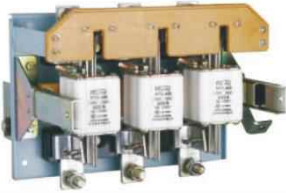


HR3

Series Fuse Knife Switch

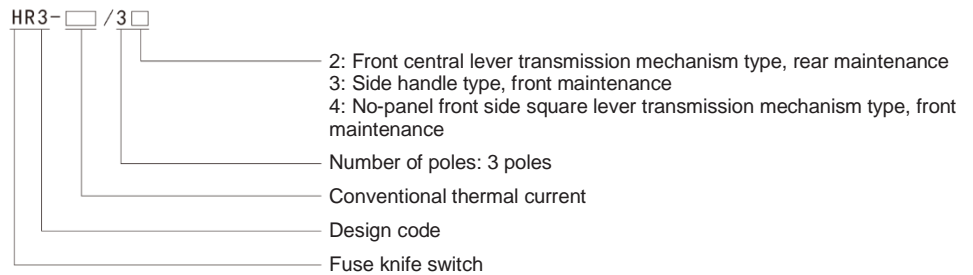


I. Scope of Application

The HR3 Series Fuse Knife Switch (hereinafter referred to as “switch”) is suitable for industrial and commercial power distribution systems with AC 50 Hz, rated voltage of 380 V and conventional thermal current up to 1,000 A, and is used for the overload and short-circuit protections of cables, conductors and electrical equipment. Under normal circumstances, the circuit can be manually switched on and off infrequently. In the case of short circuit, the fuse is blown to cut off the current.

With simple structure and convenient operation, the switch complies with IEC60947-3 and GB/T14048.3, and is the most ideal combined electrical appliance used to replace the knife switch and fuse in various low-voltage distribution devices.

II. Model Description



III. Structural Features

- The fuse knife switch is a combination of the fuse and the knife switch, which has the basic performance of fuse and knife switch. Under the condition of normal power supply of the circuit, the knife switch is used to turn on and off the circuit. When the line or equipment is overloaded or short-circuited, the fuse is blown to cut off the fault current.
- The switch has three operation modes and maintenance directions, which is suitable for the installation and use of various low-voltage switchgear and distribution cabinets.
 - 2.1. Front central lever transmission mechanism type, rear maintenance
 - 2.2. Side handle type, front maintenance
 - 2.3. No-panel front side square lever transmission mechanism type, front maintenance
- Among them, the switch for front operation and front maintenance has a door in the center for maintenance and replacement of fuse, which is mainly used for the installation on the BDL distribution panel. The switch for front operation and rear maintenance is mainly used for the installation on the BSL distribution cabinet. The switch for side operation and front maintenance can be used for the closed power distribution cabinet.
- The switch is equipped with a safety baffle and an arc-extinguishing chamber, which is riveted by phenol-formaldehyde laminated cardboard and metal arc-extinguishing grid, greatly enhancing the arc extinguishing ability of the switch.
- The fuse of the switch is fixed on the insulating beam with spring and lock plate, which ensures that the fuse does not trip during the normal operation, and when the fuse link is blown due to fault, it can be easily replaced by pressing the lock plate.

IV. Main Technical Parameters

1. Main technical parameters

| HR3 | HR3-100 | HR3-200 | HR3-400 | HR3-600 | HR3-1000 |
|--|---------|---------|---------|---------|----------|
| Rated impulse withstand voltage U _{imp} | 12kV | | | | |
| Rated insulation voltage U _i | 1140V | | | | |
| Rated working voltage U _e | AC380V | | | | |
| Rated frequency | 50Hz | | | | |
| Use category | AC-23B | | | | |
| Conventional thermal current I _{th} | 100A | 200A | 400A | 600A | 1000A |
| Rated working current I _e | 100A | 200A | 400A | 600A | 1000A |
| Rated limited short-circuit current (r.m.s) | 25kA | 25kA | 25kA | 25kA | 25kA |
| Mechanical life (number of operation cycles) | 3500 | 3500 | 2000 | 2000 | 1250 |
| Electrical life (number of making/breaking cycles) | 500 | 500 | 500 | 500 | 250 |
| Operating force F | ≤294N | ≤294N | ≤294N | ≤294N | ≤400N |

