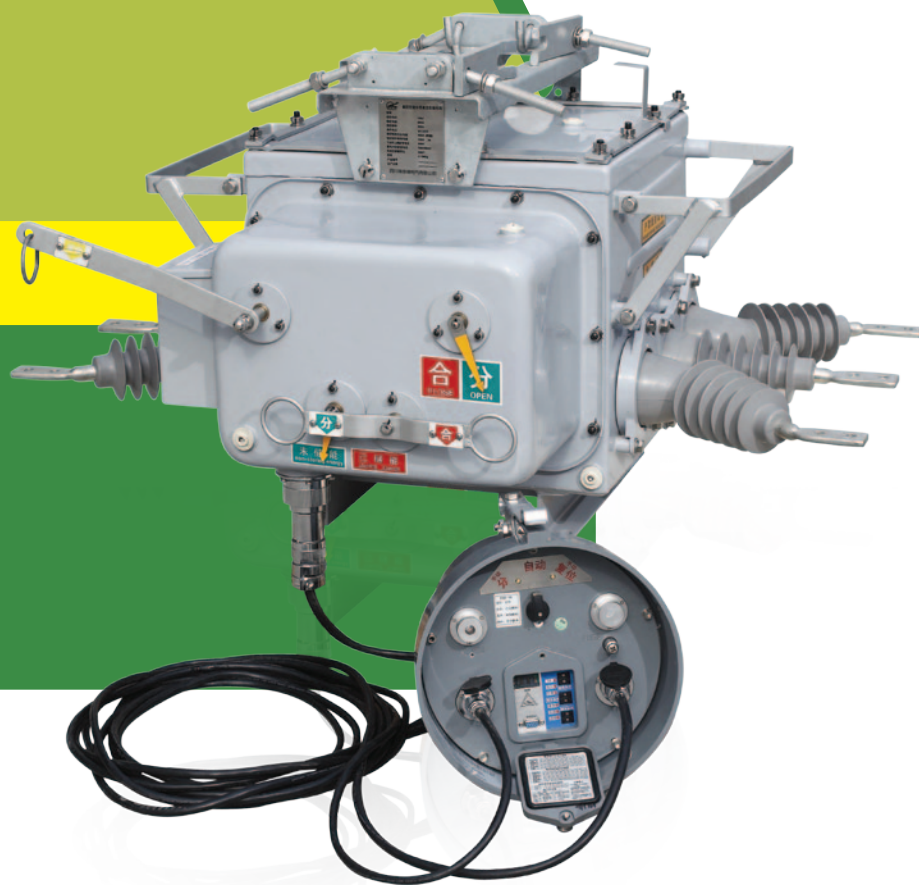


# SCHVB20-12W/Z

户外智能分界真空断路器 (看门狗)  
Outdoor vacuum circuit breaker intelligent demarcation  
(guard dog)

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## 适用范围

### Application

SCHVB20-12W/Z 型户外智能分界真空断路器 (看门狗) (以下简称断路器) 为额定电压 12kV, 三相交流 50Hz 的户外配电设备。它采用真空灭弧和 SF6 气体作为绝缘介质, 箱体采用引进日本东芝公司 VSP5 的气体密封、防爆、绝缘结构技术, 进出线导管也进行了密封性能改进, 整体密封性能优良, 内部充装的 SF6 气体不泄漏, 不受外界环境影响。其弹簧操作机构进行了小型化设计和可靠性和稳定性优化, 采用直动链条传动和多级脱扣系统, 动作可靠性和稳定性比国内传统机构具有显著提高。主回路的轴与套之间的接触采用了内收外张式表链结构, 其接触电阻小, 温升高。所以, SCHVB20-12W/Z 型户外智能分界真空断路器是一种免维护产品, 是柱上断路器中的佳品。

