Product catalogue https://www.cnrockwill.com

SM66 Type

Air insulated Ring Main Unit (RMU)

12kV... 24kV ...

Simple structure, flexible operation
Reliable interlocking, and convenient installation
Excellent safety performance
High operational reliability and convenient maintenance.
Strong arc extinguishing ability and possesses the isolation function.

Comply with IEC / CEI /GB/JB/DL standards
Provided customized manufacture
Whole solutions for design, assembly, test...
Accountable solution for safety and reliability
Wide range offering, easy business and convenient installation

Rockwill Group is one of the leading high technical enterprises professional deals in medium high voltage switchgear and components develop, manufacture and sales.

Located in Wengyang Industrial Zone, Wenzhou, used to known as Yueqing Real Electric Works (Registered in 1986), we have more than 20 years experiences in Medium & high voltage field. We strategically cooperate with worldwide high reputation medium& high voltage switchgear manufacturer and research institute, successfully developed series of medium voltage mutually; filled the blank in China.

We also teamed up with province grade intelligence high voltage switch laboratory, together developed new generation intelligence simultaneous technical vacuum switch, electronic current transformer, digital integrated substation etc. through the cooperation we obtain plenty achievements and build up experience technical team. Plentiful talent backup, advanced production equipment, perfect quality control system and reverse inspection procedure are powerful guarantee of our reliable product quality and high reputation.

We have always insisted the faith on grow together with customers, and to provide a safe, simply, green and efficient medium & high voltage switchgear and components.

ROCKWILL®, China. Provide with best support.
If you have any question please consult below:
Email: rockwell@rockwill.com Tel: +86 (577) 27869969
https://www.cnrockwill.com/

ROCKWILL® Electric strives to bring our customers the latest technology and competitive pricing and best service for distribution automatic.
SM66-12/24 unit type SF6 RMU with SF6 load switch as main switch, for whole cabinet is suitable for electric distribution automation and compact also expandable metal close switchgear. It characters in its simple structure, flexible operation, reliable interlocking and convenient installation etc., which can provide the satisfactory technical projects both for different application occasions and users. With the adoption of sensor technology and the protection relay up to date, plus the advanced technology and flexible assembly project, SM66-12/24 unit type SF6 RMU can completely meet the requirement of continuously variable market.
It can take self-produced RLS-12/24 load break switch; also according to user's demand can be assembled with the internationally top-ranking RCB series vacuum circuit breaker with permanent magnetic mechanism made by AREVA or HD4 type SF6 circuit breaker made by AREVA or HD4 type SF6 circuit breaker made by ABB or with our VSC-12/24 type vacuum circuit breaker with permanent magnetic mechanism. Operational methods for the main switch inside ring main unit can be either manual or electric power driven. And It can meet the requirement of "Four Controls" when matched with FTU and RTU.

Service environment

Air temperature:	-5℃ ~ +40℃
Humidity:	Monthly average 95%; Daily average 90%
Maximum installation altitude	2000m

No frequent violent shake,Ambient air not apparently polluted by corrosive and flammable gas, vapor etc

Good Insulation Performance:

SF6 gas is used as the insulating medium. SF6 gas has a relatively high insulation strength, which is approximately 2.5 times that of air. It can effectively isolate high voltages, reduce the internal discharge phenomenon of electrical equipment, and ensure the safe operation of the equipment. At the same time, the semi-insulated structure reduces the cost to a certain extent, and makes the cabinet structure more compact on the premise of meeting the insulation requirements.

Strong Arc Extinguishing Ability:

The excellent arc extinguishing performance of SF6 gas is one of its important characteristics. When the switching equipment cuts off the circuit, an arc will be generated. SF6 gas can quickly cool the arc, making the arc extinguish rapidly, greatly shortening the arcing time, and improving the breaking capacity and service life of the switching equipment. Generally speaking, the rated short-circuit breaking current of the SF6 load switch can reach a relatively high level, which can reliably cut off the load current and short-circuit current.

