



PIX

Metal-clad Switchgear

Product Catalog

<https://www.se.com/cn>

Life Is On

Schneider
Electric



About Schneider Electric

As a global expert in energy management and automation, Schneider Electric leads the digital transformation to achieve efficiency and sustainability. The group's sales volume in fiscal year 2019 was 27.2 billion euros, with more than 135000 employees in more than 100 countries around the world.

At Schneider Electric, we believe that **access to energy and use of digital technology** is a basic right of people. We empower all people to **maximize the use of energy and resources** and ensure that everyone can enjoy **Life Is On** anytime and anywhere.

We provide **energy and automation digital solutions** for **efficiency and sustainability**. We integrate world-leading energy technology, automation technology, software and services into total solutions, serving the home, building, data center, infrastructure and industrial markets.

We are committed to creating **meaningful, inclusive and empowering** corporate values, and promise to unleash infinite possibilities in this **open, global and innovative** ecosystem.

Schneider Electric China

- China has become the Group's second largest market in the world
- More than 17000 employees in China
- 3 main R&D centers and 1 Schneider Electric Online Energy University
- 23 factories, 7 logistics centers, 9 branches and 37 offices nationwide

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PIX Indoor AIS Metal-clad Switchgear
(The physical appearance may vary slightly
depending on the selection and configuration)

In the present market environment, in order to meet the different needs of global users for PIX switchgear products, combined with the application characteristics of different industries, the miniaturized PIX series products are launched.

- The PIX switchgear belongs to the metal-clad and movable-type indoor AC metalenclosed type, data are as below:
 - Rated voltage: 12kV
 - Rated current: 630A~1600A
 - Rated short-circuit breaking current: 25kA-31.5kA
 - Rated short-circuit peak value withstand current: 63kA-80kA
- The PIX switchgear gathers the technical achievements of Schneider Electric in the global medium voltage field and satisfies the following application needs of customers:
 - Personal safety and reliable operation, simple operation and easy maintenance
 - Easy installation and less installation cost, flexible solutions
 - Less maintenance reducing the operation cost

Personal Safety and Reliable Operation

- The improved and reliable five-prevention blocking device is equipped, the protection class requirements are strictly executed
 - The closure interlocking is equipped and the racking in-out operation of the truck shall be carried out when the door of the truck compartment is closed, the earthing switch adopts the quick closing mechanism which owns the short circuit making capacity
 - The earthing switch can be added with the latching electromagnet, to realize electric interlocking between the grounding switch and the switchgear equipment
 - For the power cable and control circuit opening, the rubber seal ring is used, so as to prevent the dirt and small animals from invading and protect the insulation layer of the cable
 - Inside the three high-voltage compartments of the cubicle, the reasonable pressure relief channels are provided, to release the pressure generated during the inner arc fault
- General PIX Indoor AIS Metal-clad Switchgear Contactor cubicle
- There are safe and reliable interlocking apparatus provided in the PIX switchgear, to fully satisfy the five-prevention interlocking requirements
- Only when the circuit breaker truck is at the test or service position, closing operation can be performed to the circuit breaker, and after the circuit breaker is closed, the truck cannot be moved, so as to avoid pulling or pushing the circuit breaker under load by mistake
 - Only when the circuit breaker truck is at the test or service position, closing operation can be performed to the circuit breaker, and after the circuit breaker is closed, the truck cannot be moved, so as to avoid pulling or pushing the circuit breaker under load by mistake
 - When the earthing switch is at the opening position, cable compartment door, cannot be opened, so as to avoid entering live compartments by mistake
 - When the circuit breaker truck is at the disconnected or service position, and there is no control voltage, the switch can only be opened manually, and cannot be closed, when the circuit breaker truck is at the service position, the secondary plug is locked and cannot be pulled out
 - Each cubicle can be equipped with electric interlock

Simple Operation and Convenient Maintenance

- The cubicle can be operated and maintained at the front
- The circuit breaker truck can be pushed by either the power-driven or manual way
- Circuit breaker trucks of the same specification are interchangeable without any adjustment
- As to the sheet-metal working, the TRUMPF NC machining tools with the high machining precision, good technology and strong interchangeability are used, the adopted compact design can effectively save the space
- The indoor medium-voltage vacuum circuit breaker and contactor-fuse composite apparatus with corresponding data can be assembled, the earthing switch can be operated manually or by the power-driven way

Easy Installation and Less Installation Cost

- Cubicle splicing is easy;
- The cable connection space is sufficient in the cable compartment and three pairs of cables can be connected in parallel for each phase at most, easy to installment. Besides, according to the needs, the voltage transformer, lightning arrester and other components can be added in the cable compartment;



The PIX switchgear can be used in the motor, transformer, capacitor and most distribution circuits and can provide the reliable centralized control and protection function for these circuits.

