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**In Pursuit of Excellence to
Serve the Community**

Zhuhai Gopower Smart Grid Co., Ltd.

www.zhgopower.com

Manufacturing



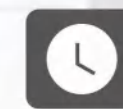
COMPANY PROFILE

1. General Info

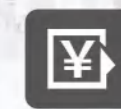
Zhuhai Gopower Smart Grid Co., Ltd. was founded in 1998. We are a professional, innovative, technology-based high-tech enterprise with a registered capital of RMB100,000,000 and staff number 300+.

2. Core Business

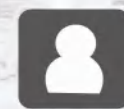
Zhuhai Gopower Smart Grid Co, Ltd. is mainly engaged in RD, production and sales of smart grid system equipment. Our products include Feeder Terminal Unit (FTU), Distribution Terminal Unit (DTU), on-pole Switch (Load Break Switch, Recloser), Fault Indicator, Fuse, Surge Arrester, Isolation Switch, SCADA and other categories in 12KV-40.5KV distribution network lines. We pay great attentions to the improvement of R&D capabilities, and invests at least 8% of its annual sales in R&D each year, and R&D team members is 20+% of the company's total staff number.


1998

Establishment Time


100,000,000

Registered Capital


300+

Employees



3. Technology & Cooperation

Our products are manufactured in strict accordance with IEC international standards and follow multiple communication protocols in IEC60870. We maintain long-term cooperation relations with well-known domestic and foreign companies such as China State Grid and China Southern Power Grid, ABB, Siemens, COOPER, Tred, Schneider, Pinggao Group, TBEA, Chint Electric and have created our own brand Gopower, which enjoys a high reputation in overseas markets.

In addition, we have also cooperated with many well-known domestic universities such as South China University of Technology, Sun Yat-sen University, and Beijing Institute of Technology to jointly carry out research on product applications and future directions in the field of smart distribution networks. These collaborations have further enhanced the company's technical strength and market competitiveness.



4. Honors & Achievements

We have achieved remarkable achievements and honors in the field of smart grid, such as national high-tech enterprise, software enterprise, and Guangdong Professional and Innovative enterprise. In addition, we have obtained a number of invention patents and software copyrights, as well as multiple administrative licenses and trademark information.





ISO Certification



Patent



Software

◆ LBS (Load Break Switch)



◆ Recloser



◆ FTU(Feeder Terminal Unit)
Sales 50,000pcs/year



◆ DTU(Distribution Terminal Unit)
Sales 30,000pcs/year



◆ Disconnecter



◆ Fuse



◆ Surge arrester



◆ Insulator



FTU(Feeder Terminal Unit)

1. FTU Specs



Parameters		Specs			
Environmental conditions	Temperature range	- 40 °C ~ + 70 °C			
	Humidity	10 to 100%, maximum absolute humidity 35g/m³			
Power requirements	Power supply	AC220V, with dual power switching			
	Operating power supply	DC24V/48V, load capacity is no less than 16A			
	Communication power supply	DC24V, stable output capacity is no less than 15W			
	Overall power consumption	≤30VA			
AC sampling	Electromagnetic	Line voltage	220V/100V	Accuracy	Grade 0.5
		Phase Current	5A/1A	Accuracy	Grade 0.5
		Zero sequence voltage	6.5 V / 3	Accuracy	Grade 0.5
		Zero sequence current	1A	Accuracy	Grade 0.5
	Voltage loop power consumption		No more than 0.5VA		
	Current loop power consumption		No more than 0.75VA		
	Power accuracy		Level 1		
	Sampling frequency		45~55Hz	Accuracy	+ / - 0.01 Hz
DC	2-way	0-64V for Way 1 and 0-480V for Way 2			
Telesign	Anti-shake time	The range 3ms-60s can be set			
	Resolution	1ms			
	Photoelectric isolation	3000VDC			
Communication	Serial port	3 pcs, baud rate 9600~115200bps can be set;			
	Ethernet port	2 pcs, 10/100Mb/s			
	Wireless	2G/3G/4G/5G support			
	Other	Radio/SMS etc			
	Beidou /GPS	Yes			
Structural dimensions		Chassis: 650 x 400 x 235 (L x W x H, mm)			
		Battery cover: 236.5*122*154 (L x W x H, mm)			
Backup power supply		Lead-acid battery/lithium battery, 12ah capacity			
Wiring method		Aviation plug			
IP level		IP65			