High Safety:

In addition to the above-mentioned interlocking devices that ensure operational safety, the ring main unit also has a good grounding system, ensuring that in case of equipment failure, the fault current can be quickly led into the ground to protect the safety of personnel and equipment. At the same time, the cabinet is made of a metal shell, which has good shielding performance, can effectively prevent electromagnetic interference, and protect the normal operation of the electronic components inside the equipment.

Flexible and Reliable Operation:

There are various operation modes, and both manual operation and electric operation can be achieved. Manual operation is suitable for special situations such as maintenance and debugging, while electric operation is convenient for realizing automatic control and remote operation. Moreover, the switching equipment is equipped with a complete set of mechanical and electrical interlocking devices, which can effectively prevent misoperation, such as preventing the disconnection and closing of the disconnecting switch under load, and preventing the misoperation of tripping and closing of the circuit breaker, etc., to ensure the safety of equipment and personnel.

Compact Structure and Modular Design:

The overall design is compact, occupying a relatively small space, making it suitable for installation in places with limited space, such as urban power distribution substations and power distribution rooms in high-rise buildings. At the same time, with the adoption of the modular design concept, various functional modules (such as incoming line units, outgoing line units, metering units, etc.) can be flexibly combined and expanded according to actual needs. This is convenient for installation and maintenance, and also facilitates the upgrading and renovation of the system.

High Degree of Intelligence:

With the development of smart grids, high-voltage SF6 semi-insulated ring main units are gradually evolving towards intelligence. They are equipped with various intelligent monitoring devices, such as current sensors, voltage sensors, temperature sensors, etc., which can monitor the operation status of the equipment in real time, including parameters such as current, voltage, temperature, and humidity. Through communication interfaces, the monitored data can be uploaded to the monitoring center, enabling remote monitoring and fault diagnosis, and improving the management and maintenance efficiency of the equipment.

Ring Network Power Supply Mode:
The power grid supplies electricity through a closed ring-shaped main line, allowing each branch circuit to draw power from both sides of the main line. If one side fails, the other side automatically switches the power supply, enhancing reliability .
The ring main unit (RMU) acts as a branch node, using load switches to control current paths and enable flexible power distribution.

Normal Operation Process:
Closed State: The load switch is closed, allowing current to flow through the SF6 arc-extinguishing chamber and air-insulated busbar to downstream equipment.
Opening Operation: The load switch rapidly opens. SF6 gas absorbs arc energy and cools quickly, preventing arc reignition .
Grounding Protection: A three-position switch (connect, disconnect, ground) provides safe grounding during maintenance, eliminating residual charge hazards

Short-Circuit Fault Handling:
Short-circuit currents trigger fuse activation. A tripping mechanism links to the load switch for simultaneous opening, achieving dual protection. The SF6 gas's arc-quenching capability safely interrupts fault currents up to 31.5 kA.

Electrical Isolation:
The isolating switch is mainly used to provide a clear electrical disconnection point when maintaining equipment or lines, reliably isolating the part to be repaired from the live part. When operating the isolating switch, it is necessary to ensure that the load switch has been disconnected to prevent the operation of the isolating switch under load, which may lead to serious electrical accidents.

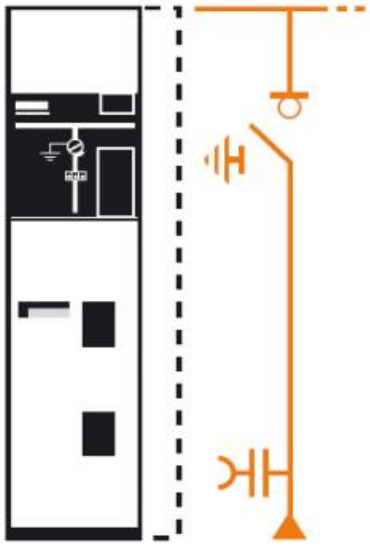
SM66-12/24

No	Item	Unit	Parameter	
1	Rated voltage	kV	12	24
2	Rated frequency	Hz	50/60	
3	Rated current	A	630/800	
4	1min Power frequency withstand voltage	kV	48	60
5	Lightning impulse withstand voltage	kV	75	125/150
6	Rated short circuit breaking current (peak)	kA	80	63
7	Rated active load/close circuit breaking current	A	63	50
8	Rated transferring current	A	1700	1200
9	Rated short circuit making current (peak)	kA	80	63
10	Rated cable(line) charging breaking current	A	50 and 10	
11	Cable charge breaking current in earthing fault	A	20	20
12	Rated withstand current (peak)	kA	80	63
13	Short time withstand current (2s)	kA	31.5	25
14	Mechanism life	times	2000	