The PIX switchgear passes the comprehensive type test verification and is widely recognized by customers.



Type test reports obtained in domestic authoritative labs

The PIX switchgear is constituted by the cubicle and withdrawable part. With the top entry incoming & outgoing, cable incoming & outgoing and other functional schemes, it can become the power distribution unit in all scheme forms after the arrangement and combination.

The PIX switchgear can be equipped with the vacuum circuit breaker and vacuum contactor-fuse composite apparatus, widely used in various fields of MV.

PIX Design

Four entirely independent functional compartments are respectively the circuit breaker compartment, busbar compartment, cable compartment and LV compartment, and the protection class of all the compartments reaches IP2X; except the LV compartment, the other three compartments are respectively equipped with the pressure relief channel. With the top entry incoming & outgoing, cable incoming & outgoing and other functional schemes, it can become the power distribution unit in all scheme forms after the arrangement and combination.

Circuit breaker Compartment

The rail is installed at the two sides of the compartment to enable the truck to slide from the disconnected/test position to the service position in the cubicle. When the truck moves from the disconnected position to the service position, the upper and lower isolating shutters on the spout are automatically opened with the truck linkage; during its reverse movement, the isolating shutters are automatically closed until the truck retreats to a test position, and fully covers the fixed spout, thus forming an effective isolation. Meanwhile, the linkage between the upper and lower isolating shutters can lock the isolating shutter on the live side during the maintenance, so as to ensure the maintenance personnel stay away from the live part. Through the observation window on the upper door, the position of the truck in the compartment, the indication of closing and opening and spring charge status can be observed.

Busbar Compartment

The main busbar are joined by mutual connection of single sets, and fixed through the branch busbar and fixed spout. The main busbar and interconnection busbar are of arched section or rectangular section. Double busbars are used for the large current load. The branch busbar is connected to the fixed spout and main busbar through the bolts, requiring no other supports. The main busbar and branch busbar are equipped with heat-shrinkable sleeve, and the flame retarded T-shaped insulating cover is used at the junction, so as to ensure reliable compound insulation. The busbars of the adjacent cubicles are fixed by the bushing.

Cable Compartment

Middle-rolling type is used for the switchgear, the CT is installed on the back wall of the cable compartment, and the earthing switch is installed on the fixed plate of the spout, so as to avoid distortion of operating shaft for earthing switch. The cable compartment has large interior space, so multiple cables can be connected. Also, the connection height of cables is high and the installation is convenient.

Relay Instrument Compartment

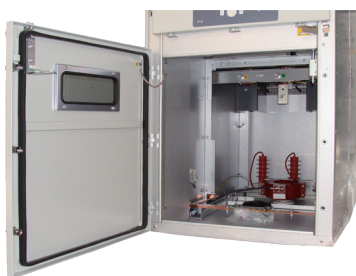
The protection relay, instrument, potential indicator and secondary equipment with special requirements can be installed in the relay instrument compartment. The control wiring is laid in the wiring tray with enough space and metal cover, making the secondary wires separated from the high voltage compartment. The wiring tray at the left side is reserved for controlling the incoming and outgoing of the thin wires, and the thin wires in the switchgear are laid at the right side. If necessary, the busbar crossing holes can be reserved on the roof of the relay instrument compartment for the convenience of the construction. During the connection process, the top cover of the instrument compartment can be turned for the convenience of the installation of small busbar.



circuit breaker compartment



Busbar compartment



Cable compartment



Relay Instrument compartment



Enclosure and Others

The enclosure of the switchgear mainly uses highly corrosion resistant Alu-zinc plates, which is formed through the double-bending and assembly after CNC machining. The special design of the side plate not only can form a air layer between two adjacent cubicles during splicing of cubicles to reduce the impact of internal arc fault between cubicles, but also feature high precision and high rigidity. The assembled structure is used for the cubicle and connected by rivet nuts, high-strength bolts and stainless steel blind rivets. No escape holes are required between cubicles, thus making the installation easy, appearance aesthetic and reliability high.