2. Overview

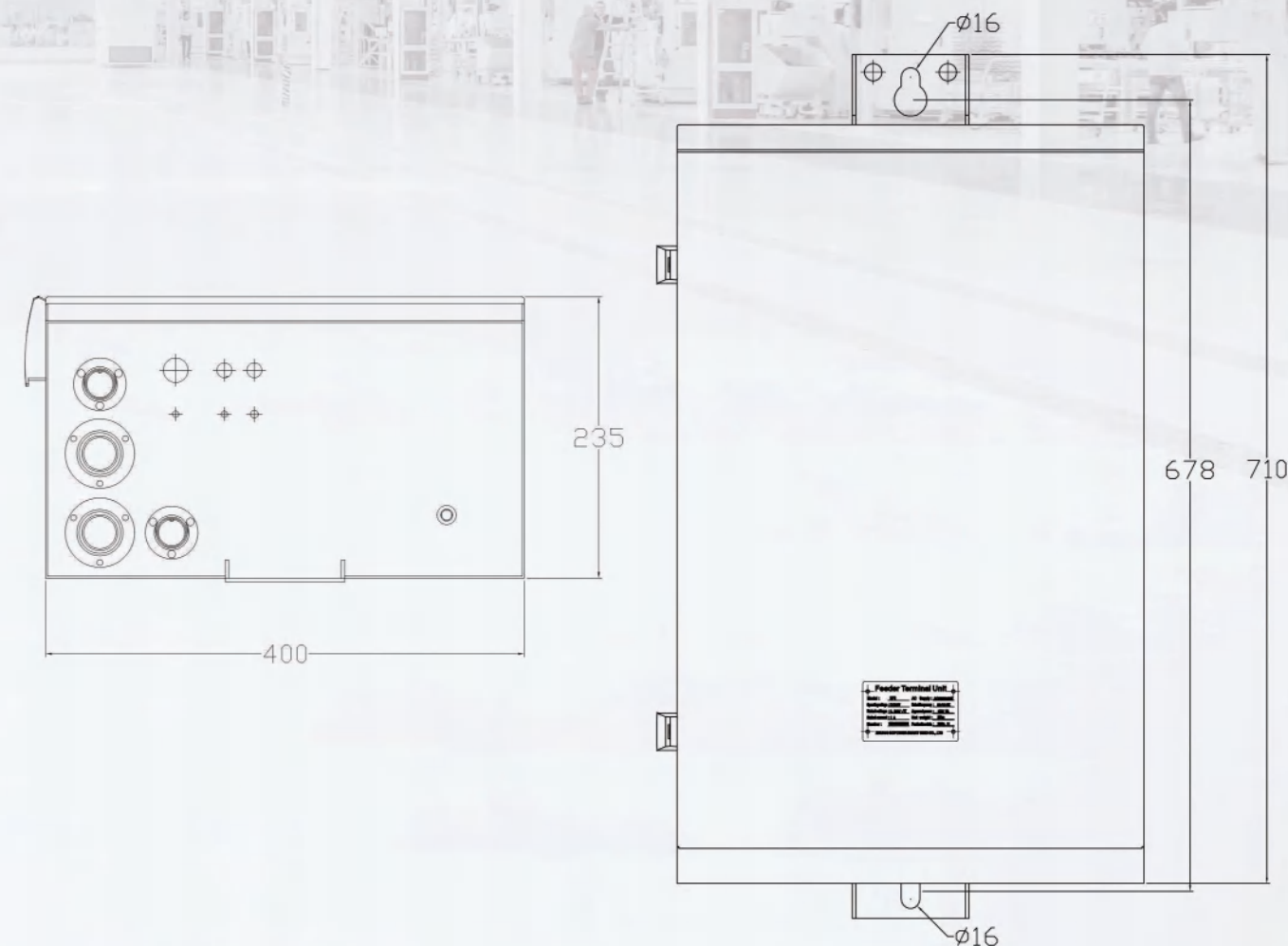
FTU (Feeder Terminal Unit) is the core device in the automation of power system distribution network, dedicated to monitoring, controlling and protecting power feeders (distribution lines).

It is deployed in the key nodes of the distribution network, such as the column switch, ring network cabinet, switch station, etc., to collect the voltage, current, switch status and other data of the line in real time, and communicate with the main station system (such as SCADA, DMS) to achieve rapid fault location, isolation and power supply recovery (FA function), which greatly improves the reliability and intelligence level of the distribution network.

