

HGBD Fixed-Separated Type Low Voltage Switchgear

Summary

HGBD fixed-separated type low voltage switchgear (hereinafter referred to as switchgear) is based on market demand, combined with similar products at present the latest technical and technology characteristics of self-developed a new type of low-voltage switchgear. It can be widely applied to power plants, petrochemical industry, metallurgy rolling, post and telecommunications, light industry, textiles, subway stations and other civilian, industrial and mining enterprises of the low-voltage distribution system, as by the power unit, feeder unit, motor control unit, reactive power compensation unit, metering unit and other complete sets of the complete low-voltage power distribution equipment. Device can be accompanied by perfectly intelligence unit and computer monitoring system to realize the entire distribution system telemetry, remote adjustment, remote measurement, remote communication, remote control "Four remote" intelligent management.



Ambient condition

1. Altitude: $\leq 2000\text{m}$;
2. Ambient temperature: $-5^{\circ}\text{C} \sim +40^{\circ}\text{C}$, daily average $\leq +35^{\circ}\text{C}$;
3. Relative humidity: $\leq 90\%$ (20°C);
4. There was no outstanding vibration or shock, the vertical gradient of more than 5 degrees to install;
5. No explosive medium, corrosive dust or gases;
6. Failure to comply with the above use of the environment, can be resolved through consultation with the manufacturer.

Structure feature

The basic framework for the combination of devices fabricated structure, framework, all the structural components used in all follow-up aluminum zinc plate or galvanized plate processed, through the self-tapping locking screws or 8.8 hexagon screw fastening connected to each other formed, together with the corresponding doors, seal plates, mounting brackets, as well as buses, functional units and other components assembled into a complete unit, installation of parts and components within the size, compartment size of the implementation of module design.

1. fixed for each one separated by a small chamber separated as an independent functional unit, according to cabinet width can be divided into a combination of two basic types.
 - 1.1 Separated by a width of 600mm and 800mm cabinets, its unit cell 600mm, a high degree of sub-200mm, 400mm, 600mm three kinds, each cabinet can be installed height of 1800mm, according to separate the elements required to be combined capacity to adapt to the larger currents of the motor control center and feeder circuit.
 - 1.2 Separated by a width of 1000mm cabinet, its unit cell width 500mm, height 200mm, 400mm, 600mm 3 kinds, can be installed height of 1800mm, may need to be combined, each cabinet can be mounted up to 18 circuits. If the special program needs, functional units can be the actual size of the need for a design portfolio.
2. Upload a separate panel for each unit operating handle, for breaking and closed switch, the operating handle with a lock, circuit breaker panel in a horizontal state can not be opened to ensure that anti-misuse.
3. Separation unit into the outlet under the loop current size of the different core diameter and cables, 400A and above using copper connections.
4. MCC separate cabinet unit cell can be used between rooms with cable adapter pieces of great convenience for users of cable installation and maintenance.
5. The level of bus installed in the cabinet room at the top of a separate compartment, which can have several specifications together form the same parent row, the greatest ability to pass flows up to 4000A. Vertical bus is used to separate the allocation of cabinet outlet current use, it stood after the central cabinet, is located between the two separate units to facilitate the various separate units into the line. Vertical busbar insulated by forming a transparent plexiglass plate and outlet end of segregation, to ensure that maintenance personnel. Devices, metal structural parts, except the table and closed the door panels, the rest used in all follow-up aluminum zinc plate or galvanized plate processed in the structural parts of the connections that are carefully designed to make it through the rated short-circuit current.
6. Taking into account the general use of dry-type transformers and safety and economy of oil-immersed transformers, installation of both can be easily formed with a combination of dry-type transformers, but also with oil-immersed transformers low voltage busbar easy connection.
7. Device bus system, according to three-phase five-wire system and three-phase four-wire system design, design department and user distribution system according to the needs of design selection.

Technical specification

1. Basic electric parameters

- 1.1 Rated voltage: AC 380V, AC 660V 50HZ
- 1.2 Rated insulation voltage: AC 660V or AC 1000V
- 1.3 Maximum working current main busbar: 4000A
- 1.4 Main busbar short-time withstand current (1s Rms): 80KA
- 1.5 Peak withstand current of the main busbar: 176KA
- 1.6 Vertical Bus Maximum working current: 1600A
- 1.7 The main switch key technical data shown in Table 1, Table 2 (in CW/CM series as an example)

Table 1 CW1 Series circuit breaker main technical data

Type	CW1-2000	CW1-3200	CW1-4000
Rated short-circuit breaking capacity to run (KA)	50	80	80
Rated short-circuit breaking capacity(peak)(KA)	105	176	176
Rated current (A)	630~2000	2000~3200	3200~4000
Rated short-time withstand current (KA)	50	80	80
Breaking all the time no additional delay(ms)	25~30		
Closing time(ms)	≤70		

Table 2 CM1 Automatic Air Switch Technical Data

Type	Breaking capacity		Shell Frame size rated current(A)	Rated insulation voltage(V)	Rated voltage (V)	Poles	Tripper rated current (A)	Arcing distance (mm)
	grade	RMS (kA)						
CM1-100	L	35	100	AC800	AC400	3	16,20,32 40,50,63 80,100	0(≥50)
	M	50						
	H	85						
CM1-160	L	35	160	AC800	AC400	3	100,125, 140,160	≥50
	M	50						
	H	85						
CM1-225	L	35	225	AC800	AC400	3	100,125, 160,180, 200,225	≥50
	M	50						
	H	85						
CM1-400	L	50	400	AC800	AC400	3	225,250, 315,350, 400	≥50
	M	65						
	H	100						
CM1-630	L	50	630	AC800	AC400	3	400, 500,630	≥50
	M	65						
	H	100						

Table 3 HGBD Low-voltage switchgear busbar size of types of selection

Enclosure size	Method of income line	Busbar box	Bus duct
600x1000(800)	Back and forth	600x450(400)x300	600x300x A
		600x1000(800)x300	600x300x A
800x1000(800)	Back and forth	800x1000(400)x300	800x300x A
		800x1000(800)x300	800x300x A
1000x1000(800)	Back and forth	1000x450(400)x300	1000x300x A
		1000x1000(800)x300	1000x300x A
1200x100(800)	Back and forth	1200x450(400)x300	1200x300x A
		1200x1000(800)x300	1200x300x A
600x1000(800)	Back and forth	600x1000(800)x300	Side 800x300x A
800x1000(800)	Side	800x100(800)x300	Side 800x300x A

- Note: 1. Bus width of box size and width of the same size enclosure
 2. The length of busbar size according to size and into the enclosure and space-line distance to determine