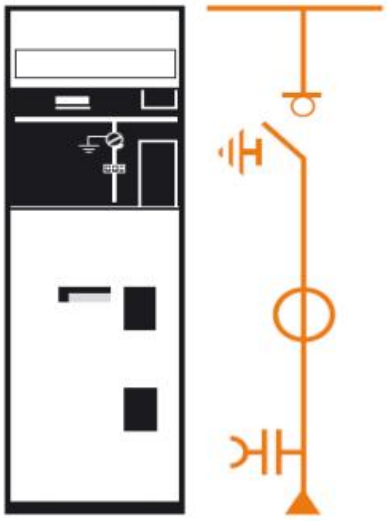
Note: For short circuit breaking and peak current is based on Fuse plus combination.

SM66-12/24

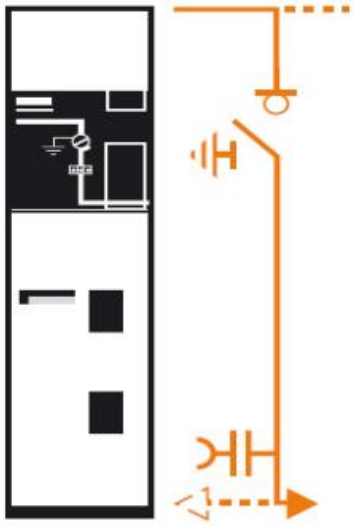
Switch disconnect:



Switch unit
(375/500 mm)



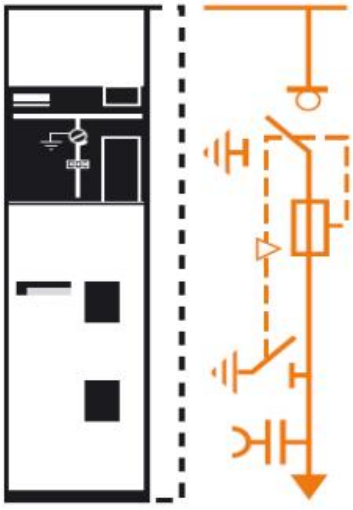
Switch unit
(500 mm)



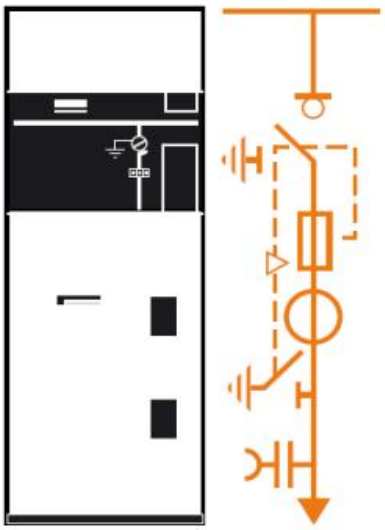
Switch unit-with/ without earthing switch -right or left outgoing line (375 mm)

Note: Extra components for example lightning arresters or lower earthing switch is optional

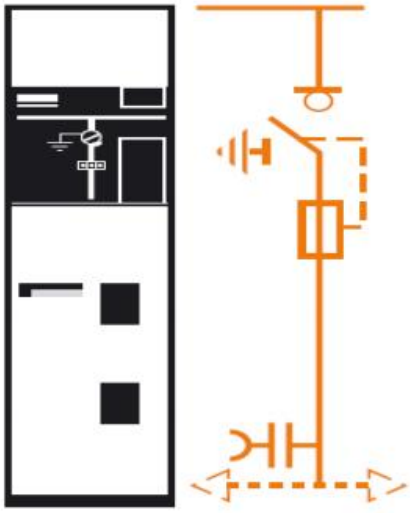
Fuse-switch protection:



Fuse-switch-com binati on unit (375/500 mm)



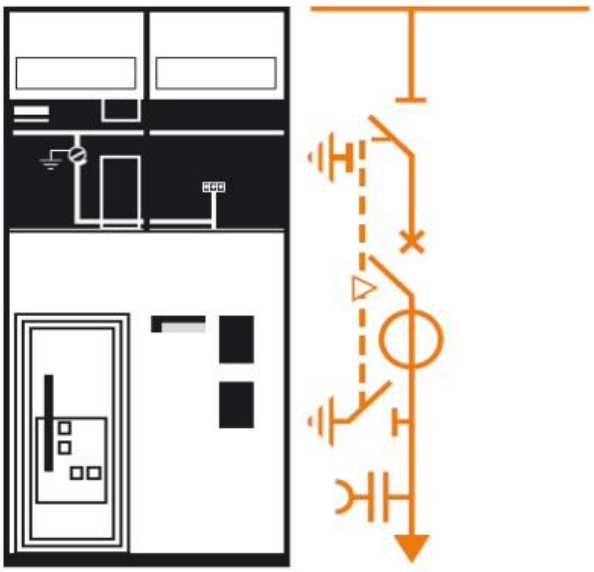
Fuse-switch-com bination unit (625 mm)



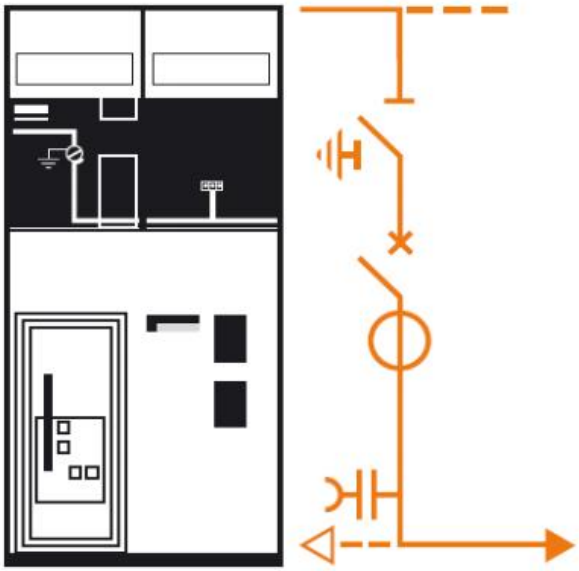
Fuse-switch-combination unit -right or left outgoing line (375 mm)

Note: Extra components for example lightning arresters or zero sequence CT is optional.

Circuit-breaker protection:



Single-isolation circuit breaker unit(750 mm)

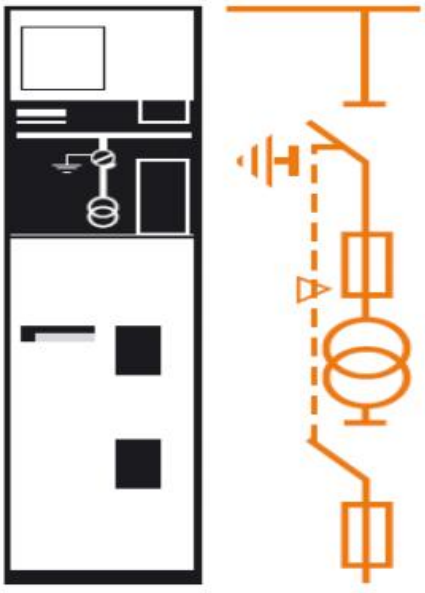


Single-isolation circuit breaker unit right or left outgoing line (750 mm)