2. Matching between the switch and the fuse link

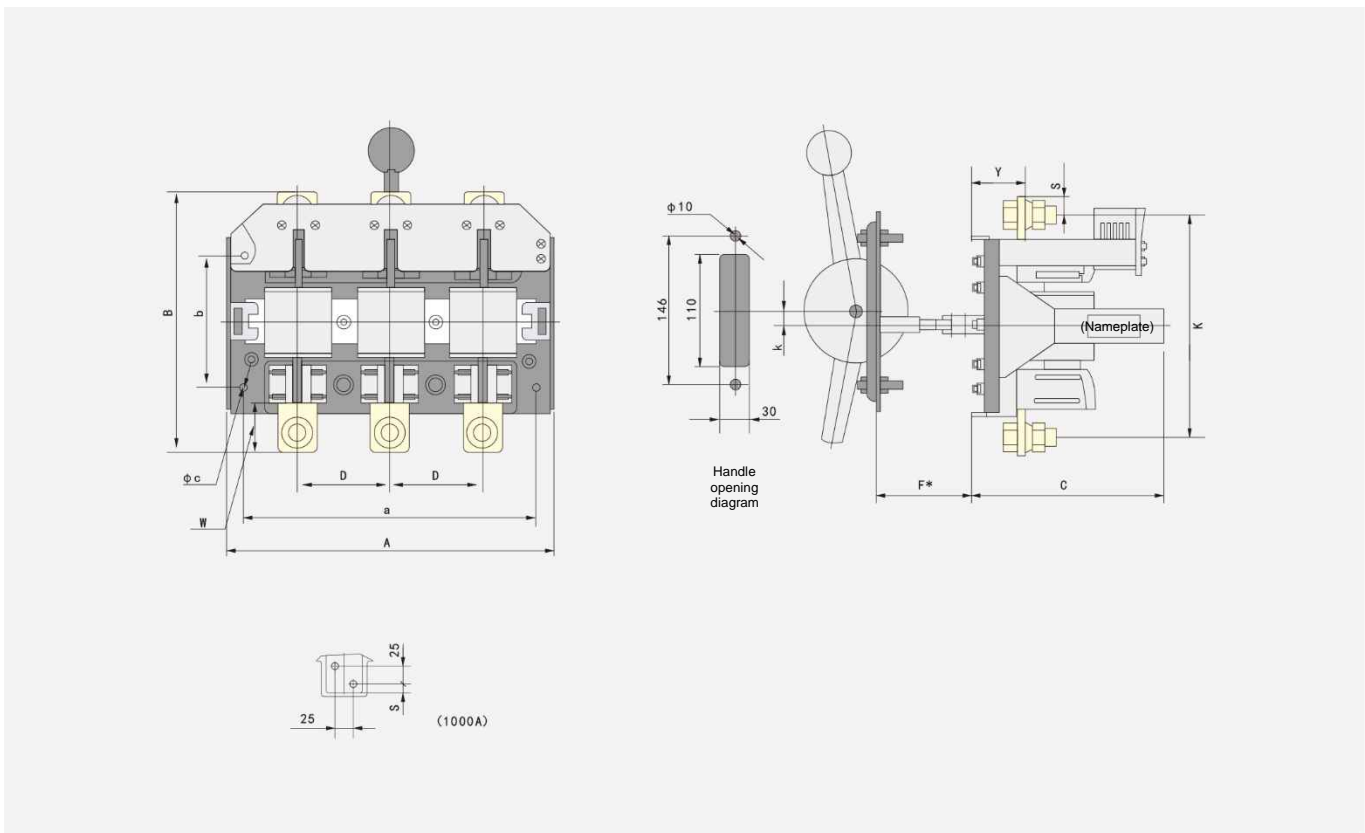
HR3

Series Fuse Knife Switch

| Conventional thermal current I _{th} | Specification of fuse link matched | Rated current of fuse link (A) |
|--|------------------------------------|--------------------------------|
| 100A | RT0-100 | 30. 40. 50. 60. 80. 100 |
| 200A | RT0-200 | 100. 120. 150. 200 |
| 400A | RT0-400 | 200. 250. 300. 350. 400 |
| 600A | RT0-600 | 400. 450. 500. 550. 600 |
| 1000A | RT0-1000 | 600. 800. 1000 |

