



# **HR5 Series Fuse Disconnecting 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/T14048.3, and therefore is allowed to leave the factory.

Inspector:



Date of inspection: See the product or packaging.

# **HUANYU HIGH-TECH CO., LTD.**

# HR5 Series Fuse Disconnecting Switch

## I. Scope of Application

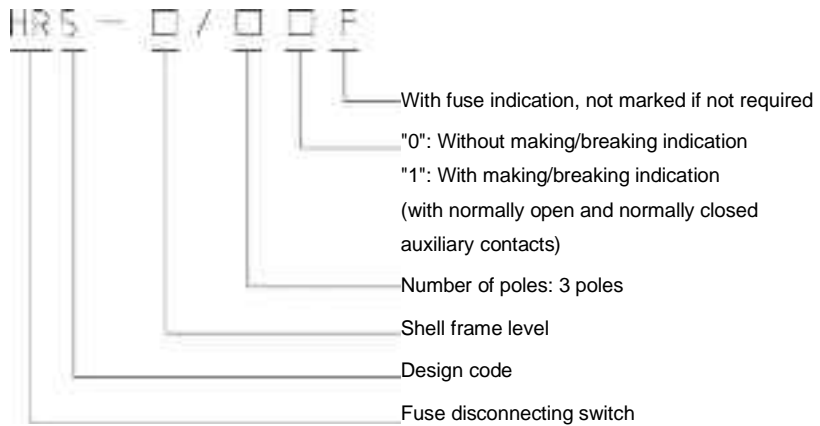
The HR5 Series Fuse Disconnecting Switch (hereinafter referred to as “switch”) is suitable for the distribution circuits and motor circuits with high short-circuit current with AC 50 Hz, rated voltage of 380 V and conventional thermal current up to 630 A. This product is used as the power switch, disconnecting switch and emergency switch that are not frequently operated manually, and for the short-circuit protection, but generally not used to directly switch on and off a single motor.

The switch is simple in structure and easy to operate. It complies with GB/T 14048.3 and IEC 609 47-3 and is the best choice among similar products.

## II. Normal Working Conditions

1. Ambient air temperature: The temperature shall not be higher than +40°C or lower than -5°C, and the average value within 24 hours shall not exceed +35°C.
2. Altitude: The altitude of the installation location shall not exceed 2,000 meters.
3. Relative humidity: The relative air humidity shall not exceed 50% when the maximum ambient temperature is +40°C, and a higher relative humidity is allowed at a lower temperature (for example: 90% humidity at +20°C), but the occasional condensation on the switch surface due to temperature changes shall be considered.
4. Contamination grade of the surrounding environment: Grade 3.
5. Installation category: III.
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 or destroy the insulation.
7. Please consult with our company for the use occasions under abnormal working conditions.

### III. Model Description



### IV. Structural Features of Switch

The switch is mainly composed of a resin base and an upper cover. Three pairs of clamp contacts are directly installed on the base with the arc-extinguish chamber, and the fuse link is installed in the upper cover and directly used as a moving contact blade. The upper cover can be rotated to a fan shape along the hinge pin, so that the fuse link can be completely pulled out from the socket. The upper cover can also be conveniently removed from the base, which is convenient for the installation and safe removal and replacement of the fuse link.

The arc-extinguishing chamber of the switch is made of arc-resistant plastic, which is simple in structure, convenient to disassemble and assemble, as well as safe and reliable. Many metal arc-extinguishing grids are installed in the arc-extinguishing chamber, which enhances the arc extinguishing ability of the switch, eliminates the harm of arcing and prolongs the service life of the contact.

Auxiliary contacts can be installed on the left and right sides of the switch base to indicate the making/breaking state of the switch. A fuse indicator can be installed in the switch cover. The indicator light will be on when the fuse link is blown, which can be used for phase loss detection and protection.

## V. Main Technical Parameters

1. See Table 1 for the main technical parameters of the switch:

Table 1

<b>HR5</b>	<b>-160</b>	<b>-250</b>	<b>-400</b>	<b>-630</b>
<b>Rated impulse withstand voltage Uimp</b>	12kV			
<b>Rated insulation voltage Ui</b>	1000V		1140V	
<b>Rated working voltage Ue</b>	AC380V			
<b>Rated frequency</b>	50Hz			
<b>Use category</b>	AC-23B			
<b>Conventional thermal current Ith</b>	160A	250A	400A	630A
<b>Rated working current Ie</b>	160A	250A	400A	630A
<b>Rated limited short-circuit current (r.m.s)</b>	50kA	50kA	50kA	50kA
<b>Mechanical life (number of operation cycles)</b>	3500	3500	2000	1250
<b>Electrical life (number of making/breaking cycles)</b>	500	500	500	250
<b>Operating force F</b>	≤250N	≤300N	≤350N	≤400N
<b>Weight</b>	2.9kg	6.4kg	8.1kg	9.9kg

2. Main parameters of the auxiliary contact (auxiliary switch)
  - a. Rated working voltage: AC 380 V
  - b. Conventional thermal current: 5 A
  - c. Use category: AC-15
  - d. Contact type: 1 NO + 1 NC
  - e. The standard followed: GB/T14048.5