3. Product Features

- ◆ It adopts high-precision sampling chip, which could achieve real-time monitoring of three-phase voltage, current, power, power quality (harmonics, voltage dip) and other parameters with high accuracy 0.5.
- ◆ Compatible with power industry standard protocols (IEC 60870-5-101/104, DNP3.0, Modbus, IEC 61850), seamless access to SCADA.
- ◆ The equipment has the fault detection function, and can provide the necessary protection measures. It supports directional protection, negative sequence protection and a variety of built-in overcurrent protection curves, such as IEC, ANSI standards and reclosing curves.
- ◆ With over current, speed off, reclosing and other programmable protection logic, support multiple sets of setting area remote switching, to adapt to different operating scenarios and needs.
- ◆ Dual power redundancy (main power + backup battery/supercapacitor), sustainable work ≥48 hours after power failure; Communication link hot backup, automatic switching.
- ◆ Support remote parameter configuration, program upgrade, fault diagnosis, reduce on-site operation and maintenance costs.
- ◆ Millisecond fault response (≤20ms), to meet the needs of power system to quickly remove faults.

4. Dimensions



DTU(Distribution Terminal Unit)

1. Overview



Parameters	Specs
Environmental conditions	Temperature range
	- 40 °C ~ + 70 °C
	Humidity
	10 to 100%, maximum absolute humidity 35g/m ³
Power Supply	Power input
	DC18V~DC36V
	Overall power consumption
	<30VA
	Operating power supply
	DC48V
Ac sampling	Enter the nominal value
	Voltage: AC100V/AC220V Current: 5A/1A
	Voltage and current accuracy
	<0.5% (level 0.5)
	Power accuracy
	<1%(Level 1)
	Electrical energy accuracy
	Active power 0.5, reactive power 2
	Voltage loop power consumption
	< 0.5 VA
	Current loop power consumption
	< 0.75 VA
telesignal	Current overload capability
	20In,1s
	Anti-shake time
	The range 0-60s can be set
Remote control	Resolution
	2ms
	Photoelectric isolation
	500VDC
	Output mode
	Normally open contact
Communications	1 set remote control, 1 set protection
	Relay node capacity AC250V/32A
	Serial port
	Common unit: a total of 8 serial ports, of which 3 internal reserved, 2 external RS232, 3 RS485, baud rate 110~115200bps can be set; Interval unit: 1 channel RS232, baud rate 110~115,200bps can be set.
	Ethernet port
	Common unit: 3, 10/100Mb/s Interval unit: 2, 10/100Mb/s
Method of construction, dimensions	Beidou /GPS
	Yes
	Wireless
	Support 4G/3G/2G/5G
Backup power supply	Serial protocol
	DL/T634.5101-2002/IEC608-70-5-101: 2002 protocol, MODBUS protocol, etc
Cabinet color	Ethernet protocol
	DL/T634.5104/IEC60870-5-104 protocol
Wiring method	Common unit: 286 x 190 x 88 (L x W x H, mm)
	Interval unit: 220 x 170 x 90 (L x W x H, mm)
	Battery/lithium battery 20AH
	As per user needs
	Aviation plug/terminal outlet

1. Overview

It is deployed in a distributed architecture and supports multiple nodes to work together. Its core function is to collect on-site data (such as temperature, pressure, voltage, current, etc.) in real time through terminal devices such as sensors and meters, and efficiently transmit the data to the cloud or SCADA system through wired/wireless networks (4G/5G, Ethernet, optical fiber, etc.), and support remote command delivery and control.

Compared with traditional centralized DTU, distributed DTU achieves flexible networking and edge computing capabilities through decentralized architecture, and can be deployed in dispersed industrial sites (such as power distribution networks, oil and gas pipelines, coal mines, environmental monitoring sites, etc.), reducing dependence on central nodes and improving system reliability and response speed.

2. Product Features

◆ Modular design, support function customization (such as AI algorithm implantation, protocol expansion), to meet differentiated needs.

◆ With breakpoint continuation, multi-link backup (dual SIM card, master/backup communication channel) functions, automatically switch links and cache data when the network is interrupted, to ensure communication continuity.

◆ Hardware level anti-interference design (wide temperature, lightning protection, EMC protection).

◆ Built-in edge computing module, support local data preprocessing (filtering, alarm judgment), protocol analysis (Modbus, IEC104, IEC101, DNP3.0, MQTT, etc.), reduce cloud load and transmission delay.

◆ Support mainstream industrial protocols (such as Modbus RTU/TCP, DL/T645) and private protocol customization, seamless docking PLC, SCADA, cloud platform.