Truck

- According to different purposes, the trucks can be divided into circuit breaker truck, voltage transformer truck, metering truck and disconnecter truck. 100% free interchangeability is available for the trucks with the same specification. There are test position and service positions in the cubicle for the truck, each equipped with positioning device to ensure the reliability of interlocking. The operation must be carried out according to the operation procedure for operator error preventing interlock.
- The secondary wires for signal, protection and control between the switchgear and circuit breaker truck are connected by multi-contact plugs.
- The power-driven raking in-out for the circuit breaker truck and disconnecter truck can be realized.
- The door closing operation can be realized.



Pressure Relief Device

The pressure relief device is provided on the upper parts of the circuit breaker truck compartment, busbar compartment and cable compartment. When the arc occurs due to the fault in the circuit breaker or busbar, the air pressure inside the switchgear will rise. The special seal ring mounted on the door encloses the front of the cubicle, and the pressure relief metal plate equipped on the top will be automatically opened to release the pressure and exhaust the air, so as to ensure the safety of personnel and switchgear.



Position Interlocking of Secondary Plug and Circuit Breaker Truck

The connection of secondary wires of the switchgear and circuit breaker truck is realized through the secondary plug. The dynamic contact of the secondary plug is connected to the circuit breaker truck via one nylon extension tube, and the secondary fixed contact socket is installed on the upper right of truck compartment in switchgear. Only when the circuit breaker truck is at the disconnected position, the secondary plug can be inserted and removed; when the circuit breaker truck is at the service position, the secondary plug will be locked due to the mechanical interlocking effect, so it cannot be removed. Since the closing mechanism of the circuit breaker truck is locked by the electromagnet, before the secondary plug is connected, the switch can only be opened and cannot be closed.



CAP. Voltage indicator

If required by the customer, the option (i.e. CAP. Voltage indicator) can be provided to test the primary circuit operation in the switchgear. This device is constituted by high-voltage transducer and potential indicator, and integrated through outdoor cable connection. This device can not only indicate the live state of high voltage circuit, but also coordinate with the electromagnetic lock to realize the forced lockout of switching handle, so as to prevent earthing switch from closing under live conditions and from entering live compartments by mistake, thus improving the error prevention performance of the supporting products.

Standards

- I PIX switchgear abides by the following standards:
- GB 3906
- GB/T 11022
- GB 1984
- GB 1985

Basic parameters of switchgear

Items	Unit	Unit
Rated voltage	kV	12
Rated frequency	Hz	50
Rated power frequency withstand voltage 1 min	To the ground, phase-to-phase	kV
	Isolating break	42
Rated lightning impulse withstand voltage (1.2/50μs)	To the ground, phase-to-phase	kV
	Isolating break	75
Rated main busbar current	A	630-1600
Rated feeder current	A	630-1250
Rated short time withstand current (4s)	kA	25/31.5
Rated peak value withstand current	kA	63/80
IP	-	IP4X

IP

The protection class of switchgear enclosures is IP4X and that of compartments is IP2X; when the door of circuit breaker compartments is opened, the protection class of switchgear is still IP2X.

- Please contact the manufacturer if there is any special requirement

Dimensions

PIX-12kV

PIX project and description	Unit	Unit
Height (H)	mm	2100
Width (W)	mm	650
		800
Depth (D)	mm	1400/1600
Weight	kg	800-1200

Remarks: 1. The cubicle depth of the backpack scheme is 1600mm



Operating Conditions

Normal Operating Conditions

- a) Ambient temperature: $-25^{\circ}\text{C} \sim +40^{\circ}\text{C}$, the daily average temperature is no more than 35°C .
- b) Altitude: no higher than 1,000m.
- c) The ambient air should not be obviously polluted by the dust, smoke, corrosive or combustible gas, vapor or salt mist.
- d) Humidity: daily average relative humidity $\leq 95\%$, monthly average relative humidity $\leq 90\%$.
- e) Seismic intensity: No more than 8 Richter scale.
- f) Amplitude of electromagnetic interference sensed in the secondary system: No more than 1.6 kV.

Measures for Condensation and Corrosion Protection

To protect against the danger caused by condensation generated in the climatic environment with a big change in humidity, the heaters are provided respectively in the circuit breaker compartment and cable compartment, to facilitate their use in the environment stated above and avoid corrosion.

Special Operating Conditions

In case that the operating conditions go beyond the normal environment conditions specified in GB/T 11022 and these technical specifications, the customer should consult with the manufacturer.

