

ø22 HW Key Switch

Key features:

- Key Selector Switches with Direct Opening Action Mechanism
- High-security Pin Tumbler Key
- The NC contact is opened by direct opening action mechanism ⊖. Mode selection enables easy construction of safety systems.
- The single key enables the hostage control of combining HW series key selector switch (pin tumbler type) and HS5E-K interlock key switch. High-security pin tumbler key is used. Sixteen types of key numbers are available.
- Selection of 2-position and 3-position, maintained, spring-return types and key retained variety is available.
- Degree of Protection: IP65 (IEC60529)

| Applicable Standards | Mark | File No. or Organization                            |
|----------------------|------|---|
| UL508                |      | UL Listing<br>File No. E68961                       |
| CSA C22.2 No.14      |      | CSA166730 (LR92374)                                 |
| EN60947-5-1          |      | TÜV Rheinland R50054316                             |
|                      |      | Self-declaration<br>Low Voltage Directive of Europe |



Two-position Key Switch (90°)

| Contact Code    | Contact Block |    | Standard Logic    |         |                   | Inverse Logic |   |                   |
|-----------------|---------------|----|-------------------|---------|-------------------|---------------|---|-------------------|
|                 |               |    | Logic Table       |         | Maintained<br>1 2 | Logic Table   |   | Maintained<br>2 1 |
|                 |               |    | Mounting Position | Contact |                   | 1             | 2 |                   |
| 1NO<br>(10)     | ①             | NO |                   | ●       | HW1K-2PA10        | ●             |   | HW1K-2JPA10       |
|                 | ②             | -  | Dummy Block       |         |                   | Dummy Block   |   |                   |
| 1NC<br>(01)     | ①             | NC | ●                 |         | HW1K-2PA01        |               | ● | HW1K-2JPA01       |
|                 | ②             | -  | Dummy Block       |         |                   | Dummy Block   |   |                   |
| 2NO<br>(20)     | ①             | NO |                   | ●       | HW1K-2PA20        | ●             |   | HW1K-2JPA20       |
|                 | ②             | NO |                   | ●       |                   | ●             |   |                   |
| 2NC<br>(02)     | ①             | NC | ●                 |         | HW1K-2PA02        |               | ● | HW1K-2JPA02       |
|                 | ②             | NC | ●                 |         |                   | ●             |   |                   |
| 1NO-1NC<br>(11) | ①             | NO |                   | ●       | HW1K-2PA11        | ●             |   | HW1K-2JPA11       |
|                 | ②             | NC | ●                 |         |                   |               | ● |                   |
| 2NO-2NC<br>(22) | ①             | NO |                   | ●       | HW1K-2PA22        | ●             |   | HW1K-2JPA22       |
|                 | ②             | NC | ●                 |         |                   |               | ● |                   |
|                 | ③             | NO |                   | ●       |                   | ●             |   |                   |
|                 | ④             | NC | ●                 |         |                   | ●             |   |                   |

Contact Block Mounting Position



For contact block mounting position, see the figure to the right of the table.  
 Each key selector switch is supplied with two keys.  
 Key number 500 is supplied as the default key in table above (500 not added to part number).  
 To order additional key types, specify key number at end of part number (special order).  
 Example: HS5E-KVA003-2A501

501 to 515

Note: The key number is engraved on the cylinder.

Overview

XW Series E-Stops

Interlock Switches

Enabling Switches

Safety Control Relays

Light Curtains

AS-Interface Safety at Work

## Three-position Key Switch (45°)

| Contact Code      | Contact Block |         | Logic Table |   |   | Cam Code | Maintained<br>1 0 2 |
|-------------------|---------------|---------|-------------|---|---|----------|---------------------|
|                   | No.           | Contact | 1           | 0 | 2 |          |                     |
| 2NC<br>(02)       | ①             | NC      |             | ■ |   | -        | HW1K-3PA02          |
|                   | ②             | NC      | ■           |   |   |          |                     |
| 2NO-2NC<br>(22N1) | ①             | NO      | ●           |   |   | -        | HW1K-3PA22N1        |
|                   | ②             | NO      |             |   | ● |          |                     |
|                   | ③             | NC      |             | ■ |   |          |                     |
|                   | ④             | NC      | ■           |   |   |          |                     |
| 2NO<br>(02)       | ①             | NO      | ●           |   |   | -        | HW1K-3PA20          |
|                   | ②             | NO      |             |   | ● |          |                     |
| 2NO-1NC<br>(21N1) | ①             | NO      | ●           |   |   | J        | HW1K-3JPA21N1       |
|                   | ②             | NO      |             |   | ● |          |                     |
|                   | ③             | NC      |             | ● |   |          |                     |
|                   | ☆ ④           | -       | Dummy Block |   |   |          |                     |
| 2NO-2NC<br>(22N9) | ①             | NC      |             |   | ● | S        | HW1K-3SPA22N9       |
|                   | ②             | NC      | ●           |   |   |          |                     |
|                   | ③             | NO      | ■           |   |   |          |                     |
|                   | ☆ ④           | NO      |             |   | ● |          |                     |
| 4NC<br>(04)       | ①             | NC      |             |   | ● | S        | HW1K-3SPA04         |
|                   | ②             | NC      | ●           |   |   |          |                     |
|                   | ③             | NC      |             |   | ● |          |                     |
|                   | ☆ ④           | NC      | ●           |   |   |          |                     |

Contact Block Mounting Position



**!** On the contact arrangement marked with ☆ in the table above, the rated current (load switching current) is reduced to a half of the rated current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

For models with ☆, contacts may overlap when the operator position is changed.

