FKW18-12/24/40.5 Outdoor HV Load Break Switch

Summary

FKW18-12/24/40.5 outdoor AC high voltage load break switch is used in rated voltage12/24/40.5kV, rated frequency 50/60Hz outdoor three-phase power system. The load break switch is composed of disconnect blade, arc extinguishing chamber and operation mechanism, simple structure, strong extinguishing arc ability, reliable performance, etc.

NOTE: The model of the 12kV(vertical break) Outdoor HV Load Break Switch is FHY3-12.

Ambient condition

1. Altitude: ≤3000m;
2. Ambient temperature: -25℃~+40℃;
3. Wind speed: ≤35m/s;
4. Pollution degree: ≤IV ;
5. Earthquake intensity: ≤8 degree;
6. Ice thickness: ≤10mm.

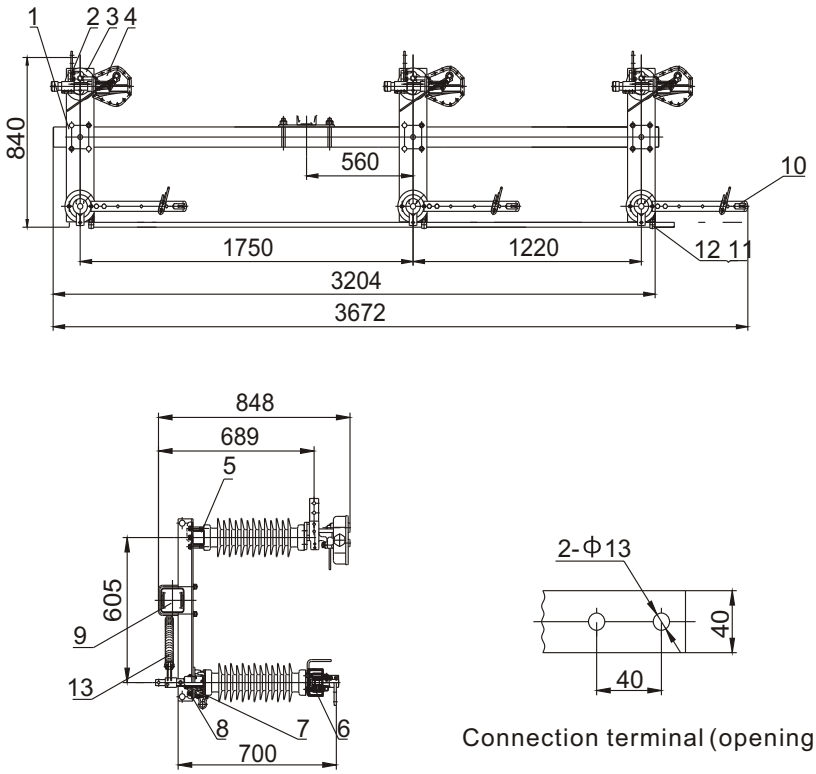
Model

F K W 18 - □ / □ - □

- Rated short-time withstand current
- Rated current
- Rated voltage
- Design serial No.
- Outdoor
- Insulating medium
- Load break switch

Technical specification

No.	Item			Unit	Data		
1	Rated voltage			kV	12	24	40.5
2	Rated current			A	630		
3	Rated power frequency			Hz	50/60		
4	Rated peak withstand current			kA	50		
5	Rated short-time withstand current			kA	20		
6	Rated short-circuit duration			s	4		
7	Rated active load breaking current			A	630		
8	Rated loop breaking current			A	630		
9	Rated cable charging current			A	10		
10	5% rated active load breaking current			A	31.5		
11	Rated power transformer breaking current			A	1250		
12	Rated short-circuit making current			kA	50		
13	Main loop resistance			μΩ	≤90	≤95	≤95
14	1min power frequency withstand voltage	Dry	phase to phase, to earth	kV	42	65	95
			across open contacts		49	79	115
		Wet	phase to phase, to earth		30	63	85
15	Lightning impulse withstand voltage(peak)		phase to phase, to earth	kV	75	125	185
			across open contacts		85	145	215
16	Mechanical life			Times	2000		



1.Frame
2.Static contact
3.Insulator
4.Arc chamber
5.Bushing
6.Connection terminal
7.Rotate bearing
8.Bushing
9.Bend-plate
10.Disconnect blade
11.Bar
12.Connection terminal
13.Spring

