

F-FTU200 Circuit Breaker

Pole mounted vacuum Recloser
15kV,27KV&38kV



ANSI/IEEE C37.60/IEC 62271-111
(GB1984-2003 China standard)
GBT11022-1999 China
Standard IEC 6052
IEC 60255-11
IEC 60255-21-1 Class I
IEC 60255-21-2 Class I
IEC 60255-21-3 Class I
IEC 60255-22-1 Class III
IEC 60255-21-2 Class IV
IEC 60255-21-3 Class III
IEC 60255-21-4 Class IV

Provided Customized manufacture
Whole solutions for design, assembly,
test

• Summary

Four-faith Smart Power strives to bring our customers the latest technology and competitive pricing and best service for distribution automatic.

The F-FTU200 series automatic circuit reclosers can use on overhead distribution lines as well as distribution substation applications for all voltage classes 11kV up to 38kV at 50/60Hz power system. and it's rated current can reach 1250A.

The F-FTU200 series automatic circuit reclosers integrates the functions of control, protection, measurement, communication, fault detection, on-line monitoring of closing or opening.

• Service environment

1. Air temperature: Maximum temperature: +85°C; Minimum temperature: -45°C
2. Humidity: Monthly average humidity 95%; Daily average humidity 90%.
3. Altitude above sea level: Maximum installation altitude: 2500m or more higher.
4. Ambient air not apparently polluted by corrosive and flammable gas, vapor etc.
5. Summer barometric 84.7Kpa(635mmHg) Winter barometric 85.6Kpa(642mmHg) Max wind speed 34m/s
6. Humidity of 13mg and Vapour Pressure 17mm/Hg. No frequent violent shake.

• Offering

With optional classes for rated current range:

For 11/15kV, with 630A, 20kA Breaking capacity. 800A, 20kA capacity, and 1250A, 20kA.

For 27kV, with 630A, 20kA Breaking capacity. 800A, 16kA capacity, and 1250A, 25kA.

For 38kV, with 800A, 20kA, And expanding 1250A, .25kA F-FTU20038M

type. With optional classes for installation styles:

Single phase, vacuum recloser and Three phase, vacuum recloser.

With optional relay protection curves for user choice:

Instantaneous over-current protection.

Timing over-current protection.

Negative sequence over-current protection.

Directional over-current protection(*).

Over-voltage protection./Under voltage protection.

More relay functions can be customized.

With optional choice by locally or remotely.

With optional communication protocols & I/O port for user choice:

RS-232 and RS-485 ports supporting.

DNP3.0 communication protocol support(*).

Modbus communication protocol is optional(*).

IEC 60870-5-101 communication protocol support.

IEC 60870-5-104 communication protocol support.(*).

The recloser can communicate through GPRS(Or GSM) modem with English or Chinese language (*).

With optional functions for user.

Rated currents, System phase current.

Rated voltages, System phase voltage& secondary low voltage power supply voltage. Frequency, power(kWh), reactive power(kV arh), power factor .

With optional reclosing interval for user pre-program:

Reclosing times setting support.

Dead time setting support.



F-FTU200 automatic recloser 15KV 27KV 38KV

With events recording function:

SOE 1000 operations record.

Fault record and normal operation record.

Note: (*) mean should customized by manufacturer if needed.



• Recloser feature

a) Outline of recloser:

The F-FTU200 series vacuum recloser is mainly combined with integration terminal, current transformer, permanent magnetic actuator and it's recloser controller.

b) The recloser tank feature:

The Vacuum recloser tanks are manufactured from 304# grade stainless steel and are powder coated a light grey colour.

Whole recloser IP65 protection class, equipped with a auxiliary plug to connect with recloser controller by control cable, Diameter Max22mm, 6 M length (8M for special).

It's can performance serve more than 20 years long term under heavy duty circumstance.

• Creepage Distances of F-FTU200

Description	11/15kV BIL 95/110kV	27kV BIL125/150kV	38kV BIL 170/200kV
Terminal to terminal creepage	600mm	840mm	1250mm

• Main new advantages of F-FTU200

High reliable manual opening device



Visible ON/OFF indicator

IP64 class waterproof plug connector

F-FTU200 Supply special design manual closing device technology with own patent, It applied for normal and abnormal situation closing. It's closing speed(time) comply with IEC62271-111.

This function can offset from magnetic actuator fault which when actuator can't work will cause the major accident.