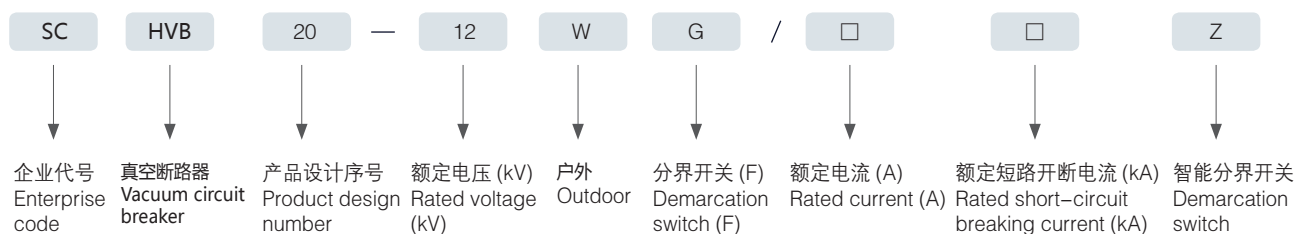
SCHVB20-12W/Z 型户外智能分界真空断路器符合国标 GB1984《高压交流断路器》及 GB/T11022《高压开关设备及控制设备标准的共用技术要求》和相关的 IEC 标准。具有过流保护、接地保护、重合闸功能。通过航插与控制器相连具备: 故障自动切除单相接地故障、自动断开相间短路故障、快速定位故障点、事件记录等自动化功能。优良的电气和机构性能, 使 SCHVB20-12W/Z 型户外智能分界真空断路器得到广泛的应用。主要用于开断, 关合 10kV 电力系统的负荷电流及短路电流, 适用于变电站及工矿企业配电系统中作保护和控制之用, 更适用于电网频繁操作的场合。本产品与控制器配套, 作为分界断路器用于电力公司与用户分界第一断路器, 具有全面的保护性能、优良的重合器功能, 满足配电自动化系统要求。

SCHVB20-12W/Z type Outdoor vacuum circuit breaker intelligent demarcation (guard dog) (hereinafter referred to as the circuit breaker) rated voltage 12 kV, three-phase ac frequency 50Hz outdoor power distribution equipment. It USES vacuum arcing and SF6 gas as dielectric, used to introduce the Toshiba VSP5 gas seal, explosion, insulation structure technology, the outlet and sealing performance catheter improvement, and the overall good sealing, filling SF6 gas inside the leakAge, not by external environmental impact. Its spring operation mechanism for a mini design and reliability and stability optimization, USES the straight moving chain transmission and multilevel tripping system, operating reliability and stability than traditional domestic institutions have increased significantly. The main loop of the axis of the contact between the outside adduction of type chain structure, and its small contact resistance, low temperature. So, SCHVB20-12W/Z type Outdoor vacuum circuit breaker intelligent demarcation is a free maintenance product, is the column in the circuit breaker optimal health.

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## 断路器型号、名称及含义

### Type of circuit breaker, the name and meaning



## 使用环境

### The use of environmental conditions

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- 环境温度：不高于 +40 °C，不低于 -40 °C；
- 空气相对湿度：日平均值不大于 95%，月平均值不大于 90%；
- 海拔高度不超过 2000 米；
- 风压不超过 700Pa( 相当于风速 34m/s)；
- 地震烈度不超过 8 级；
- 无火灾、爆炸、严重污秽、化学腐蚀以及剧烈震动的场所。

客户如有其它特殊要求，可在订货时提出，我公司可给予最大满足。

- Environmental temperature: no higher than +40 °C , no less than -40 °C ;
- Air relative humidity: day average no greater than 95%, on average less than 90%;
- The altitude does not exceed 2000 m;
- Wind pressure not more than 700Pa (equivalent to wind speed 34 m/s);
- Seismic intensity not more than eight level;
- No fire, explosion, serious filthy, chemical corrosion and violent vibration of places.

If the customers have other special requirements, can be in order to put forward, our company can offer most satisfied.

## 产品特点

### Features

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- 操作灵活、方便：本产品即可电动储能，电动分合闸，也可手动储能，手动分合闸功能并能近距离遥控操作；
- 开断性能优越：开断额定短路电流达 30 次；
- 操作功率小、可靠性高：全新设计的小型化电动弹簧机构，机件数量和储能电机的额定功率（约 40W）都降低到最低水平；
- 安装方式灵活：可采用柱上吊装或坐装安装方式；
- 具有免维护特性：断路器主回路、二次元器件、操作机构均密封在 SF6 气体（零表压）中，不受外界环境影响，性能稳定、可靠，免维护；
- 密封性能可靠：采用成熟的密封结构技术，密封性能可靠；
- 进出线绝缘性能优良：采用硅橡胶套管，使接线端子之间绝缘距离充裕，外绝缘性能优；
- 使用安全：在箱体顶部安装有防爆装置，即使发生意外的内部故障，也不会有高温气体或超过 10mm 的物体泄漏和飞逸出来；
- “四遥”功能：可与智能控制器配套，实现遥控、遥测、遥信和遥调功能。