HVX Vacuum Circuit Breaker



HVX Circuit Breaker

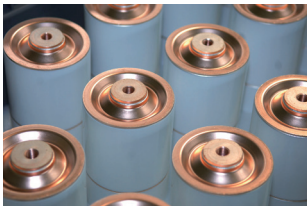
Overview

HVX series vacuum circuit breaker has condensed hundreds of years of wisdom crystallization of Schneider Electric in the field of medium voltage. As a new generation of circuit breaker developed for the Chinese market based on global manufacturing and design experiences, it is suitable for PIX switchgears and other mainstream air insulated switchgears, and is widely used in the power grid, petrochemical industry, public infrastructure, industrial and mining enterprises and transportation, etc.

- Relying on the patent design of VG series vacuum arc-extinguishing chamber and the thorough understanding of the technology of vacuum arc-extinguishing chamber of Schneider Electric, make VG series vacuum arc-extinguishing chamber strike a line for itself with high stability, large capacity, small volume and long life in the field of medium voltage vacuum
- The spring operating mechanism adopting modular design is simple and reliable, and is equipped with three-phase independent cam output to provide the best characteristics matching for the vacuum arc-extinguishing chamber. The first level of output of the transmission mechanism and the unique bearing transmission design simplify the mechanism while ensuring the stable operation of the mechanism
- Meets the requirements of application in a variety of special occasions, and is widely used in various fields

Applications

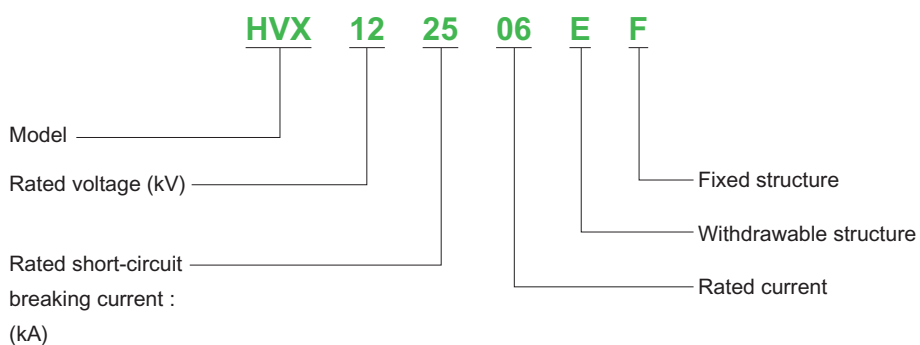
- Rated short-circuit breaking current and non-fullload current
- Asymmetrical current breaking
- Auto reclosing
- Switching off and closing non-loaded cable and non-loaded overhead lines
- Single or back-to-back capacitor bank breaking current
- Out-of-phase breaking
- Switching off and closing non-loaded transformer
- Out-phase grounding fault current breaking
- Breaking short-circuit current with large starting gradient of transient recovery voltage
- Opening and closing of the motor and the nonloaded inductance



HVX 12kV main Technical Characteristics

Items	Unit	Value	
Rated voltage	kV	3.6,7.2,12	
Rated frequency	Hz	50	
Rated power frequency withstand voltage	kV	42	
Rated lightning impulse withstand voltage (peak)	kV	75	
Rated current	A	630	630
		1250	1250
		1600	1600
Rated short-circuit breaking current	kA	25	31.5
Rated short time withstand current (4S)	kA	25	31.5
Rated short-circuit making current (peak)	kA	63	80
Rated peak value withstand current (peak)	kA	63	80
Rated switching sequence Auto reclosing	Switching cycles	O-0.3s-CO-15s-CO	
		O-0.3s-CO-180s-CO	
Rated switching sequence Non-auto reclosing		O-180s-CO-180s-CO	
Rated operating voltage	V	AC110/220 DC110/220	

Product Model





CVX vacuum contactors

CVX series of vacuum contactors with embedded poles are applicable in AC power distribution system, and are especially suitable for frequent operation. They are products persistently developed and improved to meet the demand of different schemes of medium voltage air insulated switchgear.

Basic Characteristics

CVX series of vacuum contactors with embedded poles are a new generation of products researched and developed based on global manufacturing and design experience of Schneider Electric, adopt new embedded poles technology, modular design, for the Chinese market, and are suitable for 650mm wide PIX and KYN28 air insulated switchgear.

CVX series of vacuum contactors with embedded poles are used for multiple opening and closing operations, and can meet the frequent operation demand of users.

Adopting high-efficient and reliable power supply and control to protect electronic module, CVX series of vacuum contactors with embedded poles have the functions of wide voltage power supply, closing drive, time-delay automatic current reducing keeping and so on. Standardized connection interfaces can match with microcomputer control system.