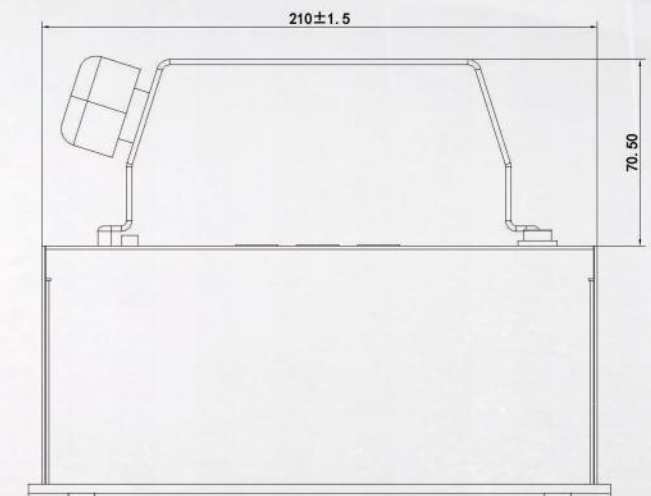
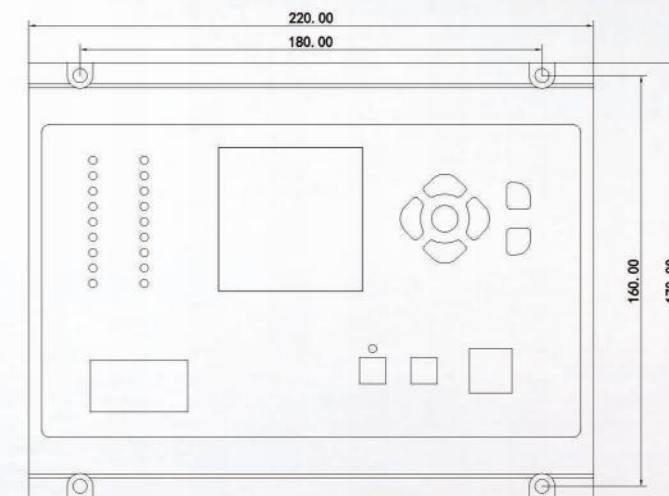
◆ Support remote configuration, firmware upgrade, fault diagnosis, reduce operation and maintenance costs.

◆ Support TLS/SSL, VPN, AES encryption, to ensure end-to-end data security; Firewall and access control function to prevent illegal intrusion.



3. Dimensions

◆ State grid distributed **interval unit** dimensions



Recloser

ZW32 series Automatic Circuit Reclosers

Covering voltage level 12kV, 24kV, 36kV.

Each 630A maximum rated current.

Meet IEC62271-111 and IEEE C37.60 International.