- Operation is flexible and convenient: this product can electric energy storage, electric points off, can also be manual energy storage, manual points off function and can close remote operation;
- Open circuit superior performance: open circuit rated short-circuit current up to 30 times;
- Power small operation, high reliability: a new design of miniaturization electric spring institutions, part number and energy storage rating of the motor power (about 40 W) are reduced to a minimum level;
- Flexible installation: can use column in hoisting or sit outfit installation;
- Has free maintenance characteristic: the main circuit breaker, two components, operating agencies have sealed in SF6 gas (zero table press), not by external environment influence, stable performance, reliable, and free maintenance;
- Seal reliable performance: the mature seal structure technology, reliable seating performance;
- The outlet and insulation performance: adopt silicon rubber casing, make terminals insulation distance between abundance, outer insulation performance are excellent;
- Use safety: in the system. after the installation have an explosion protection device, even if the accident of internal fault, also won't have more than 10 mm high temperature gas or the object of leak age and fly out escape;
- "Four control" function: and intelligent controller kit, implement remote control, remote measure, remote communication and the remote function.

## 主要技术参数

### Mainly technical parameters

断路器的主要技术参数 The main technical parameters of

序号 No.	项目 Item	单位 Unit	数值 Number of values	
1	额定电压 Rated voltage	kV	12	
2	额定电流 Rated current	A	630、1250	
3	额定频率 Rated frequency	Hz	50	
4	工频耐压 (1min) Power frequency withstand voltage (1min)	干试 (相间、对地 / 断口) Dry test (white/fracture) 湿试 (对地、外绝缘) Wet again(on the ground outside the insulation)	42/48	
			34	
5	雷电冲击耐受电流 (峰值) (相间、对地 / 断口) Lightning impulse withstand current (peak)(white/fracture)	kV	75/85	
6	额定短路开断电流 Rated short-circuit breaking current	kA	20	25
7	额定短路关合电流 (峰值) Rated short-circuit current (peak)	kA	50	63
8	额定峰值耐受电流 Rated peak withstand current	kA	50	63
9	4S 短时耐受电流 4S short-time withstand current	kA	20	25
10	额定操作循环 Rated operating cycle		分 - 0.3s - 合分 - 180s - 合分 Sub-0.3s-Hop sub-180s-Hop sub-	
11	额定短路电流开断次数 Rated short-circuit current breaking time	次 Times	30	
12	机械寿命 Mechanical life	次 Times	10000	
13	二次回路 1min 工频耐压 Secondary circuit 1min power frequency withstand voltage	kV	2	

断路器的主要机械参数 The main mechanical parameters of the circuit breaker

序号 No.	参数名称 Parameter name	单位 Unit	数值 Number of values	
1	触头开距 Contact opens the distance	mm	9 ± 0.5	
2	触头超行程 Contact ultra-travel	mm	3 ± 0.5	
3	分闸速度 Opening speed	m/s	1.2 ± 0.2	
4	合闸速度 Closing speed	m/s	0.6 ± 0.2	
5	触头合闸弹跳时间 Contact closing bounce time	ms	≤ 2	
6	箱体内部相间中心距离 Cabinets and white center distance	mm	135 ± 1.5	
7	箱体外部相间中心距离 Box outside the white center distance		240 ± 2	
8	三相分合闸不同期性 Three-phase of opening and closing of	ms	≤ 2	
9	各相导电回路电阻 Each phase conductive loop resistance	μ Ω	≤ 200	
10	SF6 气体额定压力 (表压) SF6 gas rated pressure (gauge pressure)	MPa	0	
11	重量 Weight	kg	140	

储能电机：采用直流电动机，其技术数据 Charging motor: DC motor, the technical data

型号 model	ZYJ110-5302BS	ZYJ220-5301BS	ZYJ220-5301BS
额定工作电压 (V) Rated voltage (V)	-110	-220	-24
额定功率 (W) The power rating (W)	40		
正常工作范围 Normal work scope	85%~110% 额定工作电压 85%~110% rated working voltage		
额定电压储能时间 (s) The rated voltage energy storage time (s)	≤ 9		

手动储能操作力：采用机构所配储能手柄时最大操作力小于 25 公斤。

Manual energy storage operating force: the institutions for energy storage handle the maximum operating force less than 25 kg.