For contact block mounting position, see the figure on the right.

Each key selector switch is supplied with two keys.

15 types of key numbers are available in addition to standard (500) key.

Key number 500 is supplied as the default key in table above (500 not added to part number).

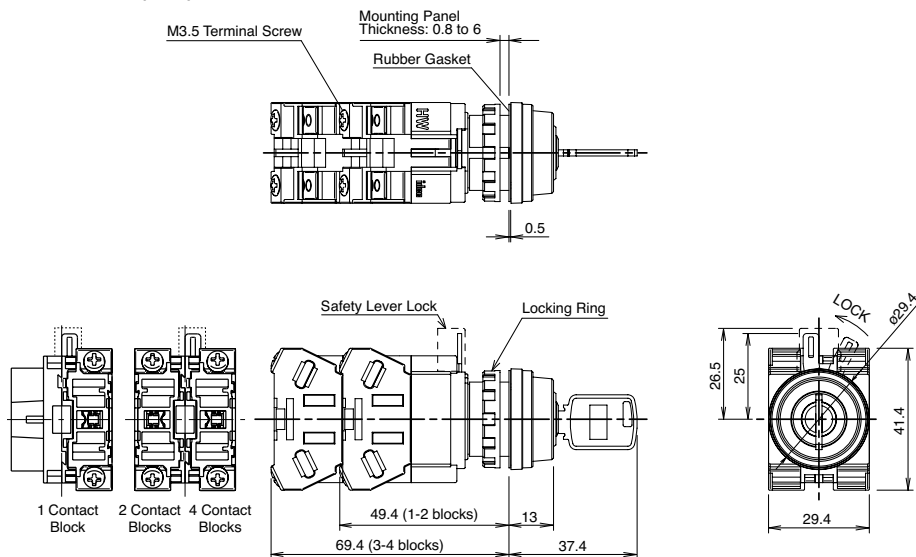
To order additional key types, specify key number at end of part number (special order).

Example: HS5E-KVA003-2A501

501 to 515

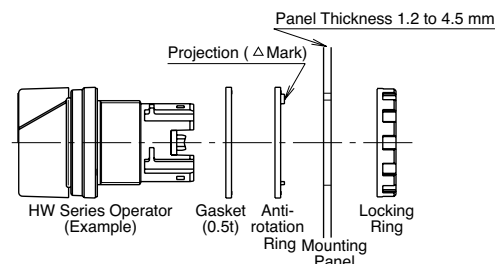
Note: The key number is engraved on the cylinder.

## Dimensions (mm)

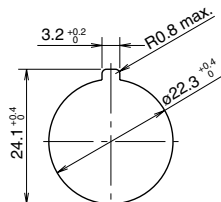


## Anti-rotation Ring and Panel cut-out


Align the TOP marking on the operator and the TOP mark on the anti-rotation ring with the recess in the mounting panel.




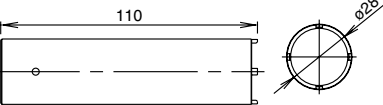

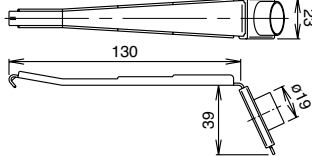

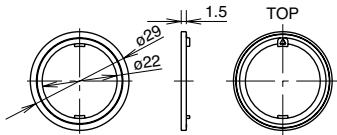
Panel-cut  
(Complies with IEC 60947-5-1)



Replacement Parts

| Item   | Material  | Part No.   | Remarks  |
|--|---|--|--|
| Contact Block<br>     | 1NO contact  | HW-G10   | Housing color: blue<br>Push rod: green                   |
|  | 1NC contact  | HW-G01   | Housing color: purple<br>Push rod: red                   |
| Dummy Block<br>       | Nylon   | TW-DB  | Used when using contact blocks in odd numbers.           |
| Spare Key<br>         | Metal (nickel-plated brass)   | LW9Z-SK-500  | Standard key number                                      |
|  |   | LW9Z-SK-  | Key number 501 to 515                                    |
| Locking Ring<br>      | Polyamide   | HW9Z-LN  | Black  |
| Safety Lever Lock<br> | Polyacetal  | HW9Z-LS  | Yellow<br>One safety lever lock is supplied as standard. |
| Gasket<br>          | Polyacetal  | HW9Z-WM  | Black  |

