a central body height of 32, and a bottom flange thickness of 26.

**For additional dimensions, see the Industrial Automation Catalog.**