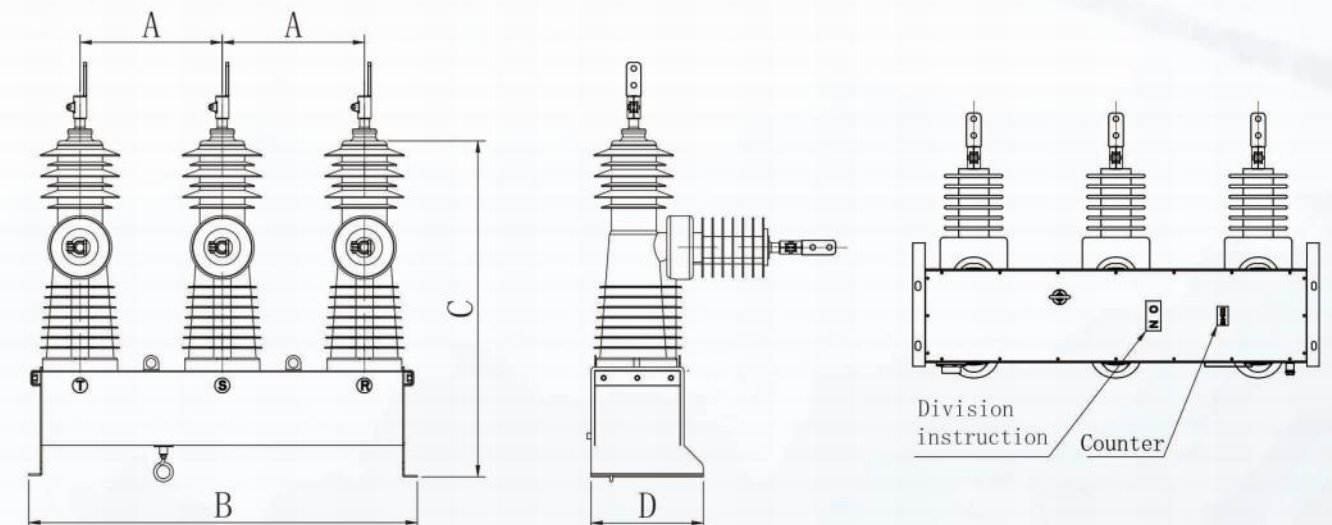
PRODUCT PARAMETERS

Products Type	ZW32-12	ZW32-24	ZW32-36
Maximum System Voltage	12kV	24kV	36kV
Rated Continuous Current	630A	630A	630A
Rated Frequency	50/60Hz	50/60Hz	50/60Hz
Short Time Withstand Current	20kA/4sec	20kA/4sec	20kA/4sec
Short-circuit Making Current (peak)	50kA	50kA	50kA
Power Frequency Withstand Current Test - 1 min	42/48kV	50/50kV	70/70kV
Impulse Withstand Current Test(1.2 x 50 μs)	75kV	125kV	170kV
Arc Extinction Medium	Vacuum	Vacuum	Vacuum
Creepage Distance (Silicon)	380mm	850mm	1180mm
(CT)	600:5	600:5	600:5
In-and-out sides of voltage sensor	6 voltage sensors (built-in)		

Appearance and dimension of switch



Dimension(mm)					Packing size(mm)	Weight(Kg)
	A	B	C	D	Length×Width×Height	
12kV	340	948	660	216	948×450×750	65
24kV	380	1100	904	246	1190×700×1150	75
36kV	380	1100	945	246	1190×1100×1240	85



LBS(Load Break Switch)

FWX1 series intelligent load break switch

Covering voltage level 12kV, 24kV, 36kV.

Each 630A maximum rated current.

Meet IEC62271-103.



PRODUCT PARAMETERS

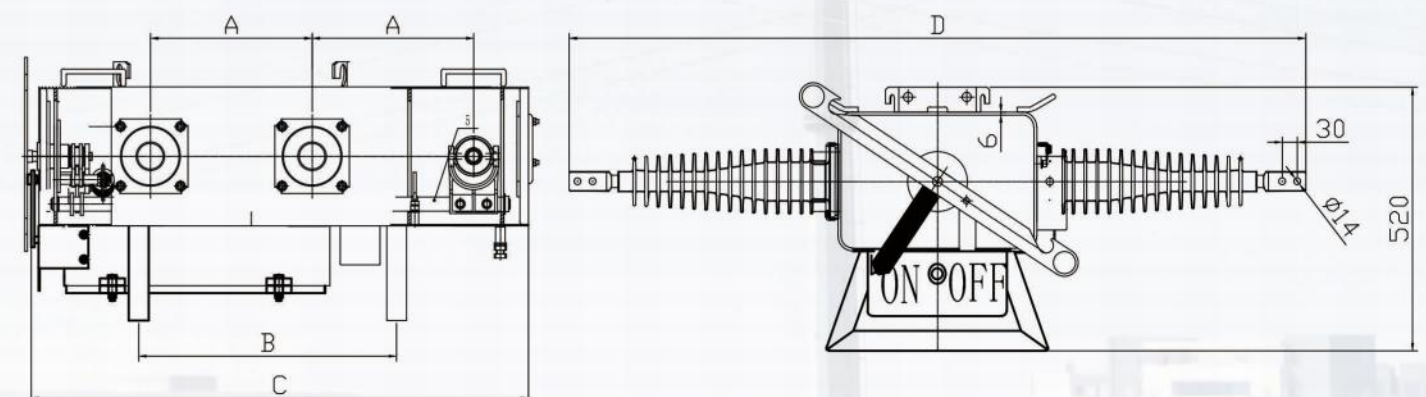
Products Type	FWX1-12	FWX1-24	FWX1-36
Basic Ratings			
Maximum System Voltage	12kV	24kV	36kV
Rated Continuous Current	630A	630A	630A
Rated Frequency	50/60Hz	50/60Hz	50/60Hz
Short Time Withstand Current	20kA/1sec	20kA/1sec	20kA/1sec
Number of Load-break Operations	400times	400times	400times
Short-circuit Making Current (peak)	50kA	50kA	50kA
Power Frequency Withstand Current Test -1min	42kV	50kV	70kV
Impulse Withstand Current Test(1.2 x 50 μs)	75kV	125kV	170kV
Arc Extinction Medium	SF ₆	SF ₆	SF ₆
Insulation Medium	SF ₆	SF ₆	SF ₆
Creepage Distance (Silicon)	380mm	1200mm	1350mm
IP Level	68	68	68
Mechanical Operations (Guaranteed)	10000times	10000times	10000times
Gas Pressure			
Nominal Pressure (MPa, at 20°C)	0.15	0.15	0.15
Bursting Pressure (MPa)	0.4~0.6	0.4~0.6	0.4~0.6
Minimum Gas Pressure (MPa)	0.05	0.05	0.05
Leakage Rate (cc/ sec)	≤0.5%	≤0.5%	≤0.5%
(CT)	600:5	600:5	600:5

