## HUH1 Series

## Load Switch

# Installation and Operation Instruction 

Before installing and using the product, please read the instruction carefully and well keep it for future reference.

## Product Certificate

This product has passed the inspection and meets the requirements of GB/T 14048.3, and therefore is allowed to leave the factory.

## Inspector:



Date of inspection: See the product or packaging.
HUANYU HIGH-TECH CO., LTD.

## HUH1 Series Load Switch

## I. Scope of Application

The HUH1 Series Load Switch (hereinafter referred to as "switch") is suitable for industrial and commercial power distribution equipment with AC 50 Hz , rated voltage up to 690 V and conventional thermal current up to 3,200 A , and used for infrequent making and breaking circuits and galvanic isolation (above $1,000 \mathrm{~A}$ is only for galvanic isolation). The switch is widely applied to power distribution systems and automation systems of the construction, electric power, petrochemical industry and other industries.

The HUH1/C Side Operation Load Switch is equipped with an additional side operation mechanism on the basis of the front central operation load switch of the HUH1, which is suitable for the making/breaking circuit of the side operation and galvanic isolation.
The HUH1/Z Double-throw Switch Load Switch is composed of two HUH1 Load Switches stacked up and down or assembled side by side in the leftright direction. It is suitable for the switching of two-way power supply or the switching and safety isolation of two load devices.

The switch is beautiful in shape, novel and concise, simple in structure and easy to operate. It complies with IEC60947-3 and GB/T14048.3 and is the best choice among similar products!

## II. Normal Working Conditions

2.1. Ambient air temperature: The temperature shall not be higher than $+40^{\circ} \mathrm{C}$ or lower than $-5^{\circ} \mathrm{C}$, and the average value within 24 hours shall not exceed $+35^{\circ} \mathrm{C}$.
2.2. Altitude: The altitude of the installation location shall not exceed 2,000 meters.
2.3. Relative humidity: The relative atmospheric humidity shall not exceed $50 \%$ when the maximum ambient temperature is $+40^{\circ} \mathrm{C}$, and a higher relative humidity is allowed at a lower temperature (for example: $90 \%$ humidity at $+20^{\circ} \mathrm{C}$ ), but the occasional condensation on the switch surface due to temperature changes shall be considered.
2.4. Contamination grade of the surrounding environment: Grade 3.
2.5. Installation category: III, IV.
2.6. Installation conditions: The switch shall be installed vertically in a place without significant shaking, impact or vibration and in a medium without explosion risks, or enough gas or dust to corrode metals and destroy the insulation.
2.7. Please consult with our company for the use occasions under abnormal working conditions.

## III. Model Description



## IV. Structural Features

4.1. The switch adopts the accelerating closing mechanism of spring energy storage and instantaneous release and the contact structure of parallel double breakpoints with simultaneous making and breaking, which greatly improves the electrical and mechanical properties of the switch.
4.2. The switch adopts glass fiber reinforced unsaturated polyester molding compound and manual operation handle, which has high dielectric performance, protective ability and reliable operation safety.
4.3. The switch has 3 poles type and 4 poles ( 3 poles + making/breaking neutral pole) type.
4.4. The front of the switch is provided with a marking window to indicate the making/breaking state of the contact. The rear observation window can be
provided as required to directly observe the making/breaking state of the contact, thus ensuring the reliability and safety of the switch operation.
4.5. The operating handle can be directly installed on the switch for operation (referred to as "in-cabinet operation"), or it can be operated outside the power distribution cabinet by the extension shaft (referred to as "out-of-cabinet operation"), thus providing convenient operation.
4.6. The normally-open and normally-closed auxiliary contacts, special mounting base plate and wiring modes in front of the plate and behind the plate can be provided as required to meet various needs of users.
4.7 For the breaking position of " 0 ", two or three locks can be used to lock the handle to prevent malfunction.
4.8. The transfer switch has three indicating positions: "I" indicates that the Switch I is in the making position and the Switch II is in the breaking position. "0" indicates that both Switch I and Switch II are in the breaking position. "II" indicates that the Switch II is in the making position and the Switch I is in the breaking position.

