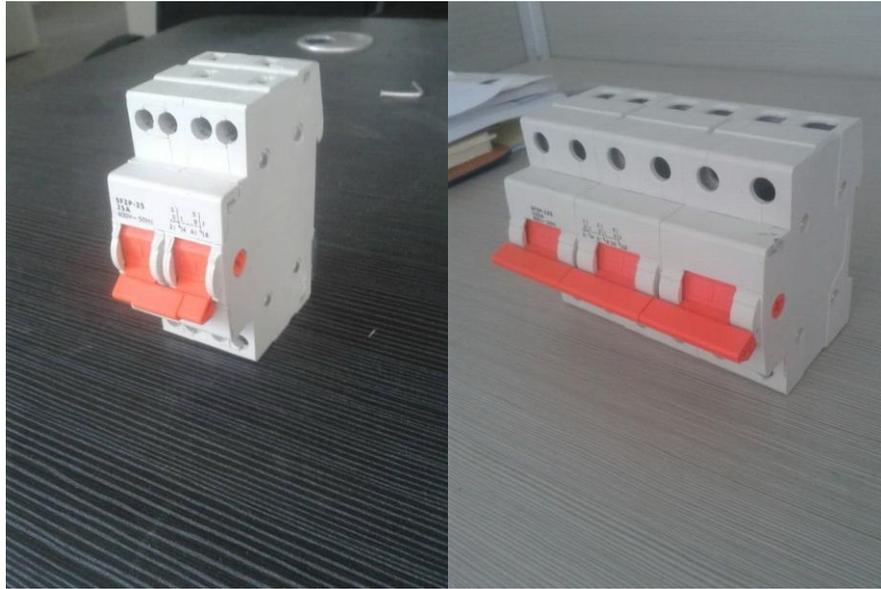


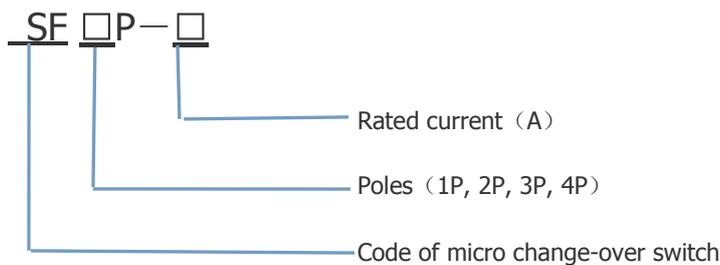
# Instruction Manual Of Isolator& Change-over Switch



## I. Applicable range

SF series guide type micro change-over switch is a kind of switch apparatus applicable to the hybrid resistance and impedance circuit with AC 50Hz or 60Hz, rated voltage below 230-400V and rated current 16A~125A, allowing for 2 power sources or load conversion, realizing the functions of circuit conversion and switch disconnection. It can be used for the changeover of power supply of electrical equipments, changeover of positive and reverse running of motor, measurement of voltage of return circuit and phase change of current etc. The product conforms to the standard IEC60947-3 and EN60947-3.

## II. Product model, specifications and meaning



## III. Application environment and working conditions

- ◆ Ambient air temperature:  $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , and the average temperature in 24 h shall not exceed  $+35^{\circ}\text{C}$ . Altitude: not over 2000m. Relative humidity of atmosphere: not more than 50% at  $+40^{\circ}\text{C}$ , and not more than 90% in the month with highest humidity.
- ◆ Pollution grade: II. Use category: AC-22A.
- ◆ TH35-7.5 steel rail is adopted.

## IV. Product features

The guide type micro change-over switch realizes the changeover of O, I and II positions directly with manual handle. The turning slot of the internal handle and the sliding position of the spindle are all coated with high grade lubricant to reduce mechanical wear. The dynamic and static contact adopt the reasonable contact method with good conductivity and stability.

The modular and standard guide installation structure is particularly suitable for the matching circuit of terminal combination apparatus.