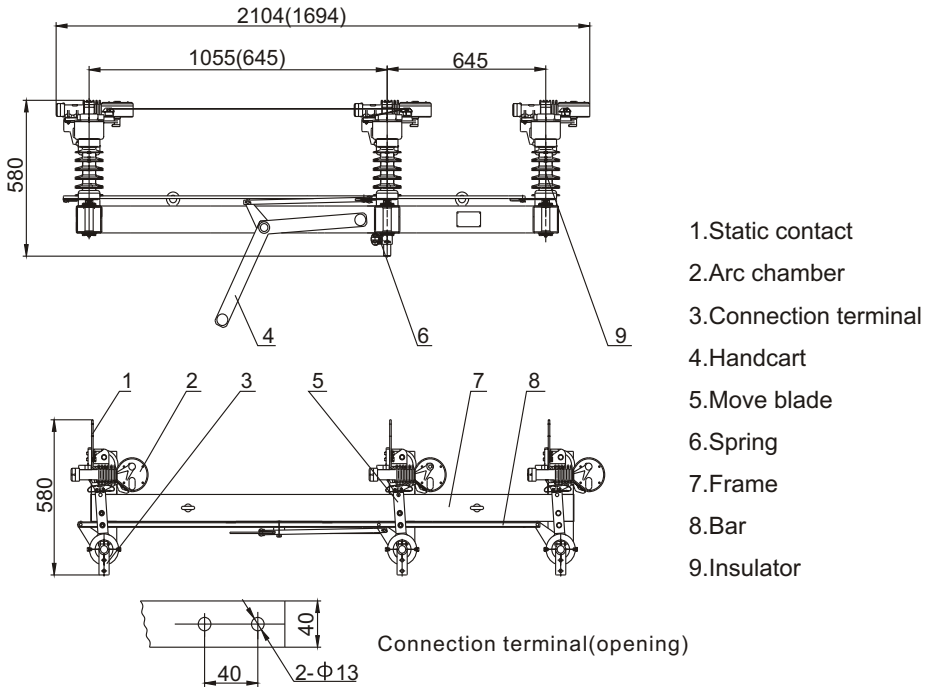
Drawing 3 40.5kV Switch structure (closing)

Structure feature

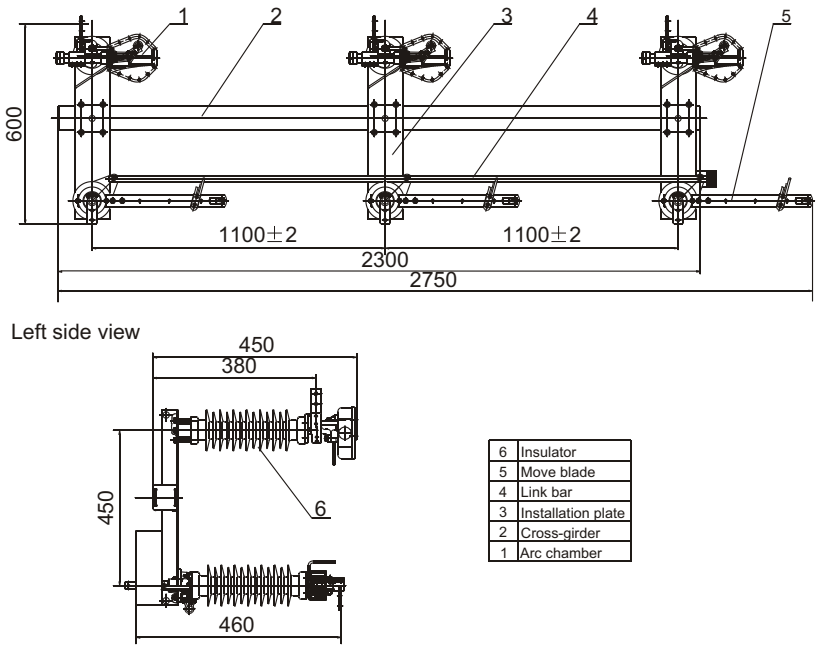
FKW18-12/24/40.5 outdoor alternating current high voltage load break switch is composed of disconnect blade, arc extinguishing chamber and operating mechanism. Arc extinguishing chamber is made of insulating materials with merits of high electric performance, arc-endurance, high strength. Built-in linking spring with fast acting mechanism to ensure breaking of load current effecting free from operating speed, fast or slow. The arcing gap and disconnecting gap of the load breaker switch is parallel in the course of opening and closing, so the arcing gap is only used to extinguish arc, no task for carrier current, simplifying arcing structure; however the disconnect gap only takes on task for carrier current and short-circuit closing, not participating in extinguishing arc, so simple in structure and long in lifetime. In this way, the load break switch can be used as disconnect switch when don't consider the action of arcing gap, and with the action of arcing gap, the disconnect switch is changed into load break switch. This load break switch adopts manual linking rod or motor operating mechanism to operate, and to lock up location of opening & closing. There is visible gap of switch after opening to produce functions of isolating and protection. The LBS could be mounted on pole outdoor, could suit for pollution with IV degree, horizontal or vertical installation, very convenient for setting cables outdoor with few maintenance and arc extinguishing chamber breaking load without maintenance for 100 times. The A, B, C three-phase of the load breaker switch is in turn installed on one great sectional galvanized square steels base, joint together with one integrative drive axis inter-phase to ensure for closing & opening three poles synchronously. The blade of the switch uses press spring, to assure enough connection pressure to the contact, in this way, operation is convenient and the blade is stable, in the same time, the reliability of opening-closing operation is guaranteed. The switch opens or closes under rated load current, not requires connecting secondary protection device.