## V. Main Technical Parameters

5.1. Main technical parameters of the HUH1-100 Load Switch.
5.1.1. Conventional thermal current Ith: 100 A .
5.1.2. Rated insulation voltage Ui: $1,000 \mathrm{~V}$.
5.1.3. Rated impulse withstand voltage Uimp: 12 kV .
5.1.4. Rated working voltage Ue: AC 400/690 V.
5.1.5. Rated frequency: 50 Hz .
5.1.6. Rated working current le: $10 \mathrm{~A}, 16 \mathrm{~A}, 20 \mathrm{~A}, 25 \mathrm{~A}, 32 \mathrm{~A}, 40 \mathrm{~A}, 50 \mathrm{~A}, 63$ A, $80 \mathrm{~A}, 100 \mathrm{~A}$.
5.1.7. Use category: AC-22B.
5.1.8. Rated short-term withstand current Icw: $8 \mathrm{kA} / 1 \mathrm{~s}$.
5.1.9. Rated short-circuit making capability Icm: $13.6 \mathrm{kA} / 1 \mathrm{~s}$.
5.1.10. Mechanical life: 5,000 times; Electrical life: 1,000 times.
5.1.11. Operating torque: $\leq 5 \mathrm{~N} \cdot \mathrm{~m}$.
5.2. Main technical parameters of the HUH1-160~3200 Load Switch (see Table 1).
5.3. The main parameters of the isolating switches such as side operation, operation outside the cabinet, operation behind the cabinet, wiring behind the plate and direct observation of the contact window all correspond to the HUH1.

### 5.4. The main parameters of the HUH1/Z Double-throw Switch Load Switch

 correspond to the HUH1.Table 1: Main technical parameters of the HUH1 Series Load Switch

| Product model |  |  | HUH1-160 |  |  | HUH1-250 |  | HUH1-630 |  |  |  | HUH1-1600 |  |  |  | HUH1-3200 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 10001 | 1250 |  | 20002 | 2500 | 3200 |
| Conventional thermal current Ith (A) |  |  | 160 |  |  | 250 |  | 630 |  |  |  | 1600 |  |  |  | 3200 |  |  |
| Rated insulation voltage $\mathrm{Ui}(\mathrm{V})$ |  |  | 1000 |  |  |  |  | 1140 |  |  |  |  |  |  |  |  |  |  |
| Rated impact withstand voltage Uimp (kV) |  |  | 12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\begin{gathered} \mathrm{AC} \\ 400 \mathrm{~V} \end{gathered}$ | AC-21B | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000125016002000 25003200 |  |  |  |  |  |
|  |  | AC-22B | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 630 | 800 | 1000 | 1250 |  | 00 |  |  |
|  |  | AC-23B | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 500 | 500 | 800 |  |  | 1000 | 1250 |  |  |
|  | $\begin{gathered} \mathrm{AC} \\ 690 \mathrm{~V} \end{gathered}$ | AC-21B | 100 | 125 | 160 | 200 | 250 | 315 | 400 | 400 | 500 | 800 | 1000 |  |  | 20002 | 2500 |  |
|  |  | AC-22B | 100 | 100 | 120 | 160 | 160 | 315 | 315 | 315 | 315 | 630 | 800 | 800 | 800 | 10001 | 1000 |  |
|  |  | AC-23B | 40 | 60 | 80 | 100 | 125 | 200 | 200 | 200 | 200 | 250 | 500 | 500 | 500 | 800 | 800 | 800 |
| Rated short-time withstand current (kA/1 s) |  |  | 9 |  |  |  |  | 13 |  |  |  | 50 |  |  |  |  |  |  |
| Mechanical life (times) |  |  | 5000 |  |  |  |  | 3000 |  |  |  | 2000 |  |  |  | 1000 |  |  |
| Electrical life (times) |  |  | 1000 |  |  |  |  | 600 |  |  |  | 300 |  |  |  | 100 |  |  |
| Operating torque ( $\mathrm{N} \cdot \mathrm{m}$ ) |  |  | 6.5 |  |  | 10 |  | 15 |  |  |  | 30 |  |  |  | 50 |  |  |
| Main parameters of the auxiliary switch |  |  | Ui: 400 V ; Ith: $5 \mathrm{~A}, 50 \mathrm{~Hz}, \mathrm{AC}-15$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## VI. Outline and Installation Dimensions

6.1. Optional mounting base plate (see Figure 1 and Table 2)


Table 2: Dimensions of optional mounting base plate

| Current <br> specification | L | A | B | a | b | t |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 160 A | 218 | 190 | 85 | 8.5 | 6.5 | 3 |
| 250 A | 245 | 215 | 110 | 8.5 | 6.5 | 3 |
| $400,630 \mathrm{~A}$ | 270 | 240 | 135 | 8.5 | 6.5 | 4 |
| 800 A above | 310 | 280 | 175 | 8.5 | 8.5 | 5 |

Figure 1: Optional mounting base plate
6.2. Operating handle in the cabinet (see Figure 2)

HUH1-160, 250, in the cabinet


HUH1-630, in the cabinet


HUH1-100, in the cabinet
HUH1-1600, 3200, in the cabinet


Figure 2: Operating handle in the cabinet
6.3. Panel opening size and operating handle outside the cabinet (see

Figures 3 and 4)