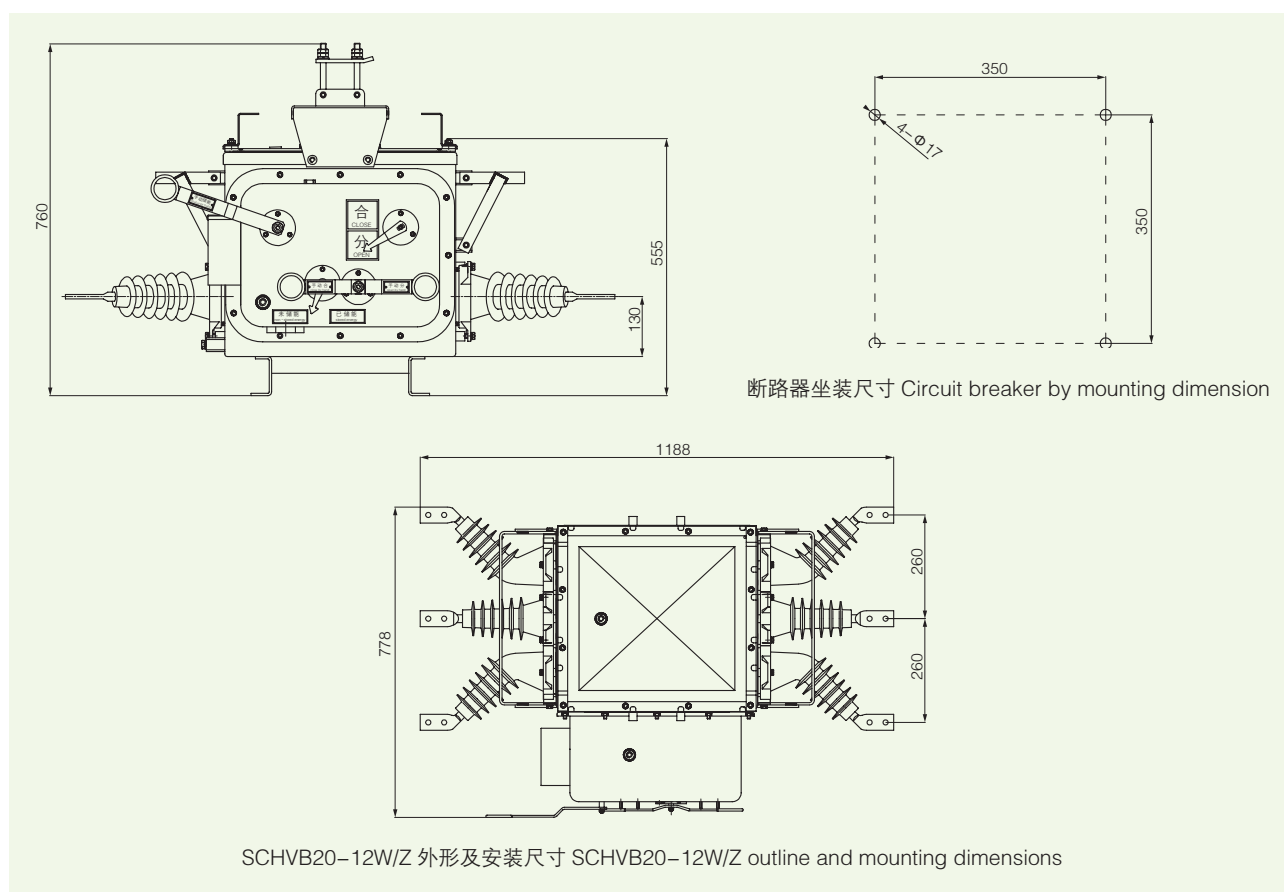
分合闸电磁：采用螺管式电磁铁，其线圈技术数据。

Points off electromagnetic: the spiral pipe electromagnet, the coil technology data.

额定电压 (V) The rated voltage (V)	-24	-110	-220
额定电流 (A) Rated current (A)	12	3.3	1.7
额定电功率 (W) Rated power (W)	288	365	219
20℃时线圈电阻 (Ω) 20 °C coil when resistance (Ω)	2	33	129

## 外形及安装尺寸

### General structure drawing and installation size



## 订货需知

### Ordering

- 产品型号、名称及参数；
  - 断路器操作方式：手动、电动及电源参数；
  - 电流互感器的数量、参数；
  - 数量及交货期；
  - 备品、备件名称、数量。
- Product model, name and parameters;
  - Circuit breaker operating mode: manual and electric power supply, power parameters;
  - Current transformer, the number of parameters;
  - Number and date of delivery;
  - Spare parts, spare parts name, quantity.