Applications

CVX series of vacuum contactors with embedded poles can be widely used in metallurgy, mining, petrochemical, drilling platforms and factories and mines power distribution and other fields, and can cooperate with and protect motors, transformers and capacitor banks, etc. with appropriate fuse.

CVX series of vacuum contactors with embedded poles can bring valuable solutions to your projects.

Standards

CVX series of vacuum contactor combinations with embedded poles conform to the following standards:

GB 14808
GB 11022
IEC 60470
IEC 62271-1

Environment and operating conditions

Normal operating condition range of CVX series of vacuum contactors with embedded poles is in accordance with GB/T 11022; if there are requirements exceeding the normal use condition range, please contact the manufacturer.



Model Selection Table

Serial No	Name			Unit	CVX-7	CVX-12
1	Rated voltage			kV	7.2	12
2	Rated insulation level	Lightning impulse withstand voltage (peak)	phase-to-phase, opposite		60	75
			Isolating break		60	75
		Lightning impulse withstand voltage (peak)	phase-to-phase, opposite		32	42
			Isolating break		32	42
3	Rated frequency			Hz	50	
4	Rated frequency			A	250*	160*
5	Rated frequency				3200	
6	Rated making current				4000	
7	Rated making current	4s		A	4000	
8	SCPD maximum short-circuit breaking current			kA	50	
9	SCPD maximum short-circuit making current (peak)				130	
10	Breaking operation frequency (rated breaking current)			Times	-	
11	Making operation frequency (rated making current)				-	
12	Utilization category			/	AC-4	
13	Operation frequency			Times/h	300	
14	Electrical life			Times	250000	
15	Mechanical life	Electric self-hold			1000000	
		Mechanical self-hold			300000	
16	Opening time			ms	100 ~ 250	
17	Opening time	Electric self-hold			80~200	
		Mechanical self-hold			30~100	
18	Main circuit resistance			μΩ	<=350	<=200
19	Operating voltage	Closing		/	110 220 VAC/DC	
		Closing		/	110 220 VAC/DC	
		Closing		/	110VAC/DC 220VAC/DC	

* Depending on the fuse capacity.

Product Configuration

		Electric retention	Mechanical retention
Standard elements		Control module circuit board	Control module circuit board
			Mechanical retention device+Manual opening device
			Opening coil
		Closing coil	
		Auxiliary switch (6 normally opened, 6 normally closed)	
		Closing and opening position indicator	
		Operation counter	
	Only applicable to the truck type	Fuse status position indicator	
		Chassis truck	
		Locking mechanism for preventing maloperation of truck	
		Chassis truck operation/Isolated location's auxiliary switches S8, S9	
Optional elements		Opening time delay 100ms	-
	Only applicable to the truck type	Electric chassis truck	
		Closing interlocking	

Improv energy availability

From economical to advanced protection and control, the MiCOM series can seamlessly meet your needs.

MiCOM P10 series



Meet the basic needs of construction and small industrial applications, mainly for overcurrent and motor protection. There are two types of products:

- Auxiliary power supply
- CT self-powered/dual power supply

MiCOM P20 series



Meet basic/intermediate needs of industrial, power and building applications, providing simple, easy-to-use, and extensive applications.

- Modular solution, the type and number of protection functions depend on the model
- Most models feature flexible logic equations and compact hardware options for easy installation
- A full range of general-purpose functions Multilingual man-machine interface Advanced application functions

MiCOM P30 series



Meet the needs of power and industrial applications, and its notable feature is that it can be used for integrated line measurement and control devices and railway protection devices

- Protection device with interval control function to realize line management
- The number of switch inputs/outputs can be selected as needed
- Numerous communication port hardware options, various protocols can be selected by software to apply to the neutral point

Protection function of ungrounded/arc suppression coil earthing system

- Surface mount/flush mount (including detachable HMI), compact case fully programmable logic (PSL) and function keys

MiCOM P40 series



- Meet the widespread needs of power and industry, providing a wide range of protection functions.
- Complete programmable logic (PSL), graphical interface, easy-to-use tuning and configuration tools
- Modular switching input/output, configurable on request
- The working voltage of the switch input can be set through software
- Mounting accessories make rack or cabinet mounting easy

Protecting your power network

Protection

The MiCOM series of protection devices were first released in 1999, we provide you with ideal protection performance with high quality and high standard products. The MiCOM series, which utilizes excellent relay protection technology and integrates advanced technology, is a highly reliable protection device.

Safety

MiCOM series protection devices have a comprehensive self-test function, which can accurately and timely detect faults to ensure highly reliable operation of your equipment

Schneider Electric's cyber security technology can provide protection for the entire substation.