HUH1-160~630, outside the cabinet


HUH1-1600, 3200 Type A, outside the cabinet HUH1/C, HUH1/Z Type A, outside the cabinet


HUH1-1600, 3200 Type B, outside the cabinet HUH1/C, HUH1/Z Type B, outside the cabinet


Figure 3: Opening dimension of the panel outside the cabinet


Figure 4: Operating handle outside the cabinet
6.4. Outline and installation dimensions of HUH1-100 and HUH1-100/Z (see Figures 5-7 and Table 4)


Figure 5: HUH1-100


| HiHI |  | Outine dimension |  |  |  | Installation dimension |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\lambda$ | 园 | G | 1 | 0 | a | po | $\frac{7}{31}$ |
| -100 | $\sqrt{1}$ | 55 | $1 \%$ | 6 | 27 | 64 | 68 |  |  |
|  | 14 | 507 |  |  |  |  |  |  |  |
| 00 | 132 | 142 | 12 | 128 | 27 | 54 | 58 | 4.5 | 4. 5 |
|  | 142 | ¢5 |  |  |  |  |  |  |  |
|  | 13 |  |  | $\pi$ | 27 | 201 | 58 | 4.5 | 93 |
|  | 14 |  |  |  | 2 |  |  |  |  |

Figure 7: HUH1-100/Z2

Table 3: Outline and installation dimensions of HUH1-100 and HUH1-100/Z

6．5．Outline and installation dimensions of HUH1－160～1600（see Figures 8－ 9 and Table 4）


| Product model | Current | Number | Outline dimension |  |  |  |  | Installation dimension |  |  |  |  | Terminal dimension |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | h | 1 | 4 | 0 | 1 | a | $b$ | 内 | d | $t$ | \％ | \＄ | $\dagger$ | I | V |
| Hith－40 | $\begin{aligned} & \text { TM } \\ & 1241 \\ & 1240 \end{aligned}$ | $\frac{A}{4}$ | $\frac{14}{178}$ | 13 | 92 | 3 | \％ | $\frac{120}{150}$ | 年 | 5.4 | 27 | 知 | 20 | 18 | 25 | 2 | A |
| HH1－250 | $204$ TKO | $\frac{13}{4}$ | 180 | 180 | 10 | 51 | $\begin{array}{\|l\|} \hline 109 \\ \hline 110 \\ \hline \end{array}$ | $\frac{100}{210}$ | 80 | 5.5 | $\begin{aligned} & \frac{5}{51} \\ & \frac{15}{2} \end{aligned}$ | 415 | T | 15 | 35 | 2 | （3） |
|  | $\begin{aligned} & \text { sish } \\ & 400 \end{aligned}$ | $\frac{A}{4}$ | 20 | 24 | 媇 | 5 | 150 | $\frac{210}{20}$ | 145 | 7 | 5 | 145 | 3 | $\frac{15}{17}$ | 5 | 37 | 15 |
|  | $680$ | $\frac{A}{4}$ | ${ }^{250}$ | 20 | 136 | 65 | $181$ | $\frac{210}{20}$ |  | 7 | 5 | 145 | $\frac{45}{40}$ | 20 | $\frac{5}{6}$ | 3 | 12 |
|  | $\begin{aligned} & \mathrm{ECOM} \\ & 10 \mathrm{OM} \end{aligned}$ | ／ 4 | 378 | 312 | 170 | 120 | 2 N | $\begin{array}{\|l\|} \hline 33 \\ \hline 473 \\ \hline \end{array}$ | 13 | 9 | $n$ | $\begin{array}{\|l\|} \hline 156 \\ \hline 269 \\ \hline \end{array}$ | $\Delta$ | 28 | $B$ | 4 | 12 |
| ｜141 | 1每矿 | ／ 14 | $\frac{578}{48}$ | 35 | 170 | 14 | 23 | $\begin{aligned} & 3701 \\ & 47 \\ & \hline \end{aligned}$ | 173 | 7 | 7 | $\begin{array}{\|l\|} \hline 1 \frac{5}{3} \\ \hline 399 \\ \hline \end{array}$ | 恧 | \％ | 8 | 4 | 12 |
|  | 1609 A | ／3 | 378 | 36 | 171 | 1218 | \％ | $\begin{array}{\|l\|} \hline 353 \\ \hline 473 \\ \hline \end{array}$ | 175 | 7 | 3 | $\frac{115}{25}$ | 00 | 2 | 10 | 4 | 12 |

