



SF6 Gas Insulated Automatic Sectionalizing Switch for power distribution system

SF₆ Gas Insulated Automatic Sectionalizing Switch

This is installed in the branch point of below load capacity 8,000kVA of multiple earth neutral system 22.9kV-Y distribution system or in the service entrance of consumer. When over load or fault is occurred, minimizes the damage and prevent the fault expansion by breaking or opening exactly the fault section with the cooperation of protection device (CB, Recloser). Easy operation status monitoring is possible by built-in load current indicator and live line status distinction function. ASS is used for frequent lighting place, industrial line and has the following functions.



ETMFC50
Sectionalizing Control Relay

Main Function and Characteristic

1. Over-current Trip Function

This switch detects over-current and separates the fault section from the system during protection device is opening the line. Besides, detects over-current under the rated blocking current and cooperates with the protection device. OCR Trip, OCGR Trip function are provided.

2. Over-current Lock function and charge TRIP function

This switch inhibits the OCR Trip and OCGR Trip function if fault current is over 800A. As charge Trip function is operated when becomes no-voltage by the cooperation with the protection device, current over rated blocking current is not blocked.

3. Cold Load Pickup

Restrain the over-current Trip function and charge Trip function to prevent the malfunction by inrush current produced during the switch closing or when becomes live line by protection device closing in dead line status.

After the switch is opened, if the switch is closed before exceeding the 'Outage Time' setting time this function is not operated, if the switch is closed before finishing the 'Outage Time' this functions operates normally. When the switch is closing it becomes dead line by CB & REC and if becomes live line by reclosing of CB & REC before passing the 'Outage Time', this function does not work.

4. Line current and Live line indication

Each phase current (A,B,C,N) are displayed in LCD of control box and also Lamp that indicates the line status of source side(phase A) and Load side(phase R) is provided.

5. Easy function setting

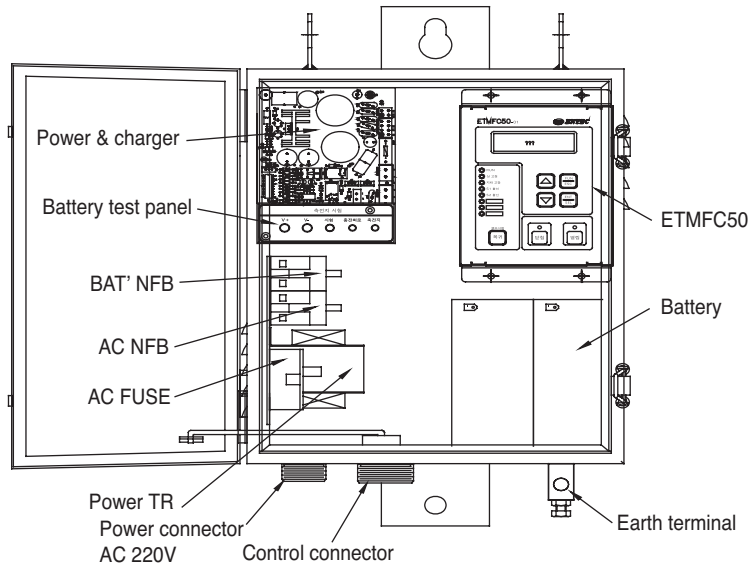
Min. pickup current, overcurrent lock current and other all setting can be set in LCD menu of control box.

