

HS11FD Series Switch Disconnecter (False-proof type with an earthing knife switch)



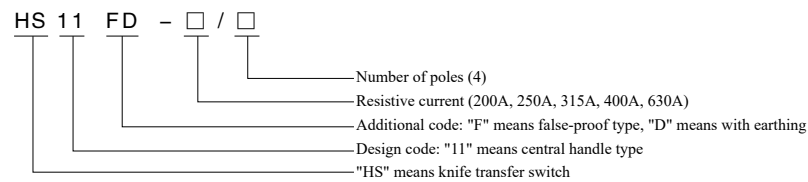
1 Overview

HS11FD series switch disconnecter is used in the power distribution network in industrial and mining enterprises and villages to turn on/off the circuit and isolate the power supply and for short circuit earthing protection to prevent mis-wiring and mis-operation of low voltage power supply lines to avoid accidents.

This product can work together with automatic air circuit breakers or residual current operated protectors (integrated electrically operated closing and closing type products) to avoid disconnectors from turning on/off the circuit under load.

This product adopts insulated cover plate and insulated operating handle to prevent the operator from touching the live parts of the product during operation.

2 Type Designation



3 Technical Parameters

Resistive current Ith (A)	200	250	315	400	630	
Rated operating voltage Ue (V)	AC380 50Hz				AC415/690 50Hz	
Rated operating current Ie (A)	200	250	315	400	600	630
Rated short time withstand current (kA/s)	5	5	8	8	20	
Micro switch capacity	220V/3A					
Mechanical life (times)	8000			5000		
Rated insulation voltage Ui (V)	660				800	

Note: 630 frame has not been produced.

4 Operating Conditions

- 4.1 The upper limit of ambient air temperature does not exceed +40°C, and the lower limit is not below -5°C.
- 4.2 The altitude at the installation site does not exceed 2000m.
- 4.3 Humidity: The relative humidity of the atmosphere does not exceed 50% at a maximum temperature of +40°C. A high relative humidity may be allowed at lower temperatures, such as 90% at 20°C. Special measures should be taken for condensation occurred occasionally due to temperature changes.
- 4.4 The Pollution degree in the surrounding environment is Level 3.
- 4.5 The switch shall be vertically installed in a place where there is no significant shaking, shock vibration, or rain and snow intrusion, and where there is no explosive or dangerous medium and no gas or dust sufficient to cause metal corrosion and damage to the insulation.

HS11FD Series Switch Disconnecter (False-proof type with an earthing knife switch)

5 Product Introduction

5.1 Working Principle:

Move the product handle upwards to the limit position, turn four moving blades to the upper power supply side to make that four middle terminal blocks are connected with four upper terminal blocks respectively after four stationary contacts are closed to connect the power supply line. When the operating handle moves downwards 180° to the limit position, four moving blades leave the terminal block on the power supply side, and it moves continuously until four earthing stationary contacts are closed to make that the load side is earthed safely.

5.2 False-proof lock and unlock:

5.2.1 Lock: The switch disconnecter is connected with the residual current protector and automatic circuit breaker in series. To turn on the power supply, turn off the power switch of the automatic switching residual current protector, then move the disconnecter handle upwards until the switch is turned on, and buckle the false-proof lock with the product handle. At this time, the internal switch of the false-proof device is turned on, and then the residual current protector power supply is connected for power-on.

5.2.2 Unlock: When power outage is required for inspection, turn off the residual current protector power switch to cut off the power supply, and unlock the false-proof buckle to leave the disconnecter handle. If the product handle is mis-operated, the handle will be locked and cannot be disengaged; to solve this, move the false-proof latch downwards to unlock; at this time, the internal switch of the false-proof device is turned off to disconnect the residual current protector power supply to cut off main circuit. As the blades at the power end shares four moving blades with the blades at the earthing terminal, this can effectively prevent the closing with the earth wire.