Appearance and dimension of switch



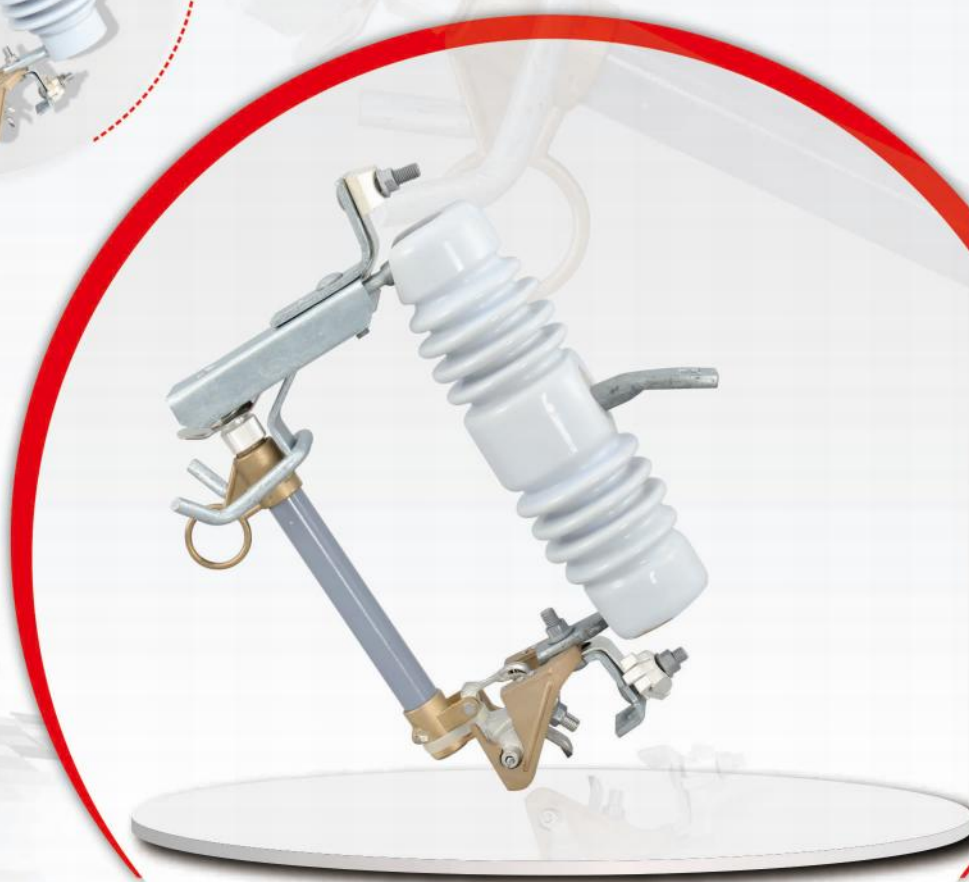
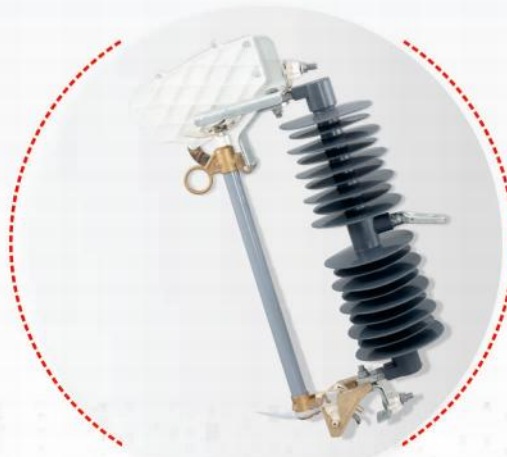
PRODUCT PARAMETERS