Table 4：Outline and installation dimensions of HUH1－160～1600

6．6．Outline and installation dimensions of HUH1－3200（see Figures 10－11 and Table 5）
 copper


|  | ent |  |  | uttine |  |  |  |  | minal | men |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Product model | Curen |  | $\lambda$ | Q $80^{\circ}$ | 1 | 1 | a | 0／8＇ | $1 / T^{+}$ | $4{ }^{1}$ | $2 h^{\prime}$ |
|  | 2600 | 13 | 378 | W ${ }^{\text {W／5M}}$ | 50 | 23 | $1{ }_{6}$ | 60，${ }^{\text {a }}$ | 840 | \％／35 | \％ 6 ／115 |
|  |  | 14 | 48 | Wabin | 40 | 23 | 24 |  |  |  |  |
|  | 2500 | ／ | 378 | ${ }^{\text {stuma }}$ | 35 | 27 | 18 | 6000 | 242 | 4\％3 | 筌／115 |
|  |  | 14 | $4{ }^{\text {咸 }}$ |  | 40 | $22:$ | 2 2 |  |  |  |  |
|  | 3 cosh | 13 | 378 | S $3 / 5 / 9$ | St | 25： | 1㥻 | 2／1\％ | 1215 | 97／83 |  |
|  |  | 14 | 就 | \％ 50.50 | $4 \pi$ | 23 | 2 2 |  |  |  |  |

Table 5：Outline and installation dimensions of HUH1－3200（sizes with＊refer to those with connecting coppers）

6．7．Outline and installation dimensions of HUH1－160～1600／H（operation behind the cabinet）（see Figures 12－13 and Table 6）


Table 6：Outline and installation dimensions of HUH1－160～1600／H

| Product model |  | Installation dimension |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 3 | \％ | $Y$ |
| Hell－10 | ／2 | 120 | 名 | 7 | 5 |
|  | 媇 | 150 |  |  |  |
| ｜ 1414 | ／31 | 160 | 115 | 9 | 0 N |
|  | 相 | 211 |  |  |  |
| H14－20 | ／31 | 211 | 130 | 11 | 或 |
|  | ／4 | 201 |  |  |  |
| HH－188 | ／23 | S | 331 | 70 | 0 |
|  | ／4 | 4 |  |  |  |

Note：Other dimensions correspond to HUH1．
6.8. Outline and installation dimensions of HUH1-160~1600/B (wiring behind the plate) (see Figures 14-15 and Table 7)


| Product model | Curent | Terminal dimension |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $R$ | § | 1 | $Y$ | P |
| (1)H-100/3 | 164 | 2 | 12 | 3.5 | 25 | 7 |
| Hinl-20, | 2 zk | 25 | 15 | 3.5 | 2 | ${ }^{\text {\% }}$ |
|  | 4 4 2 | 32 | 17 | 5 | 37 | 34 |
|  | 6 M | 4 | 2 | $\delta$ | 3 | 34 |


| Product model | Curent | $\begin{aligned} & \text { Terminal } \\ & \text { dimension } \end{aligned}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | R | 5 | I | $Y$ | $p$ |
| Huth-600w | $3 \mathrm{COH}^{3}$ | 50 | 3 | 8 | 4 | 108 |
|  | 19034 | 50 | 20 | 8 | 48 | 108 |
|  | 1230 | 50 | 2 | 8 | 48 | 106 |
|  | 1004 | 50 | \% | 10 | 4 | 108 |

Table 7: Outline and installation dimensions of HUH1-160~1600/B (Other dimensions correspond to HUH1)

6．9．Outline and installation dimensions of HUH1－160～1600／C（see Figures 16－17 and Table 8）