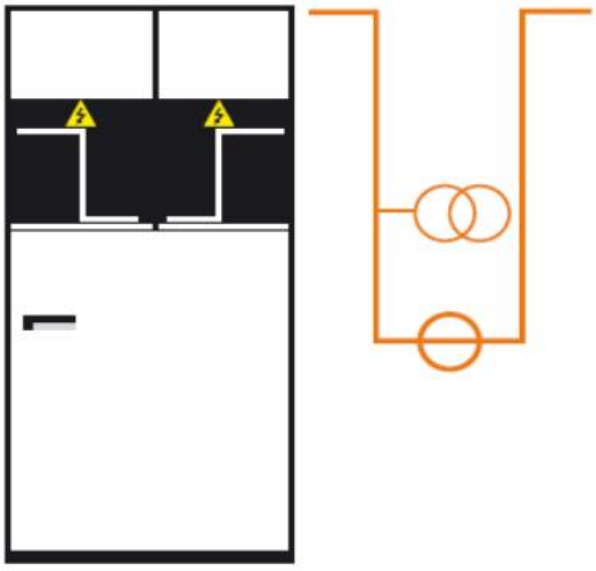
Note: 1. For HV SF6 circuit breaker also with many types can be selected. It Is according to client's requirement . (SF1/Schneider, LNR/Rockwill, PF/Areva, etc.) Also Vacuum circuit breaker is also optional.(VD4/S-12/24 or VSC-12/24)

2. Other extra components for example Zero sequence CT is considering after communicated by our company

MV metering:



Voltage transformers for mains with earthed neutral system (375/500 mm)



Current and/or voltage measurement unit (750 mm)

Note: Extra components for example lightning arresters or zero sequence CT is optional.

Casings (Bus bar Panel):

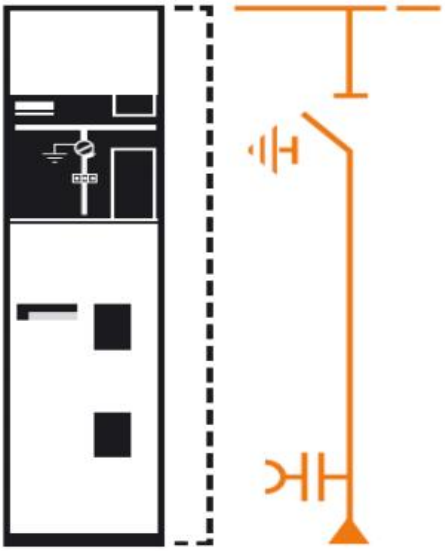
Connection unit Right/left outgoing line(375 mm)

Incoming cable-connection unit(375 mm)

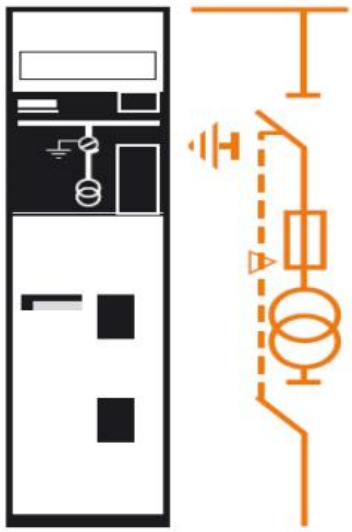
Incoming cable-connection unit(500 mm)

Note: Other extra components is optional (Disconnecting switch panel, Voltage transformer panel, etc.)

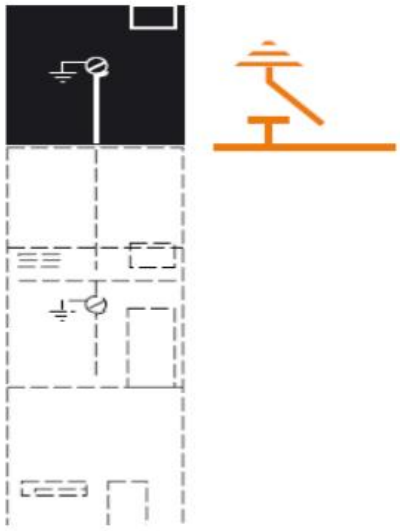
Other auxiliary schemas:



Disconnector unit (375/500 mm)



MV/LV transformer unit for auxiliaries(375 mm)



Busbar earthing Compartment (375 mm)

Field service operation and warranty issues:
ROCKWILL® can provide competent, well trained field service representatives to provide technical guidance and advisory assistance for the installation, overhaul, repair and maintenance of ROCKWILL® equipment, processes and systems.

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