Primacy incomer terminal
(directly connect to interrupter reduce power lost)

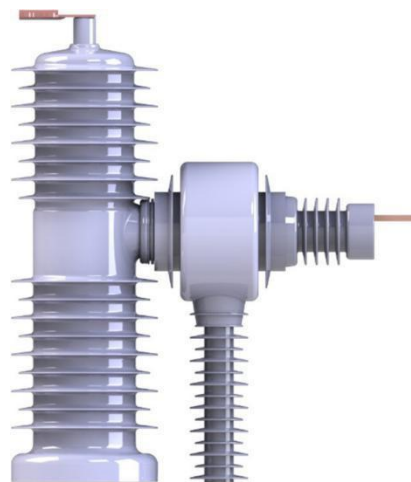
Current transformer
(external modular design easy for quality control and maintenance)

Accuracy: $\pm 0.2\%$ Ratio: 200/400/800-1

Capacity: 2.5VA/5VA

Power frequency withstand of 25kV and 70 kV for one minute.

Basic insulation level 95 kV and 170 kV



The recloser's vacuum interrupter insert in an epoxy resin solid pole, and external coated with a high reliable, stable material: Fluorocarbon silicone rubber (γ -trifluoro propyl methyl polysiloxane) With excellent electric insulation, weather resistance, ozone, biological inertia, can be stand under the long-term use in $-55 \sim +200 \text{ }^\circ\text{C}$.

Internal Voltage sensors incorporated within the vacuum interrupter module

Source-side or Load side connections Eliminate external voltage-sensing PTs

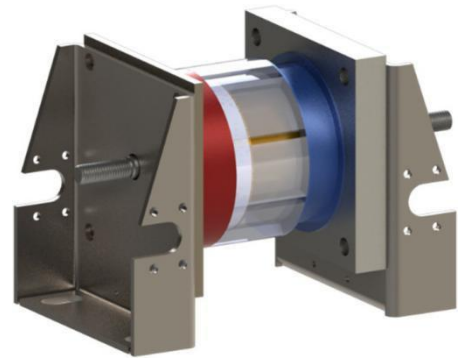
Shielded 4-conductor cable connection

Accuracy: $\pm 0.2\%$ Voltage Sensor Ratio: 500/1 or 1000/1



F-F-TU200 automatic recloser 15KV 27KV

Apply ANSOFT design the high performance magnetic actuator, high reliable and free maintenance. Through 35,000 times opening reverse excitation test, the demagnetization rate less than 1%.



Note:

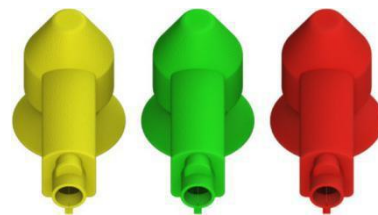
F-F-TU200 supply special patent modular design mono-stable type magnetic actuator with two coils controlling. It's the best design for vacuum circuit breaker.

• Main technical data

N	Item	Unit	Data		
1	Rated voltage	kV	11/15	27	38
2	Rated current	A	400/630/800/1250		
3	Rated frequency	Hz	50/60		
4	Power frequency 1min	Dry	55	65	95
		Wet	45	55	80
5	Lightning impulse withstand voltage(peak)	kV	95/110	125/165	170/200
6	Rated short circuit breaking current	kA	12.5/16/20/25		
7	Rated short current switching current(peak)	kA	31.5/40/50/63		
8	Rated peak value withstand current	kA	31.5/40/50/63		
9	4S short time withstand current	kA	12.5/16/20/25		
11	Rated operating circulate		O-0.5S-CO-2S-CO-5S-CO		
10	Breaking current frequency under rated short circuit	time	200		
12	Mechanism life	time	30000		
13	Secondary loop 1 min power frequency withstand	kV	2		

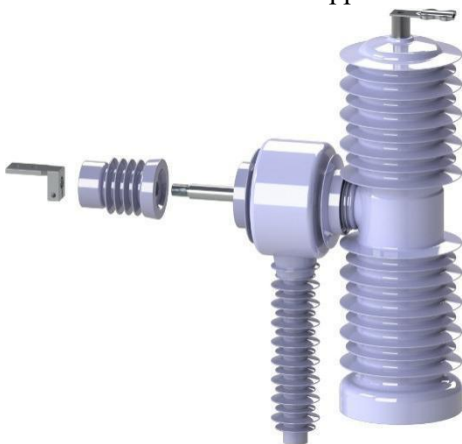
• Accessories of F-F-TU200

All above insulating components for BIL 200kV expanding using. Any question please contact with our engineer.