| Product model | Current | Numberof poles | Outline dimension |  |  |  |  |  | Installation dimension |  |  |  | Terminal dimension |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 | 8 | 0 | 1 | $E$ | H | $\pm$ | $b$ | 解 | 4 | R | \＄ | T | 1 | 1 |
| H2F－tis | 17 | ／4 | 195 | 13 | 124 | \％ | 14t ${ }^{\text {c }}$ | \％ 5 | 170 | \％ | 7 | 20 | 2 | 10 | 2.5 | 52 | 8 |
|  | $\begin{aligned} & 1 E 1 \\ & 150 \end{aligned}$ | 44 | 25 |  |  |  | 170 |  | 150 |  |  |  |  |  |  |  |  |
| HFIN－258 | 2031 | ／2t | 235 | 171 | 13 | 50 | 183 | 110 | 160 | 115 | 3 | 20 | ${ }_{5}$ | 15 | 2.5 | 61 | \％ |
|  | 204 | 46 | $2{ }^{2}$ |  |  |  | 231 |  | 210 |  |  |  |  |  |  |  |  |
| HF1－638 | 3151 | ／3t | 33 | 29 | 16. | W | 23 | 160 | 210 | （18 | II | 5 | 32 | 17 | 5 | 0 | \％ |
|  | 4）3 | ／4t | 391 |  |  |  | 2 m |  | 270 |  |  |  |  |  |  |  |  |
|  | 5012 | ／ 4 | 393 | 230 | 164 | 6i | 230 | 100 | 210 | 㧹 | 11 | 5 | 40 | $\lambda$ | 6 | 0 | 得 |
|  | d03 | ／45 | 350 |  |  |  | m |  | 20 |  |  |  |  |  |  |  |  |
| H4H1－180］ | 66t | 槁 | 433 | 312 | 23 | 13 | 38 | $20]$ | 300 | 280 | 10 | 4 | 60 | $N$ | 1 | 倠 | 12 |
|  | 1005． | ／40 | $3{ }^{3}$ |  |  |  | 48 |  | 450 |  |  |  |  |  |  |  |  |
|  | T60 | ／5t | 473 | $3{ }^{3}$ | 252 | W | 3 J | 207 | 新 | 20 | 10 | 4 | \＄ | $\chi$ | b | 閩 | 2 |
|  | ， | ／40 | 597 |  |  |  | 49 |  | 470 |  |  |  |  |  |  |  |  |
|  | 1680 | ／at | 473 | 频 | 280 | \％ | 376 | in | 30 | 280 | 10 | 4 | \＄ | \％ | 10 | 盛 | 12 |
|  |  | flt | 59 |  |  |  | 438 |  | 40 |  |  |  |  |  |  |  |  |

Table 8：Outline and installation dimensions of HUH1－160～1600／C（the hole size of wiring board corresponds to HUH1）

6．10．Outline and installation dimensions of HUH1－160～160／Z（see Figures 18－19 and Table 9）
（Figure 18） 630 A below


| Product model | Curent | Number | $\begin{aligned} & \text { Outline } \\ & \text { dimension } \end{aligned}$ |  |  |  |  |  | Installationdimension |  |  |  | Terminaldimension |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 | 3 | 6 | D | \％ | H | 1 | $b$ | 的 | 4 | R | 5 | T | 1 | 7 | 1 | I |
|  | $\begin{aligned} & 620 \\ & 64 \\ & 5104 \end{aligned}$ | $\frac{\pi}{\mu}$ | $\frac{15}{28}$ | 佔 | $1 \%$ | 36 | $\frac{50}{50}$ | 5 | $\frac{10}{50}$ | 有 | $\dagger$ | 27 | v | 15 | 15 | 52 | $\pi$ | $!$ |  |
| 4H1－550 | $\begin{aligned} & 201 \\ & 20 \end{aligned}$ | $\frac{12}{14}$ | $\frac{28}{\text { \％}}$ | 17 | 215 | 53 | $\frac{50}{20}$ | 116 | $\begin{array}{\|l\|} \hline 50 \\ \hline 80 \\ \hline \end{array}$ | 115 | ？ | 2 | \％ | 15 | 15 | 60 | 12 | 10 |  |
|  | $\begin{aligned} & 3151 \\ & 4251 \end{aligned}$ | $\frac{12}{12}$ | $\frac{3}{30}$ | 脑 | 288 | 4 | $\frac{20}{20}$ | 165 | $\frac{2 N}{2 N}$ | 18 | II | \＄ | $n$ | it | 5 | 80 | 114 | 10 |  |
|  | $\begin{aligned} & 3064 \\ & 200 \end{aligned}$ | $\frac{\beta 2}{1 a}$ | 3010 | 24 | 218 | $5$ | $\frac{30}{20}$ | 160 | $\frac{2 N}{2 N}$ | 180 | \＃1 | 3 | 4 | 3 | 6 | 80 | 111 | 12 |  |
|  | $\begin{aligned} & \mathrm{xel} \\ & 1000 \end{aligned}$ | $\frac{18}{12}$ | $\frac{43}{43}$ | 512 | 330 | 12 | $\begin{array}{\|l\|} \hline 28 \\ \hline k \times 2 \\ \hline \end{array}$ | 30 | $\frac{51}{49}$ | 230 | 10 | 4 | 29 | 0 | B | \％ | 156 | 12 |  |
| H2－160 | 220 | $\frac{12}{1 a}$ | 473 | 58 | 3 | 12 | $\frac{278}{4}$ | 20 | $\left.\frac{251}{41} \right\rvert\,$ | $20$ | $10$ | $4$ | 31 | $20$ | 8 | 98 | 156 | 12 |  |
|  | S道 | ／22 | 43 <br> 篤 | 36 | 330 | 12 L | $\frac{388}{68}$ | 36 | $\frac{51}{61}$ | 230 | 10 | $40$ | 33 | 7 | 10 | \％ | 15 | 12 | 2 |