6. Battery discharge prevention

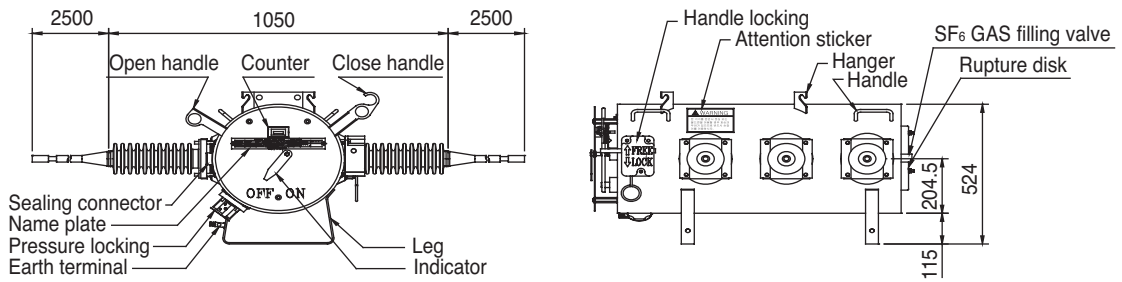
When AC power is lost, check the battery voltage. If the battery voltage is 20~21V, breaks automatically and prevents the damage by discharging. When AC power is applied returns to the normal operation.

Construction

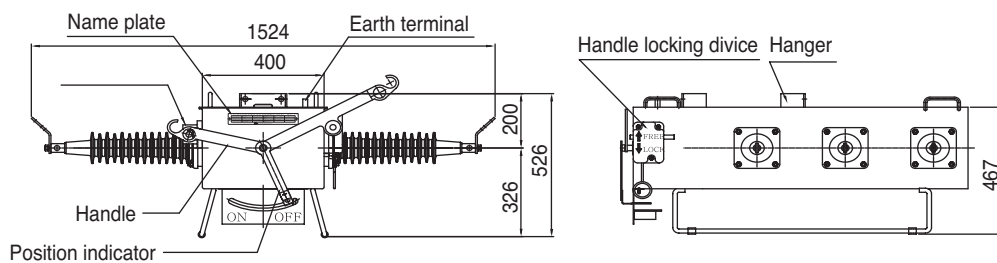
ETMFC50 Control Drawing



25.8kV SF₆ Gas Automatic Sectionalizing Switch Drawing



36kV SF₆ Gas Automatic Sectionalizing Switch Drawing



Rating and Specification

ITEM		RATING	
Condition	Ambient Temperature	-25 °C ~ 40°C	
	Altitude	Up to 1,000M	
Rated voltage [kV]		25.8	36
Rated current [A]		400	630
Rated frequency [Hz]		50/60	
Rated short time current		12.5kA 1sec. / 10kA 1sec.	12.5kA 1sec
Rated making current (Asym)		32.5 kA(Peak) / 15kA(Peak)	32.5kA(Peak)
Rated breaking current		900 A	630A
Power frequency withstand voltage	dry	60 kV / 1min.	70 kV / 1min.
	wet	50 kV / 10 sec.	60 kV / 10 sec.
Impulse withstand voltage (1.2 × 50 μs)		150 kV	170kV
Over current LOCK current		800 A (± 10%)	
Min. pickup current	Phase	OFF, 16 ~ 640 A(Block), 1A Step	
	Ground	OFF, 3.5 ~ 320 A(By Pass), 0.5A Step	
Cold Load Pickup		0.0 ~ 5.0 sec. (± 10%), 0.1sec. Ste	
Load switching	900A	3 times	
	400A	200 times	
Insulation method		SF6 Gas	
Standard GAS pressure		0.17 MPa(gauge), 20°C	
Control power	Battery	DC 24 V (12V7.0AH*2EA) 50 times or 24 hours operation at the fully charged battery	
	External Power	AC 220 V / 25 VA, Max.300 V	
Control box internal ambient Test	Power frequency withstand voltage	2kV/1min	
	Impulse withstand voltage	IEEE C62.45 Voltage Waveform:6kV,1.2/50 μs Current Waveform:3kA,8/20 μs	
	Surge withstand capability	ANSI/IEEE C37.90.1 EFT/BURST Test: 4 kV(2.5 Hz) Oscillatory SWC Test: 2.5 kV(1 MHz)	
	Radiated electromagnetic interference withstand test	IEEE C37.90.2 35V/m	