Dimension(mm)					Packing size (mm)	Weight(Kg)
	A	B	C	D	Length×Width×Height	
12kV	225	500	850	1096	1100×900×700	105
24kV	300	650	1020	1440	1590×1130×720	155
36kV	400	750	1253	1700	1730×1360×720	165

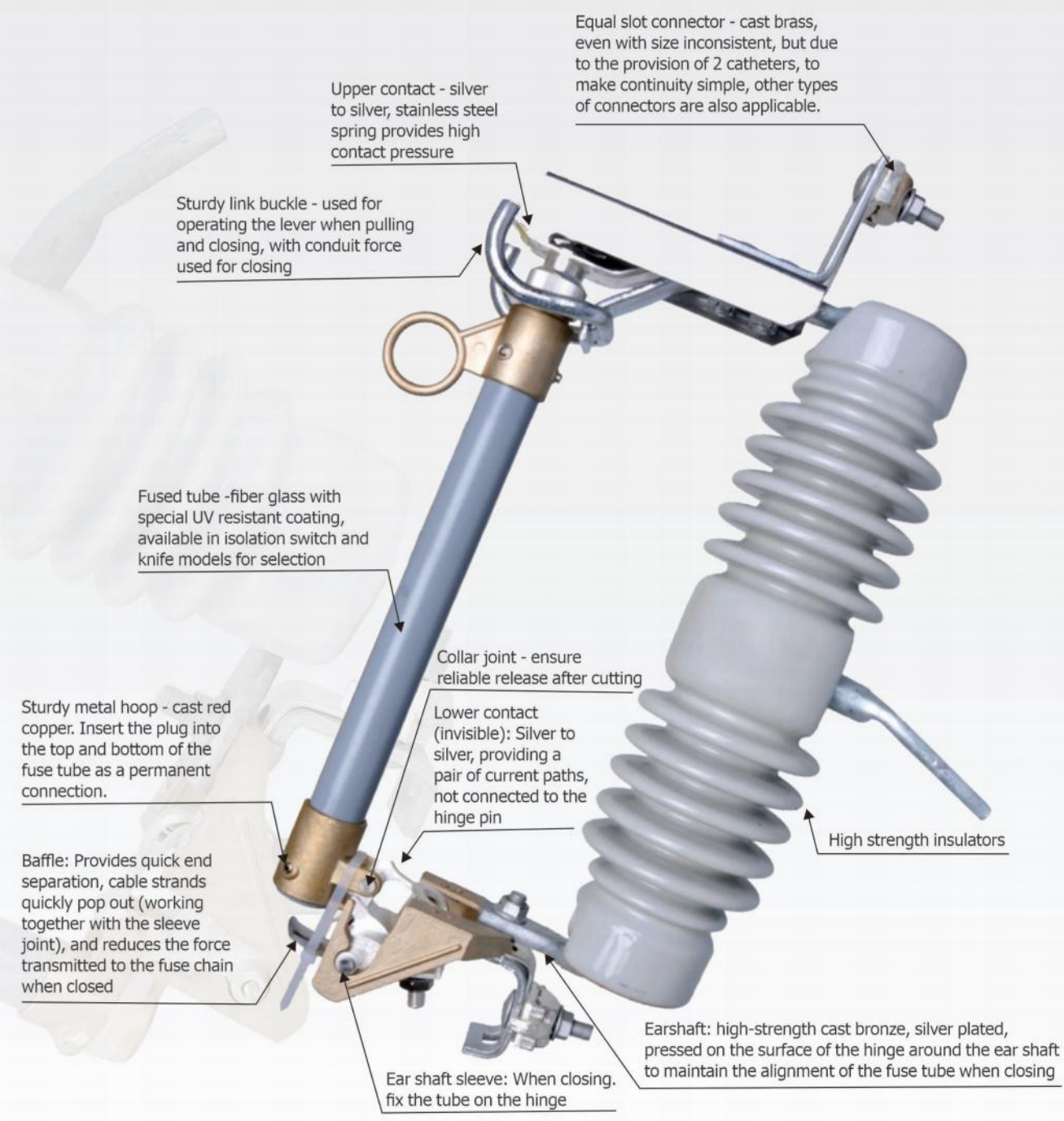


Fuse

MODEL	Rated voltage (kV)	Rated current (A)	Breaking current (kA)	Creepage distance(mm)	Power frequency wet withstand voltage(kV)	Lightning impulse withstand voltage(kV)
RW12-15F/100	15	100	6	265	42	110
RW12-27F/100	27	100	6	540	60	125
RW12-36F/100	36	110	6	610	70	150