Table 9：Outline and installation dimensions of HUH1－160～1600／Z（the hole size of wiring board corresponds to HUH1）
6.11. Outline and installation dimensions of HUH1-3200/Z (see Figures 2021 and Table 10)


|  |  | Number |  | Outine and | install |  |  |  |  | minal |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ct model | Curent | of paed | $h$ | 㬉 | E | 1 | $\square$ | $8 \mathrm{P}^{7}$ | $1 /{ }^{1}$ | $7 / 7^{\prime}$ | $V 2^{2}$ |
| H411-3500 | 201 | 13 | 473 | 35i512 | 278 | 390 | 4 | 20\% | 8/4 | \$3/5 | 30115 |
|  |  | 14 | \% ${ }^{3}$ | 3545012 | 45 | 40 | 4 |  |  |  |  |
|  | 2 Mm | / 17 | 473 | 304/512 | \$8 | 330 | 4 | 32, 32 | d,72 | 98㐯 | 38175 |
|  |  | /4 | 53 | 35/512 | 458 | 40 | 4 |  |  |  |  |
|  | 3301 | /21 | 473 | 13isinl | 57 | 350 | 4. | E100 | W/5 | 9938 |  |
|  |  | /Q | 593 | 334512 | 458 | 4 | 4 |  |  |  |  |

Table 10: Outline and installation dimensions of HUH1-2000~3200/Z (sizes with * refer to those with connecting coppers)

6．12．Outline and installation dimensions of HUH1－160－1600／Z2（see Figure 22 and Table 11）

（Figure 22）
HGL／Z2


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | of poles | $\lambda$ | 8 | 6 | $t$ | § | 1 | 1 | $b$ | 8 | $t$ | 1 | 5 | 1 | $r$ |  |
|  | 500 | mas | 300 |  |  |  | 4 4 |  | 3 |  |  |  |  |  |  |  |  |
| 明－14 | $\underset{\sim}{\infty}$ | 142 | 第 | 13 | 18 | 36 | T0 |  |  | 45 | 7 | ＊） | 0 | 10 | 15 | § | 8 |
|  | 20n | \％ 22 | 40 | 17 | 13 | 50 | ＊ |  | ） | 155 | 9 | $4)$ | 3 | 15 | 15 | （1） | v |
|  | 230 | $1 / 22$ | 500 |  | 12 |  | $m$ |  | （2） |  |  | a） | 2 | I |  |  |  |
|  | उड5 | 132 | 53 | 24 | 154 | \％ | $\frac{23}{29}$ |  | 150 |  | $11$ | ค | $3$ | $17$ | 5 | 析 | $v$ |
|  | 44 | $1 / 42$ | （0） |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 50 H | 132 | 53 | 30 | 144 | $\text { \| } 6$ | \％ | $1100$ | 510 | $160$ | $11$ | ท |  | $2$ | 6 | $\mathbb{E}$ | 11 |
|  | 430 | 142 | ＋10］ |  |  |  | $2 \times$ |  | 50 |  |  |  |  |  |  |  |  |
| 40n－30 | 3 zaH | 132 | \％\％ | 312 | z | 17 | 明 | $m$ |  |  | 9 | 18 |  | $2$ | $4$ | 5 | 12 |
|  | 1534 | 142 | $17 \%$ |  |  |  | 4 |  | 2 |  |  |  |  |  |  |  |  |
|  | 13 M | 832 | 8 | 36 | 72 | IT | 38 | $m$ |  | 20 | 4 | 155 | $30$ | $20$ | 3 |  | 12 |
|  |  | $1 / 42$ | TH6 |  |  |  | 明 |  |  |  |  |  |  |  |  |  |  |  |
|  | 1603． | ／32 | 8\％ | 36 | 20 | （1） | 313 | 2 | 11 | 230 | 4 | 16 | ง | 20 | 16 | $5$ | 12 |
|  |  | 142 |  |  |  |  | 明 |  |  |  |  |  |  |  |  |  |  |

Table 11：Outline and installation dimensions of HUH1－160～1600／Z2

## VII. Installation Instruction

7.1. Installation instruction for the operation in the cabinet of HUH1-100 and HUH1-1600 above
Installation instruction for the operation in the cabinet of the HUH1/C and HUH1/Z Series

As shown in Figure 23: Install the switch vertically on the mounting plate in the switch cabinet, and make the switch in the breaking " 0 " position. Sleeve the handle on the square shaft of the switch, and make the handle in a horizontal position. Then fix the handle on the
 square shaft of the switch with a flat-head screw and tighten the screw.
7.2. Installation instruction for the operation in the cabinet of HUH1-160~630

As shown in Figure 24: Install the switch vertically on the mounting plate in the switch cabinet, and make the switch in the breaking " 0 " position. Insert the expansion block in the switch's square shaft hole, sleeve the handle on the square shaft of the switch, and make

(Fig. 24) the handle in a horizontal position. Then screw into the expansion block from the handle hole with a self-tapping screw.
7.3. Installation instruction for the operation switch outside the cabinet of HUH1-160~630
(1). As shown in Figure 25: Install the switch vertically on the mounting plate in the switch cabinet, make the switch in the breaking " 0 " position, and then measure the distance L from the top of the square shaft of the switch to the inner surface of the cabinet door.
(2). As shown in Figure 26: After measuring the length of $(L+66) \mathrm{mm}$ at the pin terminal of the extension shaft, saw off the extra part.