6 Outline and Installation Dimensions

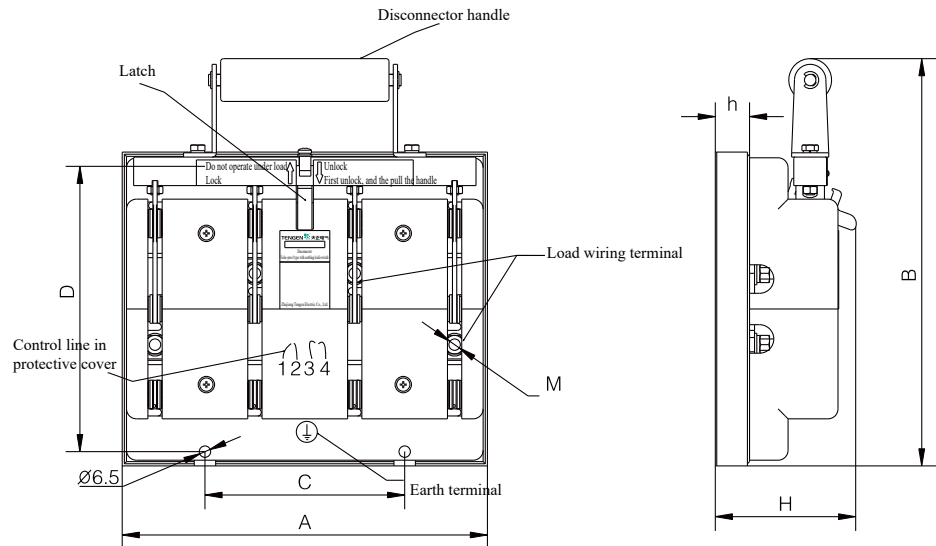
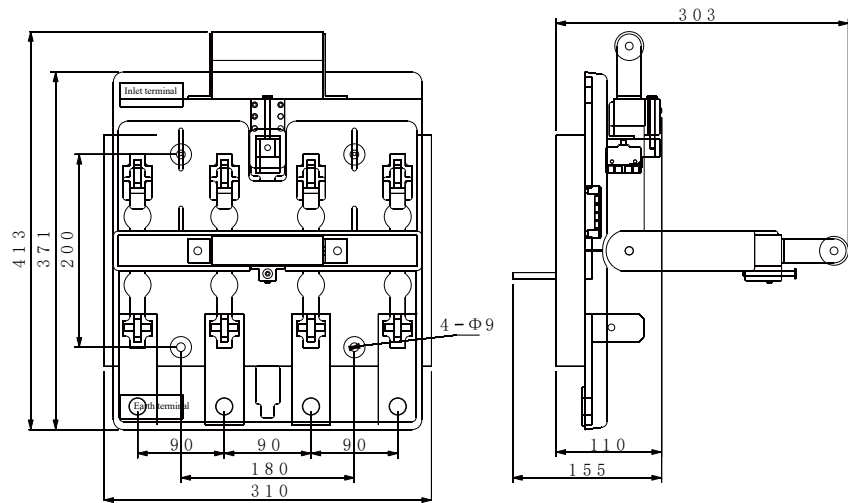


Fig. 1 Product Installation Dimensions

Frame	A	B	C	D	h	H	M
HS11FD-250 (200) /4	256	286	140	200	24	100	8
HS11FD-400 (315) /4	296	371	160	280	26	115	12

HS11FD Series Switch Disconnecter (False-proof type with an earthing knife switch)