VIII. Outline and Installation Dimensions of the Switch

1. Outline and installation dimensions of HR3-100~1000/32



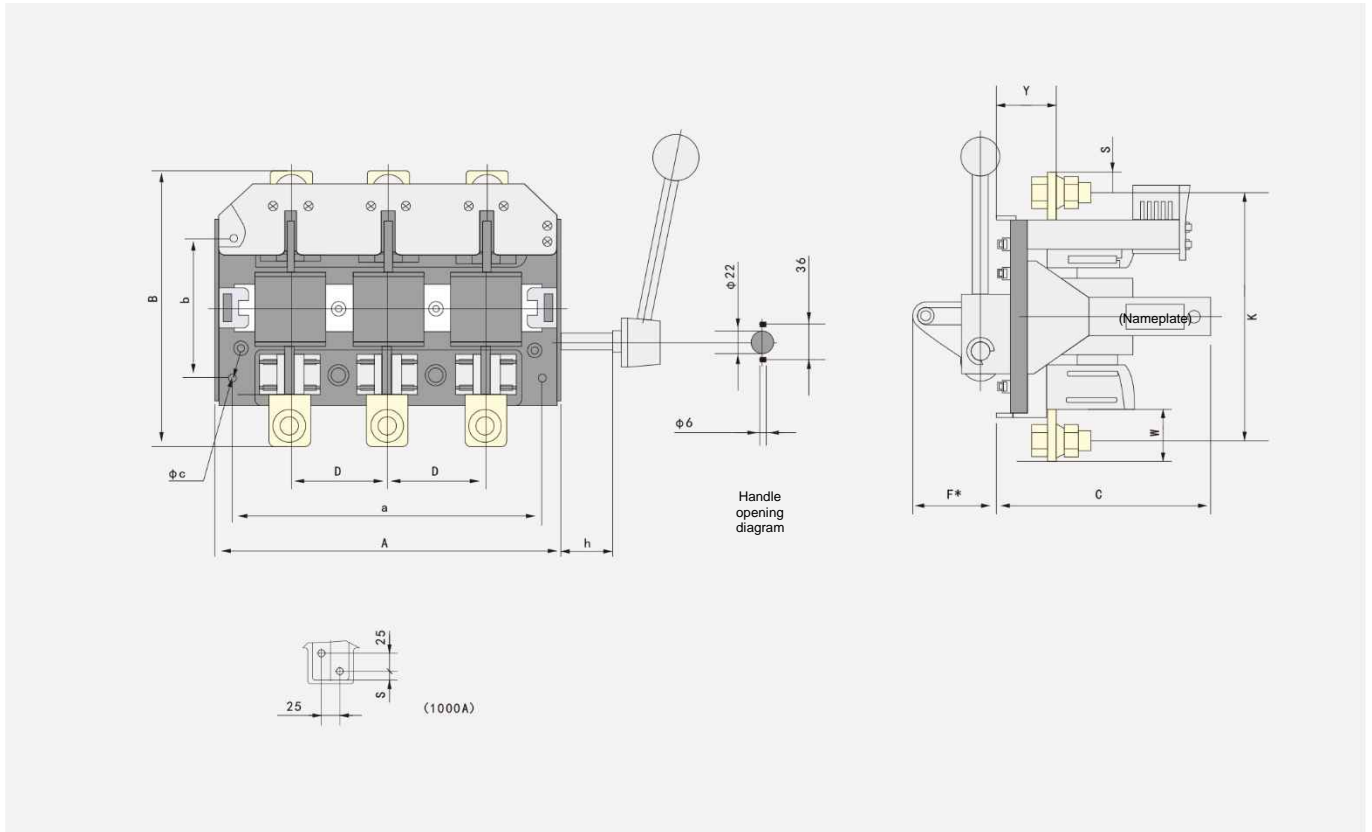
| Product model | Outline dimensions (mm) | | | | Installation dimensions (mm) | | | | Copper busbar dimensions (mm) | | | | | | |
|---------------|-------------------------|-----|-----|-----|------------------------------|-----|----|----|-------------------------------|-----|------|----------------------|---------|----|------|
| | A | B | C | F* | a | b | φc | k | D | K | Y | Copper cross-section | M | W | S |
| HR3-100/32 | 250 | 192 | 185 | 250 | 215 | 130 | 7 | 12 | 60 | 170 | 47 | 2 x 20 | M8 | 30 | 10 |
| HR3-200/32 | 270 | 192 | 185 | 250 | 235 | 130 | 7 | 12 | 70 | 156 | 45.5 | 2 x 30 | M10 | 28 | 12.5 |
| HR3-400/32 | 290 | 215 | 185 | 250 | 255 | 130 | 7 | 12 | 80 | 184 | 45.5 | 2.5 x 35 | M10 | 35 | 14 |
| HR3-600/32 | 320 | 229 | 185 | 250 | 285 | 130 | 9 | 12 | 90 | 191 | 49.5 | 3.5 x 40 | M12 | 40 | 17.5 |
| HR3-1000/32 | 410 | 335 | 270 | 350 | 350 | 250 | 9 | 12 | 115 | 300 | 69 | 8 x 50 | 2 x M10 | 55 | 12.5 |