Note: Please contact your local Schneider Electric representative for more details.

Communication

Local and remote communication can be realized with MiCOM S1 Studio software. The communication port (*) on the rear of the device is used to communicate with SCADA system and engineer station.

After inserting the Ethernet communication card, P30 and P40 can communicate using IEC61850 and use high-speed GOOSE signals. Supports multiple network structures, including Parallel Redundancy Protocol (PRP). All communication port types, quantities and specifications are related to the product model, please check the order selection table.

Note: Most protection device models have multiple options for the rear communication port.

Setting

The tuning is achieved through MiCOM S1 Studio software. With just this software, you can manage all the MiCOM protection devices you have installed.

A built-in data model manager ensures that you always have the latest support files on your computer. Most MiCOM protection devices support multiple setting groups, which can be activated locally/remotely, or through dedicated digital inputs to meet different system operating conditions.



Equipped with a full set of tuning and configuration tools



Measurement

MiCOM protection devices measure and save multiple system data, such as current, voltage, frequency, power and other real-time values, as well as calculated values.

The measured values can be displayed on the front panel LCD or uploaded through the communication port. The high-precision transformer built-in in MiCOM provides you with reliable and diverse data.



Record

The event record records the state changes of digital input, output, fixed value and alarm. They can be displayed via LCD, or retrieved via the communication port. All records have a time scale with an accuracy of 1ms and will not be lost in the event of a power outage in the device's operation.

The information of the fault record includes the number of faults, date and time, the current setting group, the protection function that issued the trip order, the measured value. The fault recorder records the sampled values of all analog channels, such as current and voltage when fault occurs. All analog and digital signals under the same time scale can be obtained with the waveform analysis tool of MiCOM S1 Studio software. Fault recording can be extracted from the protection device and stored in Comtrade format files.



Control

MiCOMP30 and P40 series have fully programmable function keys and tri-color LED lights (red/yellow/green). The MiCOMP30 series can graphically display and edit the equipment of the bay unit and control it. The P40 series also provides programmable hotkeys for direct access to menu controls (e.g. opening/closing commands).



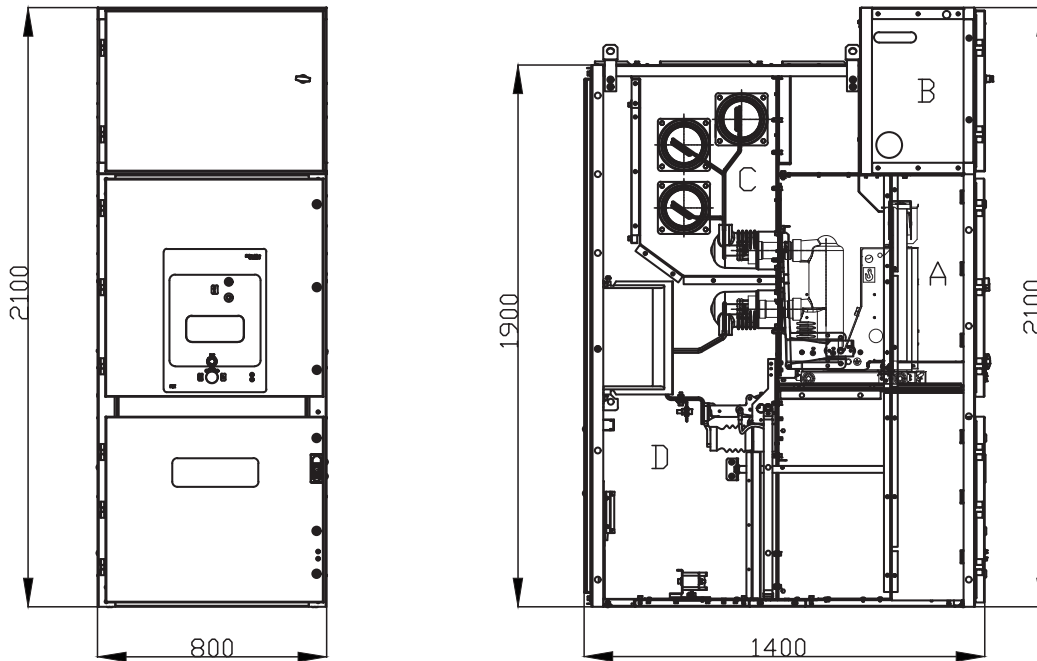
Logical function

The programmable logic scheme can be configured through the MiCOMS1Studio software. The MiCOMP20 series uses Boolean logic equations, while P30 and P40 use graphical editing tools (P30 can use both Boolean equations and graphical editing tools). The flexible logic equation of the P20 series device allows users to assign the output of the logic equation to LED lights, output contacts, trip commands, alarms, or other logic equation inputs; the graphical programmable tools of P30 and P40 are extremely powerful, and users can customize protection and control functions, or add monitoring and other schemes, such as trip circuit supervision or frequency restoration schemes. The logic is event-driven, ensuring that there is no delay in the protection function.