HS11FD-630 product installation dimensions

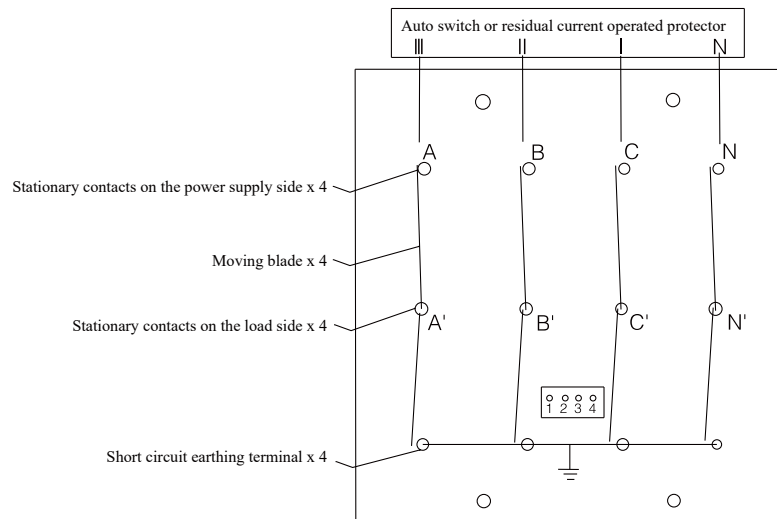


Fig. 2 Wiring principle

Wiring description: There are four small terminal blocks on the earthing terminal side of the disconnecter, numbered 1, 2, 3, 4. (1) After the 200~400A false-proof switch handle is unlocked, 1 and 2 are open, and 3 and 4 are closed; when the false-proof switch handle is buckled with the disconnecter handle, 1 and 2 are closed, and 3 and 4 are open; (2) After the 630A frame handle is unlocked, 1 and 4 are open, and 1 and 3 are closed; after then handle is locked, 1 and 4 are closed, and 2 and 3 are open.

HS11FD Series Switch Disconnecter (False-proof type with an earthing knife switch)

7 Power-on and Power Outage Operation

- 7.1 Power-on operation: After confirming no voltage on the wiring on the upper side of the disconnecter, pull the product handle upwards to the upper stop, and move the false-proof latch upwards until it is fastened firmly, so that the micro switch in the false-proof switch is turned on. Turn on the auxiliary power switches of the matching automatic switch circuit breaker and the residual current operated latch protector. At this time, the disconnecter is then powered on (the different time is delayed according to the different matched product).
- 7.2 Power outage operation; First turn off the auxiliary power switches of the matching automatic switch circuit breaker and the residual current operated protector to make the disconnecter is in the non-voltage state, further confirm that the product is in the non-voltage state, and then separate the fail-proof latch with the disconnecter handle for unlock. Push the switch handle downwards to 180° lower stop to fasten it. Four terminals on the lower side of knife switch are earthed with the power supply lines. For safety reasons, further confirm that the switch is in the no-voltage state before proceeding to the next step.

Please hang the “Do Not Power On” sign on the disconnecter handle during With maintenance.

8 Operation and With maintenance

- 8.1 Under normal circumstances, it is prohibited to conduct the opening and closing operations with load. Before the closing operation, turn the locking mechanism to the Open position manually; after the closing operation, check that the locking mechanism is in the Closed position.
- 8.2 The disconnecter With maintenance and test are allowed only when the line is isolated from the power supply (that is deenergized). When earthing, please check no voltage is applied on the line end, and then close the short circuit earthing terminal.
- 8.3 Please repair the burnt moving blade and stationary contact and remove dust and dirt from the disconnecter regularly.
- 8.4 If found severely damaged stationary contact, moving blade, insulating base plate or insulating cover, it is recommended to replace them if this affects the operation.
- 8.5 Check whether the fasteners are connected reliably, and apply industrial petroleum jelly oil (conductive paste) onto the surface of the blade and other mechanical friction parts.
- 8.6 The disconnecter shall be checked regularly after putting into operation.
- 8.7 Regularly check the contacts and wire leads of the microswitch.

The fail-proof switch with earthing knife has power distribution, power off, obvious breaking point, and short circuit earthing functions. In the event of the power outage of lines, the earthing knife is directly closed to realize the short circuit earthing protection of line, and there is an obvious breaking point on the power supply side. The use of fail-proof switch with an earthing knife and the mechanical and electrical locking devices of the residual current protector can effectively prevent mis-operation accidents such as power on/off under load and power-on with earthing wire.

9 Ordering Notice

Please specify the model, features, voltage grade, current grade, number of poles, operation method, and quantity of the switches when ordering; for special order, please contact our company's technical department. For example: HS11FD-200/4 10 units.