(3). As shown in Figure 27: If the cabinet door interlock is not required (that is, when the switch is closed, the door cannot be opened; when the cabinet door is opened, the switch cannot be closed), then pull out the black cylindrical pin at the bolt terminal of the extension shaft with a vice. If the cabinet door interlock is required, it is not necessary to pull out the pin. Then insert the extension shaft into the hole of the square shaft of the switch to the bottom, and then tighten the set screw in the square shaft of the switch.
(4). As shown in Figure 28: Tap the contact between the cabinet door and the top of the extension shaft from outside the cabinet with a hammer to determine the drilling center, and drill a hole of $\varphi 6$ from the inside of the cabinet door to the outside at the drilling center, and then ream it to $\varphi 30$.
(5). As shown in Figure 29: Clamp the protruding central part of the disc end cover in the $\varphi 30$ hole of the cabinet door, and position it with the four small holes of the end cover. Drill four $\varphi 4.5$ holes in the left-right horizontal direction and the up-down vertical direction of the cabinet door, and then knock out the protruding central part of the end cover with a hammer.
(6). As shown in Figure 30: Fix the disc end cover (inside the cabinet door) and the handle (outside the cabinet door) at the opening of the cabinet door with 2 selftapping screws and washers attached with the accessories. When installing, the handle shall be in a horizontal position and indicates the " 0 " position.

(Fig. 30)
7.4. Installation instruction for the Type A operation switch outside the cabinet of HUH1-1600 and above
(1). As shown in Figure 31: Install the switch vertically on the mounting plate in the switch cabinet, and make the switch in the breaking " 0 " position. Then fix the connecting sleeve on the square shaft of the switch with a flathead screw, make the convex rib point to the " 0 " position of the switch, and measure the distance L from the top of the connecting sleeve to the inner surface of the cabinet door.
(2). As shown in Figure 32: After measuring the length of $(L+50) \mathrm{mm}$ at the riveting pin terminal of the extension shaft, saw off the extra part.
(3). As shown in Figure 33: If the cabinet door interlock is not required, just grind the cylindrical pin at the riveting pin terminal of the extension shaft. If the cabinet door interlock is required, it is not necessary to grind. Then insert the extension shaft into the hole of the connecting sleeve, and fasten the square shaft of the switch with the connecting sleeve and the extension shaft with two hexagonal head bolts.
(4). As shown in Figure 34: Tap the contact between the cabinet door and the top of the extension shaft from outside the cabinet with a hammer to determine the drilling center, and drill a hole of $\varphi 6$ from the inside of the cabinet door to the outside at the drilling center, and then ream it to $\varphi 63$.
(5). As shown in Figure 35: Drill $4 \varphi 5.5$ holes
 on the panel of the cabinet with the $\varphi 63$ hole as the center. Screw out the four nuts on the handle, insert the four screws on the handle into the $4 \varphi 5.5$ holes from the outside of the cabinet door, and keep the handle in the horizontal indication "0" position. Then sleeve on and tighten the four nuts.
7.5. Installation instruction for the Type B operation switch outside the cabinet of HUH1-1600 and above
Installation instruction for the Type B operation switch outside the cabinet of the HUH1/C Series
Installation instruction for the Type B operation switch outside the cabinet of the HUH1/Z Series
(1). As shown in Figure 36: Install the switch vertically on the mounting plate in the switch cabinet, and make the switch in the breaking " 0 " position. Then measure the distance $L$ from the top of the switch square shaft to the inner surface of the cabinet door.
(2). As shown in Figure 37: Screw the threaded terminal of the positioning shaft into the screw hole of the extension shaft and tighten it properly. After the length of $(\mathrm{L})$ is measured on the extension shaft together with the positioning shaft, saw off the excess part.
(3). As shown in Figure 38: Connect the extension shaft with the switch square shaft with V-shaped clamping plate and accessory bolt and tighten the positioning nail. Adjust the positioning shaft to make its top contact with the cabinet door, and tap it from outside the cabinet with a hammer to determine the drilling center. Then dismantle the positioning shaft, and drill a hole of $\varphi 6$ from the inside of the cabinet door to the outside at the drilling center, and then ream it to $\varphi 30$.
(4). As shown in Figure 39: Fix the connecting (aluminum) sleeve on the extension shaft with a short flat-head screw in the accessories, and make the convex rib point to the "0" position of the switch. Insert the panel assembly into the $\varphi 30$ hole installed in the cabinet door, and make the indicating direction of the indicator in the panel consistent with the direction of the rib in the connecting sleeve. Then close the cabinet door, and drill three $\varphi 5$ holes based on the left, right and upper holes in the panel.