	P10 series	P20 series	P30 series		P40 series
			standard chassis	compact chassis	
Frequency 50/60Hz	b	b	b	b	b
Dual CT rated 1A/5A*	b	b	b	b	b
Switch input	max 8	max 12	max 82	2	max 64
Switch output	max 8	max 9	max 48	8	max 60
Sustained current carrying capacity	5A	5A	5A	5A	10A
Breaking and closing capacity	25A 3s	30A 3s	30A 0.5s	30A 0.5s	30A 3s
Large capacity contacts			b		b
LED indicators (customizable)	8 (6)	8 (4)	29 (24)	17 (12)	22 (18)
Function keys/hotkeys	no	no	6	4	10/2 **
Setting group	b	b	b	b	b
Fault record	20	25	8	8	5
Event recording	200	250	1000	200	250-512
Fault recording	5 (max of 6 seconds)	5 (max of 15 seconds)	8 (max of 16.4 seconds)	8 (max of 16.4 seconds)	max 75 seconds
Programmable logic	no	b	b	b	b
IRIG-B	no	option	option	option	option
LCD display	character	character	character/graphic****	character	character
Front communication port	USB	RS 232	RS 232	RS 232	RS 232
Rear communication port / second communication port	yes/no	yes/optional	yes/optional	yes/optional	yes/optional
Courier protocol	no	EIA(RS)485 **	EIA(RS)485 or fiber optic	EIA(RS)485 or fiber optic	K-Bus/ EIA(RS) 485 or fiber optic**
Modbus protocol	yes	EIA(RS)485	EIA(RS)485 or fiber optic	EIA(RS)485 or fiber optic	EIA(RS) 485 or fiber optic**
IEC60870-5-103 protocol	yes	EIA(RS)485	EIA(RS)485 or fiber optic	EIA(RS)485 or fiber optic	EIA(RS) 485 or fiber optic **
IEC60870-5-101 protocol	no	no	EIA(RS)485 or fiber optic	EIA(RS)485 or fiber optic	no
DNP3.0 protocol	no	EIA(RS)485 **	EIA(RS)485 or fiber optic	EIA(RS)485 or fiber optic	EIA(RS) 485 or fiber optic**
IEC61850 protocol	no	no	b	no	b
Terminal	needle or ring**	ring	needle or ring	needle	ring

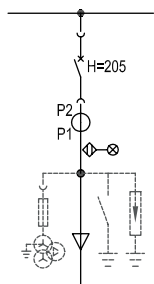
* CT rated thermal load capacity: continuous 4In/10s, 30In/1s, 100In

** related to selection

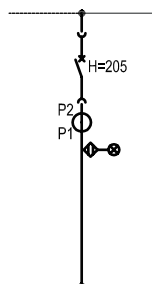


- A. Circuit breaker compartment
- B. Relay instrument room
- C. Bus compartment
- D. Cable compartment

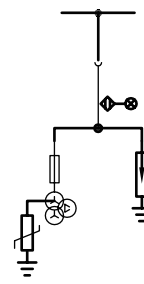
One-line diagram of standard one-time plan



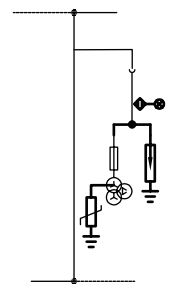
Feeder cabinet



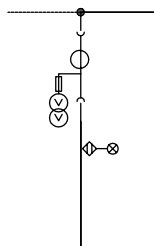
Bus coupler cabinet



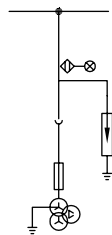
PT cabinet (shared car)



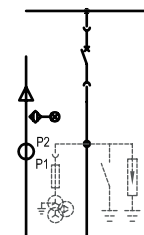
Lifting cabinet (shared car)



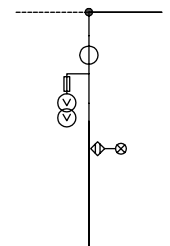
Metering cabinet



PT cabinet (PT car)