17	Three phase O/C asynchronous	ms		≤5	
18	Voltage, power of motor	V	W	≤220	≤200
19	Closing direction deflexion of blade	mm		≤2	
20	Main blade pressure	N		420 ±42	
21	Rated operating moment	Nm		≤300	

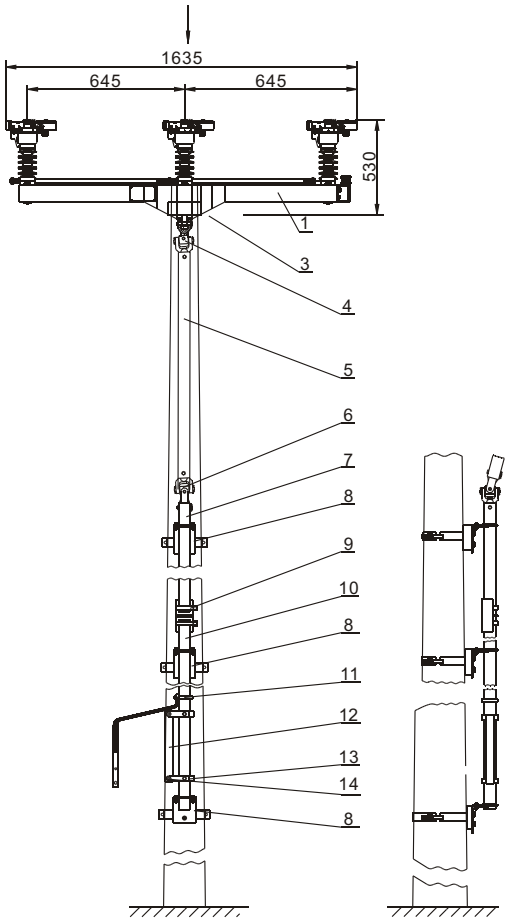
Outline dimension



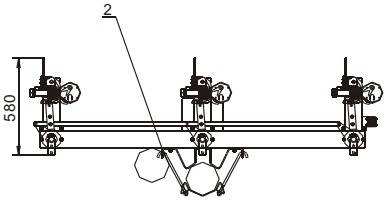
Drawing 1 12kV Switch structure (closing)



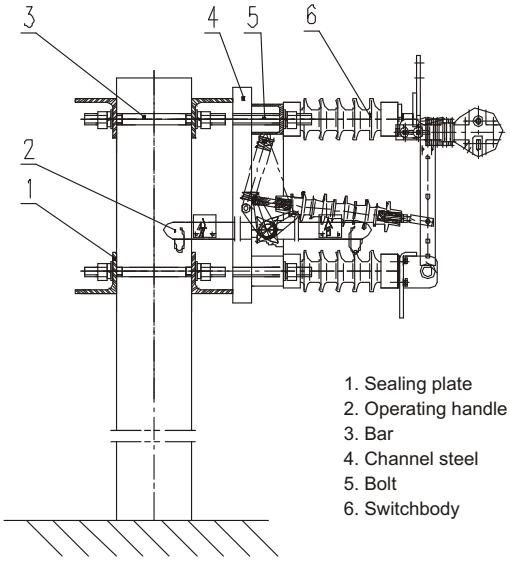
Drawing 2 24kV Switch structure



12kV horizontal installation



1. Switch assembly drawing
2. Switch bracket peices
3. Spring Mechanism(12kV)
4. Universal Knot
5. Linking Rod
6. Universal Knot
7. Linking Rod
8. Guiding bracket pieces
9. Jointing Pieces
10. Jointing Rod
11. Earthing Device
12. Operating Handle
13. Bracket
14. Lock



1. Sealing plate
2. Operating handle
3. Bar
4. Channel steel
5. Bolt
6. Switchbody

24kV vertical installation

Tecnical requirements

1.All ferrous parts should be finished with reliable anti-corrosion layer, smooth and no ruse appearance.

2.Moving parts of driving mechanism should be added anti-freezing lubrication, netrual vaseline on moving & fixing contacts of live parts, and jointi ng nuts should be tighten where possible to loose.

3.Nameplate should be correct, clear, complete and easy to identify.

4.Outline dimension should be according to drawing requirements.

5.Mechanical op erating test: Break & Close 50 times, should be no faults and should reach OFF & ON location each time.

6.Mechanical features test: Break asynchronism ≤5ms, Close asynchronism ≤5ms.

7.Main circuit resistance: ≤95Ω;

8.Between Phases and Phase to Grou nd: 90kV, 1Min. No puncture and flashover, between isolating gaps.

9.All accord ing to relat ive technical rquirements with OHY.502.603JT