Note: The F* dimensions are those when the connecting rod is in the maximum position after the switch is turned on.

HR3

Series Fuse Knife Switch

2. Outline and installation dimensions of HR3-100~1000/33



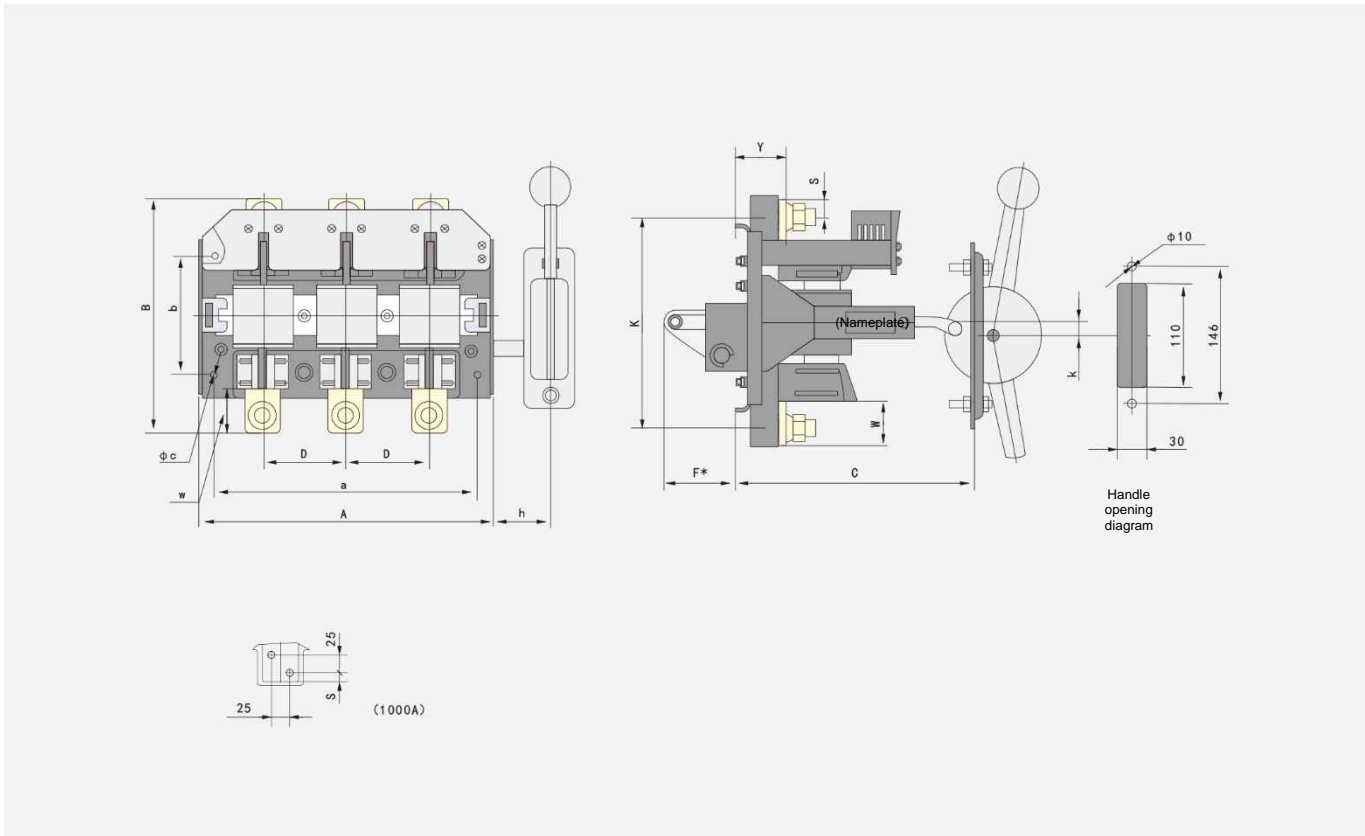
| Product model | Outline dimensions (mm) | | | | Installation dimensions (mm) | | | | Copper busbar dimensions (mm) | | | | | | |
|---------------|-------------------------|-----|-----|----|------------------------------|-----|----|-----|-------------------------------|-----|------|------|----|----------------------|-------|
| | A | B | C | F* | a | b | φc | h | D | K | Y | S | W | Copper cross-section | M |
| HR3-100/33 | 250 | 200 | 185 | 75 | 215 | 160 | 7 | 78 | 60 | 170 | 47 | 10 | 30 | 2 x 20 | M8 |
| HR3-200/33 | 270 | 205 | 185 | 75 | 235 | 160 | 7 | 78 | 70 | 156 | 45.5 | 12.5 | 28 | 2 x 30 | M10 |
| HR3-400/33 | 290 | 215 | 185 | 75 | 255 | 160 | 7 | 78 | 80 | 184 | 45.5 | 15 | 35 | 2.5 x 35 | M10 |
| HR3-600/33 | 320 | 229 | 185 | 75 | 285 | 160 | 9 | 78 | 90 | 191 | 19.5 | 17.5 | 40 | 3.5 x 40 | M12 |
| HR3-1000/33 | 410 | 335 | 270 | 75 | 350 | 250 | 9 | 102 | 115 | 300 | 69 | 12.5 | 55 | 8 x 50 | 2XM10 |