Accessories

| Item  | Material                                     | Part No. | Dimensions   |
|---|--|----------|--|
| Locking Ring Wrench<br>        | Metal (brass)<br>Weight: approx. 150g        | MW9Z-T1  | Used to tighten the locking ring when installing the HW switch onto a panel.<br>Tighten the locking ring to a torque of 2.0 N·m.<br>   |
| Contact Block Removal Tool<br> | Metal (copper-zinc plating) / Nitrile Rubber | TW-KC1   | Used to remove the contact block and the transformer, and also to install or remove the pilot light lens. Also used to adjust the panel thickness (1, 1.6, 2, 2.3, 3.2, and 5 mm).<br> |
| Anti-rotation Ring<br>         | Ring: Nylon<br>Gasket: Nitrile Rubber        | HW9Z-RL  | Used to prevent the operator from turning.<br>   |

Overview

XW Series E-Stops


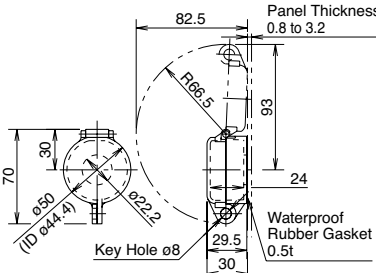

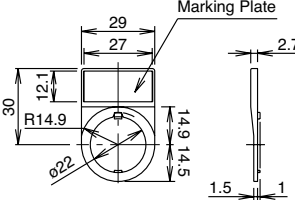

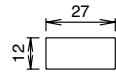
Interlock Switches

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Safety Control Relays

Light Curtains

AS-Interface Safety at Work

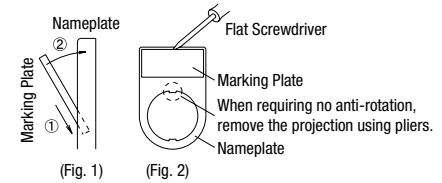
| Item   | Material                                    | Part No. | Dimensions   |      |        |    |        |    |           |    |               |
|--|---|----------|--|------|--------|----|--------|----|-----------|----|---------------|
|  <p>Padlock Cover</p> | Body: Polyarylate<br>Gasket: Nitrile Rubber | HW9Z-KL1 |  <p>Panel Thickness 0.8 to 3.2<br/>                     82.5<br/>                     R66.5<br/>                     70<br/>                     30<br/>                     (ID 047.4)<br/>                     ø22.2<br/>                     Key Hole ø8<br/>                     29.5<br/>                     30<br/>                     24<br/>                     Waterproof Rubber Gasket 0.5t</p> |      |        |    |        |    |           |    |               |
|  <p>Nameplate</p>     | Plastic (black)<br>1.5 mm thick             | HWAM     | Order marking plate (HWNP-□) separately.<br> <p>Marking Plate<br/>                     29<br/>                     27<br/>                     13.1<br/>                     30<br/>                     R14.9<br/>                     ø22<br/>                     14.9<br/>                     14.5<br/>                     1.5<br/>                     2.7<br/>                     1</p>             |      |        |    |        |    |           |    |               |
|  <p>Marking Plate</p> | Aluminum (black)<br>1.0 mm thick            | HWNP-□   | White letters on black background<br> <p>27<br/>                     12</p> Specify a legend code in place of □ in the Type No.<br><table border="1"> <thead> <tr> <th>Code</th> <th>Legend</th> </tr> </thead> <tbody> <tr> <td>31</td> <td>OFF-ON</td> </tr> <tr> <td>35</td> <td>HAND-AUTO</td> </tr> <tr> <td>53</td> <td>HAND-OFF-AUTO</td> </tr> </tbody> </table>                                     | Code | Legend | 31 | OFF-ON | 35 | HAND-AUTO | 53 | HAND-OFF-AUTO |
| Code   | Legend                                      |          |  |      |        |    |        |    |           |    |               |
| 31   | OFF-ON                                      |          |  |      |        |    |        |    |           |    |               |
| 35   | HAND-AUTO                                   |          |  |      |        |    |        |    |           |    |               |
| 53   | HAND-OFF-AUTO                               |          |  |      |        |    |        |    |           |    |               |

To install the marking plate on a nameplate, see Fig. 1.

To remove the marking plate, insert a flat screwdriver between the marking plate and nameplate as shown in Fig. 2.

When using a nameplate, mounting panel thickness is decreased by 1.5 mm.

When an anti-rotation ring on the nameplate is not required, remove the projection using pliers as shown in Fig. 2.



## Operating Instructions

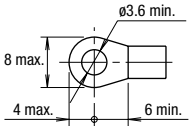
### Applicable Wiring

1. The applicable wire size is 14 AWG maximum (Solid wire 16 AWG max.). One or two wires can be connected.

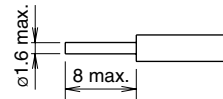
Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks.

### Applicable Crimping Terminal

Crimping Terminal for ①



### Solid Wire



2. Tighten the M3.5 terminal screw to a recommended tightening torque of 1.0 to 1.3 N·m.

Crimping Terminal for ②