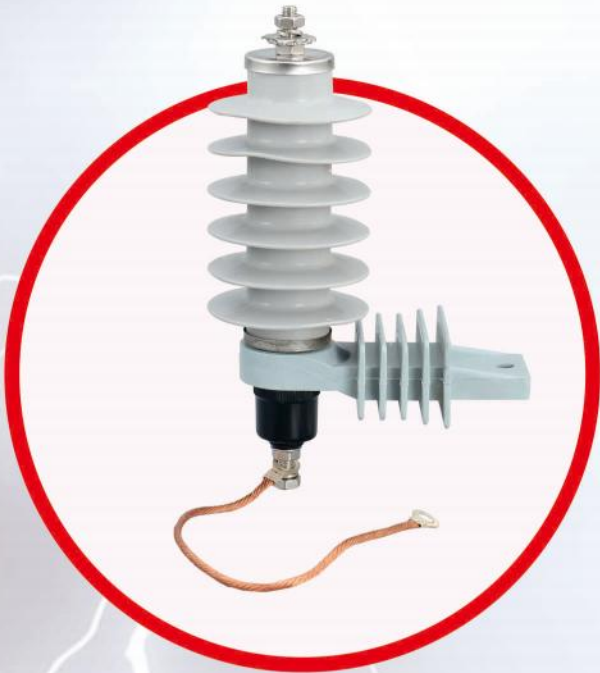
Technical Parameter



Surge arrester

PRODUCT PARAMETERS

Reference	YH10W-12/38	YH10W-15/47	YH10W-21/62	YH10W-24/72	YH10W-30/90	YH10W-36/110
Nominal Voltage	12kV	15kV	21kV	24kV	30kV	36kV
Discharge Current	10kV	10kV	10kV	10kV	10kV	10kV
MCOV	10.2kV	12.7kV	18kV	19.5kV	24.4kV	29kV
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
BIL	125kV	125kV	150kV	170kV	200kV	200kV
Power Frequency insulation Withstand Dry	≥ 42kV	≥ 42kV	≥ 70kV	≥ 85kV	≥ 95kV	≥ 95kV
Power Frequency insulation Withstand Wet	≥36kV	≥36kV	≥55kV	≥70kV	≥80kV	≥80kV
Repetitive charge transfer rating	≥0.4c	≥0.4c	≥0.4c	≥0.4c	≥0.4c	≥0.4c
Thermal charge transfer rating	≥1.1c	≥1.1c	≥1.1c	≥1.1c	≥1.1c	≥1.1c
Short-circuit current	16kA	16kA	16kA	16kA	16kA	16kA
Lightning impulse residual voltage 8/20us, 10kA	≤38kV	≤40kV	≤60kV	≤74kV	≤89kV	≤110kV



PROFESSIONAL



EFFICIENT



CONVENIENT

Insulator

MODEL	HEIGHT (mm)	Creepage distance(mm)	Dry arc distance(mm)	SML (kN)	Power frequency wet withstand voltage(kV)	Lightning impulse withstand voltage (kV)
FP-11/10-300	273	300	190	10	38	95
FP-24/11	277	610	225	11	60	145
FP-33/10-900	390	900	280	10	90	200
FP-33/10-1080	375	1080	400	10	90	20
FPS-15/10	286	410	170	10	45	95
FPS-33/11	555	1080	370	11	95	185



Disconnecter



Technical Parameter

Type	GW9-15/400	GW9-15/630	GW9-15/900
Rated voltage kV	15	15	15
Rated current A	400	630	900
Momentary current A	40000	40000	40000
BIL kV	125	125	125
Short time withstand current 2S(Sym)A	25000	2500	2500



Technical Parameter

Type	GW9-24/400	GW9-24/630	GW9-24/900
Rated voltage kV	24	24	24
Rated current A	400	630	900
Momentary current A	40000	40000	40000
BIL kV	125	125	125
Short time withstand current 2S(Sym)A	25000	2500	2500



Technical Parameter

Type	GW9-36/400	GW9-36/630	GW9-36/900
Rated voltage kV	36	36	36
Rated current A	400	630	900
Momentary current A	40000	40000	40000
BIL kV	125	125	125
Short time withstand current 2S(Sym)A	25000	2500	2500

RECORD