(5). As shown in Figure 40: Install the panel assembly (outside the cabinet door) and the U-shaped support (inside the cabinet door) at the opening of the cabinet door with three long flat-head screws in the accessories, and make the U-shaped opening of the support face to the left in the right-hand door and to the right in the left-hand door.
(6). As shown in Figure 41: Paste the sign on the panel, and stick it correctly and firmly. Sleeve the handle on the square shaft of the panel, make the handle point to the "0" position, and then fix the handle on the square shaft of the panel with a flat-head screw and tighten the screw.
7.6 As shown in Figure 42: Metal plates shall not be installed on side A of the HUH1-160 Load Switch.

(Fig. 42)
7.7. The operation behind the cabinet, the wiring behind the plate, the use and installation of the disconnecting switch with a visible window, etc. correspond to the inside and outside of the HUH1 cabinet.

## VIII. Use and Maintenance

8.1. The switch shall be installed vertically, and the rated current of the switch shall be selected according to the capacity of the electrical equipment. Before installing the switch, check whether the nameplate of the switch meets the use requirements, and make sure that the switch is in the off state before installation, that is, the switch indicates the " 0 " position.
8.2. The terminal and copper busbar of the switch shall be wrapped with insulation to prevent the short circuit between phases of the switch.
8.3. If the extension shaft of the operating switch outside the cabinet is different from the handle hole on the cabinet door, the extension shaft must not be pulled to avoid damaging the internal parts of the switch, but the position of the switch shall be adjusted to make it coaxial.
8.4. The operating handle and its mechanism of the operating switch outside the cabinet have the interlock protection function: that is, when the switch is closed, the door cannot be opened; when the cabinet door is opened, the
switch cannot be closed. If the interlock is not required, just grind the cylindrical pin on the extension shaft or the convex rib on the connecting aluminum sleeve.
8.5. The HUH1 Load Switch has two indicating positions: Turn the operating handle clockwise to close the switch. Turn the operating handle counterclockwise to open the switch. Before each operation, pay attention to the indicating state of the switch: In the breaking position "0", the switch can only be closed by clockwise operation. In the making position "I", the switch can only be opened by counterclockwise operation.
8.6. The HUH1(Z) Transfer Switch has three indicating positions: "I" indicates that the Switch I is in the making position and the Switch II is in the breaking position. " 0 " indicates that both Switch I and Switch II are in the breaking position. "II" indicates that the Switch II is in the making position and the Switch I is in the breaking position.
8.7. To prevent the malfunction of irrelevant personnel, no matter what position the switch is, it can be locked with a padlock so that the handle can no longer rotate.
8.8. The contacts of the switch shall be checked regularly, and the dust, oil and other impurities shall be cleaned up in time. The friction part of the operating mechanism shall be oiled regularly to make it move flexibly to prolong its service life. The switch must be stopped immediately if seriously damaged.

## IX. Ordering Information

When ordering, please specify the model specification and order quantity of the switch in detail.

Example of ordering: HUH1-160/4 10 sets
HUH1-250/3J 5 sets

## Company Commitment

On the premise that users abide by the use and storage conditions and that the product seals are intact, if the product is damaged or cannot be used normally due to manufacturing quality problems within 18 months from the production date of the product, our company will be responsible for the repairing or replacement free of charge. If the warranty period expires, users shall pay for the repair. However, if the damage is caused by the following circumstances, the fees for repair still shall be charged even within the warranty period:
(1) Misuse, self-modification, improper maintenance, etc.
(2) Use beyond the standard specification requirements.
(3) Falling, damage during transportation, etc. after purchase.
(4) Earthquake, fire, lightning strike, abnormal voltage, other natural disasters and secondary disasters, etc.

In case of any questions, please contact the dealer or our customer service department.

## Dear customers:

To protect our environment, please recycle the product or its components when the product is scrapped. For materials that cannot be recycled, please handle them properly. Thank you very much for your cooperation and support.

Address: Wenzhou Bridge Industrial Zone, Yueqing City, Zhejiang Province
Service hotline: 400-887-5757
Switchboard: 0577-62889999
Fax: 0577-62885588
Website: www.huyu.com.cn