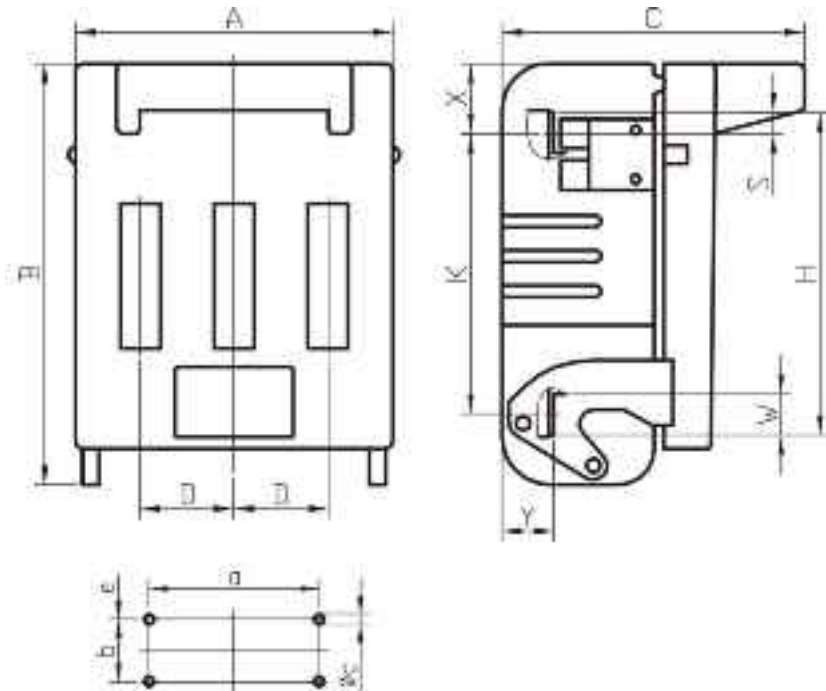
3. Matching between the switch and fuse link (see Table 2):

Table 2

Specification and model	Model of fuse link matched	Size of fuse link matched	Rated current of fuse link (A)
HR5-160	RT16-00	00	16.25.32.40.50.63.80.100.125.160
HR5-250	RT16-1	1	80.100.125.160.200.225.250
HR5-400	RT16-2/400	2	125.160.200.225.250.300.315.355.400
HR5-630	RT16-3/630	3	315.355.400.425.500.630

Note: When the switch is used in the motor circuit, the rated current of the fuse link is allowed to be greater than the rated working current of the switch.

## VI. Outline and Installation Dimensions of Switch



HR5	Outline dimension				Installation dimension			Copper busbar dimension									
	A	B	C	D	a	b	e	$\phi_c$	H	K	X	Y	S	W	Copper cross-section	M	
-160	/30	141	180	130	40	100	40	70	7	138	118	56	20	10	22	2x20	M6
	/31	149															
-250	/30	201	240	164	52	130	60	81.5	9	185	160	31.5	27	12.5	28	2x30	M10
	/31	209															
-400	/30	221	260	175	70	130	60	91.5	9	215	187	34	32.5	14	35	2.5x35	M10
	/31	229															
-630	/30	256	280	188	85	200	60	101.5	9	232	197	39	33.5	17.5	40	3.5x40	M12
	/31	274															

Note: e refers to the distance from the upper mounting hole to the uppermost edge.

## **VII. Use and Maintenance**

1. The switch shall be installed vertically, with the upper incoming and lower outgoing mode. When installed, the upper cover shall be removed.
2. The switch shall be equipped with the RT16 fuse links or any fuse links that meet the requirements of GB/T13539.1 and GB/T13539.2 and have corresponding short-circuit breaking and current limiting capabilities. The switch with fuse signal device must be equipped with the NTA fuse link with fuse striker.
3. When replacing the fuse, the load circuit shall be disconnected, and the upper cover of the switch shall be opened or removed. Then, the fuse link can be removed from the upper cover by gently pressing the spring sheet under the fuse link mounting plate, and the new fuse link can be pushed directly along the notch of the plate.
4. Although the arc-extinguishing chamber can be easily pulled out or inserted from the socket, unnecessary disassembly and assembly shall be avoided as far as possible. The arc-extinguishing chamber must be installed carefully, and shall be vertically inserted into the positioning place inside.
5. 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.
6. No.3 sodium-based lubricant shall be coated on the contact surface of the contact knife and socket when the fuse link is self-equipped or replaced.

## **VIII. Ordering Information**

When ordering, please specify the model and specification of the switch, rated current of the fuse link and order quantity. If the rated current of the fuse link is not specified, it shall be configured according to the conventional thermal current of the switch. If the fuse link is self-equipped, a note shall be provided.

Examples of ordering: HR5-160/31, with 100 A fuse link, 5 sets

HR5-250/30, with self-equipped fuse link, 10 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  
Tel.: 0577-62889999  
Fax: 0577-62885588  
Service hotline: 400-887-5757**

 <http://www.huyu.com.cn>