## V. Main technical parameters

Rated current (A)	16, 25, 32, 40, 63, 80, 100, 125
Poles (P)	1P, 2P, 3P, 4P
Rated working voltage (V)	1P 230 V, 2P, 3P, 4P 400 V
Rated short-time withstand current (I <sub>cw</sub> )	1500A, power-on time 1s
Rated short-circuit making capacity (I <sub>cm</sub> )	2115A
Rated impulse withstand current (U <sub>imp</sub> )	4KV

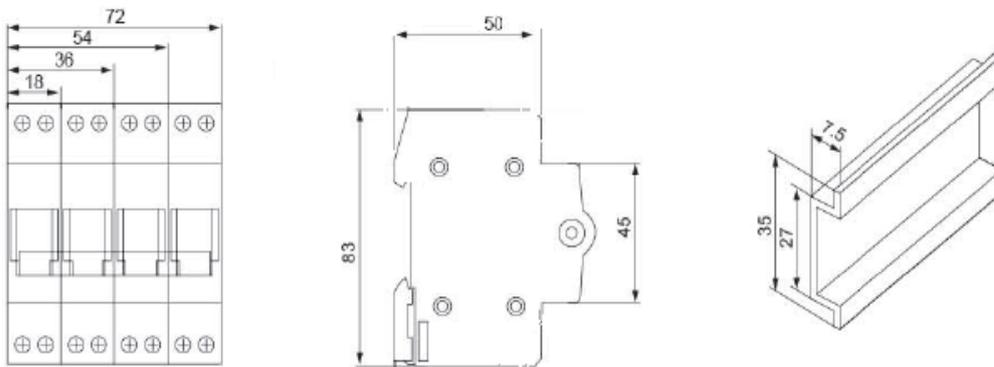
## VI. Installation and use instructions and notes for attention

- The guide type micro change-over switch should be installed vertically, with the upper terminal connected with the power source and the dynamic contact de-energized when disconnected so as to ensure the human safety during manual operation.
- Normally, the guide type micro change-over switch should not be operated with load during switching-on and off.
- The upper end is for incoming line and the lower end for outgoing line (load terminal), reverse connection is not allowed. If it is necessary to cut off the power of position I and II, when the handle is pushed to the position O, the position I and II are all in powered off state. If position II is to be activated, push the handle upward, then the contact of position II is connected, and that of position I is disconnected; if position I is to be activated, pull the handle downward, then the contact of position I is connected, while that of position II is disconnected.
- The 3-position changeover of the product is realized through the operation of mechanical parts relying on the compression and release of the main spring. The handle needs high operating force and shows big inertia force (63A-125A product), usually, it is difficult to realize accurate changeover with a single hand, and the improper operation will cause abnormal changeover of the circuit. During use, it is recommended to operate 63A-125A product with both hands or with accessories provided by the factory (the extended operating handle).
- The guide type micro change-over switch should not be applied with overcurrent during connection and disconnection (use under overload), nor cut on and off with normal working current. Never push or pull the switch with strong force in order to avoid any accident or reduction of the service life.
- If several change-over switches are put into the closed distribution box at same time, heat may be accumulated in the box, as a result, the temperature will rise and the switch will get extremely hot. After long time of use, the insulating parts of the products will be damaged and the service life of the product will be reduced. When the temperature reached over +40℃, the product should be derated. If the derating factor is 0.8, then the maximum working current shall be the rated current multiplied by the factor 0.8 (for example: the maximum working current 125A×0.8=100A).
- The guide type micro change-over switch has no arc extinguishing chamber. It is not allowed to use it for breaking fault current. If necessary, the customer can select proper fuse combination to make available big load and short circuit breaking capacity (the concrete breaking capacity is decided by the breaking ability of the fuse selected).
- The section area of the connecting wire of change-over switch should match the rated current so as to ensure the normal use of the product. The torque of product wire: 1.2 N.m at 16-40A.

Rated current (A)	16-20A	25A	32A	40-50A	63A	80A	100A	125A
Wire specification	2.5	4	6	10	16	25	35	50

■ During the use, the connecting terminals of the switch and wires should be checked if they are well fastened with screws. If the terminals change color, the insulating enclosure is burnt, the operating mechanism is blocked and can't be switched-on etc. due to abnormal heat, they should be checked and replaced accordingly.

**VII. Appearance and installation size (mm)**



Frame grade	Poles	A ( length ) mm	B ( width ) mm	D(height)	E mm	F(installation size)mm
SF-40	1P	83.3±0.5	17.7±0.15		74.5Max	35.3±0.2
	2P		35.5±0.2		77Max	
	3P		53.5±0.2			
	4P		71.5±0.3			
SF-125	1P	83.3±0.5	35.6±0.2		77Max	35.3±0.2
	2P		71.6±0.2			
	3P		107.4±0.4			
	4P		143.3±0.5			