Upper voltage shield 3 pcs/set

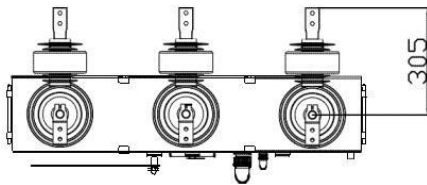
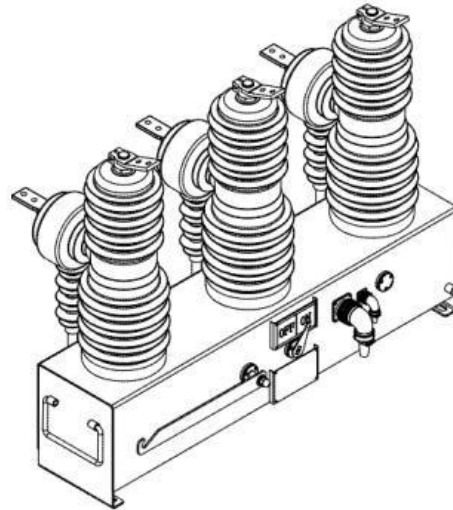
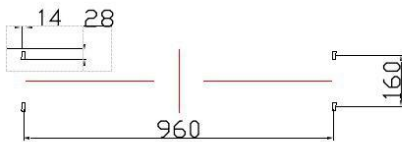
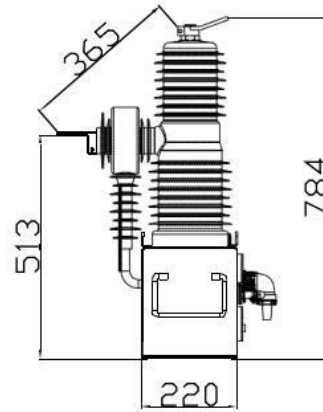
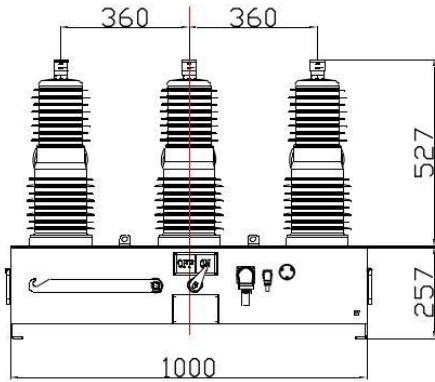
Standard made of T2 copper material, for 630A rated current using. With expanding range.



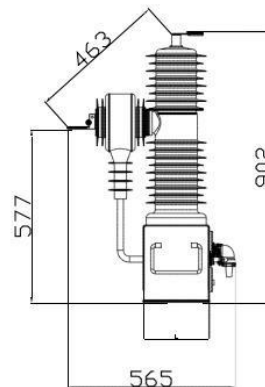
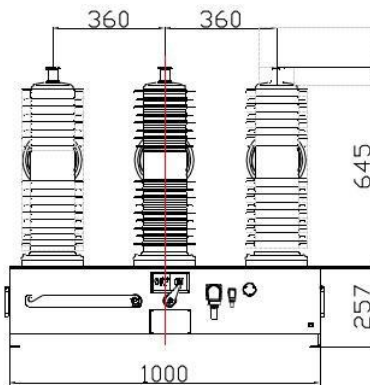
Removable bushing

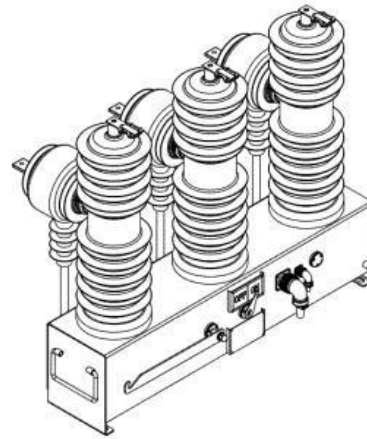
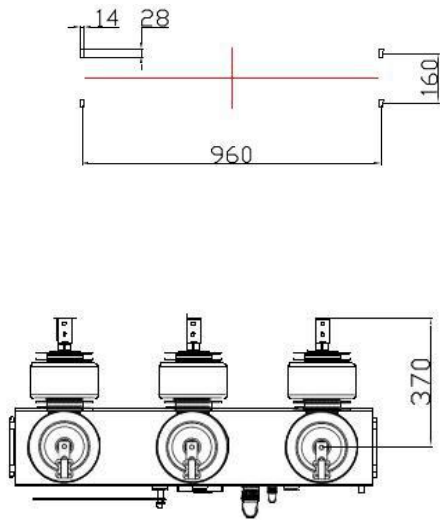
F-F-TU200[®], China. Provide with best support.

• Sizes for circuit breaker 11~15kV/630A-16KA



• Sizes for circuit breaker 27kV/630A-16KA





• Sizes for circuit breaker 38kV/630A-16KA

