



KYN28 Indoor Metal-clad Medium Voltage Switchgear (3.6~24kv)

IEC60694: The common technical requirements of high voltage switchgear and control gear

IEC62271-200: A.C. Metal enclosed switchgear and control gear at the rated voltage of 1KV~52KV

IEC62271-100: High voltage switchgear and control gear-Part 100:High voltage A.C. circuit breaker

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➤ General

KYN28 indoor metal-clad switchgear is a complete power distribution device for 3.6~24kV,3-phase AC50/60Hz,single-bus and single-bus sectionalized system. It is mainly used for power transmission of middle/small generators in power plants; power receiving, transmission for substations in power distribution and power system of factories, mines and enterprises, and starting of large high-voltage motor, etc.,so as to control, protect and monitor the system. The switchgear meets IEC,GB3906-91.In addition to be used with domestic VS1 vacuum circuit breaker, it can also be used with VD4 from ABB, 3AH5 from Siemens domestic ZN65A, and VB2 from GE, etc.,it is truly a power distribution device with good performance.

In order to meet the requirement for wall mounting and front-end maintenance, the switchgear is equipped with a special current transformer, so that the operator can maintain and inspect it in front of the cubicle.

➤ Service environment

- 1.Air temperature: $-25^{\circ}\text{C}\sim+40^{\circ}\text{C}$
- 2.Humidity:Monthly average humidity 95%; Daily average humidity 90% .
- 3.Altitude : $\leq 2500\text{m}$
4. Ambient air not apparently polluted by corrosive and flammable gas, vapor etc.
5. No frequent violent shake

➤ Fully type-tested

The switchgear has undergone all the tests required by the international (IEC) Standards. Each switchgear unit is subjected to routine tests in the factory before delivery. These tests are intended to provide a functional check of the switchgear based on the specific characteristics of each installation.

➤ IEC type tests

- Short-time and peak withstand current
- Temperature rise
- Internal arc capability
- Dielectric test
- Making and breaking capacity of circuit-breaker
- Earthing switch making capacity (top application)
- Mechanical operations of circuit-breaker and line disconnecter
- IP degree and impact test

➤ IEC Routine Factory Tests

- Visual inspection and check
- Mechanical sequence operations
- Cabling check
- Electrical sequence operations
- Power frequency withstand voltage
- Measurement of the resistance of the main circuits
- Secondary insulation test

➤ Technical data

No.	Item		Unit	Parameter	
1	Rated voltage		kV	3.6~24	
2	Rated frequency		Hz	50/60	
3	Rated current		A	630,1250,1600,2000,2500,3150,4000	
4	Branch busbar Rated current			630,1250,1600,2000,2500,3150,4000	
5	Main busbar Rated current			630,1250,1600,2000,2500,3150,4000	
6	1min Power frequency withstand voltage	wet	KV	38	50/60
		dry		48	60/65
7	Lightning impulse withstand voltage		kV	75	95/125
8	Rated short circuit breaking current (peak)		KA	40/50/63/80/100	
9	Short time withstand current(4s)			20/25/31.5/40	
10	Protection type			IP4X for housing	

Main components characteristics

VS1 indoor vacuum circuit breaker

Rated voltage: 11kV~24kV

Rated current: 630A~4000A

Rated short circuit breaking current: 20kA~ 40kA

Mechanical life: 20,000 times



VD4 embeded pole indoor vacuum circuit breaker

Rated voltage: 11kV~24kV

Rated current: 630A ~4000A

Rated short circuit breaking current: 20kA ~40kA

Mechanical life: 20,000 times



VSM magnetic actuator indoor VCB

Rated voltage 11kV~24kV

Rated current 630A~4000A

Rated short circuit breaking current: 20kA~40kA

Mechanical life: 100,000 times



➤ Photos of frontal view



➤ **Transportation and Storage**

The switchgear can be transported by fork truck if guaranteed to be fixed on the bottom plate, and by handling or removing the entire entity if not fixed on bottom plate, but any case it should be transported vertically, no allowance for inversion in order not to damage the internal components.

The switchgear (even for that with outer package) should not be exposed outside for storage for a long time. The switch cabinet that needs the long-term storage should be put in the dry and ventilate indoor warehouse. The period of validity of outer package of switch cabinet is normally no more than 1 year.

➤ **Maintenance**

Free of maintenance for 3 years under the normal conditions. There is no need of maintenance and any lubrication for the single-spring and dual-spring operation mechanism of load switch.

The relay protection device should be checked by the requirement of the manufacturer before put into the running.

The maintenance periodicity for ring main unit is normally one time every year.

➤ **Maintenance by the below requirement:**

Fasten all the electrical connectors(main bus bar, switch, cable, measuring meter)required by Installation and Operation Instruction.

Clean all the parts by dust collector(main switch, auxiliary switch, tripping mechanism, motor etc.) and check the appearance.

Have a switching on/off operation for all switches including earth switch.

Turn on auxiliary control electric source not giving the remote control signal to have a electrical order operation.

Clean the busbar cubicle and cable cubicle.

➤ **Complete-set Product:**

The below documents are attached with the switch panel when out of factory;

Qualification Certificate of Product;

Installation and Operation Instruction;

Packing List;

Engineering Design Document of Product;

Accessory of switch panel :one operating handle of load switch attached with each complete set;

➤ **The customer should offer the following information for order:**

- 1.Wiring diagram of Main circuit Loop and Special Technical Requirement;
- 2.Installation Arrangement Plan of switch panel;
- 3.Specification of component inside switch panel and the schematic diagram of auxiliary loop and control loop diagram.
- 4.Other written documents specially required.

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