Note: The F* dimensions are those when the connecting rod is in the maximum position after the switch is turned on.

HR3

Series Fuse Knife Switch

3. Outline and installation dimensions of HR3-100~1000/34



| Product model | Outline dimensions (mm) | | | | Installation dimensions (mm) | | | | | | Copper busbar dimensions (mm) | | | | | |
|---------------|-------------------------|-----|-----|----|------------------------------|-----|----|----|----|-----|-------------------------------|------|----------------------|-------|----|------|
| | A | B | C | F* | a | b | φc | h | k | D | K | Y | Copper cross-section | M | W | S |
| HR3-100/34 | 250 | 200 | 250 | 75 | 215 | 160 | 7 | 48 | 12 | 60 | 170 | 47 | 2 x 20 | M8 | 30 | 10 |
| HR3-200/34 | 270 | 202 | 250 | 75 | 235 | 160 | 7 | 48 | 12 | 70 | 156 | 45.5 | 2 x 30 | M10 | 28 | 12.5 |
| HR3-400/34 | 290 | 215 | 250 | 75 | 255 | 160 | 7 | 48 | 12 | 80 | 184 | 45.5 | 2.5 x 35 | M10 | 35 | 14 |
| HR3-600/34 | 320 | 229 | 250 | 75 | 285 | 160 | 9 | 48 | 12 | 90 | 191 | 49.5 | 3.5 x 40 | M12 | 40 | 17.5 |
| HR3-1000/34 | 410 | 335 | 350 | 75 | 350 | 250 | 9 | 70 | 12 | 115 | 300 | 69 | 8 x 50 | 2XM10 | 55 | 12.5 |

Note: The F* dimensions are those when the connecting rod is in the maximum position after the switch is turned on.