Overhead incoming cabinet



Metering cabinet

NOTE

[illegible]

NOTE

[illegible]

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■ Wuhan Branch	B11, Financial Port, No. 77, Optics Valley Avenue, Donghu High-tech Zone, Wuhan	Post code: 430205	Tel: (027) 59373000	Fax: (027) 59373001
■ Xi'an Branch	2F, No. 26, Zhangba Eighth Road, Guodu Street, Chang'an District, Xi'an	Post code: 710065	Tel: (029) 65692599	Fax: (029) 68798831
■ Shenzhen Branch	Units A-C and 8th Floor, 7th Floor, China Energy Storage Building, No. 3099, Keyuan South Road, Nanshan District, Shenzhen	Post code: 518000	Tel: (0755) 36677988	Fax: (0755) 36677982
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■ Harbin Office	Block J, 21st Floor, Aoweisi Development Building, No. 15 Hongjun Street, Nangang District, Harbin	Post code: 150001	Tel: (0451) 53009797	Fax: (0451) 53009640
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■ Dalian Office	Room 201-I, Building 17, Dalian Software Park, No. 267, Wuyi Road, Shahekou District, Dalian	Post code: 116023	Tel: (0411) 84769100	Fax: (0411) 84769511
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■ Taiyuan Office	Room 805, Area B, Lihong Building, No. 268, Fuxi Street, Taiyuan	Post code: 030002	Tel: (0351) 4937186	Fax: (0351) 4937029
■ Yinchuan Office	B05, 13th Floor, Building B, Yinchuan International Trade Center, No. 106, Wenhua West Street, Xingqing District, Yinchuan City	Post code: 750001	Tel: (0951) 5198191	Fax: (0951) 5198189
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■ Nanjing Office	8th Floor, Block A, Star International Business Center, No. 66 Hexi Street, Jianye District, Nanjing	Post code: 210019	Tel: (025) 83198399	Fax: (025) 83198321
■ Suzhou Office	Unit 1907-1908, Huijin Building, No. 123 Suzhou Avenue, Suzhou Industrial Park, Jiangsu Province	Post code: 215123	Tel: (0512) 68622550	Fax: (0512) 68622620
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■ Nantong Office	Room 1103, Block A, Huachen Building, No. 111 Gongnong Road, Nantong	Post code: 226000	Tel: (0513) 85228138	Fax: (0513) 85228134
■ Changzhou Office	Room 5-1801, Changfa Commercial Plaza, 101-1, Taihu East Road, Xinbei District, Changzhou	Post code: 213022	Tel: (0519) 85516601	Fax: (0519) 88130711
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■ Hefei Office	6th Floor, Hilton Hotel, No. 198 Shengli Road, Hefei	Post code: 230011	Tel: (0551) 64291993	Fax: (0551) 64279010
■ Chongqing Office	Units 5, 6 and 7, 10th Floor, Office Building, No. 4, Enterprise World, No. 56 Ruitian Road, Yuzhong District, Chongqing	Post code: 400043	Tel: (023) 63839700	Fax: (023) 63839707
■ Hangzhou Office	5th Floor, Dongguan Building, No. 618 Jiangnan Avenue, Binjiang District, Hangzhou	Post code: 310052	Tel: (0571) 89825800	Fax: (0571) 89825801
■ Ningbo Office	Room 833, CITIC Ningbo International Hotel, No. 1 Jiangdong North Road, Ningbo	Post code: 315040	Tel: (0574) 87706806	Fax: (0574) 87717043
■ Wenzhou Office	Room 902-2, 9th Floor, Building B, New Century Business Building, No. 198, Shangjiang Road, Longwan District, Wenzhou	Post code: 325000	Tel: (0577) 86072225	Fax: (0577) 86072228
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■ Nanning Office	10th Floor, Guangxi Development Building, No. 111 Minzu Avenue, Qingxiu District, Nanning	Post code: 530022	Tel: (0771) 5519761/62	Fax: (0771) 5519760
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■ Foshan Office	Room 2622-23, 26th Floor, Baihua Plaza, No. 33 Zumiao Road, Foshan	Post code: 528000	Tel: (0757) 83990312	Fax: (0757) 83992619
■ Zhongshan Office	Room 1103, Block 3, Central Plaza, No. 1 Xingzheng Road, East District, Zhongshan	Post code: 528403	Tel: (0760) 88235979	Fax: (0760) 88235979
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Due to changes in standards and materials, the characteristics described in the text and the images in this material are only binding on us once they have been confirmed by our business unit.

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